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## ČRNA GORA – REFERENČNA VREDNOST ZA NARAVO

### Montenegro – a reference value for nature

Od skrajnega jugozahodnega roba Skadarskega jezera vodi kozja steza proti Poseljanom in naprej na Vir. Kmalu nad živahnim ribiškim trgom, Rijeko Crnojevića, se steza serpentinasto vzpne in pogled iz trnastega dračja na robu vse bolj strme poti hitro obvisi na ogromni previsni steni, imenovani Obodska greda. Vodnik male karavane se ob pogledu na veličastno skalnato gmoto spomni na dva nagačena orliča planinskega orla *Aquila chrysaëtus-fulva*, ki ju je prejšnje leto v Zagrebški muzej prinesel neki zbiralec, in ob paru velikih ujed, ki krožita za pol „puškometa” predaleč, da bi se izplačalo nameriti karabinko vanju, pri sebi nekoliko presenečeno pomisli: „Še sta tu ...” Piše se leto 1895, 21. junij je in na ta peklensko vroči dan se je Ludwig von Führer, mladi avanturist iz prestolnice avstroogrske monarhije, ki je študij veterine leto prej obesil na klin in se raje odpravil vznemirljivemu življenju zbiratelja ptic za potrebe cesarske zbirke Prirodoslovnega muzeja v Sarajevu naproti, napotil od Rijeke do Vira. 123 let kasneje, 28. 5. 2018, iz gnezda v Obodski steni zleti velika samica planinskega orla in v istem trenutku vsaj tri glave hkrati pomislimo: „Še je tu!”. Po več kot stoletju, potem ko je z njegovega latinskega imena odpadla vsa dodatna šara in je le še *Aquila chrysaetos*, potem ko se je svet tako korenito spremenil vsepovsod naokoli, je Rijeka Crnojevića še vedno mali trg in prav mogoče je, da šteje še manj ljudskih duš kot v času, ko se je tod potikal nabriti Avstrijec. A v prav isti steni, kjer sta prapradede in praprababica orlice, ki je ravnokar zaokrožila nad nami, neprosto voljno žrtvovala svoj zarod za potrebe znanosti neke druge vzvišene vrste v nekem drugem času, je še dandanašnji domovanje ene izmed najveličastnejših ptic naših krajev. Prav nič čudno ni, da se Črnogorci, kot tudi mnogi drugi narodi starega kontinenta, identificirajo s to mogočno ujedo. Ne le da je upodobljena na njihovi zastavi, prav istega orla upodablja tudi najbolj znani črnogorski ples, imenovan oro, torej orel. In nikakršna redkost ni še dandanes, da te prijatelj ali znanec naslovi z „De si orle!?”<sup>1</sup>. Še pogosteje se po drugi strani zgodi, da te naslovi z „De si sokole\*?!”.

A prav tu se zgodba zaplete!

Konec leta 2016 se je začel eden najbolj vznemirljivih procesov sodobne črnogorske ornitologije. Z denarjem evropskih davkoplačevalcev se je ekipa mednarodnih in domačih strokovnjakov za ptice namenila narediti prvi korak na poti k opredelitvi omrežja Natura 2000 v Črni gori. Kakšna poslastica! Mala država podobno kot Slovenija leži na prepihu dveh biogeografskih regij, na majceni površini za pozornost kar tekmujejo visoke gore, strmi, marsikje še z obsežnimi pragozdnimi ostanki poraščeni bregovi, globoko vsekane soteske z bistrimi divjimi in popolnoma neukročenimi rekami, prvinsko Skadarsko jezero, največje na Balkanu, delta reke Bojane, Ulcinjске soline, raj za ptice selivke na jadranski selitveni poti, ostanki step ob glavnem mestu Podgorici in skoraj taka mozaična kulturna krajina, kot

<sup>1</sup> Kje si orel, sokol, golob!?!...

je je bil iz svojega doma na spodnjem Štajerskem pred več kot stoletjem vaju mentor mladega Führerja, kustos deželnega muzeja Bosne in Hercegovine v Sarajevu, Othmar Reiser. In pa zavest, da sta bila dva junaka tistega časa, ki v modernem ornitologu nehote budita nasprotujoča si čustva, na premnogh krajih v Črni gori ne le prva, temveč pred nami tudi zadnja raziskovalca ptic!

Brez lažne skromnosti lahko rečem, da sta naslednji dve leti minili v pravem viharju novih odkritij – odstirale se niso le majhne lokalne skrivnosti ptičjega sveta, vsi, ki smo imeli to izjemno srečo, da smo se znašli na straneh še nenapisane knjige črnogorskega ptičjega bogastva, smo se skoraj po vsakem terenskem dnevu počutili kot Alice v Čudežni deželi. Le kako naj ornitologu ne zastane dih, ko se v prelestnem jutru znajde sredi rastišča divjih petelinov, na katerem poje 14, pa nato drugega dne na drugem rastišču našteje 18, na tretjem 23 in na koncu 30 ali celo več petelinov?! Povprečno rastišče, ki smo ga obiskali v Črni gori, je imelo med 5 in 10 pojočih petelinov, toliko jih je v Sloveniji le na nekaj izbranih največjih rastiščih, največ 11. Rastišč s prek 20 petelini v Evropi zunaj Rusije skoraj ni, tisto s 30 pa je morda največje na tem delu celine.

Gozdovi Črne gore so marsikje ohranili ogromno elementov pragozda ali starodobnega gozda. Pogosto, predvsem na severu dežele, naletimo na obsežne sestoje starodavnih gozdov, zelo raznolikih po sestavi dreves: bukove, jelove, smrekove, črnega in rdečega bora, molike *Pinus peuce* in munike *P. heldreichii*. Suha stoječa debela in veje ter ogromno odpadle lesne mase, ki je ne vlačijo manično iz gozda, omogočajo obstoj popolne piramide organizmov in prav na vrhu slednje so detli in žolne. Ko smo v Sloveniji pred 15 leti resno razpravljali o referenčnih vrednostih populacij ključnih vrst ptic ter ugodnem ohranitvenem stanju habitatov, h kakršnemu naj bi težili v naši deželi, nismo poznali Črne gore. Če bi jo, bi si premnoge takajšnje gozdove brez dvoma vzeli za standard, za referenčno vrednost gozda z vrednostjo 1, 100%! Gostote tripstih, belohrbtih in srednjih detlov so 5-, 10-, 15-krat večje kot v Sloveniji! Pardon, Slovenija dosega 0,1 narave! Črna gora 1!

A gozdovi niso edini habitatni tip, po katerem bi v Črni gori Evropa morala iskati navdih in k čemur bi morala težiti. Na vseh črnogorskih rekah je le ena večja hidroelektrarna! Preostanek je skoraj poponoma divji, deviški. Smučišči sta na gorskih pašnikih le dve, kotorn je po drugi strani 3500 do 4000 parov, 10-krat toliko kot v primerljivi Sloveniji! Industrije skoraj ni, intenzivnega kmetijstva pa ta dežela z izjemo plantaž vinske trte v okolici prestolnice prav tako skoraj ne pozna. Poleg gozdov in mokrišč je morda prav kulturna krajina tisto najbolj izjemno, kar se je v Črni gori ohranilo skoraj nespremenjeno v primerjavi s prejšnjimi časi. Naturo 2000 bi tu lahko imenovali Natura 1900! In to z vsem vzvišenim in upravičenim ponosom do dejstva, da je narodu uspelo ohraniti nekaj v Evropi najredkejšega – tradicionalno poljedelstvo! V vsej deželi na vasi skoraj ne vidiš traktorja, namesto ostudnih plastičnih bal pa se na vsakem koraku bohotijo seneni stogi. In verjemite, niso jih naredili v čast obujanju starodavnih kmečkih opravil, kot to spodbujajo lokalna društva za ohranjanje podeželja v deželi na sončni strani Alp! Kljub geo-morfološki podobnosti in skupni nedavni zgodovini si Slovenija in Črna gora skoraj ne bi mogli biti manj podobni. Državljanji dežele s titulo svetovnih zmagovalcev po številu traktorjev *per*

*capita* si namreč težko predstavljamo, da je senena kopica sploh še nekaj funkcionalnega in da obstajajo kraji, kjer še vedno ogromen delež, tudi urbane, mladine znaten del poletja preživi ob „plastenju“, ročnem grabljenju in obračanju sena in izdelavi senenih stogov.

Tako ne preseneča, da je tudi populacija pisanih penic, črnočelih srakoperjev, vrtnih strnadov in smrdokaver nekajkrat do nekaj desetkrat večja kot v Sloveniji. Da, Črnogorci se imajo za ohranjeno kulturno krajino zahvaliti predvsem pomanjkanju in gospodarski nerazvitosti. A kaj bi sam – Ljubljčan in Barjanec – dal za malo manj „razvitosti“ po zahodno-evropsko! Za dan brez traktorja, gnojnice, umetnih gnojil, monsantove koruzne grdobije in koktejla pesticidov, balirane silaže ter „razvitih“ komasacij namesto mozaične kulturne krajine v srcu krajinskega parka (!) bi z veseljem odštel manjše bogastvo. Ali pa naredil to, kar pogosto naredim – stopil v najbolj povprečno črnogorsko vas sredi najbolj nezaščitenega dela države ter s polnimi pljuči in dušo vpil nekaj, kar se pri nas zdi tako daljna preteklost.

Seveda Črna gora ni Indija Koromandija! Kljub temu, da bomo za ptice na popolnoma neodvisnih znanstvenih osnovah opredelili 33 območij, ki naj bi pokrivala več kot 50 % ozemlja, ji grozi prav vse, kar temu svetu grozi v teh ponorelih časih – neštete hidroelektrarne, najbolj prvinski gozdovi predelani v pelete, ki jih kupujemo na naših bencinskih črpalkah, do konca pozidana obala, luksuzna letovišča na Skadarskem jezeru in Ulcinjskih solinah, nesmiselne prometnice in „razvoj“ podeželja, kot obljuba zahodne blaginje. A ta dežela je še vedno merska enota za naravo! Ornis balcanica – ornitološka biblija o raziskavah Reiserja in Führerja izpred več kot stoletja je še vedno skoraj moderni pregled, večina vsega omenjenega je še na svojem mestu, ne le orli, pač pa tudi prlivke, komatne tekice, vrtni strnadi, kotorne, kratkoprsti in laški škrjanci, kratkoprsti skobci, kodrasti pelikani, vse evropske čaplje in mnogo drugega. Praktično vse razen jastrebov in sokolov. Jastrebe – vse evropske vrste – so uničili pastirji, saj so se iznenada ustrašili, da jim bodo te velike ptice pojedle živino, sokole so malo kasneje iztrebili golobarji. V strahu, da jim ne bi polovili vseh plemenskih golobov visokoletačev, poškodujejo kakega slabšega letalca in mu na hrbet namažejo karbofuran, izjemno toksičen živčni strup in v vsej Evropi prepovedani pesticid. Sokol (selec in južni sokol) pa tudi kragulj ali skobec goloba v letu zgrabijo za zastrupljeni hrbet in skoraj v trenutku v mukah paralizirani poginejo. Natura 2000 v Črni gori tako ne bo imela niti enega samega območja opredeljenega za sokola selca ali južnega sokola, čeprav jih je bilo še pred desetletjem na desetine parov. A sokoli se bodo vrnili, morajo se! Ne bi imelo namreč smisla, da bi se Črnogorci od zdaj naprej pozdravljali z „De si golube?! ...\*“.

