Društvo za opazovanje in proučevanje ptic Slovenije (DOPPS) in njegovih 25 let

DOPPS – BirdLife Slovenia and its 25 years

Društvo za opazovanje in proučevanje ptic Slovenije (DOPPS) letos praznuje svoj srebrni jubilej. In kot se za tako priložnost spodobi, se je treba ozreti na res uspešno prehojeno pot, sešteti sladke pa tudi grenke trenutke. In iz vsega potegniti kakšen nauk. Iz nebogljenega, a odločnega begavca, ki je v prvem letu obstoja štel borih 88 članov, je po nekaj golitvah zrasel mogočen ptič, za katerim leti tisočglava članska jata!

Društvo pa ni nastalo čez noč, ampak so razmere za njegovo ustanovitev dozorevale in nazadnje tudi dozorele. Tičarska tradicija na Slovenskem je stara in je tudi preživljala svojo evolucijo. S tesnobo v srcu se spominjamo naših daljnih predhodnikov, ki so svojo ljubezen do ptičev izkazovali tudi zelo neposredno: imeli so jih tako radi, da so jih kar požrli! Hoteli ali ne, priznati moramo, da je bila pri nas kultura lova ptičev za prehrano, predvsem jeseni, precej razvita, zlasti v osrednjem in primorskem delu države, če stvar približno zaokrožimo. Tisoče drobnih pevcev je jeseni končalo zlasti na gosposkih mizah. To pa je, hvala bogu, že daljna preteklost.

Hkrati z lovom pa se je vzpostavljal določen odnos med lovci in ptiči. Ptiče so zadrževali v kletkah tudi za zabavo, predvsem pa so jih uporabljali za vabnike v naslednji lovski sezoni. Uspešno zadrževanje ptičev v ujetništvu je zahtevalo dobro poznavanje njihovih potreb, predvsem prehranjevalnih. In nekateri tičarji so bili v tem pravi mojstri. Tudi glede oglašanja ptičev so bili prav tenkočutni: pri nekaterih vrstah, npr. ščinkavcu *Fringilla Coelebs*, so ločevali različne tipe petja in pevcem dajali svoja imena, kot npr. ropočev, griču, vidru, cekiv, kočév in še druga.

Začetek organiziranega obročkanja ptičev, leta 1926 v okviru Ornitološkega observatorija, je za tičarje pomenil pravo revolucijo. Lahko so osmislili svoje delo in z njim prispevali k napredku ornitološke znanosti. Sprva lov na limanice, s številnimi pomanjkljivostmi, ki so šle zlasti na račun ujetega, z limom zamazanega ptiča, je leta 1973 zamenjal lov z mrežami. Ulov je bil neprimerljivo večji in lovilo se je vse več za Slovenijo novih ptičjih vrst. Danes obročkarska dejavnost poteka v okviru Prirodoslovnega muzeja Slovenije in združuje okoli 60 zunanjih sodelavcev. Med že omenjenimi 88 člani društva v prvem letu jih je bilo kar 45 iz vrst obročkovalcev.

Opazovanje ptičev – in zapisovanje podatkov o tem – se je zelo razmahnilo. O tem govorijo številni zapisi v različnih revijah ali samostojna dela, ki pomenijo začetek in temelj favnistike. Neprimerno večje število zapisov pa je končalo po različnih beležnicah in predalih, ni jim bilo dano, da bi bilo njihovo poslanstvo udejanjeno. Vse bolj se je kazala tudi potreba po kvantifikaciji zbranih podatkov, po njihovem sistematičnem uvrščanju v prostoru, skratka, pokazala se je potreba po ornitološkem atlasu, tako gnezdilk kot prezimovalcev. Pa ne samo pri nas. Priprave zanj so se začele tudi v okviru Evrope in Slovenija je pristopila k evropskemu sodelovanju, ko na drugih področjih o podobnih dejavnostih sploh še slišali nismo. Napočil je čas, da smo se slovenski opazovalci

in preučevalci ptičev združili v društvu in skupaj začeli vleči ornitološki voz. Pobudo za ustanovitev društva so dali in utemeljili trije možje, Iztok Geister, Dare Magajna in Dare Šere, ki so društvu tudi dali ime: Društvo za opazovanje in proučevanje ptic Slovenije. Omeniti velja tudi akademika dr. Andreja Župančiča, ki je ves čas nastajanja društva in še dolgo potem, ko je to že delovalo, zvesto stal ob strani z dobrimi predlogi in nasveti in, če se izrazimo sodobno, vlival pozitivno energijo. In to z vedrom!

Na ustanovni skupščini DOPPS-a, 8.12.1979 v Ljubljani, je Iztok Geister v pozdravnem nagovoru tedanja dogajanja na ornitološkem področju slikovito strnil z besedami: »Vse to rojenje favnistične dejavnosti na Slovenskem v zadnjih nekaj letih vse glasneje išče svojo matico, okrog katere bi se v grozdu zbrali vsi, zdaj po vseh mogočih predalih raztreseni terenski podatki. Takšna ažurna in živahna izmenjava podatkov bi dala našemu delu nov impulz in možnosti za hitrejšo realizacijo pobud v zvezi z delom na terenu. Ta matica naj bi bilo društveno glasilo Acrocephalus. To bi bilo, če izvzamemo v letu 1933 izšlo prvo in edino številko Izvestij ornitološkega observatorija v Ljubljani, prvo periodično ornitološko glasilo na Slovenskem. Rodovno ime trstnic *Acrocephalus* simbolizira delovno in problemsko zasnovo glasila, saj so trstnice, če upoštavamo težavnost determinacije, ekološko izolacijo in akutno ogroženost biotopa, za raziskovanje zelo privlačen rod ptic.«

Matica Acrocephalus je zaživela in imela številno potomstvo: danes beležimo 121 izdanih številk. Njeno potomstvo je vse do 93. številke urejeval in negoval Iztok Geister, bil mu je več kot skrben oče. Na takratno delo uredniškega odbora ostajajo v spominu prijetni sestanki, dolge ptičarske razprave, pa tudi kakšno zabavno smo razdrli. Denarja pa ravno toliko, da so bili pokriti stroški izdajanja revije in še kaj za pisarniške posle.

Ko vlečemo črto pod četrstoletno delovanje DOPPS-a, smo dolžni povedati tudi tisto, kar bi bilo najbolje pozabiti. Že pred 93. številko, leta 1999, so se začeli v društvu tudi grenki trenutki, sedenje na sestankih je postajalo vse bolj moreče. Pravijo, da je bil konflikt generacij. Pa naj bo tako. Škoda je le, da se je vse začelo pri denarju.

Leta 1994 je društvo, vzporedno z revijo Acrocephalus, začelo izdajati tudi Novice DOPPS, ki so se kasneje preimenovale v Svet ptic. Mlajši in prodornejši člani društva so vse bolj zasedali ključne funkcije v društvu, bili so uspešni tudi poslovno, povezovali so se s sponzorji in začeli s projektnim delom. Usmeritev Izvršilnega odbora je bila, da bi Acrocephalus postal strogo strokovna revija, bolj poljudne prispevke in kramljanje s članstvom pa naj bi prevzela revija Svet ptic. Acrocephalusu so vse bolj omejevali porabo denarja, ostajali so nepokriti računi, ki so jih potem očitali uredniku. Največkrat, da je objavil kakšno barvno sliko preveč in s tem zvišal stroške tiska. Šlo je za piškave denarce. Konflikt so rešili tako, da je Izvršilni odbor društva urednika razrešil. Kratko malo ga je zbrisal! Celotni uredniški odbor je odstopil v znak podpore dotedanjemu uredniku. Svet ptic in novi Acrocephalus pa sta se kot Feniksa dvignila s pogorišča uredništva, ki je pripadalo starejši generaciji.

Dobro, izbrali so pot, ki jo starejši težko razumemo in ne odobravamo. Nekaj pa je k temu treba še reči. Seveda je prav, da so mladi poskrbeli za denar. A če je že bilo treba zamenjati urednika, ki je tudi sam že omenil, da bo predal urednikovanje, bi to lahko naredili na dostojen način. Zelo preprosto. Od

njega bi se poslovili in se mu zahvalili za opravljeno delo. Iztok Geister si je to več kot zaslužil. O različnih generacijah pa tole. Rasli smo še v času, ko so nam za življenjsko popotnico dali pregovor, ki je ravno pravšnji, da ga izrečemo ob razmišljanju o grenkih trenutkih v društvu. Je preprost: »Ti očeta do praga, sin tebe čez prag.«

Danes DOPPS cveti, priboril si je pomembno mesto v stroki in družbi. Uspešno poslovanje in krog zavzetih sodelavcev, ki skrbijo, da izhajajo monografije in bogat propagandni material predvsem z naravovarstveno vsebino. Acrocephalus je odlična strokovna revija, prestopila je domači prag in postala mednarodna. Samo pohvalno tudi o reviji Svet ptic, ki bralce navdušuje s pestrimi prispevki o življenju in iz življenja ptičev, vse bogato barvno ilustrirano. Ob praznovanju čestitke vsem, ki se trudijo za uspeh DOPPSa, in iskrena želja, da bi se vse še tako nadaljevalo in cvetelo!

Janez Gregori

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Monitoring the Austrian relict population of European Roller *Coracias garrulus* – a review of preliminary data and conservation implications

Monitoring reliktne avstrijske populacije zlatovranke *Coracias garrulus* – pregled preliminarnih podatkov in varstvenih prizadevanj

Peter Sackl[1], Michael Tiefenbach[2], Werner Ilzer[3], Johann Pfeiler[4] & Bernard Wieser[5]

[1] Steiermärkisches Landesmuseum Joanneum, Forschungsstätte Pater „B. Hanf" am Furtnerteich, Raubergasse 10, A–8010 Graz, Austria, e-mail: peter.sackl@stmk.gv.at

[2] Gartenstadt 43, A–8330 Feldbach, Austria, e-mail: michitiefenbach@gmx.at

[3] BirdResearch, Conrad v. Hötzendorf-Strasse 106, A–8010 Graz, Austria, e-mail: ilzer@aon.at

[4] Murweg 42, A–8490 Bad Radkersburg, Austria, e-mail: j.pfeiler@aon.at

[5] Herbstsiedlung 22, A–8330 Feldbach, Austria, e-mail: bernard.wieser@utanet.at

Kongres ornitologov Slovenije ob 25. obletnici DOPPS
Slovene Ornithologists' Congress at the 25th anniversary of DOPPS (BirdLife Slovenia)

Up to the mid-1980s the formerly continuous breeding range of the European Roller Coracias garrulus in the pre-alpine lowlands of southern Austria had declined to a remnant population in the districts of Feldbach and Bad Radkersburg (Gornja Radgona) in south-eastern Styria. Since 2001 we have studied population numbers and nesting success as well as spatial and seasonal patterns of habitat use, by locating used nest sites and with the help of roadside counts for locating core feeding areas. Population numbers have stabilized since the mid-1980s at between 7 and 15 breeding pairs (bp). Due to a lower proportion of unsuccessful breeding attempts, annual nesting success has increased to 1.3 – 3.3 juv. / bp per year since the end of the population decline in the mid-1980s. All currently used nesting sites are situated in the lower section of the Sulzbach river valley, less than 400 m from the river. With bird usages of 40.5% and 44.9.%, respectively, agricultural lands are used for feeding to the same degree as cultivated grasslands (meadows). More hunting birds were found on agricultural lands during April and May whereas, from June to mid-September, freshly cut fallow and grasslands, as well as higher parts of the river valley along hillsides, were more frequently used for feeding. Logistic regression analysis of 32 habitat parameters measured in 50 m-plots around perching sites and in adjoining areas not used for feeding indicates that European Rollers prefer areas with large cumulative length of telegraph wires and boundaries between fields. Areas with large numbers of potential perching sites and greater proportions of grasslands and fallow land for feeding are also favoured. Due to its small size the population is expected to be extremely susceptible to inbreeding and stochastic fluctuations of population numbers. To mitigate the risk of extinction, we recommend extension of the current range into adjoining farmland areas on both sides along the Austrian-Slovene border by implementing suitable farming practices and grassland management.

Key words: European Roller, *Coracias garrulus*, relict population, Austria, population numbers, reproduction, nest site, habitat, feeding site selection, prey availability, conservation

Ključne besede: zlatovranka, *Coracias garrulus*, reliktna populacija, Avstrija, velikost populacije, razmnoževanje, gnezditveni prostor, habitat, izbor prehranjevališč, razpoložljivost plena, varstvo

1. Introduction

Since the late 19th century the range and population size of European Rollers *Coracias garrulus* has dramatically declined in western and northern Europe, bringing the species to extinction in southern Sweden, Denmark and Germany. Scattered remnants of its formerly continuous Central European population remain in the Baltic states and eastern Poland (Glutz von Blotzheim & Bauer 1980, Samwald & Štumberger 1997). In contrast to its earlier decline in northern Europe, the species was still widespread in southern Austria and Slovenia until the 1950s. However, in the wake of large-scale intensification of agriculture after World War II the breeding distribution and numbers of the Austro-Slovene population collapsed during the 1960s and 1970s (Bračko 1986, Samwald & Samwald 1989). In Slovenia, where population numbers have been estimated at 0 – 5 breeding pairs (bp) for 1998 – 2004, the species is currently restricted to scattered and mostly vagrant birds (Božič 2003, F. Bračko & B. Štumberger *pers. comm.*), while a small remnant population has survived in south-east Austria around Bad Gleichenberg and Straden (Styria), a few kilometres from the Slovenian border. Data concerning the nesting ecology, reproduction rate and the dramatic decline of European Rollers during the second half of the last century in south-east Austria were analysed by Samwald & Samwald (1989), with a short update up to the mid-1990s published by Samwald (1996). For the preparation of a management plan by local conservation authorities we have investigated the breeding distribution, nest site selection, reproduction and habitat use of the Austrian population since 2001. A preliminary review of our data with a brief discussion of their implications for the conservation of the Austrian population is presented here.

2. Study area and methods

Since the mid-1980s the breeding distribution of European Rollers in Austria has been restricted to a handful of low lying, narrow river valleys (220 – 342 m a.s.l.) in the prealpine hill country of south-eastern Styria, all used intensively for maize production (Samwald & Samwald 1989). Our study area of 66.4 km^2 is situated in the districts of Feldbach and Bad Radkersburg (Gornja Radgona) in the middle and lower reaches of northern tributaries of the Mur river, i.e. the Sulzbach, Poppendorfer Bach and Drauchenbach river. It includes all currently, and at least six formerly, used nesting sites. The latter were deserted towards the end of the population decline between 1985 and the mid-1990s. Since 2001 we have organized annual population surveys by locating used nesting holes, investigated breeding success and, based on the results of a survey of actual land-use around active and currently abandoned nesting sites (16.9 km^2), studied the spatial and seasonal pattern of habitat use. To study feeding site selection and habitat requirements we located core feeding areas by mapping perched and actively hunting birds during roadside counts (n = 13) throughout the whole study area between April and September 2002. In addition, since 2003, 31 nestlings and 11 adult birds, the latter mostly caught in nest boxes while feeding nestlings, were ringed with metal and individual combinations of colour rings.

3. Results

3.1. Population numbers and reproduction

In the course of the 1960s and 1970s the original population, which was estimated at 300 – 500 bp by Samwald & Samwald (1989), contracted to a remnant range of 25 – 30 km^2 along the Poppendorfer Bach, Sulzbach, Drauchenbach, and Kutschenitza rivers. With the exception of 2 to 3 nesting sites, close to the Slovene border at St. Anna a. Aigen, which were deserted till 1995, numbers of the Austrian population have been stable between 8 and 12 bp since the mid-1980s (Samwald 1996). Between 2001 and 2004 we found 7 to 15 bp / year in the area. In contrast, the annual nesting success has increased from 0.0 to 1.7 juveniles / bp during the period 1978 to 1984 to 1.3 – 3.3 fledged juveniles / bp for 1985 to 2003, over which period the population decreased by approximately 76% from an estimated 75 bp in 1978 to 18 bp in 1985 (Samwald & Samwald 1989). The currently higher reproduction rate correlates with lower numbers of unsuccessful or deserted breeding attempts (mean = 13.3%, min – max = 0 – 33%, n = 102, 1985 – 2003), in comparison to the period 1978 – 1984, when annual proportions of unsuccessful nesting attempts varied between 14 and 75% (mean = 58.7%, n = 39). 58.2% of the currently used nesting areas are covered by arable land (42.4% used for maize production) and 14.5% by cultivated grasslands (Figure 1). With the same long-term pattern of reproduction and nesting success for different sub-populations (in different river valleys) within and outside the recent breeding area, land-use patterns, i.e. the area of different field or habitat types, appear not to be responsible for the higher breeding success since the mid-1980s.

Figure 1: Feeding habitat of European Rollers *Coracias garrulus* in south-east Austria, Karbach; summer 2003 (Photo: M. Tiefenbach).

Slika 1: Prehranjevalni habitat zlatovranke *Coracias garrulus* v jugovzhodni Avstriji, Karbach; poletje 2003 (foto: M. Tiefenbach)

Figure 2: Adult European Roller *Coracias garrulus* feeding young in birch *Betula sp.*; Oberpurkla, Austria, June 2002 (Photo: P. Sackl)

Slika 2: Odrasla zlatovranka *Coracias garrulus* med hranjenjem mladičev na brezi *Betula sp.*; Oberpurkla, Avstrija, junij 2002 (foto: P. Sackl)

3.2. Nest sites

Between 2001 and 2003 we located a total of 15 actively used nesting holes (including 3 nest boxes). All were situated in small woodlands (0.2 – 2.0 ha) close to or in a narrow strip of riverine forest (width ≤10 m) along the main river in the low-lying section of the 1.5 – 2.5 km wide valley of the Sulzbach river. The mean of nearest distances between natural nest holes and the river was 231.6 m (SD = 202.9, min – max = 1 – 402 m, n = 12); on including abandoned nest sites, maximum distances to the river increase to 730 m. Most natural nesting holes used in the area obviously originate from nesting and sleeping holes made by Green *Picus viridis* or Grey-headed Woodpeckers *P. canus*. All nesting holes (n = 12; excluding nest boxes) were found within the main trunk of nesting trees, 4.5 – 10.2 m above ground (Figure 2). In order of decreasing frequency in our study area, nesting holes were found in willows *Salix* sp., Common Ash *Fraxinus excelsior*, oaks *Quercus* sp., Common Beech *Fagus sylvatica*, birch *Betula* sp. and Wild Cherry *Prunus avium*. All nest sites were situated within a maximum distance of 11 m (mean = 5.0 m, SD = 3.9, n = 11) from the edge of woodlands, in open or semi-open agricultural land outside closed settlements or more densely populated areas (Streusiedlungen). The nearest distances of nesting holes and used nest boxes to closed settlements varied between 98 m and 375 m (mean = 215.3 m, SD = 93.7, n = 15).

3.3. Habitat use

Of all hunting strikes recorded during summer 2002 (n = 204), agricultural lands (40.5%) were used for feeding to the same extent as cultivated grasslands (meadows; 44.9%). More hunting strikes and perched birds were found on agricultural land during late April and May, whereas from June to mid-September freshly cut fallow and grasslands were the most frequently used feeding habitats (Figure 3). A comparison of habitat characteristics during the breeding season by logistic regression analysis showed that 82.1% (July) to 100% (August) of 32 habitat variables measured in the field are correctly classified to feeding sites (50 m-plots around perching sites) and absence data sites, i.e. randomly selected 50 m-plots in adjoining farmland not used by the population. Besides distances from the main river to nesting holes, the cumulative length of telegraph wires and boundaries between fields, as well as the number of potential perching sites (solitary trees, bushes, poles etc.), and the area of grassland and fallow land within 50 m-plots, were accepted by stepwise regression as statistically significant for separating feeding habitats from areas not used for hunting (Sackl *et al. in prep.*).

Nearest distances of hunting birds from used nest holes and the main river showed significant seasonal changes. Except in late August and September most feeding patches were situated <400 m from the Sulzbach river in the lowest part of the river valley (mean: 100.8 m in May – 526.6 m in September;

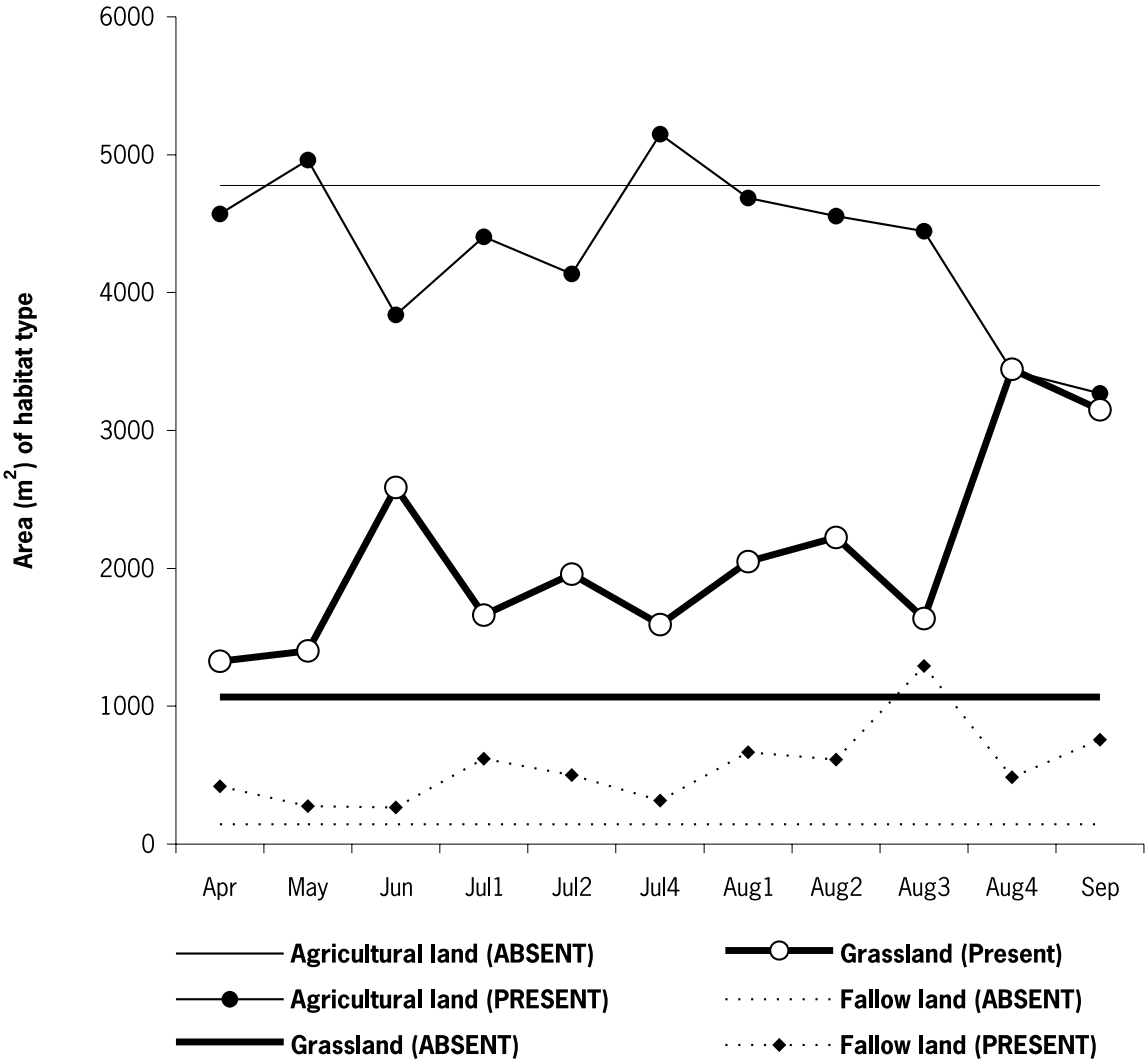

Figure 3: The area of arable fields, grasslands (cultivated meadows) and fallow land around perching-sites of European Rollers *Coracias garrulus* in south-eastern Austria during summer 2002 (50 m-plots). Horizontal lines indicate corresponding means for habitat types in 50 m-plots (n = 34) not used by European Rollers (absence data).

Slika 3: Območje obdelovanih polj, travišč (gojenih travnikov) in neobdelanega sveta okrog lovišč zlatovranke *Coracias garrulus* v jugovzhodni Avstriji poleti 2002 (površine z radijem 50 m). Vodoravne črte ponazarjajo ustrezne srednje vrednosti za habitatne tipe na površinah s 50 m radijem (n = 34), v katerih se zlatovranke ne zadržujejo.

Figure 4). As for many bird species, distances of hunting birds from the nearest nest site were lowest during the nestling period and shortly after fledging (Figure 4). During the latter period freshly fledged juveniles normally hide in tall trees close to nesting holes, where they are fed by adults. Between late July and mid-September mean distances from the main river steadily increased from 500 to 2500 m (Figure 4). During late summer, peripheral parts of the river valley and adjoining hillsides were more frequently used by independent juveniles and adult birds. In August 2004, with the help of colour-ringed birds, we saw that in late summer, contrary to adult and some juvenile birds which remained stationary within their original feeding area around nest sites, some adults and most fledglings shifted their core feeding areas permanently away from nest sites to the periphery of the valley or into adjoining river valleys.

4. Discussion

In the wake of population decline in western Hungary

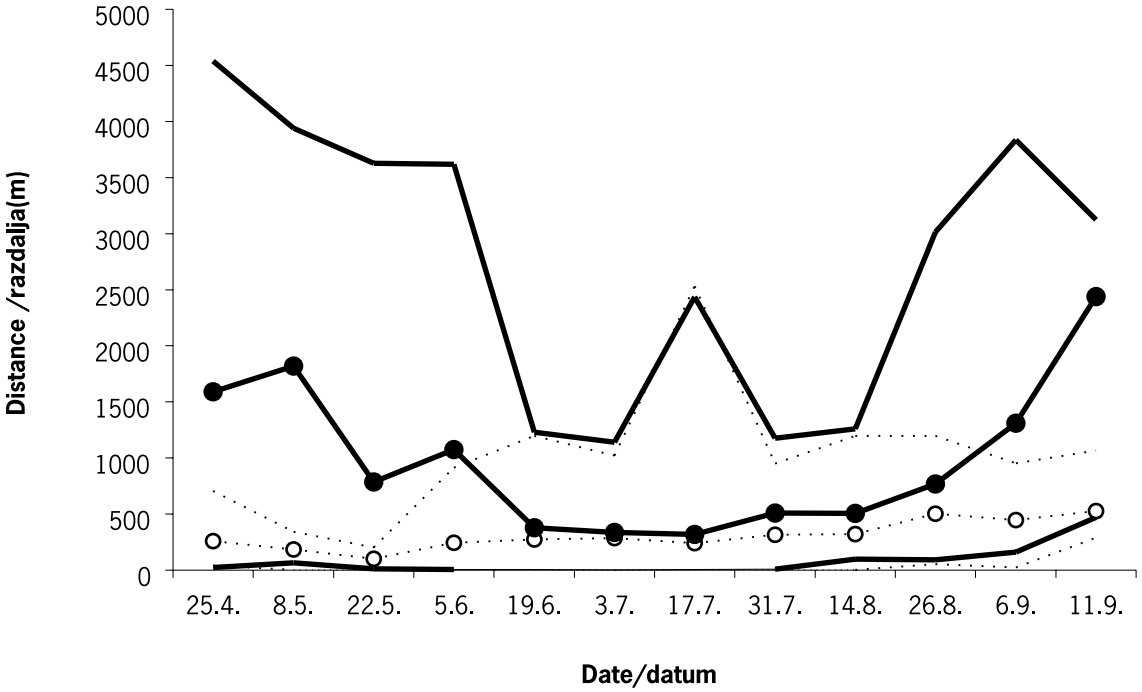

Figure 4: Seasonal variation of nearest distances (m) of perching-sites of European Rollers *Coracias garrulus* from the main river (MEAN = thick line with closed circles, MIN and MAX = thick lines) and from used nest sites (MEAN = broken line with open cicles, MIN and MAX = broken line) in south-east Austria during summer 2002 (road site counts).

Slika 4: Sezonske spremembe v najkrajših razdaljah (m) počivališč zlatovranke *Coracias garrulus* od glavne reke (MEAN = debela črta s polnimi krogi, MIN in MAX = debela črta) in od aktivnih gnezdišč (MEAN = prekinjena črta s praznimi krogi, MIN in MAX = prekinjena črta) v jugovzhodni Avstriji poleti 2002 (obcestna štetja).

and Croatia, where the species is currently on the brink of extinction (Magyar *et al.* 1998, Radović *et al.* 2003), the Austrian population and scattered birds in adjoining areas in Slovenia are isolated by at least 90 – 110 km from the nearest nesting areas (B. Štumberger *pers. comm.*). Due to its small size, the population is expected to be extremely susceptible to inbreeding and to stochastic fluctuations of population numbers. To mitigate the risk of extinction by catastrophic events we recommend increasing population numbers and extending the current range into adjoining, currently abandoned farmland areas by implementing suitable farming practices and grassland management on both sides of the Austro-Slovenian border.

Factors relevant for the viability of the Austrian population, which act on migration and in winter quarters, are unknown. Thus, basic information on factors influencing nesting success, habitat requirements and mortality are essential for restoring viable population numbers and for reconstituting a continuous breeding range across the Austro-Slovene border. This can only be done by enhancing nesting success and the survival probability of individual birds inside the current nesting area. Since 2002 road casualties along the main road of the Sulzbach river valley between Haag and Karbach, where rollers regularly hunt in late summer, have been responsible for an annual loss of 4.7 – 10.4% of the population (mean = 6.6%).

The loss of grassland areas to maize cultivation discussed by Samwald & Samwald (1989) suggests that the exact causes for the disappearance of the species throughout Central Europe are more complex. European Rollers depend on medium-sized to large insects for food. Western European studies have provided good evidence for a widespread decline over the last 40 years, not only of insectivore farmland birds, but also of the abundance of key arthropod groups like butterflies Lepidoptera, beetles Coleoptera and grasshoppers Saltatoria in bird diets, as a result of changes in land use, habitat quality and increased pesticide use (Robinson & Sutherland 2002, Baker 2004). In our study area rollers depend, during the breeding season, on riverine lowlands with high levels of ground water. Higher ground adjoining the hillsides is more frequently used during July and August,

coinciding with the availability of high densities of large grasshoppers in late summer (P. Sackl & M. Tiefenbach *in prep.*). Grasslands with low vegetation, in particular freshly cut meadows, as well as unpaved tracks, ploughed fields or stubble are used for hunting in spring and late summer. Preliminary data from transect counts for estimating prey availability in different habitat types in the Sulzbach river valley in 2004 indicate that, during the breeding season, original grasslands used for hay-cutting harbour significantly higher densities of invertebrate prey than improved grasslands and maize fields ($Z = 3.96$, $P < 0.001$, $n = 132$, Mann-Whitney U-Test; Figure 5). Thus, following the large-scale transformation of grasslands into agricultural land since the 1960s, the abundance of arthropod prey has presumably declined significantly throughout the riverine lowlands of south-east Austria.

Furthermore, according to our data, European Rollers prefer smaller fields, mosaics of arable land interspersed by meadows and fallow land along tracks, roadsides and ditches, to large-scale arable fields for hunting. Hedges and grassy strips along field boundaries harbour large numbers and diversity of insects, with the overall abundance of invertebrates usually greater near the boundary (Holland *et al.* 1999). During our studies we found that European Rollers carry out 50 – 75% of all hunting strikes within a strip ≤10 m from field boundaries. Consistent with this, transect counts (Figure 6) indicate that, in contrast to the central parts of all meadows investigated, arthropod abundances are significantly higher along grassland boundaries ($Z = 2.78$, $P = 0.005$, $n = 110$, Mann-Whitney U-Test).

The evidence shows that the drainage of most fertile lands throughout the riverine lowlands and their transformation into monotonous fields of arable land, the loss of adequate small-scale arable and fallow lands, and the loss of pastures and grasslands traditionally used for hay-cutting and fodder (Kaser & Stocker 1986), coincide with the decline of the Austrian population since the late 1950s. Although relevant data are not available, the short-term increase in nesting success since 1985 may indicate the role of farming practices. Avilés & Parejo (2004) recently published evidence for high chick mortality in European Rollers in irrigated fields following insecticide use by farmers to avoid insect plagues. However, throughout Central Europe remnant populations of European Rollers inhabit intensively used agricultural land. We hope, that our research will contribute to understand habitat traits important for

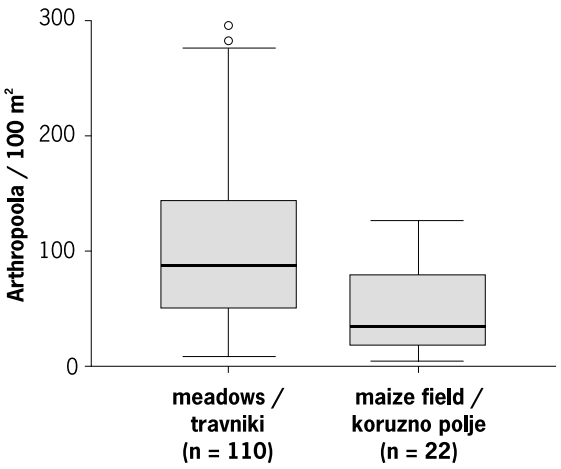

Figure 5: Median of the abundance of arthropods in six grassland areas and an adjoining maize field according to transect counts (transect length = 50 m, width of transects = 2 m) in the Sulzbach river valley, Austria, April – September 2004 (n = 132)

Slika 5: Mediana številčnosti členonožcev Arthropoola na šestih travniščih in v sosednjem koruznem polju na osnovi transektnih štetij (dolžina transekta = 50 m, širina transektov = 2 m) v dolini reke Sulzbach, Avstrija, april – september 2004 (n = 132)

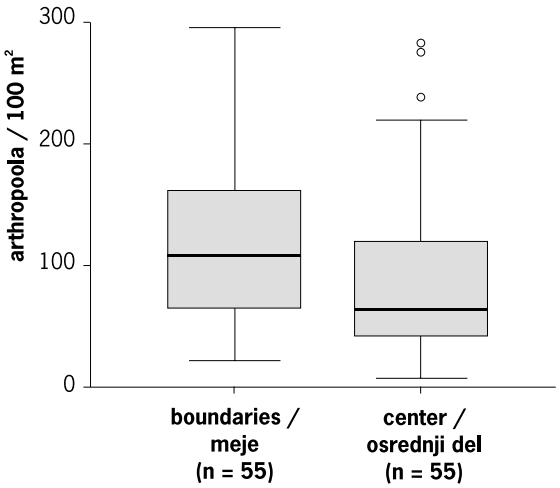

Figure 6: Median of the abundance of arthropods along boundaries (≤5 m from border line) and in the central parts of six grassland areas used for hay-cutting and fodder according to transect counts (transect length = 50 m, width of transects = 2 m) in the Sulzbach river valley, Austria, April – September 2004 (n = 110).

Slika 6: Mediana številčnosti členonožcev vzdolž meja (≤5 m od mejne črte) in v osrednjih delih šestih redno košenih travišč na osnovi transektnih štetij (dolžina transekta = 50 m, širina transekta = 2 m) v dolini reke Sulzbach, Avstrija, april – september 2004 (n = 110).

the species and the development of farming practices compatible with conservation.

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5. Povzetek

Od sredine osemdestih let 20. stoletja se je nekdanji sklenjeni gnezditveni areal zlatovranke *Coracias garrulus* v predalpskem nižavju južne Avstrije skrčil na skromen ostanek populacije v okrožjih Feldbach in Bad Radkersburg (Gornja Radgona) v jugovzhodnem delu province Steiermark. Od leta 2001 so avtorji preučevali velikost populacije, gnezditveni uspeh ter prostorske in sezonske vzorce izbora habitata z iskanjem aktivnih gnezdišč in s pomočjo štetja vrste vzdolž cest, da bi ugotovili položaj zlatovrankinih glavnih prehranjevališč. Od sredine osemdesetih let je bila velikost njene populacije med 7 in 15 gnezdečimi pari (gp). Od konca populacijskega upada v sredini osemdesetih, pa se je zaradi manjšega števila neuspešnih gnezditvenih poskusov letni gnezditveni uspeh povečal na 1,3 – 3,3 mladiča / gp na leto. Vsa trenutno aktivna gnezdišča ležijo v spodnjem delu doline reke Sulzbach in sicer <400 m od rečnega toka. Na območju predstavljajo 40,5 do 44,9% kmetijskih površin kultivirana travišča, na katerih se zlatovranka hrani. Večje število lovečih zlatovrank je bilo zabeleženih na kmetijskih površinah med aprilom in majem, medtem ko so se med junijem in sredino septembra pogosteje prehranjevale na sveže preoranih poljih, travišči in više ležečih predelih vzdolž doline reke Sulzbach. Analiza logistične regresije 32 habitatnih parametrov, izmerjenih na površinah za radijem 50 m okrog zlatovrankinih lovišč in na površinah, ki mejijo nanje, a se v njih zlatovarnke ne hranijo, je pokazala, da zlatovrankam bolj ustrezajo območja z večjo skupno dolžino telegrafskih žic in mejne površine med polji, pa tudi območja z visokim številom potencialnih počivališč in precejšnjim deležem travišč in neobdelane zemlje za hranjenje. Glede na zlatovrankino neznatno populacijo je pričakovati, da bo ta v veliki meri nagnjena k parjenju v sorodstvu in stohastičnim populacijskim nihanjem. Da bi ublažili možnosti zlatovrankinega izumrtja, avtorji priporočajo, da se podaljša trenutni areal vrste v sosednja kmetijska območja na obeh straneh avstrijsko-slovenske meje z uveljavljanjem ustreznega kmetovanja in upravljanja travišč.

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Trinajst let popisov kosca *Crex crex* na Cerkniškem jezeru (Slovenija)

Thirteen years of the Corn Crake *Crex crex* census at Lake Cerknica (Slovenia)

Slavko Polak[1], Leon Kebe[2] Branko Koren[3]

[1] Notranjski muzej Postojna, Ljubljanska 10, SI-6230 Postojna, Slovenija, e-mail: slavko.polak@guest.arnes.si

[2] Notranjski regijski park, Tabor 42, SI-1380 Cerknica, Slovenija, e-mail: leon.kebe@notranjski-park.si

[3] Hruševje 48, SI-6225 Hruševje, Slovenija

Kongres ornitologov Slovenije ob 25. obletnici DOPPS
Slovene Ornithologists' Congress at the 25th anniversary of DOPPS (BirdLife Slovenia)

Between 1992 and 2004, annual censuses of Corn Crakes *Crex crex* were carried out at Lake Cerknica, mainly during the first weekend in June. Calling males were counted during the night from 23:00 to 03:00 hours. In the 13 years, a total of 91 ornithologists contributed their voluntary work. The 26 km^2 large Lake Cerknica was divided into six areas, which were separately investigated by smaller groups of ornithologists who mapped every singing male. The lowest number of calling Corn Crakes, i.e. 42, was registered in 1997, the highest, i.e. 101, in 1993. On the basis of the carried out study, the 60 to 90 calling males are stated as an average calling male population at Lake Cerknica. The number of calling birds changed significantly during the study period. The high water level in some years proved to be in statistically significant negative correlation and seems to be one of the reasons for oscillations. During the mapping, the distribution of Corn Crakes at Lake Cerknica and the habitat preference was established. The most suitable habitat for Lake Cerknica's Corn Crakes is a mixture of wet meadows, particularly the communities *Deschampsio-Plantaginetum altissimae* with occasionally mowed sedges *Magnocaricion*. Some areas, where Corn Crakes were present in the early 1990s, are no longer suitable for breeding due to the cessation of mowing. Nevertheless, the population of Corn Crakes at Lake Cerknica seems to be stable at the moment.

Key words: Corn Crake, *Crex crex*, census, distribution, Lake Cerknica, Slovenia
Ključne besede: kosec, *Crex crex,* številčnost, razširjenost, Cerkniško jezero, Slovenija

1. Uvod

Prve zapise o pojavljanju kosca *Crex crex* na Cerkniškem jezeru navaja Gregori (1978), ki kosca obravnava kot redkega gnezdilca zamočvirjenih travnikov. Posamezne pojoče samce so pri dnevnih obiskih Cerkniškega jezera kasneje zabeležili številni ornitologi. Cerkniško jezero je bilo zaradi koscev vključeno v prvi seznam evropsko pomembnih območij za ptice – območja IBA (Grimmett & Jones 1989). Oceno 5 do 10 parov koscev na Cerkniškem jezeru kasneje zasledimo tudi v prispevku o razširjenosti in stanju kosca v Jugoslaviji (Schneider–Jacoby 1991).

Pomemben prispevek k poznavanju razširjenosti in predvsem številčnosti kosca na Cerkniškem jezeru so prinesle nočne raziskave. Tako smo na Ornitološkem raziskovalnem taboru med 1.6. in 7.6.1992 v nočnih in jutranjih urah popisali celotno jezero in našteli kar 70 pojočih koscev (Polak 1993). Celoviti nočni popis koscev smo ponovili na Cerkniškem jezeru leta 1993 v okviru akcije DOPPS »Kosec v Sloveniji« (Trontelj 1995) in nato še v letu 1994. Rezultati so pokazali, da na Cerkniškem jezeru živi mednarodno pomembna populacija kosca. Z razvojem novih kriterijev za opredeljevanje mednarodno pomembnih območij za ptice (IBA) je dobil kosec takrat status

globalno ogrožene vrste ptice in zato prišel v ospredje ohranitvenih prizadevanj v Evropi. Rezultati so nas spodbudili k nadaljevanju vsakoletnega popisovanja pojočih koscev na Cerkniškem jezeru. Akcija je z ustanovitvijo Notranjske sekcije DOPPS leta 1995, s popularnim imenom *»Crex night«*, postala tudi temeljna in tradicionalna vsakoletna akcija te sekcije. V tem delu objavljamo zbrane rezultate popisov koscev na Cerkniškem jezeru med letoma 1992 in 2004.

2. Opis obravnavanega območja in metode

Med vsemi kraškimi polji v porečju Ljubljanice je Cerkniško polje po obsegu, razsežnosti in trajnosti poplav največje. Celotno dno polja meri okrog 35 km^2. Največja poplava z gladino na koti 552 pokriva približno 26 km^2 površja ter vsebuje kakih 70.000.000 m^3 vode (Gospodarič & Habič 1978). Jezero ima vodo povprečno dobrih devet mesecev na leto, od tega na običajnem nivoju štiri do pet mesecev, od nekaj dni do nekaj tednov pa je gladina izredno visoka. Jezero je najpogosteje polno aprila, maja in decembra, suho pa med avgustom in oktobrom. Povprečno enkrat na deset let jezero sploh ne presahne. Podrobnejše geografske, geomorfološke, geološke in hidrološke značilnosti območja so predstavljene v Gospodarič & Habič (1978) ter Gaberščik (2002). Za razumevanje razširjenosti kosca so poleg klime in hidrologije pomembni tudi popisi vegetacije (Ilijanić 1978, Martinčič & Leskovar 2002).

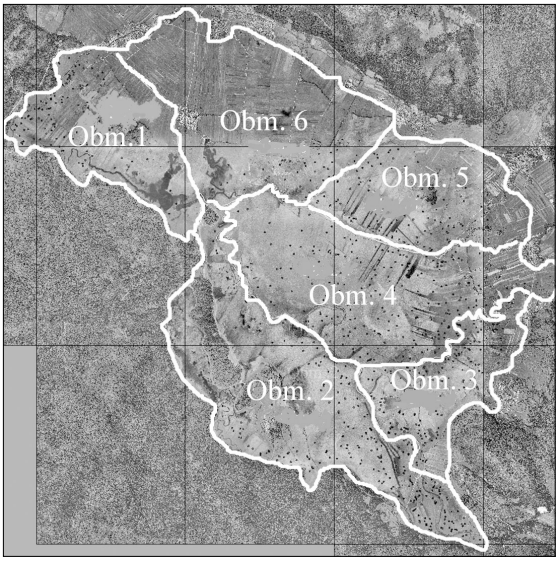
Kosec je travniška vrsta ptice, ki živi prikrito življenje v gosti travniški oziroma močvirni vegetaciji. Pri ugotavljanju njegovega pojavljanja in oceni številčnosti se je treba zanesti na registracije oglašanja. Telemetrijske raziskave koscev na Škotskem (Hudson *et al.* 1990) so pokazale, da je verjetnost oglašanja (petja) največja med 23.00 h in 02.00 h od 20. maja do 10. junija in zajame okrog 80% samcev. Na tej osnovi in ob upoštevanju priporočil za prvi vseslovenski popis kosca leta 1992-93 v okviru akcije »Kosec v Sloveniji« (Trontelj 1992, arhiv DOPPS *neobjav.*) smo se odločili za skupinske popise kosca na Cerkniškem jezeru med 23.00 in 03.00 uro. Kot najprimernejši datum smo določili jasno in mirno noč v zadnjem tednu maja oziroma prvem tednu junija. V primeru slabega vremena smo akcijo nočnega popisa prestavili za en teden. Priporočenega ponovnega kontrolnega štetja, razen v letu 2004, zaradi obsežnosti območja nismo opravljali.

Da bi se izognili podvajanju registracij zaradi sprememb položaja pojočih samcev (Schäffer & Münch 1993), smo popis enega območja opravili v eni noči. Cerkniško jezero je preveliko, da bi ga popisal en sam ornitolog, zato smo na podlagi izkušenj ornitološkega tabora iz leta 1992 enkraten popis celega jezera opravili s skupinsko akcijo. Jezero smo popisovali po geografsko dobro ločenih območjih, ločenih predvsem s težko prehodnimi

Tabela 1: Opredelitev šestih ločenih popisnih območij in tam obstoječih prevladujočih vegetacijskih združb: VŠ – visoko šašje, TS – trstičje, VŠ/TS – visoko šašje/trstičje, MS – modro stožkovje, ZMS&RS – združba modre stožke in rjastega sitovca, ZMS&RS – združba modre stožke in čnikastega sitovca, ZRM&VT- združba rušnate mastnice in visokega trpotca, ZRM&VT/MS – združba rušnate mastnice in visokega trpotca z modrim stožkovjem, BK – belo kljunkovje, JB – jezersko bičkovje, RV&NK – grmiščni predeli rožmarinolistne vrbe in navadne krhlike.

Table 1: Definition of the six separated survey areas and dominant plant communities in these areas: VŠ – *Magnocaricion*, TS – *Phragmitetum australis*, VŠ/TS – *Magnocaricion/Phragmitetum australis*, MS – *Molinietum caeruleae*, ZMS&RS – *Schoeno ferruginei-Molinietum caeruleae*, ZMS&ČS – *Schoeno nigricantis-Molinietum caeruleae*, ZRM&VT– *Deschampsio-Plantaginetum altissimae*, ZRM&VT/MS – *Deschampsio-Plantaginetum altissimae/Molinietum caeruleae*, BK – *Rhynchosporetum albae*, JB– *Scirpetum lacustris*, RV&NK – *Salix rosmarinifolia, Frangula alnus*.

Območje/ Area	Opredelitev popisnega območja/ Location of survey area	Prevladujoče vegetacijske združbe/ Dominant plant communities
1	Dolenjska blata – Jezerska gmajna – Rešeto	VŠ, MS, ZMS&RS, ZMS&ČS, RV&NK
2	Ponikve – Otok – Plesa – Ložarice – Obrh	TS,VŠ,ZRM&VT, ZRM&VT/MS, MS
3	Grintovci – Dujice – Steljnik	VŠ, TS, ZMS&RS, MS
4	Osrednji del jezera (Osredki – Stržen – Blatnice)	VŠ, VŠ/TS, TS, ZMS&RS, JB
5	Podslivišniki – Boričke	VŠ, TS, ZMS&RS, MS
6	Vrbje – Retje – Vodonos	ZMS&ČS, RV&NK



Slika 1: Pregledna karta Cerkniškega jezera z vrisanimi šestimi popisnimi območji za popis kosca *Crex crex*

Figure 1: Map of Lake Cerknica with marked six survey areas for the Corn Crake *Crex crex* census

kanali, rekami in potoki (tabela 1, slika 1). Osnovne in prevladujoče rastlinske združbe so opredeljene v tabeli 1. Popisovali smo v petih do šestih skupinah z dvema do petimi popisovalci, ki jih je vodil izkušen poznavalec območja oziroma ptic. Skupina je po lastni presoji, glede na konfiguracijo raziskovanega terena, prehodila začrtani predel in v zemljevid vpisovala čim bolj natančne položaje pojočih ptic. Pri skupinskih popisih koscev na Cerkniškem jezeru je doslej sodelovalo 91 popisovalcev, ki so v 13 letih v ta namen opravili približno 850 terenskih ur.

Cerkniško jezero je bilo razdeljeno na šest območij, ki so jih popisale posamezne skupine. Območje 1 (obm. 1) je bilo ob spodnjem toku Cerkniščice, imenovano Dolenjska blata. Območje 2 (obm. 2) na levem bregu Stržena je pokrivalo območje ob Otoku, Ponikve, Plesa, Ložarice in gornji del jezera od Laškega studenca do Obrha. Predel območja 3 (obm. 3) je potekal med potokoma Stržen in Lipsenjščica ter naseljema Goričice in Lipsenj. Osrednji del jezera je obsegalo območje 4 (obm. 4) med Lipsenjščico, Strženom in Žerovniščico. Dostop v ta predel je ob poplavah nekajkrat onemogočala narasla voda v predelu Predblatnice oziroma Blatnice. Območje 5 (obm. 5) je bil predel med potoki Žerovniščico, Grahovščico in Martinjščico, območje 6 (obm. 6) pa predel na desnem bregu Martinjščice in Retje. Pri kartiranju koscev smo ocenili in si beležili tudi koščeve habitate. Pri tem smo uporabili vegetacijske združbe, kot jih navajajo Ilijanić (1978) ter Martinčič & Leskovar (2002). Poleg koscev so popisovalci v iste zemljevide beležili še oglašanja drugih nočno aktivnih ptic. Za ugotavljanje natančne pozicije pojočih samcev koscev smo poskusno začeli uporabljati avtomatske merilce geografske pozicije GPS šele v zadnjih treh letih.

Rezultate skupinskih popisov smo iz pisne oblike prenesli v elektronsko s pomočjo zaslonske digitalizacije. Za natančen prenos lokacij pojočih samcev so nam kot podlaga rabili digitalno ortofoto posnetki DOF 5. Za zaslonsko digitalizacijo smo uporabili program Autodesk Map 2004 (Autodesk Inc.). Posamezen pojoči samec je v slikah 2, 3 in 4 prikazan s piko, ki v naravi pokriva 0,8 ha. Kot podlago za prikaz razširjenosti koscev smo uporabili karto v merilu 1: 50.000.

3. Rezultati

V 13 letih se je število pojočih samcev koscev na Cerkniškem jezeru gibalo med 42 in 101 osebkom (tabela 2).

3.1. Leto 1992

DOPPS je v terminu od 1.6. do 7.6. 1992 organiziral Ornitološki raziskovalni tabor z namenom celovitega kvalitativnega in kvantitativnega ovrednotenja favne ptic gnezdilk Cerkniškega jezera. Tabora se je udeležilo 11 članov društva. Kosce smo popisovali priložnostno podnevi, prvič pa smo jih šteli tudi v nočnih urah. V obdobju tabora je bil nivo jezera izjemno nizek. Gladina potokov pa je še upadala, tako da smo jezero lahko v celoti pregledali in popisali. Na celotni površini jezera smo skupno popisali 70 pojočih samcev. Kosci so bili razmeroma enakomerno razporejeni po celotni površini jezera (slika 2), peli pa so tudi v predelih, ki so v maju pogosto še poplavljeni.

3.2. Leto 1993

V okviru akcije »Kosec v Sloveniji« smo v noči z 28.5. na 29.5. kosce prešteli na celotni površini jezera. Popisovalo je 9 članov društva. Leto je bilo izjemno suho, tako da so bili prehodni vsi predeli jezera. To leto zbuja pozornost po doslej največjem številu popisanih koscev. Našteli smo jih kar 101. Razporejeni so bili enakomerno po celotni površini jezera, tudi v predelih, ki so pogosto poplavljeni, kot so Ponikve, Trščenke, Plesa in celo v predelih Vodonosa ter Retja (slika 2).

Tabela 2: Število popisanih pojočih samcev kosca *Crex crex* po šestih popisnih območjih v 13 letih cenzusa na Cerkniškem jezeru

Table 2: Number of registered calling male Corn Crakes *Crex crex* in six survey areas during the 13-year census carried out at Lake Cerknica

Let/Year	Obm. 1	Obm. 2	Obm. 3	Obm. 4	Obm. 5	Obm. 6	Skupno / Total
1992	10	12	8	26	8	6	70
1993	3	21	16	29	15	17	101
1994	5	10	9	7	9	5	45
1995	8	21	14	24	10	6	83
1996	5	14	22	16	10	1	68
1997	4	14	5	14	5	0	42
1998	5	16	5	14	5	0	45
1999	6	14	12	13	8	1	54
2000	8	20	12	8	6	0	54
2001	13	15	11	22	4	0	65
2002	15	13	15	23	10	0	76
2003	16	24	16	14	3	1	74
2004	9	20	11	15	4	0	59
Povprečno / Average	8	15	12	17	7	3	64

3.3. Leto 1994

Značilnost pozne pomladi leta 1994 je bila velika količina padavin ter posledične poplave na Cerkniškem jezeru. To se je pokazalo tudi na številu in razporeditvi koscev. Zaradi poplav na jezeru smo kosce popisovali nekoliko kasneje, in sicer šele v noči z 10.6. na 11.6. Našteli smo 45 pojočih ptic, popisovalo pa je 9 ornitologov. Kosce smo zabeležili na najbolj suhih predelih Cerkniškega jezera, predvsem na obrobju (slika 2). Nekaj koscev smo popisali tudi na gojenih travnikih pri Lipsnju (obm. 3) in Martinjaku (obm. 5), ki zaradi dolgotrajnega slabega vremena še niso bili pokošeni. Osrednjega dela jezera (Osredki) zaradi visoke vode v predelu Predblatnice nismo popisali. V takih razmerah nad vodo ostane le plavajoči barski del sredi jezera, imenovan Benetek, ki je ostal nepregledan. Zanimivo je bilo opazovanje koscev, ki so peli tudi na plavajočem rastlinju v predelih s 5 do 10 centimetrov globoko vodo.

3.4. Leto 1995

Popis koscev leta 1995 je potekal v noči s 3.6. na 4.6. Pomlad tega leta je bila precej deževna in gladina jezera je bila visoka. Šteli smo v jasni in mirni noči sredi bolj ali manj deževnega tedna. Kljub težki dostopnosti smo pregledali tudi delno poplavljene predele na osrednjem delu jezera. Popisali smo 83 pojočih koscev, razporejenih na bolj ali manj nepoplavljenih predelih, tudi na Osredkih (slika 2). V akciji je sodelovalo 13 popisovalcev.