\* \* \*

From the extreme south-western edge of Lake Skadar, a goat track leads towards Poseljani and further on to Vir. Soon after the lively fishing village of Rijeka Crnojevića, the winding track rises rapidly, and the view from the thorny brushwood on the edge of the increasingly steep track abruptly stops on a huge overhanging rock known as Obodska greda (Obod Rockwall) by the locals. Gazing at the majestic rock, the guide of our small caravan brings to mind two young stuffed Golden Eagles *Aquila chrysaëtus-fulva*,

brought to the Zagreb Museum a year earlier by an unknown collector, and by looking at a pair of large raptors circling in the air a little too far to be worth aiming the musket at them ponders somewhat surprised: „They are still here ...” It is the year 1895, 21 June to be precise, when Ludwig von Führer, a young adventurer from the capital of the Austro-Hungarian Monarchy who a year earlier probably gave up studying veterinary studies for the sake of exciting life of bird collecting for the needs of the Natural History Museum in Sarajevo, set out on that hellish hot day from Rijeka Crnojevića to Vir. One hundred and twenty-three years later, on 29 May 2018, a large Golden Eagle female rises in the air from her nest in Obodska greda, and in the very same moment at least three human heads are struck by the thought: „She's still here!” After more than a century, when all that additional junk was discarded from the bird's Latin name, making it merely *Aquila chrysaetos*, and when the world changed so very radically around us, Rijeka Crnojevića is still a little village. And it is quite possible that it numbers even less human souls than in the days the cunning Austrian was roaming this part of the world. But the very same wall, where the great-great-grandfather and great-great-grandmother of the female Golden Eagle, which has just made a circle above us, unwillingly sacrificed their progeny for the needs of science of some other haughty species in some other time, is even in these days home to one of the most magnificent birds of this land. It is not strange at all that the Montenegrins identify themselves, the same as many other peoples on the old continent, with this mighty bird of prey. Not only that it is depicted on their national flag, the very same eagle is also portrayed by the best known Montenegrin dance called *oro*, meaning eagle in their language. And it is no rarity even today if a friend or acquaintance greets you with „Đe si, orle!\*" or, even more often, „Đe si, sokole\*!"

But it is right here where the story gets dizzyingly complicated!

The end of 2016 marked one of the most exciting processes of the modern Montenegrin ornithology. With the money of European tax-payers, a team of international and domestic bird experts set out to make the first step on the way to designate the Natura 2000 Network in Montenegro. What a treat! This little country lies, similarly as Slovenia, at the crossroad of two biogeographic regions. In this small area compete for attention the country's high mountains, steep banks that are in many places still overgrown with vast virgin forest remains, deeply cut canyons with clear, wild and utterly untamed rivers, pristine Lake Skadar, which is the largest lake in the Balkans, the Bojana River delta, Ulcinj salt pans (a true paradise for the birds migrating along their Adriatic Flyway), remains of steppes along Podgorica (the capital of Montenegro), and almost as mosaic cultural landscape as was experienced by Othmar Reiser, custodian in the Provincial Museum of Bosnia and Herzegovina and mentor of the young Ludwig von Führer, from his home in Lower Styria more than a century ago. And the awareness that the two heroes of that time, who inadvertently wake up contradictory emotions in a modern ornithologist, were in numerous places in Montenegro not only the first but the last bird researchers before us as well!

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\*Nice to see you, eagle/falcon/pigeon!



Without false modesty I can say that the ensuing two years passed in maelstrom of new discoveries, unveiling not only little secrets of the world of birds but also the fact that all of us who had such incredible luck to find ourselves on the pages of still unwritten book of Montenegrin bird wealth felt like Alice in Wonderland after almost every field day. How could an ornithologist be not totally overwhelmed on a gorgeous morning when suddenly faced, in a lek, by 14 singing Capercaillies, when counting 18 on the second day in another lek, 23 on the third, and 30 or even more of them in the end?! An average lek found by us in Montenegro boasted between 5 and 10 singing males, the number that can be reached in Slovenia only in few selected leks, i.e. 10 at the most. There are virtually no leks with over 20 Capercaillies in Europe outside Russia, with the one hosting 30 males being perhaps the largest in this part of the continent.

In many places of Montenegro, forests retained numerous elements of virgin or ancient forests. Quite often, particularly in the northern part of the country, we come across vast stands of ancient forests that are very diverse in terms of their tree structure: beech, fir, spruce, Austrian and Scotch pine, Macedonian pine *Pinus peuce* and Bosnian pine *P. heldreichii*. The drystanding trees and branches as well as huge amounts of waste wood mass, which is not manically dragged out of the forests, allow for the existence of a perfect pyramid of organisms, with woodpeckers at its very top. Fifteen years ago, when we had a serious debate in Slovenia on reference values of populations of key bird species and on favourable conservation status of habitats, i.e. of the kind striven for in our country, we did not know Montenegro at all. If we did, we would no doubt have taken numerous forests of Montenegro as a standard, as a reference value of the forest with the value 1, 100%. The densities of the Three-toed, White-backed and Spotted Woodpeckers are 5, 10 and 15 times higher than in Slovenia! Sorry, but Slovenia is reaching 0.1 of nature, Montenegro no less than 1.0!

Forests, however, are not the only habitat type where Europe should look for aspiration in Montenegro and to which it should tend to. On all Montenegrin rivers, only one larger hydroelectric plant can be found! The rest is almost entirely wild and virgin. There are only two ski slopes on mountain pastures which, on the other hand, are home to 3,500-4,000 pairs of Rock Partridges, 10 times as many as in comparable Slovenia! Industry is almost non-existent and, additionally, the country is almost void of intensive agriculture with the exception of vineyard plantations in the vicinity of its capital city. Apart from forests and wetlands, it is perhaps the very cultural landscape that is most exceptional and has been preserved in Montenegro as almost unchanged in comparison with earlier times. Here, Natura 2000 could in fact be named Natura 1900! And this with all sublime and justified pride that this nation succeeded in preserving something that is the rarest in Europe – traditional farming. You see almost no tractors in any village, while instead of repulsive plastic wrapped bales hayracks stand proudly at every step. And, believe me, they were not made in honour of reviving the ancient farm work, as encouraged by the local societies for the preservation of countryside in Slovenia, popularly known as „the land on the sunny side of the Alps“! In spite of the geo-morphological similarity and common recent history, Slovenia and Montenegro could not differ less from each other than they do. Specifically,

the citizens of the country with the title of world champions in the number of tractors *per capita* can hardly imagine that a stack of hay is still something functional and that there are still places in the world where the great majority of youth, including urban youngsters, spend the major part of summer by manually raking and turning hay and making hay racks.

It is thus not surprising that the populations of Barred Warbler, Lesser Grey Shrike, Ortolan Bunting and Hoopoe are a few tens greater than in Slovenia. Indeed, the people of Montenegro should be thankful for their preserved cultural landscape largely to their paucity and economic underdevelopment. But what I myself – a citizen of Ljubljana and Ljubljansko barje – would give for a little less „development” Western European style! For a day without tractor, slurry, artificial fertilizers, Monsanto corn monstrosity and cocktails of pesticides, baled silage and „developed” commasations instead of mosaic cultural landscape in the heart of nature park (!) I would gladly give a small fortune. Or would do what I often do – visit a most average Montenegrin village in the middle of the most unprotected part of the country and absorb with full lungs and soul something that seems such a distant past in Slovenia.

Still, Montenegro is no Arcadia, of course! Even though we shall designate, on completely independent scientific grounds, 33 areas for birds that are to cover more than 50% of the Montenegrin territory, the country is threatened by everything that can be harmful to it in these deranged times – the countless hydroelectric plants, most pristine forests processed into pellets that can be bought even at petrol stations, totally built up coastline, luxury holiday resorts at Lake Skadar and Ulcinj salt pans, nonsensical roadways and „countryside development”, all this as a promise of western welfare. But this country is still a measurement unit for nature! *Ornis balcanica* – the ornithological bible for the research carried out by Reiser and Führer more than a century ago – is still almost a modern ornithological overview, for most of everything mentioned in it is still in place, not just eagles but Stone Curlews, Collared Pratincoles, Ortolan Buntings, Rock Partridges, Short-toad and Calandra Larks, Levant Sparrowhawks, Dalmatian Pelicans, all European herons and egrets and many other species as well. Practically all, except vultures and falcons. Vultures (all European species) were killed by shepherds who suddenly began to fear that these big birds could shortly start attacking their livestock, whereas falcons were just a little later exterminated by pigeon-keepers. In fear of pigeons hunting down all their high flying pigeons, they inflict damage on a weak flying pigeon and smear carbofuran (an exceptionally toxic nerve gas and in the whole of Europe prohibited pesticide) on its back. Falcon (Peregrine or Lanner) as well as Goshawk or Sparrowhawk grab the injured pigeon in flight by its poisoned back and paralyzed die almost instantly in severe pain. In Montenegro, Natura 2000 will thus have not a single area designated for the Peregrine Falcon, although there were tens of pairs of them still there no more than a decade ago. But the falcons will return, they'll simply have to! For there would be no point any longer for the Montenegrins greeting each other with the words: „De si, golube!\*

BORUT RUBINIĆ



## BREEDING BIRDS IN THE NARTA LAGOON (SW ALBANIA) IN 2016

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### Gnezdilke lagune Narta (JZ Albanija) leta 2016

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The Narta Lagoon (59 km<sup>2</sup>) is one of the largest and most important coastal wetlands for migratory and wintering waterbirds in Albania. However, the breeding bird fauna of the site is still poorly studied. The current work aims to broaden the knowledge on the list of breeding bird species, their numbers, distribution and threats in the zone (with a focus on waterbirds). Relevant information for spring migrants is also provided. The survey consisted of two field visits in April and May 2016. The entire wetland area was covered and all its habitats were visited. In total, 136 bird species were observed. The total number of breeding birds was estimated at 6,400 pairs of 85 species. The most abundant breeders were the Little Tern *Sternula albifrons* with 377 breeding pairs (bp), Avocet *Recurvirostra avosetta* with 121 bp, and Kentish Plover *Charadrius alexandrinus* with 96 bp. In total, 3,461 individuals belonging to 80 species were recorded as non-breeders. At the species level, the most numerous were Kentish Plover with 1,100 individuals (ind.), Marsh Sandpiper *Tringa stagnatilis* with 600 ind., Greater Flamingo *Phoenicopterus roseus* with 321 ind., Common Shelduck *Tadorna tadorna* with 130 ind., Spotted Redshank *Tringa erythropus* with 120 ind. and Dunlin *Calidris alpina* with 100 ind. Breeding birds assemblages within the main studied habitats (salinas, lagoon, pine forests, mixed farmland, rocky hills with olive trees, and grasslands with bushes near the coast) and threats (the most significant of which were illegal shooting, trapping and dangerous power grid) are also described. Recommendations for future bird-friendly management, appropriate conservation activities and eco-tourism in the area are made.

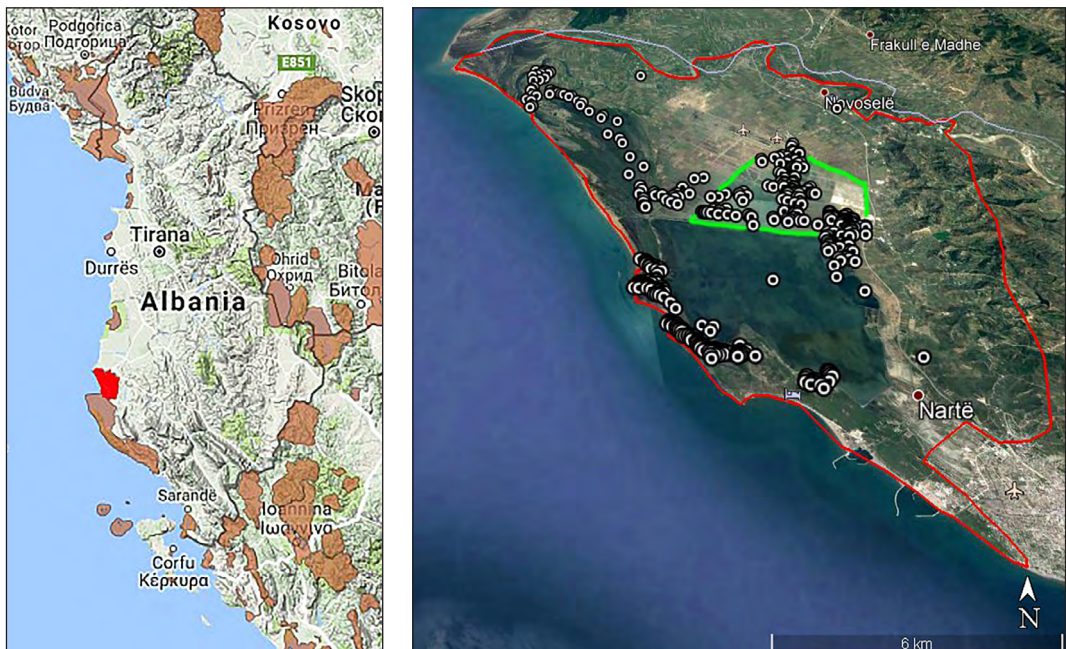
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## 1. Introduction

Situated few kilometres north of Vlora, the Narta Lagoon is one of the largest and most important coastal wetlands of Albania (CATAUDELLA *et al.* 2015). With a total area of 59 km<sup>2</sup>, half of which are covered by water, the lagoon is amongst the top sites for wintering and migratory waterbirds in the country. During winter, the lagoon hosts more than 50% of the species and over 10% of the counted individuals of water birds in Albania (81,223 individuals counted in 1997, BIRDLIFE INTERNATIONAL 2016a; more recent data reveals a decrease in numbers –10,672 ind. in 2016, BINO & CARUGATI 2016). Regarding its national importance for waterbirds, Narta ranks immediately after the lakes Shkodra, Divjake-Karavasta, and Prespe e Madhe. Ducks and Coots *Fulica atra* are the most common wintering species, whereas 31 bird species occurring in the area are considered rare in Albania. At the international level, the Narta Lagoon shelters four

Globally Endangered species, including Dalmatian Pelican *Pelecanus crispus* NT, Great Spotted Eagle *Clanga clanga* VU, Ferruginous Duck *Aythya nyroca* NT and White-headed Duck *Oxyura leucocephala* E (AOS 2016). The site is further considered as potentially favourable for the Slender-billed Curlew *Numenius tenuirostris*. The Narta Lagoon has been shown to be an important stop-over site for migrating waterbirds. About 5,500 waterbirds from 40 species were recorded in the area in April 2014 (IANKOV *et al.* 2015).

However, considering the international importance of the site, the breeding avifauna of Narta Lagoon is still poorly studied. In the 1990s, no waterbird breeding colonies were reported from around the lagoon (ZEKHUIS & TEMPELMAN 1998, BIRDLIFE INTERNATIONAL 2016a). Currently, it is known that terns and waders are the most common nesting waterbirds (AOS 2016), but there are gaps in the knowledge on the full list of breeding species, their distribution, numbers and threats.



**Figure 1:** Location (left) and borders (right; marked red) of the KBA Narta Lagoon. Points indicate the observation points during the survey. Green line indicates the borders of salinas. (source: Google Maps)

**Slika 1:** Lokacija (levo) in meje (desno) lagune Narta. Točke označuju opazovalna mesta med raziskavo, zelena črta pa označuje mejo solin (vir: Google Maps)

The current study aims to contribute to the knowledge of the breeding bird fauna, especially waterbirds, in the Narta Lagoon. We provide particularly information on the breeding status, population numbers, distribution and threats. In addition, relevant data for spring migrants are provided. Our information could be useful for a future bird-friendly management, the design of appropriate conservation activities and nature friendly tourism in the area.

## 2. Methods

### 2.1. Study area

The study area overlaps with the boundaries of the KBA (central coordinates 40°35' N and 19°23'E); however, most of our study efforts were concentrated around the wetlands and surrounding habitats (Figure 1).

The site mainly consists of a large, shallow and brackish lake (Lake Nartes) and a number of coastal lagoons between the Vjosa river delta and the nearest city of Vlora. The altitude varies from 0 to 246 m a.s.l. Narta lagoon, with a surface of 59 km<sup>2</sup> (CATAUDELLA *et al.* 2015), represents the central part of the area and is divided from the sea by a barrier island which is mainly covered by pine forests. Large, mainly eastern and northern parts of the area have been converted into agricultural lands or saltpans. The lagoon is connected to the sea through two artificial channels – one in the south and one in the north. The average depth of the lagoon is 1.2 m (varying between 1.1 m and 2.1 m). The salinity is up to 78.0‰ (in winter it decreases to 36‰, similar to the Adriatic Sea). The pH is 8.4–8.8. In terms of habitats, wetland areas cover 37%, agricultural lands (including olive-groves) about 33% and forests only 6% of the area (pine plantations and scattered poplar plantations). The remaining 24% are occupied by urban and areas of other land use categories (TOPI *et al.* 2013). The Narta Lagoon is surrounded by hills in the eastern part, agricultural lands in the northern part, two small lagoons in the north-west, and one small lagoon in the south-west. The lake surface decreases by 30% (especially when the connection with the sea is blocked) during summer and large mudflats are exposed. Coastal habitats include dunes, beaches and rocky shores, with *Pinus pinea* and *Pinus halepensis* (BIRDLIFE INTERNATIONAL 2016a).

Operative saltpans are situated in the north-eastern part of Narta Lagoon. They were constructed in the early 1950s. Their current surface area covers over 15 km<sup>2</sup> and they are composed of shallow evaporation basins separated by many small dams.

The area of Narta Lagoon is a part of the Emerald Network of Albania, recognized by the Critical Ecosystem Partnership Fund (CEPF) as Key Biodiversity Area (KBA), and a part of the National Network of Protected Areas in Albania, holding the status of the Protected Landscape (IUCN, category IV) which was proclaimed based on the Decision by the Council of Ministers (DCM) No. 680 from 22. 10. 2004 covering a total area of 197.4 km<sup>2</sup> (TOPI *et al.* 2013, CATAUDELLA *et al.* 2015). Currently, the Narta Lagoon is also considered a site for the future implementation of the European Union's Natura 2000 network (NATURAL 2017).

### 2.2. Data collection

The fieldwork consisted of two field visits in 2016: the first was conducted for two days on 5 and 6 Apr 2016, and the second for four days between 24 and 28 May 2016. We surveyed all the wetlands and surrounding habitats wherever accessible by car and we located observation points in all sites with good visibility on the studied habitats or from which breeding colonies could be censused (Figure 1). The areas without roads were visited as much as feasible by foot. Bird observations were done without fixed radius or fixed duration of the count (e.g. as stated in GIBBONS & GREGORY 2006), as our aim was not to collect data on bird abundances but to perform as much absolute counts for waterbirds as possible, while data collected on passerines and other groups of birds are only indicative. Special attention was given to locate the breeding colonies of waterbirds within the KBA and to identify the major threats to birds. To increase the survey effort, the team split into two groups (all members of each group used binoculars and there was one spotting scope per group). Observations were performed mainly in the morning between 06.00 and 09.00hrs and in the evening (no playback survey) between 18.00 and 22:00hrs local time.

In the field, bird data were collected by the software SmartBirds Pro application for Android OS (POPGORGIEV *et al.* 2015) using

smartphones or tablet. The following information for each bird observation was recorded: species, exact geographical coordinates, bird numbers (individual, pair, nest, family with juveniles and flock), behaviour and breeding status (EBCC 2015): possible, probable and confirmed; non-breeders were recorded, too.

### 2.3. Data analyses

Data were exported from SmartBirds Pro into Microsoft Office Excel. A checklist of bird species in the KBA was compiled, together with information on the number of observed individuals or breeding pairs, and the habitat types in which they were observed. Thus, key areas for breeding and non-breeding birds were identified.

International conservation status was described according to BIRDLIFE INTERNATIONAL (2004, 2016b) and national conservation status according

to the RED LIST OF ALBANIAN FLORA AND FAUNA (2013). The distribution of birds was described according to the following main habitat types in the KBA: (1) *Salinas* – artificial ponds separated by dikes and shafts used for salt production; (2) *Lagoon* – includes the natural part of the lagoon and ruined dikes of former fishponds; (3) *Pine forests* – old pine forests on sandy dunes in the western part of the KBA; (4) *Rural mosaics* – mosaics of pastures, meadows, tree lines and arable lands, mostly in the northern part of KBA; (5) *Rocky hills with olive trees* – dry hills with olive plantations between the main road to Vlore and the eastern border of KBA; (6) *Grasslands with bushes near the coast* – grasslands located along the coast in the western part of the KBA, including some sandy dunes; (7) *Settlements* – urban zones; (8) *Coastline*; and (9) *Sea*.

Human threats within the KBA were ranked in three categories based on their potential timing and severity: (1) *Significant* – continuous high

**Table 1:** List of breeding birds in Narta Lagoon Key Biodiversity Area: their status, distribution and numbers

**Tabela 1:** Seznam gnezdilak lagune Narta, njihov status, razširjenost in številčnost

Species / Vrsta	Breeding status/ Gnezditveni status	Number of breeding pairs/ Število gnezdečih parov		The most important habitat types for the species within the KBA/ Glavni habitatni tip vrste
		Observed/ Opazovani	Estimated/ Ocenjeni	
<i>Tadorna tadorna</i>	Probable	1	1	Salinas
<i>Anas platyrhynchos</i>	Confirmed	1	10	Lagoon
<i>Coturnix coturnix</i>	Possible	2	2	Rural mosaics
<i>Tachybaptus ruficollis</i>	Confirmed	3	10	Lagoon
<i>Ixobrychus minutus</i>	Possible	2	5	Lagoon
<i>Circaetus gallicus</i>	Possible	1	1	Rural mosaics
<i>Circus aeruginosus</i>	Possible	1	1	Rural mosaics
<i>Circus pygargus</i>	Possible	1	1	Rural mosaics
<i>Accipiter nisus</i>	Possible	3	3	Grassland with bushes near the coast/ Rural mosaics
<i>Buteo buteo</i>	Possible	4	4	Rural mosaics /Rocky hills with olive trees
<i>Falco tinnunculus</i>	Possible	1	1	Pine forest
<i>Falco subbuteo</i>	Possible	1	1	Rural mosaics
<i>Rallus aquaticus</i>	Possible	1	5	Lagoon