3.5. Leto 1996

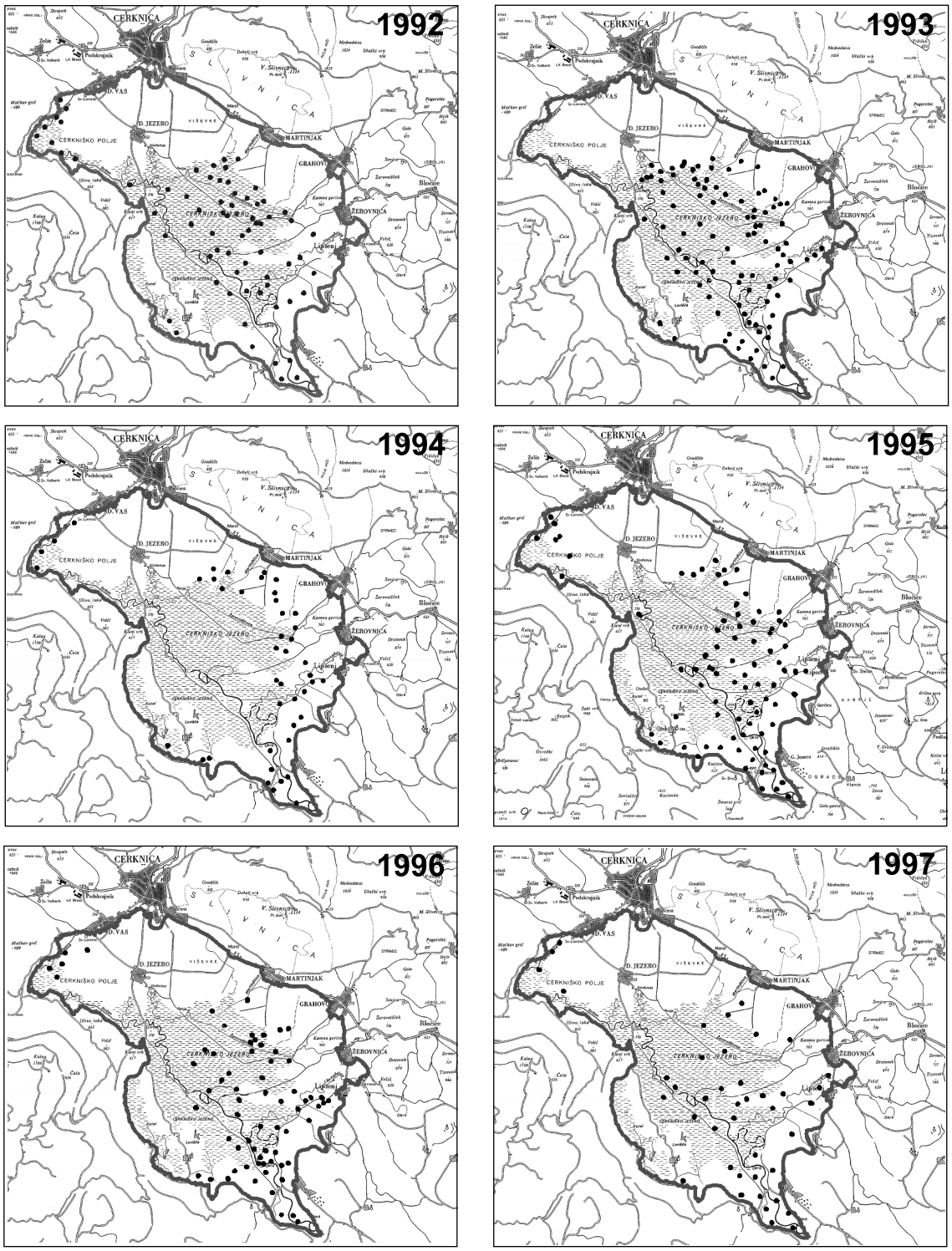
Medijsko bolj odmevne, tokrat že tradicionalne akcije Notranjske sekcije DOPPS, se je v noči z 8.6. na 9.6. udeležilo kar 15 popisovalcev. Nivo jezerske gladine je bil razmeroma visok, vendar je gladina vode hitro upadala. Tudi to leto smo popisali osrednji del jezera. Skupno smo našteli 67 pojočih samcev. Kosce smo zabeležili tudi na predelih, kjer se je voda umaknila šele malo prej (slika 2).

3.6. Leto 1997

Akcije, ki je potekala v noči s 13.6. na 14.6., se je udeležilo 12 popisovalcev. Noč je bila mirna, vodna gladina pa nizka, zato so bili lahko dostopni vsi predeli Cerkniškega jezera. Kljub na videz ustreznim razmeram smo popisali le 42 pojočih samcev. Ti so bili razporejeni po vsej za kosce primerni površini jezera, vendar v nižjih gostotah (slika 2).

3.7. Leto 1998

Popis je potekal v mirni noči po nevihti s 13.6. na 14.6. Nivo vode je bil nizek. Število popisanih koscev



Slika 2: Razporeditev pojočih samcev kosca *Crex crex* na Cerkniškem jezeru ob popisih od leta 1992 do leta 1997

Figure 2: Distribution of the calling Corn Crake *Crex crex* males at Lake Cerknica during the censuses carried out between 1992 and 1997

je bilo skromno, le 45 pojočih samcev. Razporejeni so bili približno enako kot leta 1997. Zahodni Osredki in Podslivišniki ter Retje so bili povsem brez koscev, pojoče osebke pa smo zabeležili tudi na nekaterih gojenih, a še nepokošenih travnikih ob Lipsenjščici (obm. 3) in Grahovščici (obm. 5; slika 3).

3.8. Leto 1999

Leto 1999 je bilo mokro in večji del Cerkniškega jezera je bil poplavljen. V noči popisa s 5.6. na 6.6. je 12 popisovalcev popisalo 54 pojočih samcev z zgostitvami na obrobju jezera. Na poplavnih predelih jezera so bile gostote koscev majhne (slika 3).

3.9. Leto 2000

Nivo vode je bil zmeren. V noči popisa z dne 3.6. na 4.6. smo zabeležili 54 pojočih samcev. Osrednji del jezera je ostal nepregledan. Zgostitve števila pojočih koscev so bile na bolj suhih predelih obrobja jezera v Dolenjskih blatih, ob Otoku, pri Gornjem jezeru, ob Lipsenjščici, Grahovščici, pri Boričkah in pod Martinjakom (slika 3). Številni so peli celo na gojenih travnikih, ki takrat, zaradi padavin v maju, še niso bili pokošeni. Sodelovalo je 14 popisovalcev.

3.10. Leto 2001

Leto 2001 je bilo precej sušno, zato smo v noči popisa z 2.6. na 3.6. zabeležili pojoče samce tudi na močvirnih travnikih Ponikev, Trščenk in Plese (slika 3). Skupno smo našteli 65 pojočih koscev. Na obrobju jezera pri Boričkah, Retju, desnem bregu Martinjščice in ob Otoku kosci ob našem popisu niso peli. Akcije se je udeležilo 17 popisovalcev.

3.11. Leto 2002

Akcije skupinskega popisa koscev, ki je potekala v noči s 1.6 na 2.6., se je udeležilo 29 popisovalcev. Našteli smo 76 pojočih koscev. Teritorialna razporeditev pojočih samcev je bila podobna tisti iz leta 2001, le da koscev zaradi višje vode nismo zabeležili v zahodnem delu Osredkov, Ponikev, Trščenk in Plese. Nekaj koscev smo zabeležili tudi v predelu Rešeta in okoli Otoka (slika 3). Tudi tokrat koscev na desnem bregu Martinjščice in v Retju nismo zabeležili.

3.12. Leto 2003

Leta 2003 je DOPPS organiziral akcijo »Monitoring kosca« po vsej Sloveniji. Pri popisu koscev na Cerkniškem jezeru v noči z 31.5. na 1.6. je sodelovalo 19 popisovalcev. Noč je bila jasna, dokaj mirna z občasnim rahlim vetrom. Gladina vode je bila zelo nizka. Našteli smo 74 pojočih samcev. Opazna je bila zgostitev pojočih samcev v predelu Dolenjskih blat, ob Lipsenjščici ter ob gornjem toku Stržena, medtem ko je bilo koscev na osrednjem delu jezera in pod Martinjakom malo (slika 3). Po številnih letih so posamezni kosci peli tudi pri Gorici, v Trščenkah, pri Leviščih in ob potoku Mrzlik.

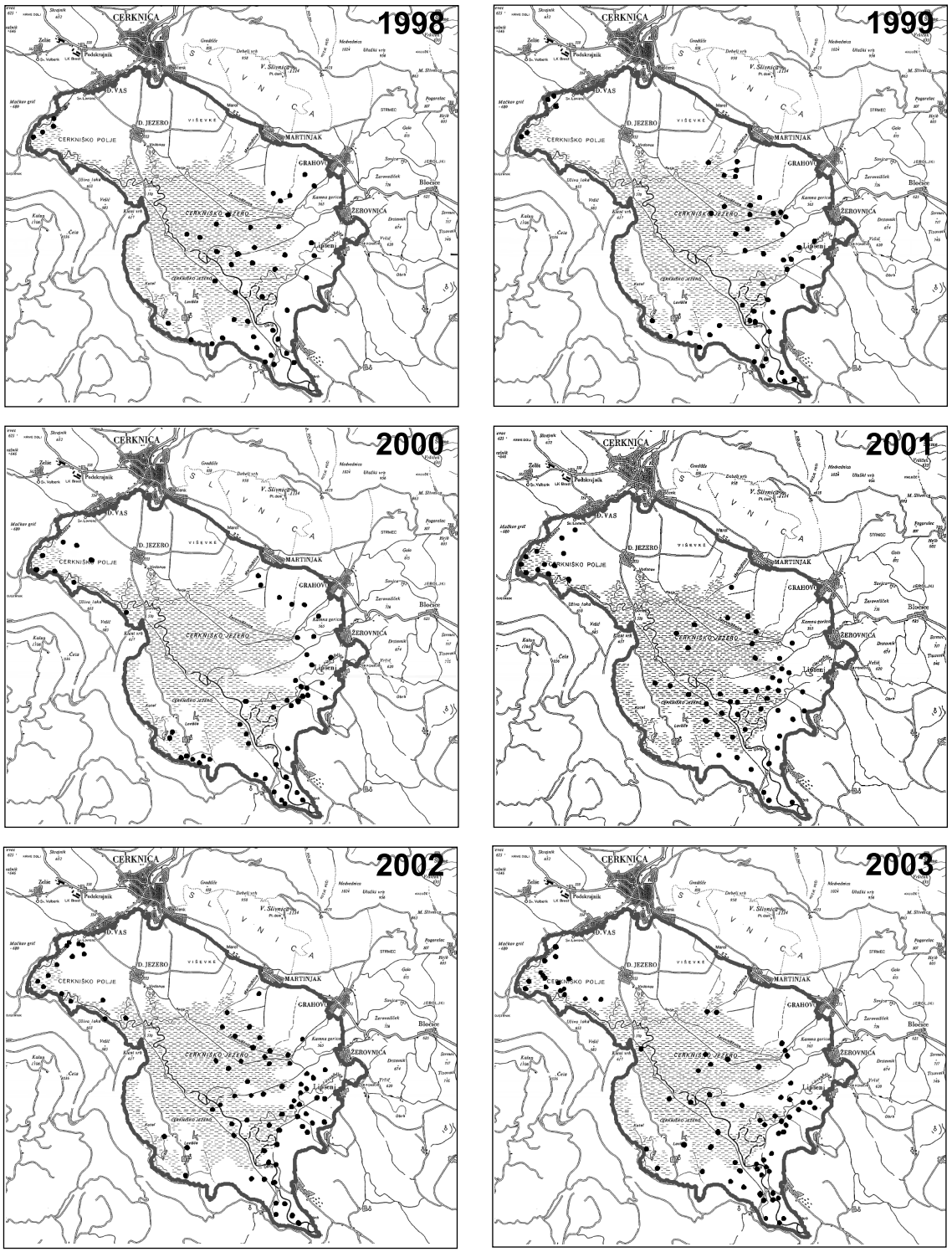
3.13. Leto 2004

Popis je bil opravljen v noči s 5.6. na 6.6. Popoldanske nevihte so se spremenile v jasno in mirno noč, kar je omogočilo razmeroma natančen popis pojočih koscev. Popisovalo je 29 popisovalcev, ugotovili pa smo le skromnih 32 pojočih samcev (slika 4). Pomlad leta 2004 je bila izjemno deževna in hladna. Osrednji del jezera je bil skoraj v celoti pod vodo, zato tam nismo šteli. Popis smo ponovili približno dva tedna kasneje, točneje 16., 18. in 19.6. V tem času je gladina jezera upadla in uspelo nam je pregledati tudi v začetku junija poplavljena območja osrednjega dela jezera. Ob drugem popisu smo našteli 59 pojočih koscev, kar je skoraj še enkrat toliko kot ob prvem skupinskem popisu. Kosci so peli tudi na Osredkih (slika 4).

3.14. Nihanje številčnosti kosca na Cerkniškemu jezeru

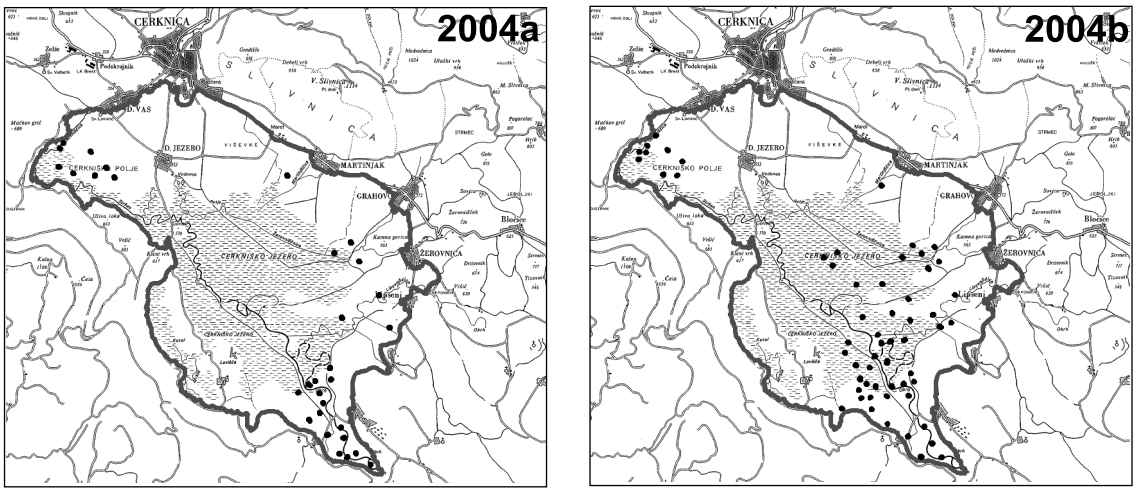
Število pojočih samcev kosca je na Cerkniškem jezeru med leti nihalo (slika 5). Maksimalno število pojočih samcev je bilo leta 1993, ko smo popisali 101 kosca. Minimalno število pojočih koscev 42 smo kljub na videz ugodnim razmeram zabeležili leta 1997. Še manjše število koscev smo popisali med prvim štetjem leta 2004, ko smo jih zanesljivo popisali le 32, vendar ob tem popisu zaradi poplav osrednjega dela jezera nismo v celoti pregledali in je zato lahko zavajajoče. Glede na trinajstletno popisovanje (slika 5) sklepamo, da so štetja v zadnjem tednu maja oziroma prvem tednu junija pokazala večje število koscev, nasprotno pa so štetja po drugem tednu junija pokazala praviloma nižje število pojočih koscev. Razlika v številu ugotovljenih koscev med leti, ko smo šteli pred 8.6., in leti, ko smo šteli po 8.6., pa statistično niso značilne (U = 50, NS; Mann-Whitneyev U-test), zato tega ne moremo z gotovostjo trditi.

Cerkniško jezero je izpostavljeno nerednim poplavam. Predvidevali smo, da v letih z visokimi poplavami na Cerkniškem jezeru poje manj koscev, saj se zaradi poplav fizično zmanjša primeren gnezditveni



Slika 3: Razporeditev pojočih samcev kosca *Crex crex* na Cerkniškem jezeru ob popisih od leta 1998 do leta 2003

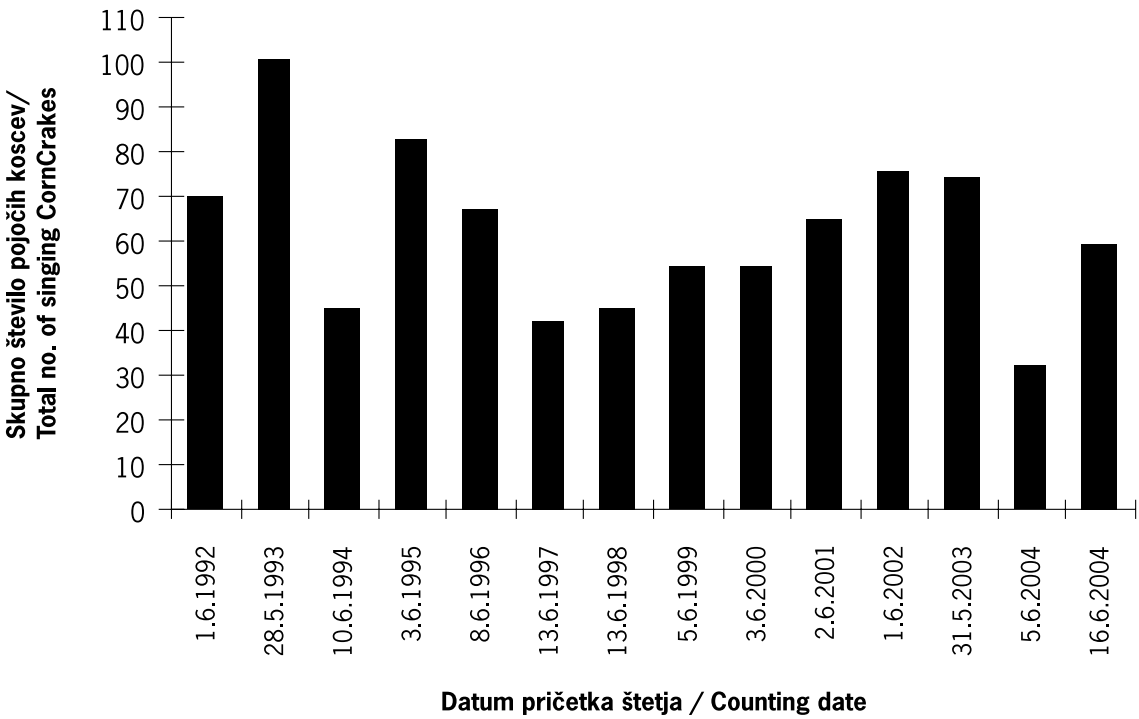
Figure 3: Distribution of the calling Corn Crake *Crex crex* males at Lake Cerknica during the censuses carried out between 1998 and 2003



Slika 4: Razporeditev pojočih samcev kosca *Crex crex* na Cerkniškem jezeru ob prvem popisu 5.6.2004 in drugem popisu od 16.6. – 19.6. 2004

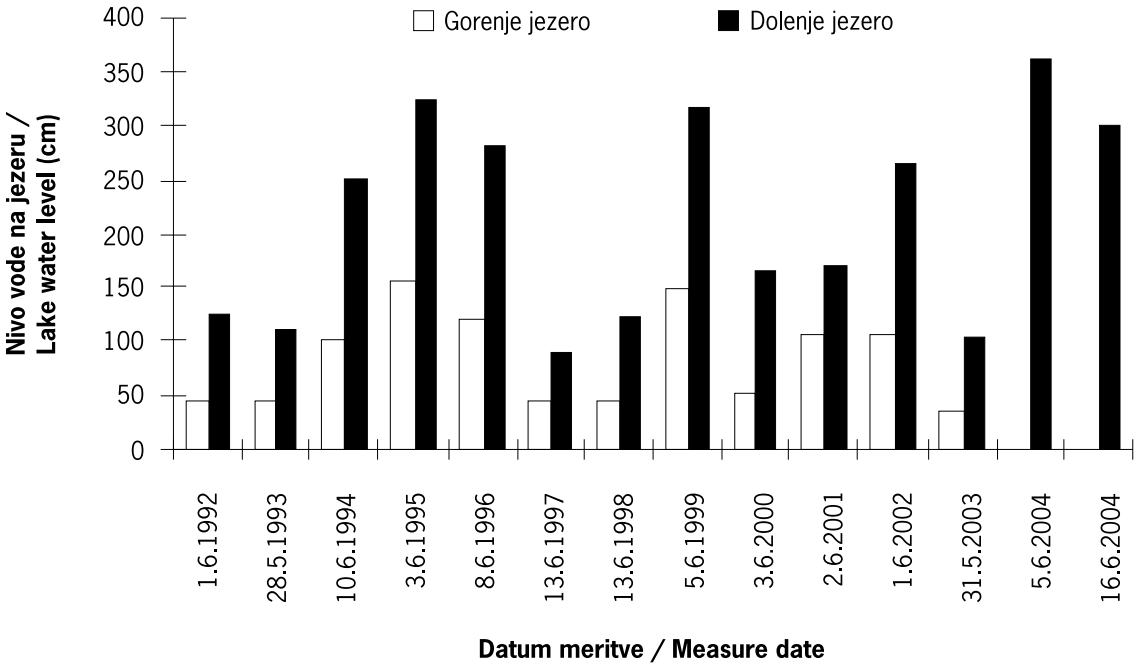
Figure 4: Distribution of the calling Corn Crake *Crex crex* males at Lake Cerknica during the first census carried out on 5 Jun 2004 and the second census carried out between 16 and 19 Jun 2004

habitat vrste. Glede na nivo vode na Cerkniškem jezeru na prvi dan popisa (slika 6) kaže, da se nekatera leta, v katerih smo popisali manj koscev, delno ujemajo tudi z visokim nivojem jezerske gladine. Korelacija med višino jezerske vode ob naših popisih in ugotovljenim številom pojočih koscev je statistično značilna in negativna, kar pomeni, da je ob močnejših (obsežnejših) poplavah število pojočih koscev na



Slika 5: Skupno število pojočih samcev kosca *Crex crex* na dan popisa od leta 1992 do 2004

Figure 5: Total number of Corn Crake *Crex crex* calling males on the census day from 1992 to 2004



Slika 6: Nivo vode na Cerkniškem jezeru na dan popisa od leta 1992 do 2004 (črni stolpci – Dolenje jezero, sivi stolpci – Gorenje jezero; vir podatkov: Agencija RS za okolje)

Figure 6: Water level at Lake Cerknica on the census day from 1992 to 2004 (black columns – Dolenje jezero, gray columns – Gorenje jezero; source data: Agencija RS za okolje)

Cerkniškem jezeru praviloma nižje (Pearsonov koeficient, $r = -0{,}194$, $p < 0.05$; slika 7).

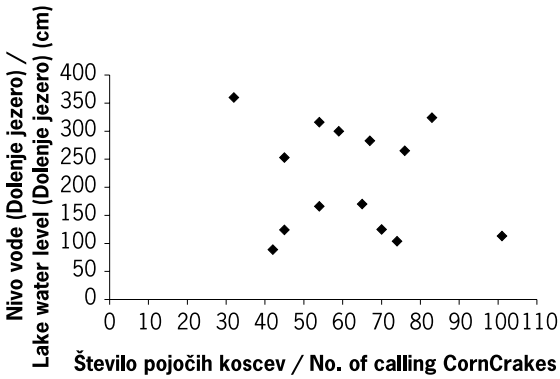
Obseg poplav nedvomno vpliva tudi na razporeditev in lokalne gostote teh ptic, kar je razvidno iz distribucije pojočih koscev v posameznih letih (slike 2, 3, 4). Ob poplavah oziroma ob višjem nivoju jezerske vode kosci pojejo na bolj suhem obrobju jezera.

3.15. Habitat kosca na Cerkniškem jezeru

Na osnovi večletnih popisov koscev smo z upoštevanjem prevladujočih rastlinskih združb Cerkniškega jezera (tabela 1) ugotovili, da kosci pojejo predvsem na predelih z močvirsko vegetacijo in predelih združb mokrotnih travnikov. Občasno, predvsem v maju, ko močvirska vegetacija še ni dovolj visoka, in pa ob nerednih poplavah v juniju smo popisali pojoče kosce tudi na gojenih travnikih na obrobju jezera.

Kosci so dosegali visoke gostote v travniških sestojih združbe rušnate mastnice in visokega trpotca *Deschampsio-Plantaginetum altissimae*. To je združba vlažnih travišč, kjer je nivo podtalnice vse leto visok, večkrat pa so taki travniki občasno poplavljeni. V najvišjih gostotah smo kosce na Cerkniškem jezeru popisali v sestojih mozaičnega prepleta travniške združbe rušnate mastnice in visokega trpotca s sestoji visokega šašja *Magnocaricion*. Med šaši oblikujejo največje površine Cerkniškega jezera visoki šaši, predvsem togi šaš *Carex elata*. V čistih in zaradi opuščanja košnje visoko razvitih predelih visokega šašja so bili kosci redko zabeleženi.

Pojoče kosce smo zabeležili tudi v sestojih modrega stožkovja *Molinietum caeruleae*, ki pa so praviloma mrežno razporejeni med drugo močvirsko vegetacijo. Na bolj poplavnih predelih sestoji šašja in mokrotni travniki prehajajo v sestoje bolj ali manj redkega trstičevja *Phragmitetum australis*. Tu koscev praviloma nismo zasledili. Prav tako jim ne ustrezajo sestoji trstične pisanke *Phalaris arundinacea* in sestoji jezerskega bičkovja *Scirpetum lacustris*. Ti sestoji so fiziognomsko previsoki, zato koscu kot travniški vrsti za gnezdenje ne ustrezajo. Kosci le izjemoma nastopajo v barjanskih združbah, kot na primer v združbah belega kljunkovja *Rhynchosporetum albae* in združbi modre stožke z rjastim sitovcem *Schoeno ferruginei-Molinietum caeruleae*, ki uspevajo v predelu Dujic, plavajočem delu na sredi jezera, imenovanem Benetek, v predelu med Marofom in Martinjakom ter na Podzevnikih pri Dolenji vasi. Koscem združba modrega stožkovja s črnikastim sitovcem *Schoeno*



Slika 7: Odnos števila ugotovljenih koscev *Crex crex* glede na nivo jezerske vodne v posameznih letih kaže statistično značilno negativno korelacijo (Pearsonov koeficient, r = – 0,194, p < 0,05)

Figure 7: Correlation of the number of Corn Crakes *Crex crex* and water level of the lake shows statistically significant negative correlation (Pearson Correlation Coefficient, r = – 0.194, p < 0.05)

nigricantis-Molinietum caeruleae, ki je razvita ponekod v Vodonosu, Rešetu pod Marofom in Jezerski gmajni, prav tako ne ustreza in jih tu nismo zasledili. Večji del teh rastišč je ob visoki vodi poplavljen, v poletnih mescih pa se tla močno izsušijo. V za kosca prenizki vegetaciji te združbe ter ponekod znatni zaraščenosti z grmovnicami, kot sta rožmarinolistna vrba *Salix rosmarinifolia* ter navadna krhlika *Frangula alnus*, pripisujemo razloge, da pojočih koscev v tej združbi ni bilo. Med našimi trinajsletnimi popisi koscev smo ugotovili, da so tovrstni predeli pri Retju, Marofu in Martinjaku, kjer so v zgodnih 90. letih 20. stoletja kosci še peli, danes preveč zaraščeni z grmovnicami in so zato v zadnjem petletju za gnezdenje kosca postali neprimerni.

4. Diskusija

Na osnovi naših rezultatov in ugotovitev o gnezditveni ekologiji kosca v tujini (Schäffer & Münch 1993, Schäffer 1995) ocenjujemo, da na Cerkniškem jezeru vsako leto poje med 60 in 90 samcev koscev. Maksimalno število pojočih samcev iz leta 1993 ter minimalno število v letih 1994 in 2004 smemo šteti za izjeme. Število registriranih pojočih koscev je med leti nihalo. Razloge bi lahko iskali v naravnih regionalnih nihanjih populacije, v relativnem zmanjšanju primernega gnezditvenega habitata v primeru poznih poplav, pa tudi v metodoloških napakah, kot so različni datumi štetja, ter v štetju samo enkrat v sezoni. V letih 1994 in 2000 z visokim nivojem vode na osrednjem delu jezera zaradi težke prehodnosti v predelu Blatnice (slika 1) nismo celovito raziskali.

Odločitev za vsakoletni monitoring zadnji vikend maja oziroma prvi vikend v juniju se je izkazala za ustrezno, vendar smo zaradi slabega vremena ali drugih objektivnih razlogov nekajkrat štetje opravili teden ali dva kasneje. Šele z obdelavo rezultatov smo ugotovili, da smo pri popisih konec maja in v prvih dneh junija zabeležili več pojočih ptic kot med štetji sredi junija. Razlika se je pokazala statistično neznačilna in bi lahko bila le plod naključja. Pri interpretaciji rezultatov nam manjka podrobnejši večkratni letni monitoring aktivnosti koscev za to območje. V južni Nemčiji je bilo dokazano (Schäffer 1995), da se upad aktivnosti nočnega petja samcev ujema z obdobjem parjenja in se poveča z zaključkom leženja jajc, ko samci zapustijo valeče samice in začno z nepretrganim nočnim petjem privabljati drugo samico. Na Ljubljanskem barju prvo gnezdenje verjetno poteka v drugi polovici maja, drugo pa bržkone sredi junija (Grobelnik 2000). Začetek gnezdenja sredi maja potrjuje tudi najdba gnezda in komaj izleženih mladičev na Ljubljanskem barju konec maja (Grobelnik 2000). Konkretnih podatkov o začetku gnezdenja na Cerkniškem jezeru nimamo, vendar bi glede na rezultate lahko sklepali, da se mladiči prvega legla izvalijo konec maja ali v prvem tednu junija, ko je aktivnost pojočih samcev velika. Občasne poplave utegnejo prvo gnezdenje zavleči pozno v junij, na kar bi lahko sklepali iz rezultatov ponovnega štetja leta 2004. Tovrstno možnost zakasnitve prvega gnezdenja ali pa celo zaključek drugega gnezdenja nakazuje primer, ko so bili 21.6.2003 pri Gornjem jezeru najdeni kak dan stari mladiči kosca (Polak 2003). Gnezditveni fenologiji kosca na Cerkniškem jezeru bo vsekakor treba posvetiti posebno pozornost.

Uporabljena metodologija vpisovanja pik približne pozicije pojoče ptice v zemljevid je bila namenjena oceni številčnosti in razširjenosti kosca na Cerkniškem jezeru. Na osnovi naših kartiranj pa smo ocenili tudi najustreznejše koščeve habitate. Najpogosteje smo kosce popisovali v sestojih poplavnih travnikov združbe rušnate mastnice in visokega trpotca, ki se ponekod prepletajo z zaplatami združb modrega stožkovja. Te travnike kosijo praviloma enkrat v poznem poletju, kar se ujema z zaključkom koščevega gnezdenja. Združbe močvirnih travnikov so razvite na manjših površinah, večinoma na obrobju jezera, ki so že toliko dvignjena, da bi opuščanje rabe pomenilo začetek zaraščanja s pionirskimi lesnimi vrstami. Floristično in favnistično so te združbe izjemno pestre (Martinčič & Leskovar 2002). Varstvo in načrtno usmerjanje predelov jezerske površine v združbe močvirnih travnikov so ključne ne le za dolgoročno

ohranjanje kosca, pač pa tudi drugih ogroženih vrst ptic (Kmecl 2000, Polak 1993 & 2002) ter drugih živalskih in rastlinskih vrst (Gaberščik 2002).

V manjših gostotah so kosci peli v močvirskih združbah čistih sestojev visokega šašja. Kjer je združba razvita v tipični obliki, togi šaš močno prevladuje, zato je v takih sestojih le malo drugih rastlinskih vrst. Veliko površine, kjer prevladuje togi šaš, kmetje pozno poleti kosijo za steljo. Takšen način rabe vpliva na fiziognomski videz sestojev, saj tu šašje ne nastopa v zanj sicer značilnih visokih kupih, ampak tvori na prvi pogled enotno rušo (Martinčič & Leskovar 2002), kar ustreza tudi koscu. Tu začno nastopati tudi druge rastlinske vrste. Opuščanje tradicionalne pozne košnje šašja za steljo vodi torej v smeri razvite oblike visokega šašja, ki je za kosca neprimerno, zato je smiselno to vrsto rabe ohranjati in spodbujati, vendar ne pred 1.8., ko je gnezdenje kosca na Cerkniškem jezeru predvidoma povsem zaključeno in so še zadnji mladiči sposobni letenja.

Na osnovi 13-letnih popisov koscev sklepamo, da so predeli pri Marofu in Martinjaku, Vodonosu in Retju, kjer so v zgodnjih 90. letih 20. stoletja kosci še peli, danes preveč zaraščeni z grmovnicami, kot so rožmarinolistna vrba ter navadna krhlika, in so zato za gnezdenje koscev danes neprimerni. Opuščanje občasne košnje predelov jezera torej vodi tudi v zaraščanje z grmovnicami, kar smo v naših raziskavah dokazali. Ob nadaljevanju tovrstnega zmanjševanje primernega gnezditvenega habitata kosca lahko na Cerkniškem jezeru dolgoročno pričakujemo trend upadanja števila koscev.

Ekološkim zahtevam kosca sicer najbolj ustrezajo predeli s prepletom travniških in močvirskih združb, kar so potrdila tudi naša opazovanja. Kljub temu da je dno jezera razmeroma uravnano, je površina dovolj razgibana, poleg tega pa je tu še veliko kanalov in starih strug, kar vodi v močno prepletenost rastlinskih združb. Menimo, da je preplet različnih habitatov ekološko za kosca najustreznejši, saj kosec poleg ugodnih prehranjevalnih razmer, ki jih najde na močvirnih travnikih, potrebuje tudi ustrezno kritje, denimo v visokem šašju.

Dosedanje spremljanje številčnosti in razširjenosti kosca na Cerkniškem jezeru je pokazalo, da populacija številčno letno sicer niha, vendar še ne kaže upadanja, da pa lokalne spremembe v razširjenosti kosca kažejo na nevarnost negativnega trenda v nekaterih koscu primernih gnezditvenih prostorih. Za dolgoročno ohranjanje kosca na Cerkniškem jezeru bomo morali z območjem zato usmerjeno upravljati. Bodoče raziskave je zato smiselno usmeriti v fenologijo kosca, v natančno definiranje koščevih ekoloških zahtev in nadaljevanju letnega cenzusa cerkniške populacije.

Zahvala: Za nočno sodelovanje pri dolgoletnem popisovanju koscev bi se koordinatorji akcij štetja koscev na Cerkniškem jezeru in avtorji prispevka ob tej priložnosti radi zahvalili udeležencem. To so bili: Nataša Adlešič, Tomaž Berce, Jože Berce, Mateja Blažič, Tatjana Čelik, Peter Černe, Manca Černigoj, Katarina Denac, Janez Dragolič, Matevž Dragolič, Mitja Dragolič, Peter Dragolič, Bojana Fajdiga, Andrej Figelj, Karin Gabrovšek, Radoš Gregorič, Vesna Grobelnik, Vojko Havliček, Alenka Ivačič, Olga Jakovec, Tadej Jerman, Lara Jogan Polak, Barbara Kaiser, Janez Kandare, Tone Karer, Aleš Klememčič, Klemen Kmecl, Primož Kmecl, Urša Koce, Mika Kocjančič, Tadej Kogovšek, Metod Korošec, Janez Košir, Marija Košir, Stane in Milka Košmerlj, Jurij Krajčič, Miro Kunstek, Bogdan Lipovšek, Marjan Logar, Jure Majzelj, Bojan Marčeta, Helena in Marjan Mele, Tomaž Mihelič, Miri Mlinar, Borut Mozetič, Mateja Nose, Marija in Zvone Ogrinec, Peter Pavlič, Andrej Pavlovič, Nevenka in Rado Pfajfar, Katja Poboljšaj, Janko Porok, Terezija Potočar-Korošec, Tamara Potočnik, Dragica Prosen, Andreja Ramšak, Samo Razdrih, Karin Rižner, Borut Rubinič, Tine Schein, Maja Slak, Meta Slak, Brigita Slavec, Maruša Sotler, Marija Svet, Nataša Šalaja, Tatjana Štefančič, Metka Štoz, Branka Tavzes, Drago Telič, Marko Trebušak, Tomi Trilar, Alojz Troha, Peter Trontelj, Gregor Torkar, Maksimiljan Turšič, Jana Kus Veenvliet, Paul Veenvliet, Vlasta Vičič, Al Vrezec, Janez Zakrajšek, Irena Zalar, Špela Žagar in Miha Žnidaršič.

5. Povzetek

Med letoma 1992 in 2004 je bil po enotni metodologiji opravljen vsakoletni popis pojočih koscev *Crex crex* na Cerkniškem jezeru. Po letu 1995 je popis postal tradicionalna akcija Notranjske sekcije DOPPS. Nočni popisi koscev so potekali med 23.00 in 03.00 uro večinoma v prvem vikendu v juniju. V 13 letih je sodelovalo 91 popisovalcev, ki so vsako leto po skupinah ločeno popisali celotno jezero, razdeljeno na šest zaokroženih območij, in na zemljevide vrisovali čim bolj natančne pozicije pojočih ptic. Minimalno število 42 koscev je bilo ugotovljeno leta 1997, maksimalno število 101 koscev pa leta 1993, kar štejemo za izjeme. Na osnovi trinajstletnega štetja je ocenjeno, da na Cerkniškem jezeru poje povprečno 60 do 90 koscev. Število koscev med leti precej niha. Višja vodna gladina jezera zaradi občasnih poplav na dan popisa je v statistično značilni negativni korelaciji s številom popisanih koscev. Ob visokih

vodah se poveča število pojočih koscev na bolj suhem obrobju jezera, občasno tudi v gojenih travnikih. Kot najustreznejši habitat za kosca so se pokazali močvirni travniki združbe rušnate mastnice in visokega trpotca *Deschampsio-Plantaginetum altissimae,* ki se prepleta s sestoji visokega šašja *Magnocaricion*, predvsem tam, kjer je visoko šašje občasno pokošeno. Nekateri predeli, kjer so v zgodnjih devetdesetih letih kosci še peli, so zaradi opustitve košnje danes zaraščeni z grmovnicami in zato za kosca niso več ustrezen gnezditveni habitat. Kljub temu pa o upadanju števila koscev na Cerkniškem jezeru za zdaj še ne moremo govoriti.

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Changes of breeding numbers and habitat of Eurasian Spoonbill *Platalea leucorodia* in Vojvodina (N Serbia)

Spremembe v gnezditvenem številu in habitatu žličarke *Platalea leucorodia* v Vojvodini (S Srbija)

Marko Tucakov
Marka Oreškovića 9, 25275 Bački Breg, Serbia and Montenegro, e-mail: mtucakov@eunet.yu

Kongres ornitologov Slovenije ob 25. obletnici DOPPS
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In the 19th century, the Eurasian Spoonbill *Platalea leucorodia* was a numerous breeder in Vojvodina. Except for the lower Sava valley, where traditionally the strongest colony existed, breeding colonies have been recorded in Zasavica, Pančevački rit, Novosadski rit and in the lower Begej valley. Although in the first half of the 20th century 500 – 1000 pairs still bred, the population had already started to decrease in the first decade. During the second half of the 20th century it bred or attempted to breed on 9 localities: the lower Begej, Uzdin forest, Jazovo fish farm, natron lake Okanj, the Danube floodplain near Apatin, Bečej fish farm, Ludaš lake, Obeska bara and Platičevo. In the mid 1980's, when the breeding numbers were lowest, Spoonbills started to colonize reed beds in a carp fish farm. Today, three out of the four existing breeding colonies in Serbia are situated on these man-made habitats. 147 to 182 pairs bred in Serbia in 2004, which is 2.49% of the European population. The historical and present breeding distributions in Vojvodina, features of current feeding sites, and threats and measures needed for the protection of Spoonbill breeding sites are described.

Key words: Eurasian Spoonbill, *Platalea leucorodia*, Vojvodina, Serbia, breeding, distribution, fish farms
Ključne besede: žličarka, *Platalea leucorodia*, Vojvodina, Srbija, gnezditev, razširjenost, ribogojnice

1. Introduction

The Eurasian Spoonbill *Platalea leucorodia* is a species concentrated in Europe (SPEC 2; Burfield & van Bommel 2004), where between 5081 and 8125 pairs bred in 2000/2001 in three clearly separated regions. In NW Europe (The Netherlands, Belgium, France, Great Britain, Germany and Denmark) 1243 to 1290, in SW Europe (Italy, Portugal and Spain) 1738 to 2058 pairs, and in central and south-eastern Europe (Greece, Turkey, Hungary, Austria, Croatia, Ukraine, Romania and Czech Republic) 1950 to 4277 pairs bred (Overdijk & Zwart 2003). The species is, however, also breeding in Montenegro (two small colonies, 19 plus 8 pairs in 2002 and 2003, B. Štumberger & M. Schneider-Jacoby *pers. comm.*) and, in recent times, Serbia (Puzović *et al.* 1999). Data on breeding distribution and numbers in Serbia and Montenegro have not been considered in almost any research or publication about European birds and their numbers over the last decade (Tucker & Heath 1994, Hagemeijer & Blair 1997), mainly because lack of quality data coming from these two countries (Overdijk & Zwart 2003). The aim of this work is to list and describe the Eurasian Spoonbill's current breeding grounds, to recommend measures needed for their active conservation, and to analyse the development of breeding numbers of Spoonbill in Vojvodina (northern province of Serbia), from the first accessible data until 2004. Although the recent

population status of the Spoonbill in parts of Serbia outside Vojvodina is not surveyed or discussed in the present paper, it is known that this species does not breed there (Puzović *et al.* 1999). However, the research on the basis of which this study was done was restricted just to Vojvodina.

2. Methods

In order to collect detailed data about the characteristics of recent breeding grounds and breeding colonies of Eurasian Spoonbill in Vojvodina, intensive research carried out by the members of the Bird Study and Protection Society of Vojvodina (BSPSV) took place in 2003 and 2004. During 2003, the census of breeding pairs was conducted during colour-ringing of chicks in the colony on Bečej fish farm, organized as part of the International Spoonbill Colour Ringing Project. In 2004, the work was accomplished by a detailed census of pairs in all known breeding colonies, and a systematic search for possible unknown breeding sites. Apart from the localities where colonies were found, 90% of other suitable wetlands in Vojvodina were surveyed at least once during the breeding season. The basis for the field work was a survey of the historic distribution of the Spoonbill in Vojvodina.

3. Results

3.1. Contemporary distribution and breeding numbers

Research on breeding distribution and numbers of breeding pairs carried out in 2004 has been concentrated on all existing and potential colonies. Breeding has been proved at three localities, while on another, breeding was very probable (Figure 1).

3.1.1. Bečej fish farm

In 2004, the colony was situated in the western part, on the island slightly elevated from the water level, and overgrown by emergent vegetation. The nests were built just above the water surface, exclusively inside small, vegetation-free patches on the island. They were massive and solid platforms composed of dry plant material: reed stems at the base, leaves of reed and cattail on the top. 80 to 100 pairs bred in the colony, together with Grey Heron *Ardea cinerea*, Purple Heron *A. purpurea*, Little Egret *Egretta garzetta*, Great White Egret *E. alba*, Squacco Heron *Ardeola ralloides* and Night Heron *Nycticorax nycticorax*.

3.1.2. Jazovo fish farm

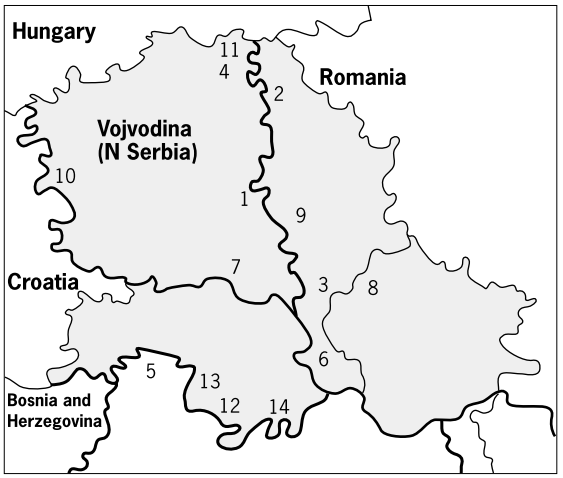

Figure 1: Eurasian Spoonbill *Platalea leucorodia* breeding distribution in Vojvodina. Breeding sites in 2004: Bečej fish farm (1), Jazovo fish farm (2), Perleska bara (3), Kapetanski rit fish farm (4). Historical breeding sites: Zasavica (5), Pančevački rit (6), Novosadski rit (7), Uzdin forest (8), Okanj (9), Apatinski rit (10), Ludaš lake (11), Obedska bara (12), Trskovača marsh (13), and Fenečka bara (14).

Slika 1: Gnezditvena razširjenost žličarke *Platalea leucorodia* v Vojvodini. Gnezditvene lokalitete v letu 2004: ribniki v Bečeju (1), ribniki Jazovo (2), Perleska bara (3), ribniki Kapetanski rit (4). Zgodovinske gnezditvene lokalitete: Zasavica (5), Pančevački rit (6), Novosadski rit (7), gozd Uzdin (8), Okanj (9), Apatinski rit (10), jezero Ludaš (11), Obedska bara (12), močvirje Trskovača (13) in Fenečka bara (14).

The colony is located on two distinct sites within the fishpond system. 20 to 30 pairs bred in the first location, in dense cattail vegetation situated close to the western edge of the fishpond. Purple Herons bred in the same colony. On the second location, 40 to 50 pairs bred in the reed island, together with Great White Egret and Purple Heron. Most of the nests were placed on platforms composed of plant material, built in small patches of open water.

3.1.3. Perleska bara

Two pairs bred in the colony, accompanied by Little Egret, Squacco Heron, Great White Egret and Night Heron, in a spacious reedbed.

3.1.4. Kapetanski rit fish farm

The breeding on this fish farm has not been confirmed by entering the colony, but it was nevertheless very probable. Up to 25 individuals were foraging, throughout the breeding cycle, on wet meadows around the fishpond (N. Stojnić, J. Gergelj, & K.

Barna *pers. comm.*). They were flying in the close vicinity of the local Great White Egret and Purple Heron colony but breeding could not be checked by direct inspection. The probable minimal number of breeding pairs was 5 to 10.

4. Discussion

4.1. Historical overview of breeding sites and breeding population

4.1.1. 19th century

The key breeding ground at Obedska bara in Posavina supported 300 pairs in 1838 and 350 in 1869 (Garovnikov 1992). Puzović (1998) published a maximum of 500 pairs in the second half of the century. Although Obedska bara was the strongest breeding ground during the 19th century, Spoonbills also bred at other wetlands: Zasavica (Dombrovski 1895), the floodplain of the Danube – Pančevački rit and Novosadski rit – as well as in the lower Begej floodplain (Marčetić 1955/56).

4.1.2. 20th century

In Serbia 500 to 1000 pairs bred within this period (Osieck & Voslamber 1997), almost entirely in Vojvodina. On traditionally the largest breeding ground, Obedska bara, 1000 pairs bred in 1908, 120 in 1930, and 100 in 1945 (Garovnikov 1992). About 50 pairs bred on the same locality in 1946 (Matvejev 1950). Breeding has been recorded on some other marshes accessible only with difficulty, for example in Pančevački rit, where some pairs still bred in the first half of the century (Matvejev 1950). At lower Begej Spoonbill probably bred in the late 1940's (Pekić 1958).

The number of breeding pairs in Vojvodina decreased in the first decade of the 20th century. Other than at Obedska bara, it had become an irregular breeder on almost all the former breeding sites (Marčetić 1955/56).

During the second half of the 20th century it bred or attempted to breed at 11 localities (Figure 1). However, the predominantly negative trend of breeding continued to dominate: it was marked as a disappearing species (Ham 1977).

4.1.2.1. Breeding colonies in Banat

From 1950 to 1959, 1 to 2 pairs probably bred in the valley of the lower Begej, a wetland complex near the mouth of the river Begej, nowadays composed of "Stari Begej – Carska bara" special nature reserve, and "Ečka" fishponds. Spoonbill did not breed in the area between 1960 and 1990 (Ham 1977 & 1989, Puzović 1998). From 1965 to 1973 the species did not breed in the western Banat at all (Šoti & Dimitrijević 1974). Its breeding is questionable during the 1980's (Puzović 1998). It is possible that a very small number of pairs bred (Puzović *et al.* 1999) and that, in the early 1990's, the number slowly started to increase. In 1996, 17 pairs bred (Lukač & Ternovac 1997) and, in 1998, 21 pairs (Puzović et al. 1999). Data between 1998 and 2001 are missing. In 2001 20 to 30 pairs bred, dropping to just 1 pair in 2003 (I. Ham *pers. comm.*).

In 1958 and 1967 Spoonbill bred in Uzdin forest, situated on the left bank of the Tamiš river (Szlivka 1959, Pelle *et al.* 1977). About 100 pairs bred there in 1965 (Pelle 1966/67). Later, there is no confirmation of breeding in this or in other parts of the Tamiš floodplain, although about 50 individuals used to stay regularly during the breeding season at nearby Uzdin fishpond between 1977 and 1992 (Dević 1995).

In the late 1980's, 40 pairs bred on Jazovo fish farm (Puzović *et al.* 1999). Although adult individuals were observed on the fishpond in 2001, the first proved breeding was recorded in 2002, when six pairs bred (Gergelj 2002). In 2003 four pairs bred on the fishpond (J. Gergelj *pers.comm.*).

In natron lake Okanj, 59 to 60 pairs bred in 1998 (Puzović *et al.* 1999). There is no data about breeding on this site before or after.

4.1.2.2. Breeding colonies in Bačka

Spoonbill bred in 1969 in the colonies at Srebrenica and Milšval (Danube floodplain near Apatin; Szlivka 1959), but since then, it no longer breeds in north-western Bačka (Lakatoš 1977).

In Bečej fish farm, Spoonbills have been observed regularly during the breeding cycle since 1987. The breeding of one pair was first confirmed in 1991, although breeding had probably occurred before that (I. Balogh *pers. comm.*). The number increased to 45 in the following year (Lukač & Lukač 1992). From 1993 to 1995 the colony was situated in small pond with dense reedbed, the centre of the island being covered by White Willows *Salix alba* (Balog 1997a). 5 to 6 pairs bred in the reedbed below the willows, while 15 to 20 built their nests on the northern edge of the same pond, in cattail (I. Balogh *pers. comm.*). Although 30 chicks were ringed in 1996, the total number of breeding pairs was not recorded (Balog 1997b). In 1997, 60 to 80 pairs bred and, in 1997 and

1998, 50 to 60 pairs (Puzović *et al.* 1999). Although the colony was visited in 1999 and Spoonbills were recorded, no breeding pairs were found (Barna & Matović 2001, K. Barna *pers. comm.*). In 2002 two pairs bred (Gergelj *et al.* 2000). The number of breeding pairs is again unknown for 2001, while in 2002 25 to 30 pairs bred (Gergelj 2002). In 2003 50 to 70 pairs bred, but the colony had shifted to a different microlocation (A. Žuljević & I. Balogh *pers. comm.*).

One breeding attempt at Ludaš lake was recorded during the 1980's. Before and after that this species has never bred in heron colonies on this lake (Puzović 1998).

4. 1. 2. 3. Breeding colonies in Srem

The number of breeding pairs on Obedska bara decreased from 1970 to 1980. Altogether 25 pairs bred. In 1992 Spoonbill disappeared as a breeder in what had traditionally been the strongest breeding ground in Vojvodina (Puzović 1998). In 2002, 1 – 2 pairs most probably bred again in a local heron colony (Puzović *pers. comm.*).

In Trskovača marsh, near Platičevo, a well populated mixed heron and Spoonbill colony existed up to the mid 1970's, after which the area was drained, and birds stopped breeding (Puzović *et al.* 1999).

Table 1: Breeding sites of Eurasian Spoonbill *Platalea leucorodia* in Vojvodina, and their occupation by breeding pairs between 1800 and 2004 (+ breeding confirmed, – breeding absent).

Tabela 1: Zasedenost gnezditvenih lokalitet žličarke *Platalea leucorodia* v Vojvodini med letoma 1800 in 2004 (+ potrjena gnezditev, – ni gnezditve).

site	1800-1899	1900-1910	1911-1920	1921-1930	1931-1940	1941-1950	1951-1960	1961-1970	1971-1980	1981-1990	1991-2000	2000-2004
Bečej fish farm	-	-	-	-	-	-	-	-	-	+	+	+
Jazovo fish farm	-	-	-	-	-	-	-	-	-	+	-	+
Perleska bara	+						+	-	-	-	+	+
Kapetanski rit fish farm	-	-	-	-	-	-	-	-	-	-	-	+
Zasavica river	+	-	-	-	-	-	-	-	-	-	-	-
Pančevački rit	+	+	+	+	+	+	-	-	-	-	-	-
Novosadski rit	+	+	-	-	-	-	-	-	-	-	-	-
Uzdin forest							+	+	-	-	-	-
Okanj natron lake		-	-	-	-	-	-	-	-	-	+	-
Apatinski rit								+	-	-	-	-
Ludaš lake		-	-	-	-	-	-	-	-	attempt	-	-
Obedska bara	+	+	+	+	+	+	+	+	+	+	-	-
Trskovača marsh		+	+	+	+	+	+	+	+	-	-	-
Fenečka bara	+	+	-	-	-	-	-	-	-	-	-	-

4.2. Changes in breeding habitats

The breeding habitat of the Eurasian Spoonbill in Vojvodina changed significantly in the second half of the 20th century. Before, all colonies were situated on alluvial wetlands and river floodplains, or in marshy depressions. Following immense changes and shrinking in area and quality, influenced by the intensive drainage activities carried out throughout the 18th, 19th and 20th centuries (Tomić *et al.* 2002), and having in mind that this species reacts immediately to the changes in its habitat (Müller 1984), the number of pairs started to decrease as early as in the first quarter of the 20th century. This decrease continued and the population reached its lowest level in the 1970's, when breeding was confirmed only in Obedska bara. This unfavourable situation lasted until the late 1980's. At this time, breeding habitat became suitable on two fish farms, Jazovo and Bečej, which Spoonbills colonized. These fish farms were constructed in 1972 and 1969, respectively, but emergent vegetation had not been sufficiently structured, at least until the late 1980's when birds, probably at the same time, occupied both sites. Bečej fish farm has been a regular breeding site since then, Jazovo being only intermittently suitable. As breeding numbers continued to drop at Obedska bara, the importance of Bečej fish farm increased, and it was probably the only breeding site in Vojvodina between 1993 and 1996, when Spoonbills colonized the lower Begej complex. That was the period of stabilization of the breeding population. This lasted probably until 2000 or 2001, when the population started to increase. In 2004 it was 22% larger than in 1998. The increase in breeding numbers was probably connected with the increase in Hungarian colonies (Overdijk & Zwart 2003, Végvari *et al.* 2003), as well as with the recent dispersal of birds which used to breed in colonies in Croatia, especially near Slavonski Brod (Schneider–Jacoby *et al.* 2002).

The Okanj colony appeared to be quite large in 1998. It was reported during the census of heron and cormorant colonies in Serbia in 1998, but its existence was not proved, either before or after (personal observations). Having in mind the very intensive research on Okanj between 1965 and 1973 (Šoti & Dimitrijević 1974) and its inspection in 2004, it is hardly likely that conditions for breeding of Spoonbill existed there. It is a somewhat typical natron lake, with just a narrow belt of emergent vegetation composed of sparse reed. The water is not suitable for feeding – no foraging Spoonbill or herons were observed there throughout 2004.

The regular home range of the birds from the colonies, even if feeding conditions are suitable, is 25 – 30 km (Schneider-Jacoby *et al.* 2002). The changes of quality of feeding sites and lowered accessibility of food were the most important causes of drastic and progressive decrease in the number of breeding pairs of Eurasian Spoonbills in Vojvodina. Spoonbill needs shallow water (up to 30 cm deep) for foraging (Hancock *et al.* 1992). The progressive deterioration of suitable feeding sites was the reason for the immense decrease in the number of pairs in the largest recorded colony at Obedska bara. In the lower Sava valley, after large-scale drainage of the wide floodplain, the rest of the shallow flooded depression that used to be the most important feeding sites for all wading birds, have been planted with clone poplar plantations (Puzović 1998). The last breeding pairs from Obedska bara disappeared after the small fishpond near Obrež was closed in 1988 (Puzović 1995).

4.3. Features of current feeding sites

The large number of individuals breeding on Bečej fish farm (maximum 60 on 24 May 2004) have regularly fed until mid June in the ponds created on the site of the former "pond 1", after it was partitioned. As part of work aimed at deepening these ponds, embankments have been constructed and consolidated, creating numerous shallow depressions with water on their bottoms. A ditch, projected for sluice, has been connected with one of the fishpond's channels, which provided water for the shallow depressions. This artificial and temporary habitat was only slowly overgrown by sedge *Carex* sp. and was very rich in food, indicated by the presence of numerous herons. During June, the reconstruction works progressed, all the water evaporated and, in one of the newly constructed ponds, water was released. By that time, these ponds had become invaluable as Spoonbill feeding sites. Suitable feeding habitats on other parts of the fishpond have been very limited, and were visited by only a small number of individuals.