Nadaljevanje tabele 1 / Continuation of Table 1

Species / Vrsta	Breeding status/ Gnezditveni status	Number of breeding pairs/ Število gnezdečih parov		The most important habitat types for the species within the KBA/ Glavni habitatni tip vrste
		Observed/ Opazovani	Estimated/ Ocenjeni	
<i>Gallinula chloropus</i>	Confirmed	6	10	Lagoon
<i>Haematopus ostralegus</i>	Possible	1	1	Coastline
<i>Himantopus himantopus</i>	Confirmed	52	60	Salinas
<i>Recurvirostra avosetta</i>	Confirmed	121	191	Salinas
<i>Burhinus oedicephalus</i>	Confirmed	26	30	Salinas/ Rural mosaics
<i>Glareola pratincola</i>	Confirmed	15	15	Salinas/ Rural mosaics
<i>Charadrius dubius</i>	Confirmed	3	10	Lagoon/ Coastline
<i>Charadrius alexandrinus</i>	Confirmed	96	120	Salinas
<i>Chroicocephalus genei</i>	Possible	2	15	Salinas/Lagoon
<i>Larus michabellis</i>	Confirmed	1	1	Salinas
<i>Sternula albifrons</i>	Confirmed	377	400	Salinas/Lagoon
<i>Sterna birundo</i>	Confirmed	64	64	Salinas/Lagoon
<i>Sterna sandvicensis</i>	Possible	2	2	Salinas
<i>Streptopelia decaocto</i>	Probable	1	10	Rural mosaics
<i>Streptopelia turtur</i>	Probable	1	1	Rural mosaics
<i>Tyto alba</i>	Possible	1	15	Settlements
<i>Otus scops</i>	Probable	5	50	Pine forest
<i>Athene noctua</i>	Confirmed	2	30	Settlements
<i>Caprimulgus europaeus</i>	Probable	2	20	Grassland with bushes near the coast
<i>Tachymarptis melba</i>	Possible	2	25	Settlements
<i>Apus apus</i>	Possible	10	10	Settlements
<i>Merops apiaster</i>	Confirmed	35	50	Pine forest / Coastline
<i>Upupa epops</i>	Probable	4	20	Grassland with bushes near the coast
<i>Jynx torquilla</i>	Probable	2	10	Grassland with bushes near the coast
<i>Dendrocopos syriacus</i>	Probable	1	20	Grassland with bushes near the coast
<i>Melanocorypha calandra</i>	Confirmed	7	60	Rural mosaics
<i>Calandrella brachydactyla</i>	Confirmed	25	100	Salinas/ Rural mosaics
<i>Galerida cristata</i>	Confirmed	7	80	Rural mosaics
<i>Riparia riparia</i>	Confirmed	40	40	Sandy dunes
<i>Hirundo rustica</i>	Confirmed	10	200	Rural mosaics
<i>Delichon urbicum</i>	Confirmed	61	600	Rural mosaics



Nadaljevanje tabele 1 / Continuation of Table 1

Species / Vrsta	Breeding status/ Gnezditveni status	Number of breeding pairs/ Število gnezdečih parov		The most important habitat types for the species within the KBA/ Glavni habitatni tip vrste
		Observed/ Opazovani	Estimated/ Ocenjeni	
<i>Cecropis daurica</i>	Confirmed	7	100	Rural mosaics
<i>Anthus campestris</i>	Confirmed	11	60	Grassland with bushes near the coast/ Rural mosaics
<i>Motacilla flava</i>	Confirmed	4	20	Salinas/ Rural mosaics
<i>Luscinia megarhynchos</i>	Probable	15	150	Pine forest/Grassland with bushes near the coast
<i>Saxicola rubicola</i>	Probable	3	20	Rural mosaics /Rocky hills with olive trees
<i>Oenanthe oenanthe</i>	Probable	4	4	Rural mosaics
<i>Oenanthe hispanica</i>	Possible	2	2	Rural mosaics
<i>Turdus merula</i>	Probable	4	20	Pine forest
<i>Cettia cetti</i>	Probable	21	500	Several habitat types (no clear preference)
<i>Cisticola juncidis</i>	Confirmed	13	150	Salinas/ Rural mosaics
<i>Acrocephalus arundinaceus</i>	Probable	7	80	Salinas/Lagoon
<i>Hippolais pallida</i>	Confirmed	43	600	Several habitat types (no clear preference)
<i>Hippolais olivetorum</i>	Probable	3	100	Grassland with bushes near the coast
<i>Sylvia atricapilla</i>	Possible	1	1	Rocky hills with olive trees
<i>Sylvia crassirostris</i>	Confirmed	1	20	Grassland with bushes near the coast
<i>Sylvia curruca</i>	Possible	1	10	Grassland with bushes near the coast
<i>Sylvia communis</i>	Confirmed	1	20	Grassland with bushes near the coast
<i>Sylvia cantillans</i>	Confirmed	9	150	Pine forest/Grassland with bushes near the coast
<i>Sylvia melanocephala</i>	Confirmed	28	500	Pine forest/Grassland with bushes near the coast/Rocky hills with olive trees
<i>Sylvia rueppelli</i>	Probable	1	1	Grassland with bushes near the coast
<i>Phylloscopus collybita</i>	Possible	1	1	Grassland with bushes near the coast
<i>Aegithalos caudatus</i>	Possible	1	1	Grassland with bushes near the coast
<i>Parus major</i>	Confirmed	10	50	Pine forest/Grassland with bushes near the coast/Rocky hills with olive trees



Species / Vrsta	Breeding status/ Gnezditveni status	Number of breeding pairs/ Število gnezdečih parov		The most important habitat types for the species within the KBA/ Glavni habitatni tip vrste
		Observed/ Opazovani	Estimated/ Ocenjeni	
<i>Oriolus oriolus</i>	Probable	3	30	Grassland with bushes near the coast
<i>Lanius collurio</i>	Probable	4	30	Rural mosaics /Pine forests
<i>Lanius senator</i>	Probable	5	60	Rural mosaics /Pine forests
<i>Garrulus glandarius</i>	Probable	1	1	Pine forest
<i>Pica pica</i>	Confirmed	6	50	Rural mosaics /Pine forests
<i>Corvus monedula</i>	Confirmed	6	10	Rural mosaics
<i>Corvus cornix</i>	Confirmed	16	100	Rural mosaics /Pine forests
<i>Corvus corax</i>	Confirmed	1	3	Rocky hills with olive trees
<i>Sturnus vulgaris</i>	Confirmed	2	20	Salinas/ Rural mosaics
<i>Passer domesticus</i>	Confirmed	26	300	Rural mosaics /Pine forests
<i>Passer hispaniolensis</i>	Probable	21	100	Rural mosaics
<i>Passer montanus</i>	Probable	2	20	Rural mosaics
<i>Fringilla coelebs</i>	Probable	4	20	Pine forest
<i>Carduelis chloris</i>	Probable	30	150	Pine forest
<i>Carduelis carduelis</i>	Confirmed	12	120	Rural mosaics /Pine forests
<i>Emberiza cirlus</i>	Probable	1	1	Rocky hills with olive trees
<i>Emberiza melanocephala</i>	Probable	8	20	Grassland with bushes near the coast
<i>Emberiza calandra</i>	Confirmed	24	500	Rural mosaics

level impact on bird populations; (2) *Moderate* – continuous low level or sporadic high level impact on bird populations; (3) *Marginal* – sporadic low level negative impact on bird populations.

In our effort to evaluate bird numbers and the distribution of the bird fauna in the KBA, we minimized the observer bias due to possible double counts between and within surveys in April and May by using in our calculations only the higher number recorded in one of both months (except for the breeding passerines when individuals were observed in distant areas), and respectively, conducting the census of birds for relatively short time periods and simultaneously by two field teams. Moreover, in the field we recorded the exact location

of every individual or flock of birds through the SmartBirds Application which additionally helped to avoid double counting. We assume a small bias due to double counting of flying over individual or small groups of birds can be present, though this bias should be negligible. Estimations of the sizes breeding populations were made based on the rough extrapolations of the number of observed individuals/pairs and the approximate ratios of visited and not visited areas of each habitat.

### 3. Results

In total, 136 bird species were observed in the KBA during the survey (Tables 1 & 2).

**Table 2:** List of spring migrants in Narta Lagoon Key Biodiversity Area: their numbers**Tabela 2:** Seznam spomladanskih selivk v laguni Narta in njihova številčnost

Species / Vrsta	Maximum number of observed individuals/ Maksimalno število opazovanih osebkov		The most important habitat types for the species within the KBA / Glavni habitatni za vrsto
	April 2016	May 2016	
<i>Tadorna tadorna</i>	130	40	Salinas
<i>Anas penelope</i>	25	-	Lagoon
<i>Anas platyrhynchos</i>	5	-	Lagoon
<i>Anas clypeata</i>	24	-	Lagoon
<i>Tachybaptus ruficollis</i>	5	-	Lagoon
<i>Podiceps nigricollis</i>	5	-	Lagoon
<i>Calonectris diomedea</i>	-	2	Sea
<i>Pelecanus crispus</i>	6	19	Lagoon/Salinas
<i>Phalacrocorax carbo</i>	5	-	Lagoon
<i>Nycticorax nycticorax</i>	1	-	Pine forest ( <i>swamp</i> )
<i>Egretta garzetta</i>	56	9	Lagoon
<i>Ardea alba</i>	6	-	Lagoon
<i>Ardea cinerea</i>	12	1	Lagoon
<i>Plegadis falcinellus</i>	18	-	<i>In flight</i>
<i>Platalea leucorodia</i>	-	20	Salinas
<i>Phoenicopterus roseus</i>	321	289	Salinas/Lagoon
<i>Circus aeruginosus</i>	13	-	Rural mosaics
<i>Circus cyaneus</i>	2	-	Rural mosaics
<i>Circus macrourus</i>	1	-	Grassland with bushes near the coast
<i>Circus pygargus</i>	1	-	Rural mosaics
<i>Accipiter nisus</i>	2	-	Grassland with bushes near the coast/ Rural mosaics
<i>Buteo buteo</i>	6	-	Rural mosaics /Rocky hills with olive trees
<i>Pandion haliaetus</i>	1	-	Lagoon
<i>Falco naumanni</i>	1	-	<i>In flight</i>
<i>Falco tinnunculus</i>	2	-	Pine forest
<i>Fulica atra</i>	40	-	Lagoon
<i>Haemantopus ostralegus</i>	4	-	Coastline
<i>Himantopus himantopus</i>	23	24	Salinas
<i>Recurvirostra avosetta</i>	-	130	Salinas
<i>Charadrius hiaticula</i>	-	4	Salinas