A wide spectrum of suitable and regularly visited feeding sites exists in the Tisa inundation zone: regularly flooded sites and small floodplain lakes situated along both banks of the river, waste water basins of the local sugar factory situated near Žabalj, and other suitable wetland sites.

A new pond was dug in 2004 on the north-eastern edge of Jazovo fish farm. Since its bottom was not flat, a number of depressions filled with water, mainly rainfall, serving as a regular feeding ground for local

Spoonbills during the breeding period (until the second decade of July). In addition, a large number of individuals foraged throughout the breeding season on a number of suitable niches in other parts of the fish farm. Birds, probably originating from this colony, were also observed foraging at the Novi Kneževac fishponds, situated some 20 km to the NW.

4.4. Current threats

A large number of people frequent Bečej, Jazovo and Kapetanski rit fish farms while, on the contrary, Perleska bara is almost completely isolated from human disturbance – there are no regular man-induced activities in the vicinity. On fishponds, fish feeding boats pass next to the colony at least once every day. Regular shooting takes place, aimed to protect fish from Cormorants *Phalacrocorax carbo*. Nevertheless, the sites on which all the colonies were found (including the potential one at the Kapetanski rit) are well protected from predator intrusion by the surrounding water, which acts as virtual barrier. However, there is evidence of illegal entry by humans taking chicks for private bird collections and zoos.

Burning of emergent vegetation is widespread on all fishponds in Vojvodina (Tucakov 2004), the scale and timing depending on the estimates and decisions of fishpond directors. There is a real possibility of threatening colonies in this way, as in the case of Jazovo, where reedbed burning has taken place several times, the last time in 2002. Further, changes in water level during the breeding period, occasioned by the fish production process (sudden rise or lowering), can stop breeding and destroy the clutches.

The privatization of formerly state-owned fishponds that is currently taking place in Serbia is a matter of special concern. There is reasonable fear and a real possibility that, after almost unavoidable changes of ownership of the fishponds, fish production will be greatly intensified, and breeding niches destroyed.

Spoonbills breeding in 2004 in the listed colonies have used very wide surrounding areas for feeding. These habitats are very fragmented and quite small. Feeding conditions, numbers of foraging individuals and its the associated dynamics, as well as overall importance for Spoonbill colonies, remain unknown.

4.5. Spoonbill protection in Vojvodina

Of the recent Spoonbill colonies in Vojvodina, only the colony on Perleska bara is protected, since this site is within the "Stari Begej – Carska bara" special nature reserve and Ramsar site. All other colonies are unprotected. However, the diversity of species and habitats on all the sites described above have been evaluated according to the BirdLife International's criteria, since all of them are inside Important Bird Areas (IBA). Bečej fish farm and its vicinity forms a 4000 ha large IBA site (IBA code 003), Jazovo fish farm is part of IBA "Jazovo – Mokrin" (8000 ha, IBA code 011), while Kapetanski rit fish farm is situated in IBA "Subotica lakes and sandy terrains" (20000 ha, IBA code 002; Puzović & Grubač 2000).

Today, 97.9% of Spoonbill pairs in Vojvodina are breeding on man-made wetlands. The shift from natural wetlands poses a serious threat, as the survival of this species in Vojvodina now depends completely on the management of its breeding sites. Considering the sensitivity of the man-made habitats on which Spoonbill breed in Vojvodina, management measures should be well defined in order to harmonize economical utilization of resources on these sites with preservation of stability of the breeding and feeding sites for Spoonbills. For all fish farms where Spoonbills breed in Vojvodina, it is urgent that consistent conservation activity is focused on implementation by fishpond management authorities of the measures already prescribed in national biodiversity protection legislation (Decree on Protection of Natural Rarities, Official Gazette of Republic of Serbia, 50/93), and on strict control of this implementation by inspectors. Special attention should be paid to:

1. prevention of any physical destruction or damage of breeding niches;
2. maintenance of the quality of breeding niches by limiting the entry of humans to the reedbed during the breeding season, and avoidance of burning or cutting emergent vegetation in winter and early spring;
3. maintenance of suitable surfaces and appropriate water levels on Spoonbill feeding sites situated within the fishponds;
4. creation of permanent feeding sites (shallow ponds) which will be managed exclusively for feeding specialized feeders.

Conservation should be very carefully directed. Not a single fishpond system in Vojvodina is currently protected, although these sites support a very important proportion of the national population of other waterbirds, as well. Of greatest importance is the globally threatened Ferruginous Duck *Aythya nyroca*, which is now almost completely a fishpond-breeder in Serbia (Puzovic & Tucakov 2003).

The value of feeding areas situated outside the fishpond for Spoonbills is more important than those situated within the ponds. All of them have to be

mapped and, where possible, maintained suitably for Spoonbill.

Besides harmonization of the conservation needs of Spoonbill and other waterbirds breeding on fish farms, special attention should be paid to the restoration and adequate management of historical breeding sites. This is particularly needed for Obedska bara, once the key site for the Eurasian Spoonbill in Vojvodina (Puzović *et al.* 1999). Since the Spoonbill colony disappeared, due to deterioration of foraging sites, special attention, with international participation, is already being directed in order to ensure maintenance of regularly flooded meadows, and to slow their rapid eutrophication (S. Puzović & M. Schneider-Jacoby *pers. comm.*)

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5. Povzetek

V 19. stoletju je žličarka *Platalea leucorodia* v Vojvodini gnezdila v velikem številu. Odtlej so bile njene gnezdeče kolonije zabeležene – razen ob spodnjem toku Save, kjer že tradicionalno obstajajo njene najmočnejše kolonije – tudi v Zasavici, Pančevačkem in Novosadskem ritu in v spodnjem delu doline Begej. Čeprav je v prvi polovici 20. stoletja v Vojvodini še vedno gnezdilo od 500 do 1000 parov, pa je populacija žličarke v Vojvodini v prvem desetletju prejšnjega stoletja začela upadati. V drugi polovici 20. stoletja je gnezdila ali je poskusila gnezditi na 9 lokalitetah: v spodnjem delu doline Begej, v Uzdinskem, na ribnikih Jazovo, na Okanjskem jezeru, v donavskem poplavnem gozdu blizu Apatina, na Bečejskih ribnikih, Ludaškem jezeru, v Obedski bari in v Platičevem. Sredi osemdesetih let 20. stoletja, ko je bilo število gnezdečih osebkov najnižje, so se žličarke začele naseljevati v trstičjih ribogojnic. Te umetne habitate danes naseljujejo kar tri od štirih gnezdečih kolonij, obstoječih v Srbiji. Leta 2004 je v Srbiji gnezdilo od 147 do 182 parov, kar je 2,49 % evropske populacije. Avtor pripevka opisuje zgodovinsko in današnjo gnezditveno razširjenost te ptice v Vojvodini, njeno ogroženost, značilnosti njenih trenutnih prehranjevalnih okolišev in ukrepe, ki bi jih bilo treba sprejeti za zaščito žličarkinih gnezdišč.

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Pregled pojavljanja tujerodnih rac v Sloveniji

Occurrence of non-native duck species in Slovenia: an overview

Henrik Ciglič[1] & Dare Šere[2]
[1] Likozarjeva 7, SI-4000 Kranj, Slovenija, e-mail: cigi@s5.net
[2] Prirodoslovni muzej Slovenije, Prešernova 20, SI-1000 Ljubljana, Slovenija, e-mail: dsere@pms-lj.si

1. Uvod

Glede na izvor eksotičnih rac, pojavljajočih se v Sloveniji, gre v vseh primerih bržkone za osebke, ki so pobegnili iz ujetništva in se pozneje naselili v primernih okoljih. To ugotovitev v nekaterih primerih še dodatno potrjujejo plastični obročki na njihovih nogah. Številne za Evropo neavtohtone race je namreč mogoče kupiti na skoraj vsakem perutninskem sejmu v Evropi. Tako navdušenje nad opazovano raco, tudi če je prvo za Slovenijo, kmalu zamre, čeprav je naše opazovanje potrdila Nacionalna komisija za redkosti. V pričujočem prispevku obravnavava le podatke o neavtohtonih vrstah rac, ki so bila opazovane v naravnih okoljih (reke, jezera, mlake, ribniki itd.), sicer pa meniva, da bi bilo v bližnji prihodnosti primerno objaviti tudi podatke za druge vrste ptic, ki se pojavljajo v naravnem okolju, a izvirajo iz ujetništva. Dejstvo je namreč, da alohtone vrste ne prispevajo k večji biodiverziteti ptic v Sloveniji, ampak kvečjemu k posebni obliki polucije okolja (Vrezec 2001).

V nadaljevanju predstavljava zbrane podatke o opazovanjih tujerodnih vrst rac v Sloveniji, pri tem pa dodajava še doslej v Sloveniji neregistrirano vrsto, rožnatokljuno žvižgavko *Netta peposaca*.

2. Pregled vrst tujerodnih rac, ki so bile opazovane v Sloveniji

2.1. Mandarinka *Aix galericulata*

Vrsta, ki sicer gnezdi v vzhodni Sibiriji, na Kitajskem in Japonskem, prezimuje pa na vzhodnem Kitajskem in Japonskem (del Hoyo *et al.* 1992). V Sloveniji najpogostejša eksotična raca, o čemer govorijo tudi številni podatki o opazovanjih (tabela 1). Ustreza ji vse od manjših vodnih površin do rek.

2.2. Nevestica *Aix sponsa*

Gnezdilka Severne Amerike, od Kanade do Mehike in Kube. V Evropi naseljena na ribnike in v živalske vrtove (del Hoyo *et al.* 1992). Tudi zelo priljubljena med evropskimi avikulturisti. Pri tej vrsti je morda zanimiv podatek, da je bila pri nas ugotovljena že v začetku prejšnjega stoletja (Ponebšek 1911). V Sloveniji je bila doslej ugotovljena samo na jezerih in rekah (tabela 2).

2.3. Čipkasta raca *Callonetta leucophrys*

Gnezdilka Južne Amerike, predvsem Bolivije, Brazilije, Argentine in Urugvaja (del Hoyo *et al.* 1992). Za to raco imamo iz Slovenije samo dva podatka (tabela 3), oba iz zadnjih let, kar je bržkone povezano s povečanim zanimanjem za gojenje eksotičnih rac.

2.4. Grivasta raca *Chenonetta jubata*

Splošno razširjena v Avstraliji in na sosednji Tasmaniji (del Hoyo *et al.* 1992). V Sloveniji je bila vrsta opazovana dvakrat (tabela 4). Oba podatka izvirata iz istega leta in verjetno gre pri obeh opazovanjih za isti osebek.

2.5. Moškatna bleščavka *Cairina moschata*

Prebivalka Srednje in Južne Amerike, od Mehike do vzhodnega Peruja in severnega Urugvaja (del Hoyo *et al.* 1992). V slovenski literaturi sta znana le dva podatka (tabela 5), čeprav je pri nas pogosta na vseh vodnih površinah. Zaradi domestifikacije se pojavlja v različnih barvnih odtenkih (od skoraj popolnoma črne do črno-bele).

2.6. Rožnatokljuna žvižgavka *Netta peposaca*

Živi v območjih od Atacame do Valdivie v osrednjem Čilu, od južne Brazilije in Paragvaja do Rio Negra v jugovzhodni Argentini (del Hoyo *et al.* 1992). Samca rožnatokljune žvižgavke sva opazovala med 22.10. in 13.11.2003 v Hrašah pri Smledniku in na Zbiljskem jezeru (barvna priloga – slika 1). Gre za doslej prvi in edini podatek o tej vrsti za Slovenijo v naravnem

Tabela 1: Pregled opazovanj mandarinke *Aix galericulata* v Sloveniji

Table 1: Observations of the Mandarin Duck *Aix galericulata* in Slovenia

Datum / Date	Št. osebkov/ No. Individ.	Lokacija / Locality	Opazovalec/ Observer	Vir / Source
X. 1985	1 (ustreljen / shot)	Ljubljanica pri Podpeči	V. Čuden	Komisija za redkosti (1993)
XI. 1992 — III. 1993	1	Sava pri Jesenicah	M. Rijavec	Rijavec (1994)
I. 1997	1	Pivka – pred Postojnsko jamo	S. Polak	Štumberger (1997)
I. 1998	1	Pivka pri Postojnski jami	J. Dragulič in drugi	Štumberger (1998)
Začetek / beginning 1999	1 ♂	Drava pri Mariboru	D. Denac	Denac (2004)
I. 1999	1	Pivka, Postojnska jama (avtocestni most)	S. Polak, B. Peternelj	Štumberger (1999)
I. 1999	1	Drava	L. Božič	Štumberger (1999)
3.3.1999	1 ♂	Perniško jezero	D. Denac	Denac (2004)
XII. 1999	1 ♂	Drava pri Zrkovcih	M. Premzl, A. Tomažič	Premzl & Tomažič (1999)
I. 2000	1	Stara Drava, Melje – Starše	L. Božič, D. Remsko	Štumberger (2000)
I. 2000	1	Savinja pri Celju, Dobrteša vas	D. Vengust	Štumberger (2000)
I. 2000	1 ♂	jezero Črnava (Preddvor)	H. Ciglič	to delo
I. 2000	1 ♀	Ljubljanica (Prule - Fužine)	B. Majstorovič, A. Potočnik, B. Lipušek	Štumberger (2000)
I. 2001	1	Drava (Ptujsko jezero)	L. Božič, B. Štumberger	Štumberger (2001)
I. 2001	1	Savinja pri Celju, Dobrteša vas	D. Vengust	Štumberger (2001)
23.3. & 12.4.2001	1 ♀	Škalsko jezero (Velenje)	D. Šere	to delo
3.11.2001	1 ♂	razcep Gruberjevega kanala in Ljubljanice	D. Bordjan	to delo
I. 2002	2 (♂,♀)*	jezero Črnava (Preddvor)	H. Ciglič	Štumberger (2002a)
6.11.2003	1 ♂	jezero Črnava (Preddvor)	H. Ciglič	to delo
3.12.2003	1 ♂	ribnik pri Hotinji vasi	D. Bordjan	Bordjan (2004)
18.4.2004	1 ♂	Draga pri Igu	D. Šere	to delo

* Samec je bil opažen med vsakim obiskom. Od poletja 2004 pa se na jezeru redno pojavlja tudi samica.

okolju. Opazovani osebek je imel rumen plastičen obroček na nogi – znamenje, da izvira iz ujetništva. Podatek je potrdila Nacionalna komisija za redkosti.

2.7. Belolična trdorepka *Oxyura jamaicensis*

Areal belolične trdorepke se razteza med Severno Ameriko in Mehiko (del Hoyo *et al.* 1992). V 60.

Tabela 2: Pregled opazovanj nevestice *Aix sponsa* v Sloveniji

Table 2: Observations of the Wood Duck *Aix sponsa* in Slovenia

Datum / Date	Št. osebkov/ No. Individuals	Lokacija / Locality	Opazovalec/ Observer	Vir / Source
6.12.1910	1 ♂ (ustreljen/shot)	Koseze pri Ljubljani		Ponebšek (1911)
22.3.1978	1 ♂	Bled	I. Geister	Geister (1985)
XI. 1987	1 ♀	Spodnja Idrija	P. Grošelj	Grošelj (1989)
I. 1997	2 (♂, ♀)	Drava pri Mariboru	F. Bračko	Bračko (1998)
11.12.1999	1 ♂	Drava pri Zrkovcih	M. Premzl, A. Tomažič	Premzl & Tomažič (1999)
I. 2000	1	Stara Drava (Melje – Starše)	L. Božič, D. Remsko	Štumberger (2000)
I. 2000	1	Ljubljanica (Prule – Fužine)	B. Majstorovič, A. Potočnik, B. Lipušek	Štumberger (2000)
I. 2001	1	Stara Drava (Melje – Starše)	A. Tomažič	Štumberger (2001)
27.10.2001	1 ♀	ribnik pri Hotinji vasi	D. Bordjan	to delo
13.11.2001	1 ♂	razcep Gruberjevega kanala in Ljubljanice	D. Bordjan	to delo
I. 2002	2	Ljubljanica (Prule – Fužine)	R. Tekavčič, J. Stergaršek, I. Kovše, J. Strnad	Štumberger (2002a)

Tabela 3: Pregled opazovanj čipkaste race *Callonetta leucophrys* v Sloveniji

Table 3: Observations of the Ringed Teal *Callonetta leucophrys* in Slovenia

Datum / Date	Št. osebkov/ No. Individuals	Lokacija / Locality	Opazovalec/ Observer	Vir / Source
XII. 1994 – IV. 1995	1 ♀	Šobčev bajer pri Bledu	I. Geister	Geister (1996)
V. – XII. 2001	1 ♂	Drava pri Mariboru	T. Basle	Basle (2002)

Tabela 4: Pregled opazovanj grivaste race *Chenonetta jubata* v Sloveniji

Table 4: Observations of the Maned Duck *Chenonetta jubata* in Slovenia

Datum / Date	Št. osebkov/ No. Individuals	Lokacija / Locality	Opazovalec/ Observer	Vir / Source
19.3.2003	1 ♂	Savska loka v Kranju	T. Trebar	Trebar (2003a & b)
16. – 19.11.2003	1 ♂	Trbojsko jezero	H. Ciglič	to delo

Tabela 5: Pregled dokumentiranih opazovanj moškatne bleščavke *Cairina moschata* v Sloveniji

Table 5: Documented observations of the Muscovy Duck *Cairina moschata* in Slovenia

Datum / Date	Št. osebkov/ No. Individuals	Lokacija / Locality	Opazovalec/ Observer	Vir / Source
3.4.1996	1 os. (mrtev ♂)	Sava pri Čatežu	R. Kovačič	Vrezec (2002)
20.1.1997	2 os. (♂in ♀)	Trbojsko jezero	A. Vrezec	Vrezec (2002)

Tabela 6: Pregled opazovanj belolične trdorepke *Oxyura jamaicensis* v Sloveniji

Table 6: Observations of the Ruddy Duck *Oxyura jamaicensis* in Slovenia

Datum / Date	Št. osebkov/ No. Individuals	Lokacija / Locality	Opazovalec/ Observer	Vir / Source
20. – 24.10.1999	1	zadrževalnik Medvedce	J. Smole, B. Štumberger, M. Vogrin	Božič (2001)
2.11.2002	1 prvoletna ♀	Ptujsko jezero	B. Štumberger	Štumberger (2002b)

letih prejšnjega stoletja je bila naseljena v Veliki Britaniji, od koder je pobegnila in se zdaj širi proti južni Evropi (Hughes 1997). Za Slovenijo sta bili doslej dokumentirani dve opazovanji (tabela 6).

3. Zaključek

V prispevku je opisanih sedem vrst alohtonih rac doslej ugotovljenih v Sloveniji. Čeprav so naravni areali razširjenosti vseh obravnavanih vrst zunaj Evrope (del Hoyo *et al.* 1992), je nekaterim vrstam zaradi umetnih naseljevanj uspelo razviti gnezdeče populacije tudi v Evropi. Belolična trdorepka, opazovana v Sloveniji, na primer, verjetno prihaja iz sicer naravno gnezdeče alohtone evropske populacije (Hughes 1997), medtem ko gre pri drugih opisanih racah skoraj zagotovo za ubežnice. Pričujoči podatki kažejo, da število opazovanj alohtonih rac v Sloveniji narašča, kar je lahko razlog za upravičeno zaskrbljenost. Dejstvo je namreč, da so se mnoge med njimi uspešno prilagodile novim življenjskim okoljem in včasih celo postale pomembna komponenta tamkajšnjih ekosistemov. Zaradi biotskih interakcij z avtohtonimi vrstami, pa utegnejo biti posledice za slednje zelo neugodne ali celo usodne (Kryštufek 1999).

Povzetek

V prispevku so navedeni podatki o sedmih tujerodnih vrstah rac (mandarinka *Aix galericulata*, nevestica *Aix sponsa,* čipkasta raca *Callonetta leucophrys*, grivasta raca *Chenonetta jubata*, moškatna bleščavka *Cairina moschata*, rožnatokljuna žvižgavka *Netta peposaca* in belolična trdorepka *Oxyura jamaicensis*) opazovanih v Sloveniji. Vse vrste so bile opazovane v naravnih okoljih (reke, jezera, mlake, ribniki itd.). Po vsej verjetnosti so se izvalile v ujetništvu in bile izpuščene na prostost, ali pa so pobegnile in se pozneje naselile v primernih okoljih. Pri belolični trdorepki domnevava, da gre za osebke iz divje gnezdečih evropskih populacij.

Summary

The article presents data on seven non-native duck species (Mandarin Duck *Aix galericulata*, Wood Duck *Aix sponsa,* Ringed Teal *Callonetta leucophrys*, Maned Duck *Chenonetta jubata*, Muscovy Duck *Cairina moschata*, Rosy-billed Pochard *Netta peposaca* and Ruddy Duck *Oxyura jamaicensis*) recorded in Slovenia. All of them were observed in natural environments (rivers, lakes, pools, ponds, etc.). They were most probably hatched in captivity and eventually released, or they simply escaped and settled in habitats most suitable to them. The observed Ruddy Duck individuals probably originated from the European breeding population.

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New data on breeding of Alpine Chough *Pyrrhocorax graculus* in caves in Bosnia and Herzegovina

Novi podatki o gnezdenju planinske kavke *Pyrrhocorax graculus* v jamah Bosne in Hercegovine

Jasminko Mulaomerović[1] & Dražen Kotrošan[2]

[1] Ornithological association "Naše ptice", Semira Frašte 6, 71000 Sarajevo, Bosnia and Herzegovina, e-mail: naseptice@hotmail.com, jasminko.mulaomerovic@telecom.ba

[2] National Museum of Bosnia and Herzegovina, Zmaja od Bosne 3, 71000 Sarajevo, Bosnia and Herzegovina, e-mail: kotrosan@bih.net.ba

Kongres ornitologov Slovenije ob 25. obletnici DOPPS
Slovene Ornithologists' Congress at the 25th anniversary of DOPPS (BirdLife Slovenia)

1. Introduction

The Alpine Chough *Pyrrhocorax graculus* is a widespread breeding species in the southern Palearctic (Sackl 1997). It commonly nests in caves (Cramp & Perrins 1994). In Bosnia and Herzegovina it has been recorded as nesting in all seasons (Reiser 1939, Obratil 1967, Matvejev & Vasić 1973, Mulaomerović *et al.* 2002).

However, apart from general facts concerning the habitat and time of nesting, very little is known about the breeding habits of the Alpine Chough in Bosnia and Herzegovina. There are numerous caves and crevices with names suggesting a connection with the species (e.g. Vranjača, Vranovica, Čavljak, Vrana pećina cave, Čavčija jama hole, Čavkarica, Golovranjka, Vranovina, Gavranjača, Vranova jama hole, Vranska jama hole, Čavče jama hole, Vranovica, Čavčarica, Čavka, etc. [respectively from *vrana* = crow, or *čavka* = jackdaw]). There is no evidence so far, however, linking the nesting of the Alpine Chough with these sites (Mulaomerović *et al.* 2002).

Much work has been devoted over the past few years to observing the nesting habits of this species in holes in Bosnia and Herzegovina. As a result, this species was confirmed breeding in holes on Mt. Vranica in 2000 and 2001 (Mulaomerović *et al.* 2002). This paper sets out our findings to date on the nesting habits of the Alpine Chough in holes on Mts. Vranica and Visočica.

2. Study area and methods

During the period 2002–2004 we conducted speleological studies on Mts. Vranica and Visočica (Figure 1). We checked the holes as to whether they were occupied by Alpine Choughs. We also gathered information from the inhabitants of alpine summer settlements who spend the whole of the summer months on Mts. Vranica and Visočica. We have received confirmation from several local people living in the summer cattle-rearing mountain villages that certain crevices are occupied by the Alpine Chough.

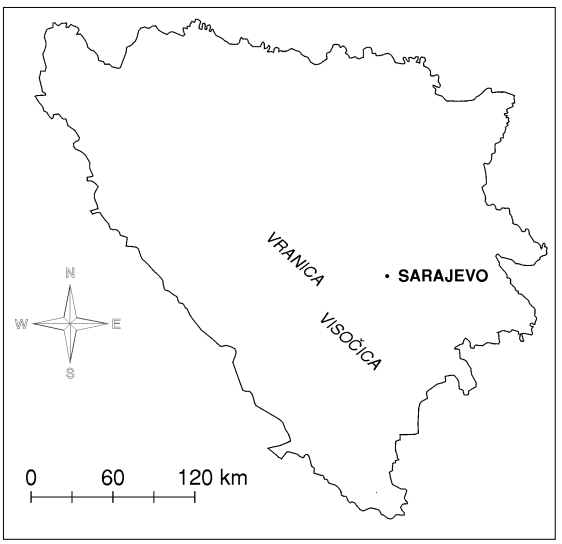

Figure 1: Position of the Mts. Vranica and Visočica in Bosnia and Herzegovina

Slika 1: Geografska lega Vranice in Visočice v Bosni in Hercegovini

Mt. Vranica belongs to the ore-bearing central Bosnian mountain range, and is wellknown for its many ore-bearing sites, which have been exploited since prehistoric times. It is covered with forest vegetation up to approximately 1600 m a.s.l., where forest is replaced with alpine pastures covered in some

places with extensive stands of Bilberry *Vaccinium myrtillus*. There are isolated Mountain Pines *Pinus mugo* along the mountain ridge above the tree line at altitudes of 1900 to 2000 m a.s.l.

Mount Visočica lies within the Mediterranean region although, at its extreme limit, it is separated from Bosnia by the river Rakitnica. The highest peak of the mountain is 1988 m a.s.l. Apart from a few stunted individual plants of the Beech *Fagus sylvatica* on the lower southern slopes, the mountain is completely bare, consisting of the rocky terrain and alpine pastures typical of Herzegovina. The holes are located at an elevation of 800 to 1900 m a.s.l.

3. Results and Discussion

We have recorded the presence of the Alpine Chough in four holes on Mt. Vranica.

The holes were in limestone formations and are found solely in this zone.

The holes known as Ptičije jame are at approximately 2000 m a.s.l., above Sarajevska vrata in the direction of Krstac (2069 m a.s.l.). There are two holes, one of which has three entrances, standing about 100 m apart. In each case the entrance holes are quite small. The hole with three entrance holes is in an open-cast mine, and the entrance to the other is surrounded by pines. We found the entrance holes by observing the birds swooping earthwards. Both holes are on a south-facing slope.

In late July 2000, we saw birds only in the hole with three entrance holes (Table 1). We registered four birds. As we came closer to the hole, the birds stopped entering it. There were some quite well-grown fledglings about 2.5 to 3 m below the entrance, on a small natural ledge in the rock; they continued to perch there without flying away the whole time we were there.

During subsequent speleological investigations in August 2000, once again four birds flew out of the hole, and one nest was observed on the wall of the hole, which was about 25 m deep (Habul 2000). The bottom of the hole and the rocks around the entrance holes were covered with dark-blue droppings. The colour is presumably caused by the birds' feeding on bilberries (Cramp & Perrins 1994).

Another site where the presence of the Alpine Chough was confirmed in 2001 is an unnamed hole alongside the mountain track leading to Nadkrstac below Krstac (Table 1). This hole is at an altitude

Table 1: Breeding locations of Alpine Choughs *Pyrrhocorax graculus* in caves of Mts. Vranica and Visočica in Bosnia and Herzegovina recorded in years 2002 to 2004

Tabela 1: Gnezdišča planinske kavke *Pyrrhocorax graculus* odkrita med letoma 2002 in 2004 v jamah Vranice in Visočice v Bosni in Hercegovini

Mountain/ gora	Cave / jama	UTM	Altitude/ nadm. višina	Evidence of Alpine Chough presence / dokaz za prisotnost planinske kavke			
				Birds / ptice	Vocalisation/ oglašanje	Nest/ gnezdo	Eggshell/ jajčna lupine
Vranica	Ptičije jame	YJ27	2000 m	+	-	+	-
Vranica	hole near Krstac	YJ27	2000 m	+	+	-	-
Vranica	hole near Loćika	YJ27	?	+	-	-	-
Vranica	hole on Vodičke strane	YJ27	?	+	+	-	-
Visočica	hole near Puzim cemetery	BP72	1650 m	+	-	-	-
Visočica	Čavkarica (Hotanj spring)	BP72	1600 m	+	-	+	+
Visočica	Čavkarica (Dolovi)	BP72	1410 m	+	-	-	-
Visočica	Siljevača hole	BP73	1650 m	+	-	-	-

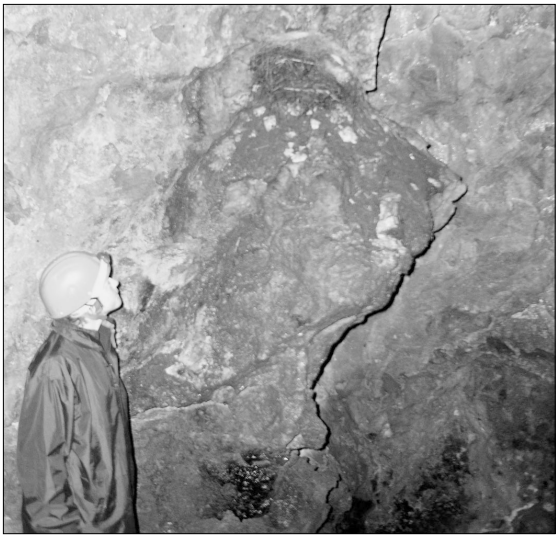

Figure 2: Nest of the Alpine Chough *Pyrrhocorax graculus* in the Čavkarica hole by the Hotanj spring on Mt. Visočica (photo: J. Mulaomerović)

Slika 2: Gnezdo planinske kavke *Pyrrhocorax graculus* v jami Čavkarica pri Hotanjskem studencu na Visočici (foto: J. Mulaomerović)

of approximately 2000 m a.s.l. The birds were not observed, but their calls could be heard.

According to the locals, there is one other hole where the Alpine Chough had been found. This is on the western facing slopes of Loćika, not far from a small clearing between the pine trees (Table 1). We did not check this site.

There is a hole on the Vodič side, on the western slopes of Rosinje, the furthermost summit of Vranica in the direction of Gornji Vakuf. The hole has yet to be studied speleologically because of its extremely awkward position, but when approaching the entrance to the wide karst valley speleologists saw 10 to 15 Alpine Choughs flying in and out of the hole (Table 1).

An unnamed hole alongside the road between the Puzim cemetery and Poljice was checked. When passing by, two birds were observed flying out of the hole. The hole is surrounded by alpine pastures, at an altitude of approximately 1650 m a.s.l. A small stream disappears underground in the hole.

The Čavkarica hole, a cave with a small hole-like entrance, is not far from the summer cottages at Hotanj spring, on a hill named after the cave, at an altitude of 1600 m a.s.l. The local people occupying the summer houses confirmed that they had often seen Alpine Choughs. There were no birds in the hole when we visited it, but we observed a nest on a stone ledge at a height of about 2.5 m (Figure 2). There was also one broken egg on the ground, about 2 m from the nest (Figure 3).

The second Čavkarica hole is on the summit of a lower hill (1410 m a.s.l.), directly above the meadow below the summer houses of Dolovi. The depth of the hole was estimated at 10 to 12 m. We did not see birds, but the local people told us that Alpine Choughs are present there.

A Siljevača hole occupied by a fair number of birds, also known only from local accounts, is located at an altitude of about 1650 m a.s.l. in the Voloderača (1728 m a.s.l.) region.

Further systematic ornithological surveys would provide a better view of the species' nesting habits, not only on Mts. Vranica and Visočica, but also on other Bosnian mountains, e.g. Bjelašnica, Čvrsnica, Vran, etc.

Figure 3: Egg of the Alpine Chough *Pyrrhocorax graculus* in the Čavkarica hole by the Hotanj spring on Mt. Visočica (photo: J. Mulaomerović)
Slika 3: Jajce planinske kavke *Pyrrhocorax graculus* v jami Čavkarica pri Hotanjskem studencu na Visočici (foto: J. Mulaomerović)

Summary

Observations between 2000 and 2004 confirmed that the Alpine Chough *Pyrrhocorax graculus* nests on Mt. Vranica (four caves) and Mt. Visočica (four caves). The birds constructed their nests on natural ledges on vertical walls in the holes. The populations observed on Mts. Vranica and Visočica corroborate the known facts (manner of nesting, type of habitat, exposure of the nests, altitude etc.) concerning the breeding habits of this species. Further systematic ornithological are needed to get a better view of the species' nesting habits, not only on Mts. Vranica and Visočica, but also on other mountains in Bosnia and Herzegovina.

Povzetek

Med raziskavami, opravljenimi med letoma 2000 in 2004, je bila potrjena gnezditev planinske kavke *Pyrrhocorax graculus* v štirih jamah na Vranici in v štirih jamah na Visočici. Ptice so si gnezda zgradile na naravnih skalnih policah v jamskih navpičnih stenah. Populacije, ugotovljene na Vranici in Visočici, potrjujejo že znana dejstva (način gnezdenja, tip habitata, izpostavljenost gnezd, nadmorska višina itd.), kar zadeva gnezditvene navade te vrste. Sicer pa bi bile za boljši vpogled v gnezditvene navade vrste potrebne nadaljnje sistematične ornitološke raziskave, ne le na Vranici in Visočici, marveč tudi na drugih gorah Bosne in Hercegovine.

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Povzetki diplomskih, magistrskih in doktorskih del

Thesis Summaries

Tome, D. (1995): Gnezditvena biologija in ekologija male uharice (*Asio otus*) [Breeding biology and ecology of the Long-eared Owl (*Asio otus*)]. – Dissertation Thesis, University of Ljubljana, Biotechnical Faculty, Department of Biology, Ljubljana.

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Avtorjev elektronski naslov / Author's e-mail:
davorin.tome@nib.si

The breeding biology and ecology of the Long-eared Owl *Asio otus* in the Ljubljansko barje (Ljubljana marsh) area was investigated over the period 1984 to 1993.

The Common Vole *Microtus arvalis* was the dominant small mammal on the grasslands of the research area throughout the study. It was also the most important prey species for the Long-eared Owl. The proportion of this vole in the diet of the owl varied according to changes in its density in the field. Mice (genus *Apodemus*) were the most important alternative prey, followed by Field Vole *Microtus agrestis*. Their proportion in the diet increased significantly only during seasonal and year-round shortages of Common Vole.

Males of the Long-eared Owl started with advertising calls and display flights in the beginning of the February. In March, vocal activity of the males was at its maximum, gradually reducing until May, when calling stopped completely.

The Long-eared Owls most frequently occupied the old stick nests of Hooded Crows *Corvus corone* and Magpies *Pica pica*, located on the top of the Pine tree *Pinus sylvestris*. The average height of the nest was 6.3 m, on a tree of average height 9.2 m. Owls readily adopted artificial nesting platforms, made from a wooden, top-opened box and filled with straw.

Long-eared Owls are one of the earliest birds to breed. They begin with nesting activities while broadleaf trees are still without leaves. On Ljubljansko barje, the owls preferred nests that were well hidden in the tree and easily accessed. Nests on isolated spruces appeared to fulfil these requirements best. But such trees are low in number so, for late breeding pairs, only nests on the pines, tall broadleaf trees and bushes remained. Of these, owls preferred to take nests on the pines. Females of pairs occupying nests on spruce, laid eggs 9 days earlier on average than females occupying nests on pine. Nests on broadleaf trees become more suitable for nesting when foliation was completed. By that time, the majority of the owls had already laid their eggs, which is the reason for many unoccupied nests on broadleaf trees.

The annual breeding density of Long-eared Owls on Ljubljansko barje varied between 0.4 and 4.0 pairs per km^2. Variation was, in the first place, due to changes of Common Vole density in the field. When density was low, there were only a few nesting attempts and vice versa. The density of voles in January and February, appeared to have the biggest influence on breeding density of the owls.

The average size of the Long-eared Owl's eggs was 40.7 x 32.7 mm. The most common number of eggs in one nest was 6 (5.6 on average, variation 3 to 7). The number varied according to the Common Vole density and the time at which the breeding season began. When food was abundant, increase in body weight of the females (the ultimate factor for the beginning of egg laying) was faster and more pronounced and, as a consequence, laying took place earlier in the season and clutches consisted of more eggs. On the other hand, when food was scarce, laying was late, and females produced fewer eggs. The density of voles in March and April appears to have the greatest influence on the number of eggs in the nest. Females incubated eggs on average for 29 days.

Most clutches were laid in March and April, with a mean date of 24 Mar. When food was abundant, some pairs produced two broods per year. The influence of food was indirect. When food was abundant, owls laid clutches earlier (on average 8 days earlier than when it was scarce) and more time remained for the pairs to start a second brood.

During incubation, owls interrupted incubation for 12 minutes at the most. The longest periods of uninterrupted incubation were more than 5 hours. The greatest activity of the owls on the nest was soon after sunset and shortly before sunrise. The period when the activity of the owls was lowest was late morning. Their activity peaked every 2 to 4 hours. The timing of peak activity is possibly connected with peaks of vole surface activity.

The average number per year of nestlings reaching the flying stage varied between 0.7 to 2.5 per nest (1.5 on average) and 2 to 5 per successful nest (3.9 on average). Variation was due to changes of Common Vole density in the field. In years when voles were abundant, more nestlings reached the flying stage, and vice versa. The density of voles in March and June was the most important factor. The first owl left the nest on average 27 days after hatching and the youngest, 29 days after hatching of the first owl.

The weight growth index (K) of young owls was 0.225. They reached half the adult weight (T_{50}) in 13 days. The first hatched owls grew faster than later ones. The biggest daily increments of weight were at about 11 days, while the period of fastest growth (the biggest increment as a proportion of the weight) was around 7 days. The biggest daily increments in wing length were at an age of around 19 days, while the period of fastest growth (the largest increments as a proportions of the wing length) was around the 13th day.

Estimating the age of young owls on the basis of wing measurement is more reliable than on the basis of body weight. Up to the 9th day, differences are small. The most reliable estimate of age on the basis of the body weight is when owls are 5 to 8 days old. The most reliable estimate on the basis of wing measurement is between the 4th and 15th days.

During the egg stage, more nests failed to succeed than during the nestling stage.

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Mentor / Supervisor: doc. dr. Davorin Tome
Somentor / Co-Supervisor: doc. dr. Tone Novak
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Avtorjev elektronski naslov / Author's e-mail:
damijan.denac@nib.si

After 20 years, the national census of the White Stork *Ciconia ciconia* population in Slovenia was repeated in 1999. The White Stork's choice of feeding habitats, phenology and the presence of other bird species in White Stork nests were studied at the same time. In 1999, 239 nests of White Stork were counted in Slovenia. 18 of them were empty and 18 utilised for a short period by nest visitors. Data on occupancy was not obtained for 3 nests. 200 pairs occupied nests and 153 of them fledged young. Altogether, 365 young fledged. The mean number of fledged young relative to all pairs that occupied nests was 1.83 and, relative to pairs with fledged young, 2.39. The majority of pairs fledged 2 young. The number of nests on chimneys and trees decreased and the number of nests on poles increased compared to year 1979. The reason is the disappearance of suitable objects and trees on which to build. White Storks breed in the lowland parts of Slovenia, the majority of nests being located on panonic plains. A correlation has been discovered between the proportion of woodland and the breeding density of White Stork. In regions with a higher proportion of White Stork's optimal feeding habitats (e. g. Krška ravan) breeding success was higher than in regions with lower proportion of such sites (e.g. Murska ravan). The number of occupied nests in Slovenia has increased by 19% since 1979. Despite the differences in methodology of censuses between 1979 and 1999, the increase of population was the result of immigration. In the past 20 years, White Storks have begun to breed in Western Goričko, Bela Krajina, alpine regions and on Pohorje, Savska ravan and Dolenjsko podolje. During this time, the number of breeding pairs significantly increased in Dravinjske Gorice, Savinjska ravan, Goričko and Krška ravan. In the same period White Stork disappeared as a breeder from Notranjsko podolje. The majority of all the nests in Slovenia is located on Dravska ravan, Murska ravan and Slovenske Gorice. Breeding success of pairs building new nests was lower than that of pairs breeding in old nests. White Storks returned to their breeding sites at the end of March. Individuals that formed pairs earlier in the breeding season had higher breeding success than those forming pairs later. The young left breeding sites earlier than adults. White Storks were observed feeding mostly on mowed meadows, which are their optimal feeding habitat. In most nests of White Stork there were also present nests of House Sparrows *Passer domesticus* and Tree Sparrows *Passer montanus* – this kind of interspecific relationship is defined as carposis. Nests of House Sparrows were more frequent. Sparrows preferred nests that were not located on chimneys. Some White Storks threw eggs and young from the nest. Pairs with larger numbers of hatched young threw them from the nest more frequently than those with lower numbers.

Mihelič, T. (2002): Gnezditvene in prehranjevalne navade velike uharice (Bubo bubo L.) v jugozahodni Sloveniji [Nesting and diet habits of the Eagle Owl (Bubo bubo L.) in south-western Slovenia]. – Graduation Thesis, University of Ljubljana, Biotechnical Faculty, Forestry Department, Ljubljana.

Mentor / Supervisor: prof. dr. Miha Adamič
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Avtorjev elektronski naslov / Author's e-mail:
tomaz.mihelic@dopps-drustvo.si

The Eagle Owl *Bubo bubo* is the rarest owl breeder in Slovenia. From the early 20th century, when it was generally distributed and fairly common, its distribution has been reduced to the south-western part of the country, which is still the focal point of its present distribution.

The main objective of this research was to establish the Eagle Owl's breeding characteristics in SW Slovenia, the characteristics of its hunting habitat and diet, and to pinpoint the factors that have endangered it most.

The study area covered the south-western part of Slovenia, predominantly hilly and plateau-like Dinaric territory on limestone substratum with a sub-Mediterranean and moderately continental climate. The area belongs to the sub-Mediterranean and Dinaric phytogeographical region, with Dinaric forests of Beech *Fagus sylvatica*, Silver *Fir Abies alba* and Blue-eyed Mary *Omphalodes verna* prevailing in the forests. For the needs of diet analysis and comparison, three smaller areas (Notranjsko, Vipavsko and Karst) were eliminated from the region under consideration.

The Eagle Owl was studied from 1997 to 2001. Its presence was ascertained on the basis of the males' spontaneous spring calling and a systematic search of suitable nest-sites. The immediate nest-site area was established on the basis of calls by pairs and their young. In the autumn, the identified areas were examined thoroughly.

During the research, 53 nest-sites were found within the area studied, 29 of which were marked as abandoned, which means that the Eagle Owl did not breed in them during the study period. At these sites, the orientation and gradient of the terrain were established, together with disturbing factors when nest-sites were situated in rock walls. The height, raggedness and dampness of the walls were determined. Rock wall was marked as a characteristic nest-site of the Eagle Owl in Slovenia, the bird breeding in it in no less than 92% of all cases. The average height of these rock walls, which were predominantly vertical and highly ragged, was 30 m. In 31 cases (58%), they faced southerly directions (SE, S, SW). The Eagle Owls bred mostly in the dry parts of the rocks. On comparing the differences between active and non-active nest-sites, it became evident that human disturbance is one of the main reasons for the Eagle Owl abandoning its nest-sites and becoming increasingly rare. The most frequently observed human disturbance was free climbing.

An important role in the nest-site selection is played by the vegetation in and along the rock wall. As for nest-sites, parameters were established for the nests themselves, identified within the nest-sites. 85 nests were found and their size, height above the ground and the terrain gradient established. Furthermore, the nests' position, orientation, protection from precipitation and dampness of the base were also assessed. As a rule, they were located in rock walls (95%) some 14 m from the ground. In view of their relative position in the wall, most of them were located in the middle third of the wall (47%). Nests facing southerly directions (SE, S, SW) were prevalent (N = 61, 72%). Most of the nests (N = 69, 81%) were located in vertical or overhanging rock walls. The most numerous, as far as their different types are concerned, were those in rock holes, which provided a solid protection against rain and snow. On average, the nests covered 0.9 m^2, and the material piled up in them was either dry or fresh.

The Eagle Owls' diet was ascertained on the basis of pellets, plucking posts and material gathered on nest shelves. For safety reasons, the material was collected in the autumn. During the diet analysis, 2392 prey units were established, with 322 g average weight per prey. Due to the great differences in the prey's weight, the shares represented by separate species in view of the entire abundance or biomass, varied a great deal.

The highest shares were the Edible Dormouse *Glis glis* (20.2%), Water Vole *Arvicola terrestris* (16.7%) and Field Vole *Microtus agrestis* (9.8%) while, in terms of entire biomass, the highest share went to the Eastern European Hedgehog *Erinaceus concolor* (26.6%), Edible Dormouse (9.4%) and representatives of the eagle family *Accipitridal* (8.4%). 19 different mammalian and 47 bird species were also registered and, to a minor extent, fishes, amphibians and insects. When comparing the diet between separate areas, the greatest diet niche overlap was established between the areas of Vipavsko and Karst (O = 0.86). The area of Notranjsko differed a great deal from them (O_1 = 0.54 and O_2 = 0.51), particularly in the higher share of voles Arvicolidae.

For 9 selected pairs, the analysis of hunting area was established through digital orthophotoshots at a scale of 1 : 5000. Nest-sites in the Notranjsko area had the highest share of forest. A negative correlation was established between the share of forest surfaces in the Eagle Owl's hunting area and the diet niche width (DNW); ($r = -0.874$, $p < 0.003$), and a positive link between the share of meadow surfaces and DNW ($r = 0.904$, $p < 0.001$).

The suitability of hunting surfaces was assessed with the so-called popularity index, which showed substantially greater suitability of non-forest surfaces than those covered by forests ($B_{forest} = 0.22$; $B_{non\text{-}forest} = 0.78$). Our conclusions were further substantiated by comparing indexes calculated on the basis of the weight shares of prey, which indicated that, in open areas, the Eagle Owl hunts for larger prey.

Iz ornitološke beležnice

From the ornithological notebook

Slovenija / Slovenia

Bobnarica *Botaurus stellaris*

Great Bittern – 1 individual observed on 20 Dec 2002 at Požeg reservoir (UTM WM44; NE Slovenia)

Zimska opazovanja bobnarice v Sloveniji so v obdobju popisovanj za Zimski ornitološki atlas veljala za redkost [Sovinc, A. (1994): Zimski ornitološki atlas Slovenije. – Tehniška založba Slovenije, Ljubljana]. Zadnja leta pa je bilo tudi v tem letnem času dokumentiranih več opazovanj [Reberc, P. (2000): Bobnarica *Botaurus stellaris*. – Acrocephalus 21 (102–103): 275; Szymanski, M. (2002): Bobnarica *Botaurus stellaris*. – Acrocephalus 23 (112): 99; Štumberger, B. (2002): Rezultati štetja vodnih ptic v januarju 2002 v Sloveniji. – Acrocephalus 23 (110–111): 43–47; Vaupotič, L. (2002): Bobnarica *Botaurus stellaris*. – Acrocephalus (110–111): 49; Božič, L. (2003): Bobnarica *Botaurus stellaris*. – Acrocephalus 24 (118): 109; Figelj, J. (2004): Bobnarica *Botaurus stellaris*. – Acrocephalus 25 (120): 33] iz različnih koncev Slovenije. Temu dodajam še lastno opazovanje z dne 20.12.2002, ko sem jo splašil iz kanala ob južnem robu zadrževalnika Požeg pri Račah.

Matjaž Kerček, Kungota pri Ptuju 44, SI-2325 Kidričevo, Slovenija, e-mail: matjazkercek@yahoo.com

Čapljica *Ixobrychus minutus*

Little Bittern – small artificial Hodoš Lake (UTM XM06) as a new breeding locality for three water species important from the conservation point of view: Little Bittern (1 singing male), Water Rail *Rallus aquaticus* (at least 2 breeding pairs), and Great Reed Warbler *Acrocephalus arundinaceus* (3 singing males). Other breeding waterbird species found at Hodoš Lake on 21 May 2004 were: Great Crested Grebe *Podiceps cristatus* (1 pair), Mute Swan *Cygnus olor* (1 pair), Mallard *Anas platyrhynchos* (5 pairs), Moorhen *Gallinula chloropus* (4 pairs), and Marsh Warbler *Acrocephalus palustris* (8 pairs).

Razglasitev Goričkega za območje IBA se vse bolj kaže kot zelo utemeljena odločitev, saj očitno ni pomembno le zavoljo vrst ekstenzivno obdelovane kulturne krajine, zaradi katerih je bilo razglašeno za IBA [Denac, D. (2000): Goričko. p.p. 173–182. V: Polak, S. (ed.): Mednarodno pomembna območja za ptice v Sloveniji. – Društvo za opazovanje in proučevanje ptic Slovenije – DOPPS, Ljubljana], pač pa tudi zaradi vodnih vrst. Dne 21.5.2004 sem v okviru projekta »Z vidro do čistejših voda« popisoval ptice Hodoškega jezera (UTM XM09). V ranem jutru sem na jezeru poslušal tri ptičje posebnosti: čapljico (1 samec je pel v gostem grmovju ob jezeru), mokoža *Rallus aquaticus* (ocenjujem, da na jezeru v gostem rogozišču gnezdita vsaj 2 para) in rakarja *Acrocephalus arundinaceus* (iz rogozišča se je razlegalo petje 3 samcev). Sodeč po ornitološkem atlasu Slovenije [Geister, I. (1995): Ornitološki atlas Slovenije. – DZS, Ljubljana] gre pri vseh treh vrstah za nove gnezdilne lokalitete. Vse tri vrste sodijo v kategorijo močno ogrožene vrste (E2) v Sloveniji [Jančar, T., Gregori, J., Mihelič, T., Štumberger, B., Vogrin, M. & Vrezec, A. (2001): Rdeči seznam ogroženih gnezdilk Slovenije. – Društvo za opazovanje in proučevanje ptic Slovenije (DOPPS – BirdLife Slovenia), Ljubljana]. Čapljica velja za vrsto SPEC 3, poleg tega pa je navedena tudi v Dodatku I. Ptičje direktive [Polak, S. (2000): Mednarodno pomembna območja za ptice v Sloveniji. – Društvo za opazovanje in proučevanje ptic Slovenije – DOPPS, Ljubljana]. Vse to daje sicer majhnemu jezeru antropogenega nastanka velik ornitološki pomen, ki bo ob ustreznem sonaravnem gospodarjenju še večji. Navsezadnje jezerce redno obiskuje vidra *Lutra lutra* (M. Hönigsfeld-Adamič *ustno*) in je redno prehranjevališče vodomca *Alcedo atthis*. V ekstenzivno obdelovani okolici so pogoste smrdokavre *Upupa epops*, pojavlja pa se celo zlatrovranka *Coracias garrulus* [Bedič, E. (2003): Zlatovranka *Coracias garrulus*. – Acrocephalus 24 (119): 151]. Tega dne sem ocenil še gnezdeče populacije nekaterih drugih vodnih ptic na Hodoškem jezeru: čopasti ponirek *Podiceps cristatus* (1 par), labod grbec *Cygnus olor* (1 par), mlakarica *Anas platyrhynchos* (5 parov), zelenonoga tukalica *Gallinula chloropus* (4 pari) in močvirska trstnica *Acrocephalus palustris* (8 parov).

Al Vrezec, Pražakova 11, SI-1000 Ljubljana, Slovenija, e-mail: al.vrezec@nib.si

Rjava čaplja *Ardea purpurea*

Purple Heron – 1 individual observed on 25 Apr 2004 at Fiesa lake (UTM UL84, SW Slovenia)

Dne 25.4.2004 sem obiskal jezerci v Fiesi. Večino časa sem opazoval želve rdečevratke *Trachemys scripta*, ki so se sončile na prav vseh nad vodo poleglih drevesnih deblih. Na enem izmed njih jim je družbo delala rjava čaplja. Aprilsko opazovanje te vrste ni sicer nič posebnega, prav veliko podatkov iz tega časa pa tudi nimamo.

Davorin Tome, Trnovska 8, SI-1000 Ljubljana, Slovenija, e-mail: davorin.tome@nib.si

Bela štorklja *Ciconia ciconia*

White Stork – 1 adult feeding on marshy grassland at Žlebič in the Kočevje–Ribnica area on 4 and 5 Jul 2004 (UTM VL76, S Slovenia)

Dne 4.7.2004 sva z Alom Vrezcem v Žlebiču pri Ribnici na Dolenjskem (500 m n.v.) opazovala belo štorkljo, ki je na močvirnem travniku ob reki Bistrici iskala hrano. Ptico sem na istem travniku videla tudi naslednji dan, 5.7. Glede na datum opazovanja bi štorklja utegnila v okolici Ribnice tudi gnezditi, a gnezda kljub iskanju nisem našla. Najbližja gnezdišča belih štorkelj so na Cerkniškem jezeru, Dolenjskem podolju in v Beli krajini [Geister, I. (1995): Ornitološki atlas Slovenije. – DZS, Ljubljana; Denac, D. (2001): Gnezditvena biologija, fenologija in razširjenost bele štorklje *Ciconia ciconia* v Sloveniji. – Acrocephalus 22 (106–107): 89–103; Kebe, L. (2004): Bela štorklja *Ciconia ciconia*. – Acrocephalus 25 (120): 33]. Štorklje kasneje nisem več videla.

Petra Vrh, Grič C. IX/1, SI-1310 Ribnica, Slovenija, e-mail: petravrh@yahoo.com

Žličarka *Platalea leucorodia*

Eurasian Spoonbill – first wintering and second winter record in Slovenia; one 2nd year ind. observed at Medvedce reservoir (UTM WM53, NE Slovenia) between 20 Nov 2002 and 3 Jan 2003

V novembru je zadrževalnik Medvedce v primerjavi s siceršnjo pestrostjo in številčnostjo ptic bolj ali manj prazen. Po mlakah stikajo za preostalimi ribami velike bele *Egretta alba* in sive čaplje *Ardea cinerea* ter rečni *Larus ridibundus* in rumenonogi galebi *L. cachinnans*. Dne 20.11.2002 sem med skupino sivih čapelj opazil drugoletno žličarko. Ptico sem tu opazoval še ob vseh mojih naslednjih obiskih, zadnjič 3.1.2003. Doslej je bilo znano le eno zimsko pojavljanje žličarke v Sloveniji [Sovinc, A. (1994): Zimski ornitolški atlas Slovenije. – Tehniška založba Slovenije, Ljubljana], tokrat pa je prvič tudi prezimovala. Opazovanje ni presenetljivo, saj na Hrvaškem, na območju med Dravo in Savo, prezimujejo skupine do 120 osebkov. Žličarke uporabljajo ribnike kot prehranjevališča po koncu gnezdilne sezone, vsaka lokaliteta pa zagotavlja optimalne prehranjevalne razmere le krajši čas [Schneider-Jacoby M., Mikuska, T., Kovačić, D., Mikuska, J., Šetina, M. & Tadić, Z. (2002): Dispersal by accident – the Spoonbill *Platalea leucordia* population in Croatia. – Acrocephalus 22 (109): 191–206].

Matjaž Kerček, Kungota pri Ptuju 44, SI-2325 Kidričevo, Slovenija, e-mail: matjazkercek@yahoo.com

Čopasta črnica *Aythya fuligula*

Tufted Duck – five females with 5, 4, 3, 8 and 5 downy ducklings on 15 Jul 2004 at Studenčnica along Ptujsko jezero (UTM WM64, NE Slovenia)

Na kanalu hitrega potoka Studenčnica, ki teče tik ob jezu Ptujskega jezera, sem 15.7.2004 opazoval pet samic čopaste črnice z mladiči. Prva jih je vodila 5, druga 4, tretja 3, četrta 8 in peta 5. Sicer je bilo nedaleč stran, na otoku Ptujskega jezera, leta 1980 najdeno prvo gnezdo čopaste črnice v Sloveniji [Geister, I. (1995): Ornitološki atlas Slovenije. – DZS, Ljubljana].