## Nadaljevanje tabele 2 / Continuation of Table 2

Species / Vrsta	Maximum number of observed individuals/ Maksimalno število opazovanih osebkov		The most important habitat types for the species within the KBA / Glavni habitatni za vrsto
	April 2016	May 2016	
<i>Charadrius alexandrinus</i>	1100	40	Salinas
<i>Pluvialis squatarola</i>	1	-	Salinas
<i>Calidris canutus</i>	3	3	Salinas
<i>Calidris alba</i>	4	-	Coastline
<i>Calidris minuta</i>	16	2	Coastline
<i>Calidris ferruginea</i>	70	22	Salinas
<i>Calidris alpina</i>	100	-	Salinas
<i>Limicola falcinellus</i>	-	1	Salinas
<i>Philomachus pugnax</i>	90	-	Salinas
<i>Limosa limosa</i>	2	-	Salinas
<i>Numenius phaeopus</i>	4	1	Salinas
<i>Numenius arquata</i>	-	1	Salinas
<i>Tringa erythropus</i>	120	-	Salinas
<i>Tringa totanus</i>	60	1	Salinas
<i>Tringa stagnatilis</i>	600	-	Salinas
<i>Tringa nebularia</i>	34	1	Salinas
<i>Tringa ochropus</i>	1	-	Rural mosaics ( <i>river</i> )
<i>Actitis hypoleucos</i>	5	-	Rural mosaics ( <i>river</i> )
<i>Chroicocephalus genei</i>	-	75	Salinas/Lagoon
<i>Chroicocephalus ridibundus</i>	7	10	Salinas/Lagoon
<i>Hydrocoloeus minutus</i>	-	4	Coastline
<i>Larus audouinii</i>	-	1	Lagoon
<i>Larus melanocephalus</i>	-	8	Salinas
<i>Larus michabellis</i>	2	2	Salinas
<i>Gelochelidon nilotica</i>	22	2	Salinas
<i>Hydroprogne caspia</i>	2	-	Salinas
<i>Chlidonias niger</i>	-	1	Salinas
<i>Sterna sandvicensis</i>	1	2	Salinas
<i>Tachymarptis melba</i>	60	30	Settlements
<i>Apus apus</i>	-	10	Grassland with bushes near the coast
<i>Upupa epops</i>	1	-	Grassland with bushes near the coast
<i>Jynx torquilla</i>	1	-	Grassland with bushes near the coast
<i>Riparia riparia</i>	10	-	Grassland with bushes near the coast
<i>Hirundo rustica</i>	16	-	Settlements

Nadaljevanje tabele 2 / Continuation of Table 2

Species / Vrsta	Maximum number of observed individuals/ Maksimalno število opazovanih osebkov		The most important habitat types for the species within the KBA / Glavni habitatni za vrsto
	April 2016	May 2016	
<i>Delichon urbicum</i>	16	-	Settlements
<i>Cecropis daurica</i>	25	-	Settlements
<i>Anthus trivialis</i>	6	-	Pine forest
<i>Anthus pratensis</i>	8	-	Rural mosaics
<i>Motacilla flava</i>	45	-	Rural mosaics
<i>Motacilla alba</i>	11	1	Grassland with bushes near the coast
<i>Erithacus rubecula</i>	1	-	Grassland with bushes near the coast
<i>Phoenicurus phoenicurus</i>	1	-	Grassland with bushes near the coast
<i>Saxicola rubetra</i>	4	-	Grassland with bushes near the coast
<i>Saxicola rubicola</i>	1	-	Rural mosaics / Rocky hills whit olive trees
<i>Oenanthe hispanica</i>	6	-	Rural mosaics
<i>Turdus philomelos</i>	1	-	Pine forest
<i>Sylvia atricapilla</i>	16	-	Rocky hills with olive trees
<i>Sylvia curruca</i>	3	-	Grassland with bushes near the coast
<i>Muscicapa striata</i>	-	2	Grassland with bushes near the coast
<i>Passer hispaniolensis</i>	3	-	Rural mosaics

### 3.1. Breeding birds

In total, 1,343 breeding pairs (bp) of birds were observed in the KBA, while the estimated maximum number is 6,400 bp, belonging to 85 species (Table 1; information per orders is available in Supplementary materials). We managed to confirm the breeding of 38 species; while 26 and 21 species, respectively, were found to be probable and possible breeding birds in the area. Among waterbirds, the most abundant breeder was the Little Tern *Sternula albifrons*, followed by Pied Avocet *Recurvirostra avosetta* and Kentish Plover *Charadrius alexandrinus*.

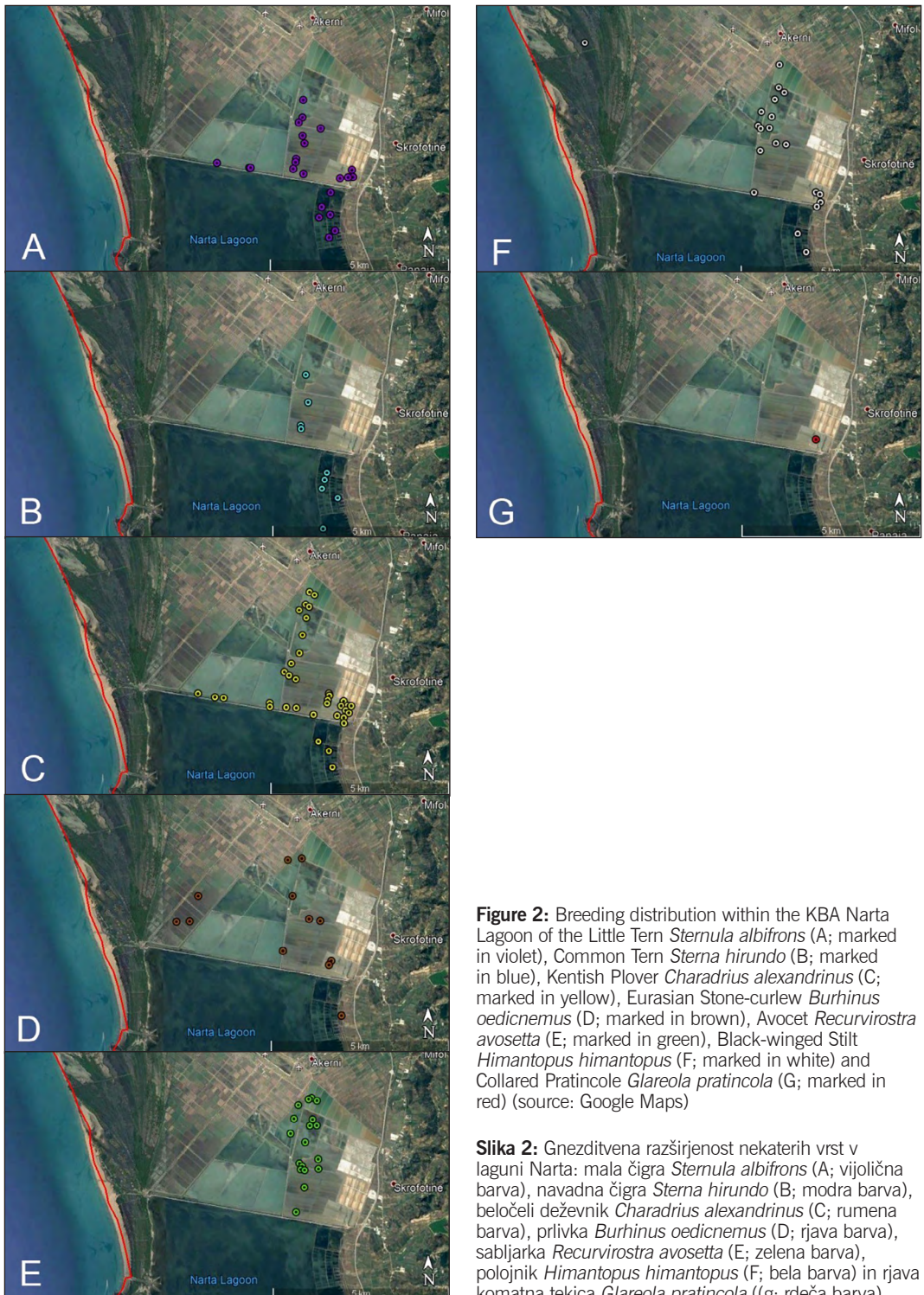
### 3.2. Spring migrants

In total, 3,461 individuals (ind.), belonging to 80 species, were recorded as non-breeders (Table 2; information per orders is available in Supplementary materials). Most of them were passing migrants,

however, it is possible that some bred outside the KBA and visit the lagoon for feeding and resting (e.g. pelicans, cormorants, egrets and others). The most abundant spring migrants were the waders, representing 72% (n = 2,501 ind.) of all migrants observed. At the species level, the most numerous migrant was Kentish Plover which constituted 32% (n = 1,100 ind.) of all migrants observed, Marsh Sandpiper *Tringa stagnatilis* 17% (n = 600 ind.), Greater Flamingo *Phoenicopterus roseus* 9% (n = 321 ind.), Common Shelduck *Tadorna tadorna*, Pied Avocet, Spotted Redshank *Tringa erythropus* and Dunlin *Calidris alpina*, each consisting 3-4% of all migrants.

### 3.3. Bird fauna of different habitat types

The salinas were the key habitat for waterbirds within the study area (Table 1), among which the most abundant were Little Tern (n = 260 pairs; 69% of the breeding population found in the KBA), Pied Avocet with (n = 121 pairs; 100%),



**Figure 2:** Breeding distribution within the KBA Narta Lagoon of the Little Tern *Sternula albifrons* (A; marked in violet), Common Tern *Sterna hirundo* (B; marked in blue), Kentish Plover *Charadrius alexandrinus* (C; marked in yellow), Eurasian Stone-curlew *Burhinus oedichnemus* (D; marked in brown), Avocet *Recurvirostra avosetta* (E; marked in green), Black-winged Stilt *Himantopus himantopus* (F; marked in white) and Collared Pratincole *Glareola pratincola* (G; marked in red) (source: Google Maps)

**Slika 2:** Gnezditvena razširjenost nekaterih vrst v laguni Narta: mala čigra *Sternula albifrons* (A; vijolična barva), navadna čigra *Sterna hirundo* (B; modra barva), beločeli deževnik *Charadrius alexandrinus* (C; rumena barva), prlivka *Burhinus oedichnemus* (D; rjava barva), sabljarka *Recurvirostra avosetta* (E; zelena barva), polojnik *Himantopus himantopus* (F; bela barva) in rjava komatna tekica *Glareola pratincola* (G; rdeča barva).



**Table 3:** Threats for the birds in Narta Lagoon, April – May 2016**Tabela 3:** Grožnje pticam v laguni Narta, aprila in maja 2016

Threat / Grožnja	Rank / Ocena pomembnosti	Evidence
Illegal shooting and trapping / Nedovoljen lov	Significant/ Pomembno	Tracks of firearm shooting were identified almost everywhere within the KBA. Two Greater Flamingos and one Eurasian Curlew found dead were suspected to be shot. Trapping of songbirds with mist nets for the aim of illegal trade was also registered.
Dangerous power grid/ Nezaščiteni daljnovodi	Significant/ Pomembno	Numerous medium voltage power lines pass the area of the lagoon with high risks for bird collisions, especially for large species such as pelicans, flamingos, spoonbills, herons and others. During the survey, two Greater Flamingos were observed with broken wings, probably due to collision with electric wires.
Free-ranging dogs/ Potepuški psi	Moderate/ Zmerno pomembno	A number of free-ranging dogs were observed in the area of the salina, therefore predation on nesting birds could be a potential threat in the KBA.
Abandoned fishing equipment and uncontrolled docking of fishing boats / Zapuščena ribiška oprema	Marginal/ Zanemarljivo	An Audouin's Gull was observed with a piece of fishnet stuck to its head.
Illegal logging of trees/ Nedovoljena sečnja	Marginal/ Zanemarljivo	Tracks from logging found within the KBA.