Davorin Tome, Trnovska 8, SI-1000 Ljubljana, Slovenija, e-mail: davorin.tome@nib.si

Tatarska žvižgavka *Netta rufina*

Red-crested Pochard – pair observed on 16 Apr 2004 at Ljubljansko barje near Bevke (UTM VL49, central Slovenia)

Po obilnem deževju je bilo Ljubljansko barje 16.4.2004 ponovno polno rac. Na poplavljenih travnikih južno od Bevk sem med številnimi mlakaricami *Anas platyrhynchos*, okoli 100 regljami *Anas querquedula* in 30 kreheljci *Anas crecca* opazoval tudi par tatarskih žvižgavk. Vrsta je bila do sedaj na Barju opazovana le dvakrat. Tudi tako velika jata kreheljcev v pomladanskem času na Barju ni ravno običajen prizor. Kreheljc je namreč tu precej bolj pogost med jesensko selitvijo.

Davorin Tome, Trnovska 8, SI-1000 Ljubljana, Slovenija, e-mail: davorin.tome@nib.si

Beloglavi jastreb *Gyps fulvus*

Griffon Vulture – observation of 2 individuals on 19 Jul 2004 above V. Razbor near Mt. Snežnik (UTM VL54, SW Slovenia)

Dne 19.7.2004 sem se sprehajal po kraških travnikih nad Zabičami, jugozahodno od Snežnika. Okoli poldneva sem nad vrhom V. Razborja (1290 m n.v.) opazil par beloglavih jastrebov. Ptici sta nekaj časa krožili, nato pa odjadrali v smeri proti jugovzhodu. Nekaj ur kasneje sem na istem mestu opazil še enega beloglavega jastreba, morda enega izmed prejšnjih dveh. Že prej sem prav tako na vrhu V. Razborja opazoval par postovk *Falco tinnunculus*, ki sta se lovili v zraku. Pas kraških travnikov, kjer sta bila opažena jastreba, se proti severozahodu nadaljuje proti Volovji rebri in dalje prek Knežaka in Pivke proti Nanosu in Vremščici in je morda eden izmed koridorjev za selitev te vrste. O opažanjih na območju Snežnika in Vremščice je poročal že Genero [Genero, F. (1995): La presenza del grifone (*Gyps fulvus*) sulle Alpi Giulie. – Annales 7: 95–102], ki pa predvideva, da glavna smer premikov poteka bolj proti zahodu prek Trnovskega gozda, Tržaške province in Kraškega roba.

Miha Krofel, Zavrh pri Borovnici 2, SI-1353 Borovnica, Slovenija, e-mail: lynx_mk@hotmail.com

Srednji detel *Dendrocopos medius*

Middle Spotted Woodpecker – new breeding locality in SW Slovenia, where it is considered a very scarce breeder. 2 territorial males found in Durmast Oak *Quercus petraea* montane forest along a 2 km transect on 1 Jun 2003 on Mt. Brdo near Senožeče (UTM VL26).

Čeprav velja srednji detel za specialista za stare hrastove gozdove [Purroy, F.J. & Schepers, F.J. (1997): Middle Spotted Woodpecker *Dendrocopos medius*. p.p. 452–453 V: Hagemeijer, W.J.H. & Blair, M.J. (eds.): The EBCC Atlas of European Breeding Birds. – T & AD Poyser, London], je v JZ Sloveniji presenetljivo redek z le enim opazovanjem v gnezditvenem obdobju [Geister, I. (1995): Ornitološki atlas Slovenije. – DZS, Ljubljana], navkljub dokaj obsežnim gozdovom puhastega hrasta *Quercus pubescens*. Razlog je verjetno v deležu debeljakov, ki so srednjemu detlu ljubši [Božič, L. (2002): Primerjava združb in nekaterih populacijskih parametrov ptic v izbranih tipih nižinskih gozdov. – Dipl. delo, BF, Oddelek za biologijo, Ljubljana], teh pa v omenjenih gozdovih ni veliko. Primernejši so gozdovi gradna *Quercus petraea*, saj gradnova drevesa dosežejo precej večje višine in širine kot drevesa puhastega hrasta. V enem takih gozdov sem 1.6.2003 popisoval ptice v okviru popisov za Novi ornitološki atlas gnezdilk, in sicer na hribu Brdo (UTM VL26) nedaleč od viadukta Bandera blizu Senožeč. Hrib pokriva obsežen gradnov gozd, poleg tega pa je v gozdu v večjem številu najti tudi bukev *Fagus sylvatica* in borova drevesa *Pinus* sp. Tega dne sem na dvokilometrskem transektu slišal kar 2 teritorialna samca srednjega detla. Da pa je omenjeni gozd razmeroma dobro ohranjen, dokazuje tudi pestra paleta drugih plezalcev, saj sem na istem transektu v dveh popisih (26.4. in 1.6.2003) našel teritorije 2 pivk *Picus canus*, 1 zelene žolne *P. viridis*, 2 črnih žoln *Dryocopus martius*, 2 velikih *Dendrocopos major* in 2 malih detlov *D. minor*. Gradnovi gozdovi na Primorskem so očitno precej bogato okolje, čeprav so ornitološko slabo poznani. Morda srednji detel, sicer pretežno nižinska vrsta v V Sloveniji, na Primorskem v montanskih hrastovih gozdovih le ni tako redek, kot smo domnevali doslej.

Al Vrezec, Pražakova 11, SI-1000 Ljubljana, Slovenija, e-mail: al.vrezec@nib.si

Mestna lastovka *Delichon urbica*

House Martin – nesting colony under the bridge at Nova vas pri Markovcih (UTM WM73, NE Slovenia) in 2004 with about the same number of breeding pairs as 20 years earlier (more than 100), and a colony of 30 nests under a water slide at Čateške toplice (UTM WL48, E Slovenia)

V 25. številki Acrocephalusa je Franci Janžekovič poročal o neobičajni, več kot 100 parov veliki koloniji mestnih lastovk na betonskem mostu čez kanal HE Formin [Janžekovič, F. (1985): Mestna lastovka *Delichon urbica*. – Acrocephalus 6 (25): 49–50]. V zapisu se je spraševal, ali je takšna koncentracija lastovk na enem mestu pogost pojav. Na njegovo vprašanje nimam odgovora, sem pa 27.5.2004 opazil, da je kolonija pod mostom še vedno približno tako velika kot pred 20 leti. Na območju kopališča v Čateških toplicah pa sem 24.7.2004 opazoval morda še bolj nenavadno gnezdišče te vrste. Kakih 30 gnezd (aktivno je bilo samo še eno) je bilo pripetih na spodnjo stran kovinske ploščadi stopnišča vodnih toboganov. Na ploščadi se je trlo zabave željnih ljudi, zdi pa se mi, da nihče ni opazil družinskega življenja lastovke, ki je potekalo le nekaj centimetrov pod njihovimi podplati.

Davorin Tome, Trnovska 8, SI-1000 Ljubljana, Slovenija, e-mail: davorin.tome@nib.si

Šmarnica *Phoenicurus ochruros*

Black Redstart – observation of unusually coloured singing male on 9 May 2002 at Ptujska gora (UTM WM53, Dravinjske gorice, NE Slovenia). The male had red belly and black breast. The author suspects that the bird could belong to the Central Asian subspecies *P. o. phoenicuroides* or that it could possibly be a hybrid between Redstart *Phoenicurus phoenicurus* and Black Redstart. (Colour appendix – Figure 2)

Na Ptujski gori v Dravinjskih goricah sem dne 9.5.2002 opazoval nenavadnega samca šmarnice. Čeprav je prihajalo s slemena hiše značilno šmarničino petje, se mi je zdelo, da gledam pogorelčka. Ptica je imela namreč oranžen trebuh! Prsi in glavo je imela črne, teme in hrbet pa siv (barvna priloga – slika 2). Meja med oranžnim trebuhom in črnimi prsmi ni bila ostra. V primerjavi s šmarnico podvrste *gibraltariensis*, ki gnezdi pri nas, ji je manjkalo tudi belo zrcalce v perutih. Od pogorelčka se je razlikovala po večjem obsegu črnine, ki je segala tudi na prsi, manjkalo ji je tudi njegovo belo čelo. Ptujsko goro sem v maju in juniju obiskal še večkrat. Samec nenavadne šmarnice je bil ob vsakem obisku na istem mestu. Spreletaval se je med dvema sosednjima hišama in žico električne napeljave. Naredil sem tudi več posnetkov te zanimive ptice. Podoba šmarnice se ni ujemala z nobeno v meni dostopnih priročnikih. Zadeva se je nekoliko razjasnila, hkrati pa tudi nekoliko zapletla, ko sem od Franca Bračka dobil obsežen članek o šmarnici. Po obarvanosti bi lahko bil namreč opazovani osebek hibrid med pogorelčkom in šmarnico, ki pa ga v naravi ni moč zanesljivo razlikovati od podvrste *phoenicuroides.* Podvrsta *phoenicuroides* gnezdi v osrednji Aziji, prezimuje pa v Indiji, Arabiji in severovzhodni Afriki. Domnevajo, da se v zadnjem času pojavlja tudi v Evropi. Po drugi strani obstaja tudi vrsta dokumentiranih opazovanj mešanih parov pogorelčkov *Phoenicurus phoenicurus* in šmarnic, ki sta sestrski vrsti. Hibridi so plodni! Hibride so opazovali tudi v Nemčiji, Švici in Avstriji. Mešani pari so pogostejši tam, kjer sta obe vrsti nesorazmerno številčni in pogosteje prihaja do pomanjkanja partnerjev. V srednji Evropi je zaradi upada številčnosti pogorelčkov računati z vse številnejšimi opažanji hibridov [Nicolai, B., Schmidt, C. & Schmidt, F.U. (1996): Gefiedermerkmale, Masse und Alterskennzeichen des Hausrotschwantzes *Phoenicurus ochruros*. – Limicola 10 (1): 1–41]. Vprašanje, ali je opazovano šmarnico po spletu okoliščin naplavilo v naše kraje iz daljne osrednje Azije ali gre »zgolj« za hibrida, pa ostaja še vedno odprto.

Matjaž Kerček, Kungota pri Ptuju 44, SI-2325 Kidričevo, Slovenija, e-mail: matjazkercek@yahoo.com

Rečni cvrčalec *Locustella fluviatillis*

River Warbler – singing male on 21 May 2004 near Gornji Petrovci (UTM WM98, Goričko, NE Slovenia)

Dne 21.5.2004 sem pri Gornjih Petrovcih na Goričkem (UTM WM98) poslušal petje rečnega cvrčalca. Gre za novo gnezdilno lokaliteto, saj ga Ornitološki atlas Slovenije za območje Goričkega ne omenja [Geister, I. (1995): Ornitološki atlas Slovenije. – DZS, Ljubljana], v knjigi o mednarodno pomembnih območjih za ptice pa je naveden le za okolico Ledavskega jezera [Denac, D. (2000): Goričko. p.p. 173–182. V: Polak, S. (ed.): Mednarodno pomembna območja za ptice v Sloveniji. – Društvo za opazovanje in proučevanje ptic Slovenije – DOPPS, Ljubljana].

Al Vrezec, Pražakova 11, SI-1000 Ljubljana, Slovenija, e-mail: al.vrezec@nib.si

Rjavoglavi srakoper *Lanius senator*

Woodchat Shrike – 1 singing male on 17 May 2003 in the area of Veliki kras (UTM VL14, SW Slovenia)

Dne 17.5.2003 sem iskal rjave cipe na Podgorskem krasu. Čeprav nisem našel nobene, sem užival ob petju dokaj številnih vrtnih strnadov *Emberiza hortulana*. Ko sem prečkal železnico na območju imenovanem Veliki kras, slaba 2 kilometra vzhodno od vasi Črnotiče, sem zaslišal petje srakoperja. Ker rjavi srakoper poje dokaj poredko in me zato njegovo petje večkrat zmede, sem si silhueto ogledal še skozi daljnogled. Na moje izredno veselje je na žici sedel samec rjavoglavega srakoperja. Po le nekaj trenutkih opazovanja se je vanj zapodil drug srakoper, od katerega pa sem ujel samo obris in ga pregnal z žice. Popoldne istega dne je to mesto obiskal Dare Fekonja in tudi on je opazoval rjavoglavega srakoperja. Kasnejša preverjanja na tej lokaliteti pa žal niso več obrodila sadov, tako da bomo morali na morebitno ponovno gnezditev te domnevno izumrle gnezdilke v Sloveniji [Jančar, T., Gregori, J., Mihelič, T., Štumberger, B., Vogrin, M. & Vrezec, A. (2001): Rdeči seznam ogroženih gnezdilk Slovenije. – DOPPS, Ljubljana] še počakati.

Matjaž Kerček, Kungota pri Ptuju 44, SI-2325 Kidričevo, Slovenija, e-mail: matjazkercek@yahoo.com

Črnoglavi strnad *Emberiza melanocephala*

Black-headed Bunting – observation of a male near the village of Kreplje near Sežana (UTM VL06, SW Slovenia) on 18 May 2003

Dne 18.5.2003 sem skupaj s Primožem Bizjanom in Darkom Zdešarjem popisoval ptice v okolici Sežane. Med zanimivejšimi opazovanji velja izpostaviti par kačarjev *Circaetus gallicus*, ki je krožil nad kamnolomom Veliki Medvedjak. Ko se je dan že prevesil prek poldneva, smo se odločili, da napravimo še krajši postanek pri vasi Kreplje. Kmalu zatem, ko smo parkirali, sem zagledal strnada, ki je zletel iz bližnje mejice. Strnad se je usedel na vrh drevesa ob robu vasi. Bil je samec črnoglavega strnada. Glede na datum gnezditev ni izključena, kar je zanimivo predvsem zaradi dejstva, da črnoglavi strnad velja v Sloveniji za izginulo gnezdilko [Geister, I. (1998): Ali ptice res izginjajo? – DOPPS, Tehniška založba Slovenije, Ljubljana].

Matjaž Kerček, Kungota pri Ptuju 44, 2325 Kidričevo, Slovenija, e-mail: matjazkercek@yahoo.com

Hrvaška / Croatia

Mute Swan *Cygnus olor*

Labod grbec – najjužnejše gnezdišče na Hrvaškem; na območju reke Krke pri Skradinu (UTM WJ75, S Dalmacija) je par prvič gnezdil v letu 2002 v trstičju med Skradinskim bukom in Skradinom. V gnezdu je bilo 8 jajc, iz katerih se je izvalilo 8 mladičev. V letu 2003 se je iz 8 jajc izvalilo 6 mladičev, v letu 2004 pa iz 9 jajc prav toliko mladičev.

According to the observations made by Ivica Sušić from Skradin, a pair of Mute Swans bred for the first time in the area of the Krka River near Skradin in 2002. The Mute Swan is a relatively new breeding species in Croatia, considering that its breeding was recorded for the first time as late as in 1990 in the Croatian part of Lake Ormož [Lesinger, A. (1994): Mute Swans, *Cygnus olor*, in the Međimurje region in Croatia. – Troglodytes 7: 69]. Since then it has had the status of a regular breeding species with increasing number of nesting pairs by expanding into suitable habitats towards the Croatian east and the south reaching the Kupa and Sava rivers. In 2002, the nest containing six eggs was located in reeds on the left bank of the Krka River halfway from Skradinski buk to Skradin. In the same year, five young were hatched and fledged. Most probably the same couple nested in 2003, when eight chicks hatched from eight eggs, though only six survived, and in 2004, when nine young hatched from nine eggs and eight survived. This particular family was observed several times at different parts of the Krka River around Skradin between 2 and 10 May 2004. The pair winters on the Krka River and is fed by the locals. The young birds do not spend the winter there. This is the southernmost nesting area of Mute Swans in Croatia.

Jasmina Mužinić, The Institute of Ornithology at the Croatian Academy of Sciences and Arts (HAZU), Gundulićeva 24, 10000 Zagreb, Croatia, e-mail: jasmina@hazu.hr

Beloglavi jastreb *Gyps fulvus*

Griffon Vulture – 2 individuals observed on 3 Apr 2004 while flying very low over bare karst Žbevnica hill (1014 m a.s.l., UTM VL23, W Croatia)

Dne 3.4.2004 sem se potikal po zgornjem Kraškem robu. Ker je bilo do večera, ko sem imel namen prisluhniti teritorialnemu oglašanju velike uharice, še kar nekaj časa, sem jo mahnil pod Žbevnico (1014 m n.v.), ki je nekakšno logično hrvaško nadaljevanje slovenske Lipniške planote. Ker terena ne poznam najbolje, sem si ga najprej skušal ogledati z razglednih travišč. Kmalu sem opazil dva beloglava jastreba, ki sta letela vzporedno z golim grebenom, kakih 50 metrov nad pobočjem. Opazoval sem ju kak kilometer in pri tem nista niti enkrat zamahnila s perutmi. Razdalja med njima je bila manj kot 100 m. Še preden sta izginila iz mojega zornega kota, sem odhitel nazaj v Slovenijo, saj nisem želel zamuditi pričakovanih uharic.

Tomaž Mihelič, Št. Jurij 125, SI-1290 Grosuplje, Slovenija, e-mail: tomaz.mihelic@dopps-drustvo.si

Mali klinkač *Aquila pomarina*

Lesser Spotted Eagle – first record for Pelješac Peninsula; 1 individual observed on autumn migration towards the south at the village of Kuna (UTM XH95, S Dalmatia)

Dremavi dolgčas sem si dopoldne 12.9.2002 v idilični južnodalmatinski vasici Kuna na sredini polotoka Pelješac preganjal z opazovanjem črnoglavk *Sylvia atricapilla* in vrtnih penic *Sylvia borin*, ki so izmenjaje polnile veje z bršljanom *Hedera helix* zaraščenega mandlja *Prunus amygdalus*, stoječega ob hiši na robu vasi. Da se je jesenska selitev že dodobra razmahnila, so poleg omenjenih penic pričale še posamične ujede,

ki so v približno polurnih presledkih drsele po nebu nad Kuno. Ob 10.00 uri je v smeri SV–JZ priplaval osamljen sršenar *Pernis apivorus*, sledila sta mu dva kačarja *Circaetus gallicus*, sicer lokalna gnezdilca, nato pa ob 11.15 uri še enakomerno temnorjava srednje velika ujeda z značilno kratkim repom. Bil je mali klinkač. Opazovanje je prvo za Pelješac, pa tudi drugod po obali je vrsta redka, tudi v času selitve [Kralj, J. (1997): Ornitofauna Hrvatske tijekom posljednjih dvjesto godina. – Larus 46: 1–112]. Ta dan je lokalni dopoldanski prelet ujed proti jugu ob 12.30 sklenila stepska kanja *Buteo buteo vulpinus*.

Borut Rubinić, DOPPS-BirdLife Slovenia, Tržaška 2, p.p. 2990, SI-1000 Ljubljana, Slovenija, e-mail: borut.rubinic@dopps-drustvo.si

Sredozemski sokol *Falco eleonorae*

Eleonora's Falcon – 1 adult observed while unsuccessfully attacking a Spanish Sparrow *Passer hispaniolensis* colony on 8 Jul 2004 at Kolan marshes on Pag island (UTM WJ08, N Dalmatia)

Zadnja poletja je že pravilo, da z družino letujemo na Pagu. Tja nas vsako leto zvabi osamljeni kamp v majhnem borovem gozdičku na robu Kolanskega blata, obdan s paško kulturno pustinjo. Po letu 2002 se je v gozdičku ustalila kolonija travniških vrabcev *Passer hispaniolensis*. In ravno vrabci so me s svarilnimi klici 8.7.2004 opozorili na ujedo, krožečo nad gozdom. Njeno oglašanje je bilo nekaj med oglašanjem sokola selca in škrjančarja. Ko sem pritekel iz gozdička, sem ptico takoj prepoznal. Bil je odrasel sredozemski sokol, ki je nizko preletaval borove krošnje, v katerih so čepeli vrabci. Pripadal je svetli različici. Sredozemski sokol se očitno na otoku Pagu pojavlja dokaj redno in tam morda celo gnezdi [Denac, D. & Denac, K. (2002): Sredozemski sokol *Falco eleonorae*. – Acrocephalus 23 (112): 104].

Tomaž Mihelič, Št. Jurij 125, SI-1290 Grosuplje, Slovenija, e-mail: tomaz.mihelic@dopps-drustvo.si

Rdeča lastovka *Hirundo daurica*

Red-rumped Swallow – three breeding localities on Pelješac Peninsula (S Dalmatia): (1) Potomje (UTM XH95), 2 nests under a bridge in 2002, one in 2004; (2) Sreser (UTM XH95), one individual collecting mud in a puddle; (3) Praprotno (UTM YH14), one nest under a bridge. It seems that Red-rumped Swallows select open areas, and avoid very closed valleys surrounded by steep cliffs.

Kot gnezdilko južne Dalmacije je rdečo lastovko našel že D. Rucner [Rucner, D. (1998): Ptice hrvatske obale Jadrana. – Hrvatski prirodoslovni muzej, Ministarstvo razvitka i obnove, Zagreb], a je za polotok Pelješac ne omenja. Podatke o pojavljanju in gnezdenju rdeče lastovke na Pelješcu smo zbirali med letoma 2002 in 2004. Gnezdenje in gnezditveno vedenje smo registrirali na treh lokacijah. Pri naselju Potomje (UTM XH95) rdeča lastovka redno gnezdi pod starim mostom. Dne 4.5.2002 sta bili pod mostom najdeni kar dve gnezdi, v preostalih letih pa le po eno, nazadnje 11.6.2004. V naselju Sreser (UTM XH95) gnezdo sicer ni bilo najdeno, a je bila rdeča lastovka tu redno opazovana pri nabiranju blata ob luži tik ob morju, 3.5.2002 in 9.6.2004, ko je blato nabirala v družbi mestnih *Delichon urbica* in kmečkih lastovk *Hirundo rustica*. Tretje gnezdo je bilo najdeno blizu glavne pelješke ceste pod mostom pri naselju Praprotno (UTM YH14) dne 13.6.2004. Skupno vsem trem gnezdiščem je bilo, da so bila v razmeroma odprti krajini. Za primerjavo naj navedem, da smo v letu 2004 sistematično pregledali vse mostove med Oskorušnim in Trpnjem, a gnezd rdečih lastovk tam nismo našli. Verjeten razlog je neustrezen okoliški biotop, ki je tu precej zaprta, senčna in s strmimi stenami obdana dolina. Kljub temu verjetno posamezni pari gnezdijo tudi drugod po Pelješcu.

Al Vrezec, Pražakova 11, SI-1000 Ljubljana, Slovenija, e-mail: al.vrezec@nib.si

Srbija (Srbija in Črna gora) / Serbia (Serbia & Montenegro)

Little Tern *Sterna albifrons*

Mala čigra – možno gnezdenje na manjšem otočku opuščenega ribnika v kompleksu ribnikov pri Baču (UTM CR53, JZ Bačka, Vojvodina). Dne 12.6.2004 je par svatoval nad ribnikom. Mala čigra je sicer izjemno redka gnezdilka Vojvodine, zadnje gnezdenje pa je bilo potrjeno leta 1969 v Perleski bari.

On 12 Jun 2004, two noisy Little Terns were observed at a fishpond near Bač (UTM CR53) during their intensive aerial courtship, with one of them (most probably male) carrying a caught fish in its bill. The only niche with suitable conditions for possible breeding was on the small bare island in the middle of a half-emptied pond, situated in the most distant part of this huge fishpond system in SW Bačka, Vojvodina. The islet was low, reaching just a few centimetres above the water level. The place was very remote, and almost unreachable by humans; the

fishpond keepers did not control that pond, since there was no fish stock present. For that reason, the road that approaches the pond was totally overgrown by reeds, and the pond itself was surrounded by a reed belt. During my inspection of the islet from the bank, I did not record any defensive behaviour by the Little Tern pair, although both birds continued mating above the nearby pond. From the islet I heard the characteristic Little Ringed Plover *Charadrius dubius* calls, probably uttered by a pair breeding there. Although the Little Tern breeds most often in small colonies, it can also nest solitarily [Cramp, S. (1998): The complete birds of the Western Palearctic on CD-ROM. – Oxford University Press, Oxford]. This species is a very rare and sporadic breeder in Vojvodina [Ham, I. (1977): Avifaunal dynamism in Vojvodina. – Arhiv bioloških nauka 29 (1/2): 83–87], and it is even very rare during migration. Actually, the last data that confirmed its breeding comes from Perleska bara (swampy depression situated on the left bank of the river Begej), where 7 – 8 pairs bred in 1969 in man-made habitat [Dimitrijević, S. (1977): Šljukarice (*Charadriiformes*) na području Vojvodine. – Larus 29/30: 5–32]. During my field trip to Bač fishpond on that day I observed 44 species, including 9 White–tailed Eagles *Haliaeetus albicilla* (2 adults), 2 Eurasian Spoonbills *Platalea leucorodia*, 2 calling Bitterns *Botaurus stellaris*, 45 Little Egrets *Egretta garzetta*, breeding pair of Mute Swan *Cygnus olor* with 3 chicks, numerous Great Crested Grebes *Podiceps cristatus* and Ferruginous Ducks *Aythya nyroca*.

Marko Tucakov, Marka Oreškovića 9, 25275 Bački Breg, Serbia and Montenegro, e-mail: mtucakov@eunet.yu

Wood Pigeon *Columba palumbus*

Grivar – gnezdo na okenski polici stavbe v vasi Kruševlje (SZ Bačka, Vojvodina, UTM CR58) najdeno 4.5.2001

On 4 May 2001, an active nest with incubating individual was observed on the window-ledge of a building temporarily used as a garage for agricultural machines in the small village of Kruševlje (NW Bačka, Vojvodina, UTM CR58). It was my first observation of Wood Pigeon breeding on a building, a rare occurrence elsewhere as well [Cramp, S. (1998): The complete birds of the Western Palearctic on CD-ROM. – Oxford University Press, Oxford].

Marko Tucakov, Marka Oreškovića 9, 25275 Bački Breg, Serbia and Montenegro, e-mail: mtucakov@eunet.yu

European Roller *Coracias garrulus*

Zlatovranka – dve opazovanji iz gnezditvenega obdobja v letu 2004 iz Banata (V Vojvodina): (1) 1.6.2004 opazovana med svatbenim letom med mostom čez Tiso in Novim Bečejem (UTM DR34), (2) 24.6. opazovana med vasema Novi Kozjak in Ilandža (V Banat, UTM DR90). Sistematičnih raziskav zlatovranke v vojvodinskem delu Banata še ni bilo, izpostavljena po so že bila tri pomembnejša gnezditvena območja: (1) Potisje, (2) Deliblatska peščara in (3) nižavje med Deliblatsko peščaro in mejo z Romunijo.

In 2004, two Rollers were observed during the breeding season in Banat (E Vojvodina). Both were sitting on wires of high-voltage electric system. One was seen on 1 Jun in explicit display and foraging flight, next to the road, between the bridge over the Tisa river at Bečej and the place where local Bečej-Novi Bečej road bifurcates towards Kumane and Novi Bečej, respectively (UTM DR34). The habitat at the display site was semi intensively cultivated arable land, with small saline meadows and wetlands. The entire area was covered by small groups of old trees, mainly White Poplar *Populus alba*. I presumed that the breeding niche was situated in one of them. The second bird was observed on 24 Jul in E Banat, between the villages of Novi Kozjak and Ilandža (UTM DR90). Arable land predominated in the immediate vicinity, with fragmented grazed saline meadows between cultivated fields. In the vicinity was a group of old poplars *Populus* sp. Although a systematic census of breeding pairs of Roller in the Vojvodinian part of Banat is yet to be carried out, the current research has determined at least three areas of importance for its breeding: (1) Potisje, alluvial and forest-steppe habitats along the left bank of the Tisa river [Matović, Č. & Sekereš, O. (2002): Census of breeding pairs of Roller in northeastern Bačka and northern Banat. – Ciconia 11: 146–148], (2) Deliblato sands with its slopes, and (3) the flat area situated between the eastern edge of Deliblato sands and the Romanian border [Purger, J.J. (1998): Observations of Roller (*Coracias garrulus*) during breeding period in Banat. – Ciconia 7: 115–116]. There are no breeding pairs in the lower Tamiš valley (habitats along both banks of 117 km of the river passing through Vojvodina, from Jaša Tomić to Pančevo), where intensive research took place in 2004.