Kentish Plover ( $n = 83$  pairs; 86%), Black-winged Stilt *Himantopus himantopus* ( $n = 46$  pairs; 89%), Common Tern *Sterna hirundo* ( $n = 37$  pairs; 58%), Eurasian Stone-curlew *Burhinus oedicephalus* ( $n = 16$  pairs; 62%), and Collared Pratincole *Glareola pratincola* ( $n = 15$  pairs; 100%) (Figure 2). The most common non-breeding waterbirds in the salinas were Kentish Plover ( $n = 1,100$  ind.), Marsh Sandpiper ( $n = 600$  ind.), and Greater Flamingo ( $n = 321$  ind.) (Table 2).

In the lagoon, the most common waterbird breeders were the Little Tern ( $n = 61$  pairs), Common Tern ( $n = 27$  pairs), and Kentish Plover ( $n = 18$  pairs) (Table 1), while for non-breeders these were the Greater Flamingo ( $n = 84$  ind.) and the Slender-billed Gull *Chroicocephalus genei* ( $n = 22$  ind.).

The pine forests were important habitat for passerines and nocturnal birds. Common breeders were the Sardinian Warbler *Sylvia melanocephala*, Subalpine Warbler *S. cantillans*, European Greenfinch

*Carduelis chloris*, and European Goldfinch *C. carduelis* and Eurasian Scops Owl *Otus scops*.

Common breeders in the rural mosaics were the Corn Bunting *Emberiza calandra*, Calandra Lark *Melanocorypha calandra*, and Tawny Pipit *Anthus campestris* (Table 1). This habitat was also sheltering 35% ( $n = 9$  pairs) of the local breeding population of the Eurasian Stone-curlews. The mixed farmlands were frequently used as foraging area for raptors – all four European harrier species were observed there, as well as the Hobby *Falco subbuteo* and Common Buzzard *Buteo buteo*. During migration, this habitat was also an important stopover and foraging site for the Yellow Wagtails *Motacilla flava*, Spanish Sparrows, Meadow Pipit *Anthus pratensis*, Collared Pratincole and Gull-billed Tern *Gelochelidon nilotica* (Table 2).

The commonest breeders in the rocky hills with olive trees were the Sardinian Warbler, Subalpine Warbler, and Great Tit *Parus major* (Table 1).



The grasslands with bushes near the coast were a key habitat for passerines, especially warblers. A total of nine warbler species were found to breed there: Eastern Olivaceous Warbler *Hippolais pallida*, Cetti's Warbler, Olive-tree Warbler *Hippolais olivetorum*, Sardinian Warbler, Subalpine Warbler, Eastern Orphean Warbler *Sylvia crassirostris*, Lesser Whitethroat *S. curruca*, Common Whitethroat *S. communis* and Rüppell's Warbler *S. rueppelli* (Table 1). Other common breeders were the Black-headed Bunting *E. melanocephala*, Corn Bunting, Tawny Pipit and Crested Lark *Galerida cristata*.

### 3.4. Threats

Five different types of human-induced threats were identified during the survey (Table 3, Appendix 2). The most significant were illegal shooting, trapping and dangerous power grid. The free-ranging dogs were estimated as a moderate threat, while the abandoned fishing equipment, docking of fishing boats everywhere in the zone (incl. close to breeding colonies) and illegal logging of trees appears to have a marginal impact on the bird fauna.

## 4. Discussion

### 4.1. Overall importance of the site at the national and international levels

In terms of the global IUCN Red List status, two species are Vulnerable (Dalmatian Pelican and European Turtle Dove *Streptopelia turtur*) and five species are Near Threatened (Pallid Harrier *Circus macrourus*, Eurasian Oystercatcher *Haematopus ostralegus*, Curlew Sandpiper *Calidris ferruginea*, Black-tailed Godwit *Limosa limosa* and Eurasian Curlew *Numenius arquata*). Fifty-eight (58) of all registered species are included in the list of European conservation concern (SPEC) (BIRDLIFE INTERNATIONAL 2004). Four species (Dalmatian Pelican, Pallid, Lesser Kestrel and Audouin's Gull *Larus audouinii*) are of a global conservation concern (SPEC 1). The number of species in the KBA, the global populations of which are concentrated in Europe and have unfavourable conservation status (SPEC 2), is 13 (6 of them breeders), while the number of species, the

global populations of which are not concentrated in Europe but have unfavourable conservation status in Europe (SPEC 3), is 41 (19 of them breeders). Forty (40) species (16 of them breeders) are included in Annex 1 of the EU Birds Directive (Directive 2009/147/EC), 25 species in Annex 2 and two species in Annex 3. In total, 130 species are listed in Bern Convention (96 species – in Annex 2, and 34 species – in Annex 3), and 71 species are listed in Bonn Convention (three species – in Annex 1 and 68 species – in Annex 2).

Thirty-three (33) bird species, out of which eight species breed in the KBA, are included in the Red List of Albanian Flora and Fauna (2013): three species are Critically Endangered (CR), 10 species Endangered (EN), and 15 species Vulnerable (VU), while 5 other species fall into categories of lower conservation priority.

The current survey confirms that according to its bird fauna, the area of Narta lagoon is one of the richest and most important sites in Albania (BIRDLIFE INTERNATIONAL 2016a). During different seasons the area shelters over 30% of the birds species observed in the country (TOPI & NIKOLOV 2016). With at least 377 bp. the KBA holds about 2% of the European breeding population of Little Tern (EUROPEAN COMMISSION ENVIRONMENT 2016). Thus, at least for this species, the site is also important at the international level.

In terms of non-breeding birds (migrants, vagrants and birds feeding in the area but breeding in the surroundings), the lagoon is proven to be a key feeding ground for Dalmatian Pelican (AOS 2016). In April 2014, 94 individuals were recorded (IANKOV *et al.* 2015), and during the present survey up to 19 ind. were observed feeding and roosting in the lagoon. The pelicans, seen in Narta Lagoon, probably belong mainly to the only current Albanian nesting colony in Divjaka-Karavasta National Park (PEJA *et al.* 1996, CRIVELLI 1996). We confirmed that this KBA is an important stop-over and resting site for migrating waterbirds (ZEKHUIS & TEMPELMAN 1998, ERNST 2016). During the present survey, 1,100 Kentish Plovers were observed in just a single day. In April 2014, significant numbers of other migrating waders, herons, gulls, terns, and flamingos were also registered (IANKOV *et al.* 2015): Sanderling (*Calidris alba*) – 350 ind., Dunlin – 354 ind., Little

Ringed Plover (*Charadrius dubius*) – 274 ind., Spotted Redshank – 93 ind., Pied Avocet – 526 ind., Eurasian Curlew – 16 ind., Grey Heron (*Ardea cinerea*) – 61 ind., Western Great Egret (*Ardea alba*) – 42 ind., Little Egret (*Egretta garzetta*) – 175 ind., Spoonbill (*Platalea leucorodia*) – 20 ind., Slender-billed Gull – 322 ind., Yellow-legged Gull (*Larus michabellis*) – 158 ind., Black-headed Gull (*Chroicocephalus ridibundus*) – 254 ind., Caspian Tern (*Hydroprogne caspia*) – 24 ind., Greater Flamingo – 2,136 ind., etc.

#### 4.2. Conservation and management planning

Continuous monitoring of breeding and non-breeding birds in the Narta Lagoon and the state of their habitats is needed to better understand the dynamics of the local avifauna. Also, collection of data on zoo-benthos, phytoplankton, ichthyofauna and basic physical and chemical parameters of the water in the lagoon can further help to estimate the state of the main food sources of waterbirds. Finally, more quantitative evidence needs to be collected on the anthropogenic threats and their impact on bird populations in the KBA: e.g. mortality due to illegal shooting, electrocution and collisions with electricity wires, and predation by feral dogs.

In terms of the identified threats for birds in Narta Lagoon, despite the total hunting ban (Law No. 61/2016 on prohibition of hunting in the Republic of Albania) and total ban on tree logging in the country (Law No. 5/2016 on the proclamation of the forest moratorium in the Republic of Albania), evidences of shooting with firearms was identified throughout the KBA. In addition, illegal tree cutting was recorded in some areas. Apart of direct mortality, shooting causes serious disturbances and compromise habitat quality for nesting and migratory birds in the KBA, while tree cutting destroys the habitat of many forest-dwelling species. Thus, enforcement of the existing hunting and logging ban by the local authorities is urgently needed.

Furthermore, most of medium voltage electric poles within the KBA create a high risk of electrocution and collision for soaring birds (JANSS 2000; IANKOV *et al.* 2015). Thus, securing dangerous power grids through insulation of the power poles to reduce the risk of electrocution and

the installation of bird diverters along power lines to prevent bird collisions is needed (BAVENGER 1994; JANSS & FERRER 1999).

Fishing is one of the main traditional and legal activities in the KBA. However, uncontrolled free movement and docking of boats cause disturbances and damage the breeding colonies of waterbirds. Abandoned or not regularly monitored fishing nets and other fishing equipment in the KBA is a serious threat for diving and other waterbirds which may become entangled in the nets. To mitigate these negative impacts on the avifauna, we recommend to enforce fishing ban in the area discussed, to create artificial island and platforms as appropriate undisturbed nesting and roosting sites, to install nets around already existing breeding colonies and main roosting sites to limit the access of terrestrial predators, in particular, feral dogs.

A further important step would be to improve communication and cooperation between local stakeholders, in particular the salt company in Narta Lagoon, conservation authorities and NGOs. Additionally, inappropriate management of water level and water salinity for salt production, disturbances by workers/salters and the use of heavy machinery impair habitat use, the nesting and feeding activities of birds or may even directly damage breeding colonies in the salina. Therefore, a coordinated management planning to meet salt-production and conservation needs is recommended.

The KBA has also a high potential for eco-tourism with low impact on the natural environment, with access for educational or natural recreation purposes to the area controlled by the management authorities (IANKOV 2015). Finally, the development and implementation of a management plan for the KBA (including the salina) with an appropriate zonation concept will enforce synergies between conservation and the sustainable use of the area.

#### Acknowledgements

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## 5. Povzetek

Laguna Narta (59 km<sup>2</sup>) je eno največjih in najpomembnejših obalnih mokrišč za seltiev in prezimovanje vodnih ptic v Albaniji. Gnezdilke območja so slabše poznane. Cilj raziskave je bil podrobneje raziskati gnezdilke s poudarkom na vodnih pticah, oceniti njihovo številčnost, razširjenost in dejavnike ogrožanja. Območje smo popisali dvakrat – aprila in maja 2016. Pregledali smo celotno območje in obiskali vse habitate. Skupno smo opazovali 136 vrst. Ocenjujemo, da na območju gnezdi 6.400 parov 85 vrst. Najštevilčnejše gnezdilke so bile mala čigra *Sternula albifrons* s 377 gnezdečimi pari, sabljarka *Recurvirostra avosetta* s 121 in beločeli deževnik *Charadrius alexandrinus* s 96. Skupno smo opazovali še 3.461 negnezdečih osebkov, ki so pripadali 80 vrstam. Najštevilčnejši so bili beločeli deževniki s 1.100 osebki, jezerski martinci *Tringa stagnatilis* s 600, plamenci *Phoenicopterus roseus* s 321, duplinske kozarke *Tadorna tadorna* s 130, črni martinci *Tringa erythropus* s 120 in spremenljivi prodniki *Calidris alpina* s 100. Opisujemo združbe gnezdil v glavnih habitatnih tipih (soline, laguna, borovi gozdovi, kulturna krajina, skalni griči z oljčnimi nasadi in priobalna travišča z grmovjem) in glavne dejavnike ogrožanja (nedovoljen lov, daljnovidni) ter predstavljamo predloge ukrepov za pticam prijazno upravljanje območja.