Marko Tucakov, Marka Oreškovića 9, 25275 Bački Breg, Serbia and Montenegro, e-mail: mtucakov@eunet.yu
Robert MacCurrach, Vinogradska 30, 21131 Petrovaradin, Serbia and Montenegro, e-mail: rob@eunet.yu
Marko Šćiban, Bate Brkića 18, 21000 Novi Sad, Serbia and Montenegro, e-mail: sciban@eunet.yu

Hooded Crow *Corvus corone cornix*

Siva vrana – gnezdo s tremi mladiči in enim klopotcem v starem tanku sredi vojaškega vadbenega polja ob mrtvici reke Tamiš blizu vasi Čenta (osrednji Banat, Vojvodina, UTM DQ59) najdeno 9.5.2004 (foto: B. Erg)

One of the most spacious saline meadows along the lower Tamiš river is situated near the village of Čenta (central Banat, Vojvodina, UTM DQ59). It is treeless, covered by meadow vegetation, and used in some parts as a pasture. The entire meadow is surrounded by former Tamiš oxbow, which is now semi-extensively managed carp fishpond. The meadow still serves as a military shooting ground. Numerous craters, up to several meters deep, filled with water and emergent vegetation, are one of the most interesting features of the habitat. However, in the most distant part of the meadow, four old tanks were abandoned years ago. During our inspections of the tanks on 9 May 2004 we found an active nest of Hooded Crow pair with three chicks and one infertile egg. The nest was situated 2 meters above the ground. This species is well adapted to breeding on various nest sites, including human artifacts [Cramp, S. (1998): The complete birds of the Western Palearctic on CD-ROM. – Oxford University Press, Oxford]. The solitary tank was the only place elevated from the ground in the area, otherwise very rich in food, where it could found suitable breeding site. Other species breeding in the same meadow and observed on that day include Skylark *Alauda arvensis*, Crested Lark *Galerida cristata*, Yellow Wagtail *Motacilla flava*, Corn Bunting *Miliaria calandra*, as well as Northern Weather *Oenanthe oenanthe*: two territorial males were observed on that day, probably having their nests in the crevices of dry soil around the craters.

Marko Tucakov, Marka Oreškovića 9, 25275 Bački Breg, Serbia and Montenegro, e-mail: mtucakov@eunet.yu
Boris Erg, Institute for the Nature Conservation of Serbia – Department in Novi Sad, Radnička 20A, 21000 Novi Sad, Serbia and Montenegro, e-mail: berg@eunet.yu

Spanish Sparrow *Passer hispaniolensis*

Travniški vrabec – teritorialni samec opazovan na Kaćkem mostu prek Malega Bačkega kanala v predmestju Novega Sada (Vojvodina, UTM DR11) 17.7.2002 ter 13. in 15.8.2004. Na mostu gnezdi 50 do 70 parov mestnih lastovk *Delichon urbica* in leta 2004 so domači vrabci *Passer domesticus* gnezdili v 3 do 5 izmed 116 gnezd mestne lastovke. Samec travniškega vrabca je sicer obiskoval eno izmed gnezd, vendar gnezditev ni bila zanesljivo potrjena.

A Spanish Sparrow male was observed early in the morning of 17 Jul 2003 on Kaćki bridge over the Mali Bački channel (UTM DR11) on the outskirts of Novi Sad. In the scrub situated in the immediate vicinity, a House Sparrow *Passer domesticus* male was also observed. The Spanish Sparrow, which spent most of the time on the bridge, was observed for more than 15 minutes. It could possibly breed in one of the nests of House Martin *Delichon urbica*, whose large colony (50 – 70 pairs) occupies the construction of the bridge. Several pairs of House Sparrows bred there, but I saw no sign of territorial behaviour by the Spanish Sparrow. A similar nest niche was recorded in the suburban area at Bizeljsko (E Slovenia), where an adult territorial male was recorded filling up a House Martin's nest with nest material, although breeding was not confirmed [Vrezec, A. & Štumberger, B. (2000): The first territorial Spanish Sparrows *Passer hispaniolensis* in Slovenia. – Acrocephalus 21 (100): 161–163]. Having in mind the fact that there had been no breeding records of this species after its first confirmed breeding in Vojvodina at Titel loess plateau in 1973 [Šoti, J. (1973): Der Weidensperling, *Passer hispaniolensis*, eine neue Vogelart in der Vojvodina. – Zbornik Matice srpske za prirodne nauke 45: 155–159], I believe that this could be just a temporary breeding site. However, I observed another male on the same bridge on 13 Aug 2004. Additionally, two House Sparrow males and three females were observed flying into the nests with food for the young, whose calling could be well heard from the nests. Of the 116 House Martin's nests (just a few of them still active; adults feeding second clutch chicks), only 3 – 5 were inhabited by sparrow pairs. During some 30 minutes of the afternoon observation I did not see the Spanish Sparrow flying into the nest, but I heard its alarm

call and observed its territorial behaviour. Robert MacCurrach observed a male Spanish Sparrow on 15 Aug 2004 at the same site. It flew into a damaged House Martin's nest with enlarged entry hole; it did not appear to be feeding the young, but engaged in apparently vociferous social activity. It was not clear whether the female or young were in attendance, although there were a number of House Sparrows still carrying food for the young in other old House Martins' nests. The surrounding habitat was a channel enclosed by high embankments. At the base of the bridge, ruderal herbaceous plants grew as well as stands of Hawthorn *Prunus spinosa* and a bush of Mulberry *Morus* sp. On the opposite side of the channel's embankment there is a shallow marsh covered by Reed *Phragmites communis* and White Willows *Salix alba*. Although the phenomenon of fast spreading of the Spanish Sparrow's breeding range towards the north took place in Serbia till 1973 [Matvejev, S. (1976): Pregled faune ptica Balkanskog poluostrva. – Srpska akademija nauka i umetnosti, Beograd], it seems that since then Spanish Sparrow still follows the same line of spreading (the Danube valley), except that the process of spreading has slowed down a great deal. Namely, the described locality is situated some 30 km upstream on the Danube from the last breeding record at the foot of Titelski loess plateau, but this is the only record of possible breeding after 20 years.

Marko Tucakov, Marka Oreškovića 9, 25275 Bački Breg, Serbia and Montenegro, e-mail: mtucakov@eunet.yu

Črna gora (Srbija in Črna gora) / Montenegro (Serbia & Montenegro)

Greater Flamingo *Phoenicopterus ruber*

Plamenec – več nedavnih opazovanj v Ulcinjskih solinah (41°55'N, 19°18'E; JV Črna gora): (1) 14.7.2000, 1 os., bazen Jezero II., (2) 20.7.2002, 1 os., bazen Štoj, (3) 30.7.2000, 3 os., bazen Jezero II., (4) 21.8.2001, 6 os., v obeh bazenih. Opazovani plamenci so bili precej plašni in so se prehranjevali pretežno v velikih bazenih z nizko saliniteto.

The Greater Flamingo is a very rare visitor of the Ulcinj saltpans (41°55'N, 19°18'E). In the last 20 years of the otherwise not very intensive studies, this species has been recorded in small numbers during the summer period in July and August [Ham, I. (1986): Birds' settlements In Ulcinj Saltpans in the Second Decade of July. – Larus 36/37: 125–142]. On 14 Jul 2000, Ante Žuljević, Marko Raković and the author registered one individual in the basin Jezero II., and the second individual in Štoj Basin on 20 Jun 2002. On 30 Jul 2000, three (3) individuals were observed in basin Jezero II, and on 21 Aug 2001 six (6). Flamingos observed in Ulcinj saltpans were feeding mainly in basins Jezero II. and Štoj, which are moderately salty and spacious. The birds were generally very shy and kept us at the distance of at least 200 metres. Flamingos were also observed in 2000 at the Tivat saltpans (I. Radović *pers. comm.*).

Darko Saveljić, P.O. Box 2, 81000 Podgorica, Montenegro, e-mail: dasav@cg.yu

Stone-curlew *Burhinus oedicnemus*

Prlivka – v letu 2004 sta gnezdila dva para na območju Starega aerodroma pri Podgorici (UTM CN50, JV Črna gora), in sicer na odlagališču odpadkov velikem 3 km^2

The Stone-curlew is a common breeder in the Mediterranean part of Montenegro – in the area of Ćemovsko field, Ulcinj saltpans, Ada Bojana, 12 km Long Beach, and the hinterland of the beach Štoj [Puzović, S., Vasić, V. & Ham, I. (1992): Progradacioni procesi u ornitofauni Ulcinjskih solana. – Glasnik Republičkog zavoda za zaštitu prirode Prirodnjačkog muzeja Podgorica 25: 63–75; Saveljić, D. (2002): Changes in the population size of some shorebirds breeding at Ulcinj salt pans (Montenegro). – Acrocephalus 23 (110/111): 39–42]. In 2004, 2 pairs bred near Podgorica in the area of Stari aerodrom ($19^0 16'$ E, $42^0 26'$ N) on the surface of 3 km^2. Territorial pairs were registered on the spot, where waste disposal was located in 2003. In the meanwhile, the spot was cleaned.

Darko Saveljić, P.O. Box 2, 81000 Podgorica, Montenegro, e-mail: dasav@cg.yu

Black-headed Gull *Larus ridibundus*

Rečni galeb – prva potrjena gnezditev na Skadarskem jezeru (40°30'N, 19°30'E; JV Črna gora): (1) 9.7.2001, 4 gnezda, (2) 9.7.2002, 4 gnezda, Crni Žar, (3) 6.6.2003, 4 gnezda

During the field trip with Ondrej Vizi on 9 Jul 2001 to Lake Skadar (40°30'N, 19°30'E), breeding of the Black-headed Gull was confirmed. Four nests were found with two nesting birds in each of the nests. This is the first data on the breeding of this species on Lake Skadar. On 9 Jul 2002, another 4 breeding pairs

were registered at Crni Žar. On 6 Jun 2003, Ondrej Vizi, Borut Rubinič and I again registered 4 pairs. Black-headed Gull is the most numerous gull species on Lake Skadar during the non-breeding period, but the rarest as a breeder.

Darko Saveljić, P.O. Box 2, 81000 Podgorica, Montenegro, e-mail: dasav@cg.yu

Whiskered Tern *Chlidonias hybridus*

Belolična čigra – v letu 2003 je bilo na Sakadarskem jezeru (40°30'N, 19°30'E, JV Črna gora) preštetih 216 gnezdečih parov v več kolonijah s 4 do 90 parov

Whiskered Tern is a regular breeder at Lake Skadar (40°30'N, 19°30'E). Between 5 and 9 Jun 2003, during the 4-day field trips with Ondrej Vizi, Nela Vešović and Borut Rubinič, we registered 216 breeding pairs. Whiskered Tern breeds on the lake in smaller or larger colonies from 4 to 90 pairs. In 2003, 80% of the lake or 90% of the potential breeding area was searched. The largest part of the breeding population is situated in the Pančeva oka ornithological reserve (90 pairs) and in Gornje blato (85 pairs). On Lake Skadar, Whiskered Terns move their colonies every year, with their sizes varying significantly on yearly basis. It is not rare that, after the nests are made, a colony moves and settles at some other locality. In Montenegro, Whiskered Terns are most numerous, after Lake Šasko, at Lake Skadar.

Darko Saveljić, P.O. Box 2, 81000 Podgorica, Montenegro, e-mail: dasav@cg.yu

Short-eared Owl *Asio flammeus*

Močvirska uharica – dne 26.4.2003 so bili opazovani trije osebki, ki so leteli nad morjem in lovili nad obalnimi mokrišči na Veliki plaži pri Ulcinju (UTM CM53, J Črna gora). Glede na literaturne podatke avtorji sklepajo, da je ožina Otrantskih vrat v južnem Jadranu med Italijo in Balkanskim polotokom (150 km) verjetno pomembna selitvena pot močvirskih uharic in drugih selivk. Tega dne so na območju Velike plaže opazili še 41 rumenonogih galebov *Larus cachinnans*, 2 gagi *Somateria mollissima*, 28 školjkaric *Haematopus ostralegus*, 1 progastorepega kljunača *Limosa lapponica*, odraslo samico stepskega lunja *Circus macrourus*, 3 sive čaplje *Ardea cinerea*, 2 samici rjavega lunja *Circus aeruginosus*, 3 rdečenoge postovke *Falco vespertinus* in 1 močvirskega martinca *Tringa glareola*.

Subject to the abundance and availability of prey, Short-eared Owls are highly nomadic. Northern populations winter mainly in inland and coastal lowlands of western and continental Europe, while smaller and probably fluctuating numbers reach the southern Mediterranean, North and sub-Saharan Africa during the winter. The breeding range of the species, which includes isolated archipelagos of the Atlantic and Pacific Oceans, as well as its regular occurrence outside the breeding season on off-shore islands, like Helgoland and the large islands of the Mediterranean, and various off-shore ship records indicate that Short-eared Owls regularly cross the open sea [e.g. Cramp S., ed. (1985): Handbook of the Birds of Europe, the Middle East and North Africa, Vol. 4. – Oxford University Press, Oxford & New York; Schmidt, R.C. & Vauk, G. (1981): Zug, Rast und Ringfunde auf Helgoland durchziehender Wald- und Sumpfohreulen (*Asio otus* und *A. flammeus*). – Vogelwelt 102: 180 – 189]. Between 7.00 and 11.30 on 26 Apr 2003, the first of the authors watched the birds along the shore of Velika plaža at the end of the newly constructed Copacabana road, while B. Štumberger and J. Smole made transect counts along the coast from Porta Milena, SSE of Ulcinj, in southern Montenegro (UTM CM53). Without cloud cover and with a very weak southwestern wind blowing from the sea, the weather and sight conditions of at least > 2 km were excellent. As we were virtually the only people present, the 5 – 6 km long shore was largely undisturbed. During the entire morning, most of the birds were in the air or feeding along the coast or close to it, i.e. small groups of 41 Yellow-legged Gulls *Larus cachinnans*, 2 Eiders *Somateria mollissima*, a group of 28 Oystercatchers *Haematopus ostralegus* including a solitary Bar-tailed Godwit *Limosa lapponica*, and an adult female Pallid Harrier *Circus macrourus*, which actively hunted along the coastal sand dunes and adjoining marshlands. However, during the short period between 7.45 and 8.00, 3 Grey Herons *Ardea cinerea*, 2 female Marsh Harriers *Circus aeruginosus*, 3 Red-footed Falcons *Falco vespertinus* and a solitary Wood Sandpiper *Tringa glareola* flew in directly from the sea. These birds came in from the Adriatic Sea in southwest-northeast direction, and without resting on the shore continued their migration further inland in their original direction. Around 7.55, both groups of observers spotted, approximately 2 – 3 km out on the open sea, two medium-sized birds flying in with deep, but soft and slow wingbeats, 5 – 10 metres above the sea surface. We identified both birds as Short-eared Owls, which in their characteristic harrier-like flight flew slowly towards the shore. Both birds kept closely together, reacting to our presence by rising for another 10 – 20 metres above the surface, when closing in on

the coastline. When reaching the shore they began to circle, uttering low alarm or contact calls and after a few seconds continued their flight further inland. In the evening of that day, around 20.03 another solitary Short-eared Owl was found hunting in the coastal marshlands 300 – 400 metres inland of Velika plaža. Along the Adriatic coast of the Balkan Peninsula, Short-eared Owls are sparsely recorded passage migrants and winter visitors. For Dalmatia and Montenegro, O. Reiser, L. von Führer and D. Rucner noted most records on the coast and in lowland depressions of the Dinaric karst between November and March, with a few passengers recorded in the September–October period and in April [Reiser, O. & von Führer, L. (1896): Materialien zu einer Ornis Balcanica, IV. Montenegro. – Carl Gerold's Sohn, Wien; Reiser, O. (1939): Materialien zu einer Ornis Balcanica, I. Bosnien und Herzegowina nebst Teilen von Serbien und Dalmatien. – Naturhistorisches Museum, Wien; Rucner, D. (1998): Ptice hrvatske obale Jadrana. – Hrvatski prirodoslovni muzej, Ministarstvo razvitka i obnove, Zagreb]. Waterfowl, herons, some wader and raptor species following a central Balkan flyway cross the Adriatic Sea regularly during autumn and spring migration [e.g. Elphick, J. (1995): Collins Atlas of Bird Migration. – Harper Collins Publishers, London; Schneider-Jacoby, M. (2001): Lastovo – a new bottleneck site for the migratory Honey Buzzards *Pernis apivorus*? – Acrocephalus 22(108): 163–165; Agostini, N. (2002): La migrazione dei rapaci in Italia. pp. 157–182 In: Brichetti, P. & Gariboldi, A. (eds.): Manuale di Ornitologia, Vol. 3. – Edagricole, Bologna]. The nearest distance across the Strait of Otranto between Ulcinj and Brindisi on the Italian coast (150 km) coincides exactly with the main direction of migration of the owls and other migrants, which we saw coming in on the Montenegrin coast. Recoveries of Short-eared Owls ringed in Scandinavia and eastern Europe indicate a preponderance of recoveries south-west to south of their breeding areas during passage periods and winter [Glutz von Blotzheim, U.N. & Bauer, K.M. (1980): Handbuch der Vögel Mitteleuropas, Bd. 9. – Akad. Verlagsgesellschaft, Wiesbaden; Cramp 1985]. Our records illustrate that Short-eared Owls like other migrants may more regularly cross the narrow channel of the southern Adriatic Sea between the Italian and Balkan Peninsulas.

Peter Sackl, Stmk. Landesmuseum Joanneum, Forschungsstätte Furtnerteich, Raubergasse 10, A-8010 Graz, Austria, e-mail: peter.sackl@stmk.gv.at
Jakob Smole, Cafova 4, SI-2000 Maribor, Slovenia, e-mail: jakob.smole@kiss.si
Borut Štumberger, SI-2282 Cirkulane 41, Slovenia, e-mail: stumberger@siol.net

Alpine Chough *Pyrrhocorax graculus*

Planinska kavka – med oktobrom/novembrom in marcem/aprilom več kot 1000 planinskih kavk na rednem prezimovanju v Podgorici (UTM CN50, JV Črna gora); največ se jih zadržuje na mestnem smetišču pri Veli Ribnički

Alpine Chough breeds in the highlands of central and northern parts of Montenegro [Matvejev, S.D. & Vasić, V. (1973): Catalogus faunae Jugoslaviae IV/3. Aves. – SAZU, Ljubljana]. During the October/November-March/April period is a regular visitor of the city of Podgorica ($19^016'$ E, $42^026'$ N). The capital of Montenegro is situated in the Zeta basin, the largest in Montenegro, dividing the mountainous/continental and Mediterranean parts of the country. When snow covers the mountains around Podgorica (with more than 20 peaks above 2000 m a.s.l.), more than 1000 Alpine Choughs come to the city, spending the winter there, until the snow starts melting. Flocks of Alpine Choughs are usually seen in the suburbs of Podgorica. The highest concentration of the birds could be found at the city waste disposal site at Vela Ribnička.

Darko Saveljić, P.O. Box 2, 81000 Podgorica, Montenegro, e-mail: dasav@cg.yu

Nove knjige

New books

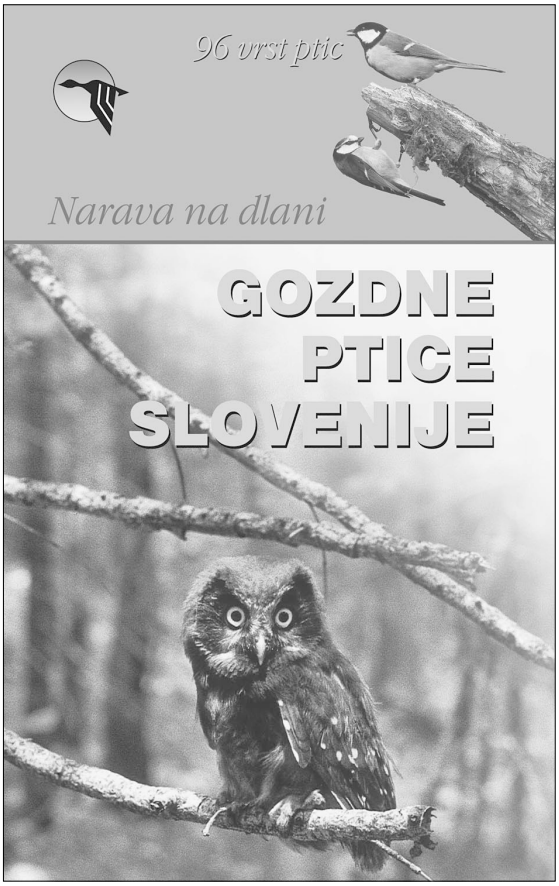
Trilar, T. & Vrezec, A. (2004): Gozdne ptice Slovenije. – Mladinska knjiga, Ljubljana. ISBN 86-11-16656-6, cena: 3390 SIT

Med množico naravoslovnih vodnikov, dostopnih bralcem v slovenskem jeziku, si posebno pozornost zaslužijo izdelki domačih avtorjev, še zlasti, če so kakovostni. Mednje nedvomno sodi žepni vodnik iz zbirke Narava na dlani: Gozdne ptice Slovenije. O tem nas prepriča že vabljivo oblikovani ovitek, še bolj pa vsebina sama, ki pritegnete tako zahtevne poznavalce kot začetnike.

Uveljavljena slovenska poznavalca ptic, dr. Tomi Trilar in Al Vrezec, z vodnikom zaokrožujeta naše znanje o gozdnih pticah Slovenije. Knjižica obsega 143 strani, je žepnega formata, bogatijo jo številne fotografije, dostopna pa je za 3390 tolarjev. Vodnik je svojevrstna dopolnitev zvočnega cedeja Gozdne ptice Slovenije (izdal Prirodoslovni muzej Slovenije, 2002), s katerim nam je avtor Tomi Trilar predstavil petje in oglašanje 93 vrst gozdnih ptic.

Uvodni del, ki ga bralci običajno preskočijo in pohitijo k prepoznavanju vrst, je vreden pozornega branja, saj je tu skrit ključ do celovitega razumevanja in prepoznavanja gozdnih ptic. Pomembno je dojeti že sporočilo prvega poglavja, da so pestri in ohranjeni gozdni ekosistemi temelj izjemne biotske raznovrstnosti, katere neločljivi del so tudi ptice. Tako bomo laže doumeli skrivnostno življenje gozdnih ptic, njihove posebnosti, pestrost vseh mogočih prilagoditev in življenjskih strategij, načine prehranjevanja, oglašanja, paritvene obrede, odnose med vrstami in osebki znotraj vrst, ki jih bralcu pojasnjujejo naslednja poglavja. Avtorja opozarjata tudi na aktualno ogroženost življenjskega prostora številnih vrst ptic, hkrati pa izpostavljata pomembnejše vzroke za takšno stanje in ustrezne načine reševanja. Na koncu naravovarstveni vidik zaokrožuje prikaz rdečega seznama ogroženih gnezdilk Slovenije.

Začetniki morajo pozorno prebrati poglavje »Opazovanje in preučevanje gozdnih ptic«, v katerem so nanizani številni napotki in izkušnje za uspešno terensko delo. Pri prepoznavanju ptic ni pomemben le dober daljnogled ali teleskop, marveč predvsem poznavanje biologije ptic, njihove dnevne in sezonske dinamike, življenjskega prostora, raznovrstnih sledi in seveda oglašanja, ki je v gozdu velikokrat ključnega pomena.



Jedro knjige je predstavitev 96 gnezdilcev. V opisu sta avtorja znala izpostaviti izbor ključnih značilnosti ter bistvene posebnosti iz njihovega življenja, kot denimo: razširjenost, telesne značilnosti, oglašanje, selitvene navade, izbor bivališč in gnezdišč, paritvene navade in, kar je najbolj pomembno, kje in kako ptico pri nas lahko opazujemo. Poleg opisa je za vsako vrsto posebej navedena tudi velikost, bivališče, aktivnost, gnezdo, jajca, zarod, hrana, status, podobne vrste, podobno petje, ogroženost, ob slovenskem in latinskem imenu pa je navedeno tudi angleško, nemško, hrvaško, madžarsko in italijansko ime. Opis dopolnjuje dober izbor fotografij, ki so za začetnike ena ključnih informacij pri prepoznavanju.

Avtorja sta kljub visoki meri strokovnosti, ki preveva vodnik, znala vsebino prevesti na poljudno raven. Knjižica je zato berljiva, jezik pa lahkoten in razumljiv. Vodnik je popestril domačo ornitološko knjižno polico, ptice pa postajajo z njim ena naših bolj prepoznavnih favnističnih skupin. Prepričan sem, da bo vodnik na svoj način spodbudil opazovanje in večjo mero poznavanje gozdnih ptic ter posredno razširil ne le krog poznavalcev, marveč tudi zagovornikov narave.

Andrej Hudoklin

Popravek

Corrigendum

V 23. letniku Acrocephalusa (113/114): 155–156 je bila v poglavju Iz ornitološke beležnice med prispevki iz Srbije (Jugoslavija) narejena napaka v prispevku Griffon Vulture *Gyps fulvus*. Med opaženimi vrstami je naveden srednji žagar *Mergus serrator*, čeprav je šlo za velikega žagarja *Mergus merganser*. Popravljeni prispevek objavljamo v celoti.

In the issue of Acrocephalus 23 (113/114): 155–156, an error was made in the short Serbian (Yugoslavia) contribution regarding the Griffon Vulture *Gyps fulvus* (published in the section From the ornithological notebook). Among the observed bird species, Red-breasted Merganser *Mergus serrator* was erroneously stated instead of Goosander *Mergus merganser*. Here, the contribution's corrected version is published in full.

Iz ornitološke beležnice

From the ornithological notebook

Serbia (Yugoslavia) / Srbija (Jugoslavija)

Griffon Vulture *Gyps fulvus*
Beloglavi jastreb – 21 gnezd preštetih v koloniji v soteski reke Uvac (UTM DP10 in DP11) in še dodatnih 13 v bližnji soteski Milševka (UTM DN09) dne 7.8.1996; poleg tega je avtor posamezne osebke opazoval še pri Šuplji kosi, Kuškinem kršu, Nemanjić gradu in Orlovici (UTM DP10 in DP11, southwestern Serbia)

On August 7th, 1996, Borko Obućina, Dušanka Stoković and the author of this article visited the Uvac Gorge by boat (14:10-20:10h). The limestone gorges of Uvac – Mileševka IBA (E and S of the Mt. Zlatar, respectively) are known as the breeding site of the largest Griffon Vulture colony in Serbia. 17 active nests were found and 12 juveniles noticed in them (which mean that 29.5% juveniles had left their nests by that time). B. Obućina indicated that further 4 active nests were located downriver from the dam wall and additional 13 in the nearby Mileševka Canyon. Flying Griffon Vultures were noticed at Šuplja kosa (1 ex.), Kučkin krš (4 ex.), Nemanjića grad (12 ex.), and Orlovica (3 ex.). During the return trip, 46 roosting birds were counted. Other species observed at the same place included Goosander *Mergus merganser* (two females, one with 9 juv. and other with 6 juv.), Northern Goshawk *Accipiter gentilis*, Golden Eagle *Aquila chrysaetos*, Common Kestrel *Falco tinnunculus* (2 pairs), Peregrine Falcon *Falco peregrinus* (one pair with 2 juv.), Common Redshank *Tringa totanus*, Nutcracker *Nucifraga caryocatactes* (2 ex.), and Common Raven *Corvus corax* (5 – 6 ex.).

Dragan V. Simić, Ustanička 144, 11050 Beograd, Serbia & Montenegro, e-mail: ddsimic@ eunet.yu

Slika 1: Samec rožnatokljune žvižgavke *Netta peposaca* v Hraški mlaki pri Smledniku (osrednja Slovenija), 25.10.2003 (foto: D. Šere) - glej str. 81

Figure 1: Male Rosy-billed Pochard *Netta peposaca* on Hraše pond near Smlednik (central Slovenia), 25 Oct 2003 (photo: D. Šere) - see page 81

Slika 2: Nenavadno obarvan samec šmarnice *Phoenicurus ochruros*, Ptujska gora, Dravinjske gorice (SV Slovenija), 9.5.2002 (foto: M. Kerček) - glej str. 98

Figure 2: Unusually coloured male Black Redstart *Phoenicurus ochruros*, Ptujska gora, Dravinjske gorice (NE Slovenija), 9 May 2002 (photo: M. Kerček) - see page 98