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DODATEK 1 / APPENDIX 1

**Supplementary figure 1:** Illustration of main habitat types for birds in Narta Lagoon

**Dodatna slika 1:** Glavni habitatni tipi lagune Narta

(a) Salina / Soline



(b) Lagoon / Laguna



(c) Pine forests / Borov gozd



(d) Mixed farmland / Kulturna krajina



(e) Rocky hills with olive trees / Skalni griči z oljčnimi nasadi



(f) Grassland with bushes near the coast / Priobalna travišča z grmovjem



**Supplementary figure 2:** Documented threats for birds in Narta Lagoon

**Dodatna slika 2:** Dokumentirane grožnje pticam v laguni Narta

(a) Poachers / Divji lovci

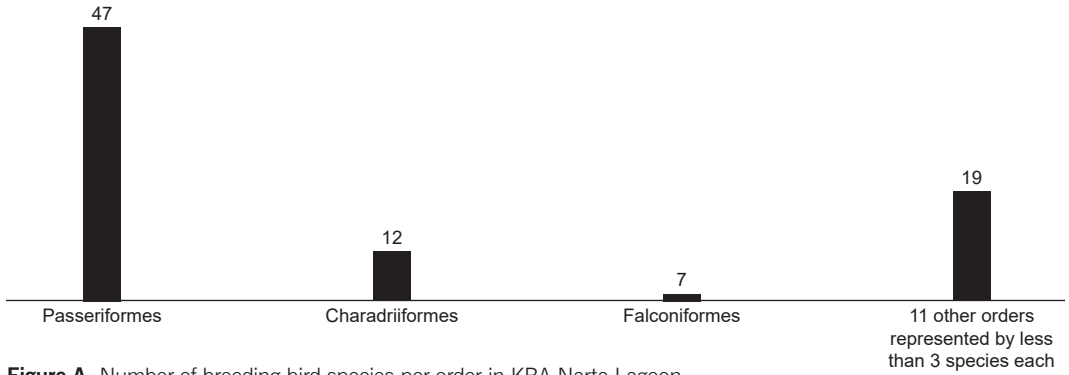


(b) An Audouin's Gull *Larus audouinii* with a piece of fishnet stuck to its bill / Sredozemski galeb *Larus audouinii* s kljunom ujetim v del ribiške mreže

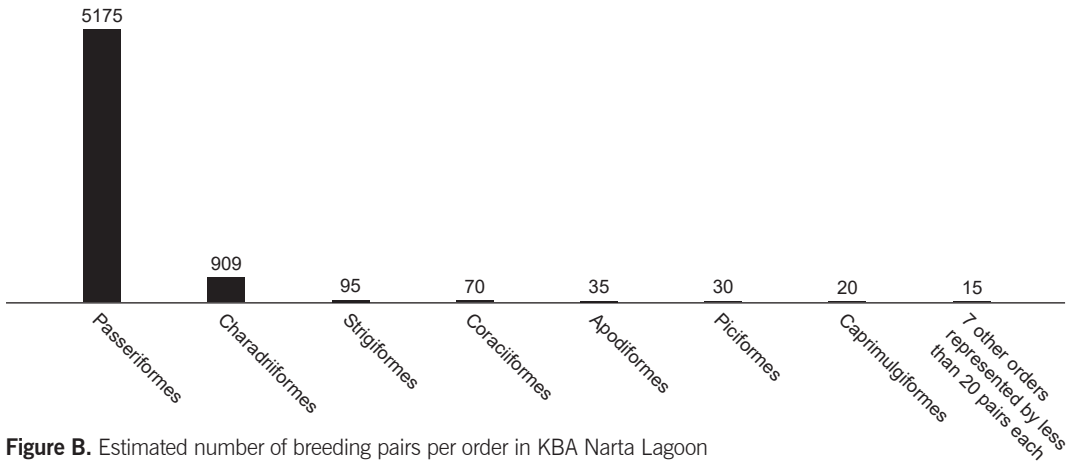




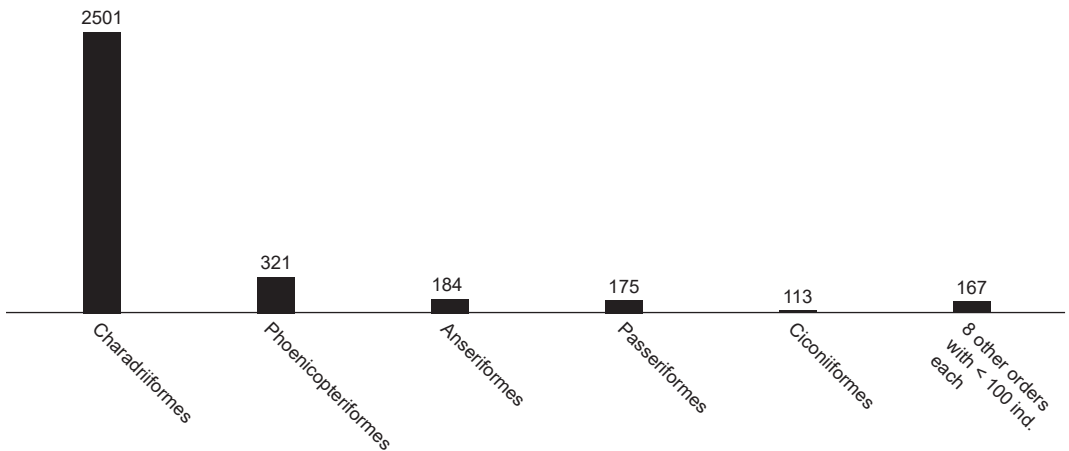
**Supplementary materials:**



**Figure A.** Number of breeding bird species per order in KBA Narta Lagoon



**Figure B.** Estimated number of breeding pairs per order in KBA Narta Lagoon



**Figure C.** Estimated number of migrating birds per order in KBA Narta Lagoon, expressed as the maximum number of migrating/floating individuals observed per day in Apr-May 2016



## OCCURRENCE OF RED KITES *Milvus milvus* IN SERBIA BASED ON BIRDS TRACKED BY TELEMETRY DEVICES

### Pojavljanje rjavih škarnikov *Milvus milvus*, spremljanih s telemetrijo, v Srbiji

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#### 1. Introduction

Red Kite *Milvus milvus* is an opportunistic raptor of mixed habitats containing fragmented forests and open land for breeding and roosting. It is essentially a European species, and outside Europe it is found only scattered in North Africa. The total population of Western Palearctic (and of the world) is between 25,000 and 33,000 breeding pairs, with Germany, Switzerland, France, and Spain being the most important areas for its occurrence and accounting for about 90% of the world population (GÉNSBØL & THIEDE 2008, BIRDLIFE INTERNATIONAL 2015).

The Red Kite breeding population in Serbia became nearly extinct during the second half of the 20th century (RAŠAJSKI & MARINKOVIĆ 2000), as fewer than 10 breeding attempts were recorded since 1950 (ŠĆIBAN *et al.* 2015). During 1977–1996, Red Kites were observed in the breeding period at only three locations. In the second half of the 20th century, there were also few observations of Red Kites outside the breeding period, including wintering birds (RAŠAJSKI & MARINKOVIĆ 2000). At the end of the century, however, the species appeared more and more often even during the breeding period (PUZOVIĆ 2002). The estimated

population was 3–5 pairs at that time, and the trend was defined as increasing (with breeding pairs numbering 2–3 in Vojvodina, 0–1 in Central Serbia, and 1 in Kosovo and Metohija) (PUZOVIĆ *et al.* 2003). Breeding has not been confirmed since the beginning of the 21st century, although the birds were present during the breeding period at several sites in Vojvodina (ŠĆIBAN *et al.* 2015). Nevertheless, the breeding population in Serbia and Montenegro was estimated at 3–5 pairs (BIRDLIFE INTERNATIONAL 2004). More recently, the estimate of breeding pairs in Serbia was only 0–1 for the 2008–2012 period (BIRDLIFE INTERNATIONAL 2015). Similarly, PUZOVIĆ *et al.* (2015) classified the Red Kite population in Serbia as probably extinct, with possibly just one breeding pair. Outside the breeding period, there were few observations of Red Kites throughout the year (RAŠAJSKI & MARINKOVIĆ 2000, ŠĆIBAN *et al.* 2015). Although the species is still rare in Serbia, some additional observations have been published (RAKOVIĆ 2003, MÉRŐ & ŽULJEVIĆ 2011), with the species occurring especially during the breeding time (ŠĆIBAN 2003, TUCAKOV 2005, HULO 2016).

In 2014, we began using telemetry to study the biology of Red Kite populations in Austria, the Czech Republic, and Slovakia. These countries are located in the eastern part of an area where Red Kite occurs at a relatively low density, its population including only 28–35 breeding pairs (an estimate for 2011–2012), about 125 pairs (2015), and approximately 9 pairs (2014) in Austria, the Czech Republic, and Slovakia, respectively (BIRDLIFE INTERNATIONAL 2015, RAK 2016, MADERIČ & SVETLÍK 2015). Because some individuals tagged with loggers occurred in Serbia, we were able to characterize some spatiotemporal activities of Red Kites in this country. That is the aim of this paper. Information about Red Kite habitat demands in southeastern parts of Europe can be helpful from a pan-European point of view in protecting this threatened raptor species.

#### 2. Methods

From 10 July 2014 until 31 March 2018, a total 95 Red Kites were fitted with telemetry devices in the Czech Republic (61 birds), Austria (26 birds), and Slovakia (8 birds). Some of these birds (5 from the Czech Republic, 3 from Austria, 5 from Slovakia)

were found to be using Serbian territory and could be characterized as being there during the post-breeding (autumn) migration and/or spring migration.

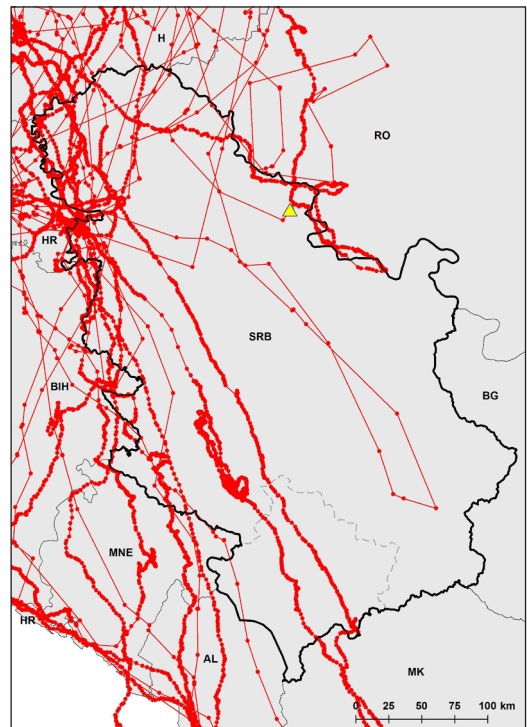
Saker H loggers (20 g; Ecotone, Sopot, Poland) were used to track the birds. The loggers were fitted onto the backs of birds using harnesses (backpack) with 6 mm Teflon ribbon encircling the body by two loops around the bases of the wings and joined in front of the breastbone. The loggers work in GPS (global position system)/GSM (global system for mobile communication) systems or in GPS/GSM/UHF (ultra-high frequency). GPS positions of the birds were collected according to individual setting (1 position fixed every 5 min to 6 h) and were sent by SMS (short message service) via local mobile telephone operators to the Ecotone Center in Poland, where they were saved and archived or data were uploaded by receivers locally and again saved and archived. Coordinates of bird positions providing the basis of information about their occurrence were transformed into curves on a map in order to visualize the spatiotemporal activities of the birds examined. Subsequent positions were connected by line on the figure using GIS (geographic information system) and ArcGIS and QGIS software, and ESRI Basemaps (ESRI Global Inc., USA, [www.qgis.org](http://www.qgis.org)) were used for GIS analysis and map visualization.

We analyzed data for the stay of each Red Kite tracked in Serbia, and we counted the number of days in individual months during which each bird stayed in Serbia. We also determined the locations used by each bird as points localized by GPS and connected them by lines as the shortest distance between the two points. Using combined temporal and spatial data, we determined areas in Serbia most attractive for migrant Red Kites.

### 3. Results and discussion

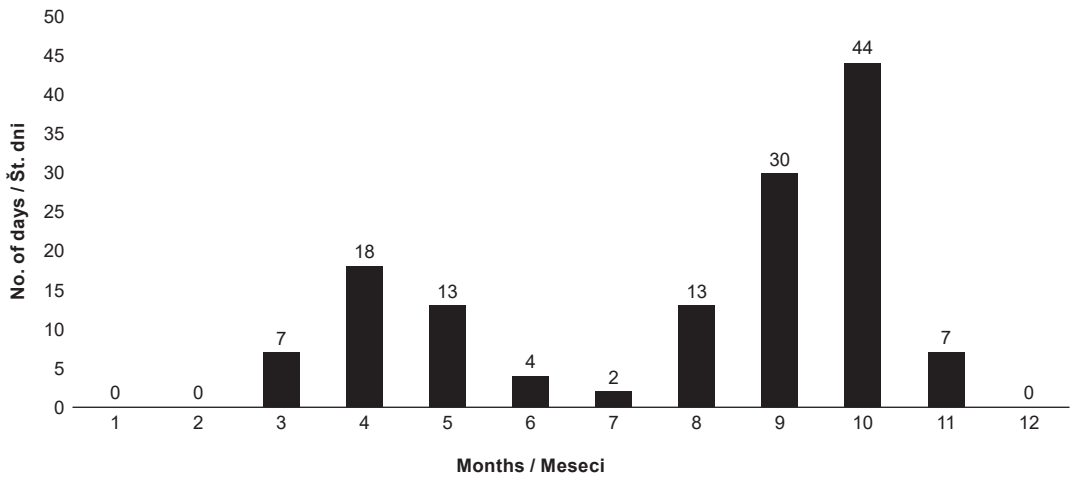
We found 13 Red Kites that occurred from 2014 until the end of March 2018 in Serbia (Table 1). These birds stayed in Serbia for a total of 138 days. The birds occurred mostly in the northwestern part of Serbia in Vojvodina within an area bordering Croatia (Figure 1). Crossings of the border were frequently observed in the western part of Serbia (at the borders with Bosnia and Herzegovina, Montenegro, Albania). We revealed

two main periods of Red Kite occurrences in Serbia (Figure 2). The first period was from March until June, with the most observations occurring in April. The second period was from August until November, with the most observations in October. One Red Kite (D 6162) died during its stay in Serbia. This occurred on 21 September 2017 near the village of Ritiševo in the northeastern part of Serbia. The body of this bird was found (Figure 3) and subsequent laboratory examination revealed



**Figure 1:** Occurrence of tagged Red Kites *Milvus milvus* during their stays in Serbia. Circles depict the positions of birds. Every line connects successive GPS positions of a bird. The yellow triangle shows the place where one poisoned bird was found. Country abbreviations: AL – Albania; BG – Bulgaria; BIH – Bosnia and Herzegovina; H – Hungary; HR – Croatia; MK – Macedonia; MNE – Montenegro; RO – Romania; SRB – Serbia.

**Slika 1:** Pojavljanje s telemetrijom spremljanih rjavih škarnikov *Milvus milvus* v Srbiji. Krožci označujejo položaj ptic, črte pa povezujejo njihove zaporedne lokacije. Trikotnik označuje kraj najdbe zastrupljenega oseba. Okrajšave držav: AL – Albanija; BG – Bolgarija; BIH – Bosna in Hercegovina; H – Mađžarska; HR – Hrvaška; MK – Makedonija; MNE – Crna gora; RO – Romunija; SRB – Srbija.



**Figure 2:** Dynamics of the annual occurrence of Red Kites *Milvus milvus* in Serbia. Numbers of days were counted as number of one bird/one day stays, 2014–2018, cumulative data.

**Slika 2:** Sezonska dinamika pojavljanja rjavih škarnikov *Milvus milvus* v Srbiji. Sešteti so dnevi, ki jih je v posameznem mesecu posamezna ptica preživela v državi, 2014–2018, kumulativni podatki.

poisoning of the bird by carbofuran (Naučni institut za veterinarstvo „Novi Sad”, Novi Sad, Serbia, Dr. Radomir Ratajac, 2 February 2018).

Whereas South European Red Kite populations are resident, most of the North European birds migrate to winter around the Mediterranean, with some flying on to North Africa and Turkey (GÉNSBØL & THIEDE 2008). Interestingly, in the past 25 years an increasing proportion of the population in Sweden, Germany, Switzerland, and France has spent the winter close to or within the breeding range, as has always been the case for the small population in central Wales. This tendency is possibly due to milder winters in recent decades and perhaps also to the greater availability of food. The young birds migrate separately, ahead of the adults, which are then probably influenced by the weather conditions (GÉNSBØL & THIEDE 2008).

As revealed in this study, Red Kites originating from central Europe appear in Serbia. In some parts of central Europe, the population density is now slowly growing. In the Czech Republic, for example, Red Kite recolonized the country after about 100 years of absence, and 1976 was the year of the first confirmed breeding (ŠŤASTNÝ *et al.* 2006). Since that time, the population has expanded to 30–50 breeding pairs in 1985–1989, 70–100 breeding

pairs during 2001–2003, and to about 125 breeding pairs at present (BIRDLIFE INTERNATIONAL 2004, ŠŤASTNÝ *et al.* 2006, RAK 2016). Further east within eastern Europe, Red Kites breed only sporadically in a limited number of pairs (3–10 pairs in Belarus, 1–10 pairs in Ukraine, 1–6 pairs in Russia, and probably no breeding pairs in Romania and Bulgaria) (BIRDLIFE INTERNATIONAL 2015).



**Figure 3:** Cadaver of a poisoned Red Kite *Milvus milvus* with a telemetry logger. The bird D 6162 (see Table 1) died near Ritiševo on 21 September 2017. Photo: I. Đorđević.

**Slika 3:** Truplo zastrupljenega rjavega škarnika *Milvus milvus*. Ptica D 6162 (glej tabelo 1) je poginila blizu Ritiševa dne 21. 9. 2017. Foto: I. Đorđević.

**Table 1:** Red Kites fitted with telemetry loggers and registered in Serbia (each bird was tagged as a pullus at a nest). Country abbreviations: A, Austria; CZ, Czech Republic; SK, Slovakia**Tabela 1:** Rjavi škarniki, opremljeni z oddajniki, ki so bili registrirani v Srbiji (vsak osebek označen kot mladič v gnezdu). Krajšave držav: A, Avstrija; CZ, Češka; SK, Slovaška.

Red Kite number/ Številka rjavega škarnika	Origin of bird: country, coordinates of the nest, year/ Izvor ptice: država, koordinate gnezda, leto	Terms of occurrence in Serbia/ Obdobje pojavljanja v Srbiji	No. of days spent in Serbia/ Št. dni preživetih v Srbiji
CT 753	CZ, 48.78 N, 17.06 E, 2016	14 Oct. 2016	1
CT 754	CZ, 48.75 N, 17.03 E, 2016	4-5 Oct. 2016	2
CT 1457	CZ, 48.78 N, 17.07 E, 2017	28-29 Jul. 2017	2
CT 1682	CZ, 48.62 N, 16.95 E, 2016	27-29 Mar. 2017	3
CT 1913	CZ, 48.75 N, 16.78 E, 2017	14-18 Aug. 2017, 19-23 Sep. 2017	10
D 5603	SK, 48.93 N, 21.75 E, 2015	23-24 Aug. 2015, 26-31 Aug. 2015, 3-4 Sep. 2015, 12-13 Sep. 2015, 19-20 Sep. 2015, 22-30 Sep. 2015, 1-3 Oct. 2015, 5-13 Oct. 2015, 16-25 Oct. 2015, 28-31 Oct. 2015, 22-23 Apr. 2016, 11-12 Jun. 2016, 20-21 Sep. 2016, 16-17 Mar. 2017, 24 Mar. 2017	58
D 5605	SK, 48.93 N, 21.75 E, 2015	2-3 Sep. 2015	2
D 5607	SK, 48.93 N, 21.84 E, 2016	22-28 Oct. 2016	7
D 6161	SK, 48.93 N, 21.84 E, 2016	28 Mar. 2018	1
D 6162	SK, 48.90 N, 21.77 E, 2017	19-21 Sep. 2017	3
JC 57509	A, 48.42 N, 16.85 E, 2015	12-15 Nov. 2015	4
JC 57514	A, 48.55 N, 16.77 E, 2015	21-23 Sep. 2015, 21-22 Oct. 2015, 24-25 Oct. 2015, 28-31 Oct. 2015, 1-3 Nov. 2015, 17-30 Apr. 2016, 1-13 May 2016, 2-3 Apr. 2017	43
JC 75455	A, 48.60 N, 16.92 E, 2016	8-9 Jun. 2017	2

We found that Red Kites occurred mostly in the western part of Vojvodina. In Croatia, Red Kites nested rarely in the northeastern part of the country (Croatian Baranja) until the 1960s (BARIŠIĆ 2013). Recently, no breeding pairs have been known there (BIRDLIFE INTERNATIONAL 2015) and, according to the Croatian Bird Migration Atlas (KRALJ *et al.* 2013), it seems that Red Kite migration routes lie outside this country. Nevertheless, some vagrants and wintering birds are known. Wintering in Croatian Baranja was noted from 2002 (BARIŠIĆ 2013), but exact data were scarce. In 2002, at least two Red Kites wintered in Croatian Baranja (TOMIK in BARIŠIĆ 2013). Recently, seven Red Kites were observed in Jagodnjak in Croatian Baranja during 26–27 January 2015, together with one black

kite *Milvus migrans* (LITERÁK *et al.* 2017). Eight wintering Red Kites were observed at the same place in Jagodnjak on 22 January 2017 (I. LITERÁK & H. MATUŠIĆ, *unpublished observation*). In Punitovce in Slavonia (bordering on Croatian Baranja), 11 and 2 wintering Red Kites were observed on 21 January 2016 and on 23 January 2017, respectively (I. LITERÁK, R. PETRO, H. MATUŠIĆ, *unpublished observation*). In an adjacent area of Hungarian Baranya, some Red Kites have wintered as well (for example, one bird was observed in January 2016) and recently most of the breeding territories within Hungary have been located there (DUDÁS 2014, MÓROCZ *et al.* 2015, NAGY *et al.* 2016).

Baranja/Baranya is a historical geographical region between the Danube and Drava rivers.



Its territory is now divided between Croatia and Hungary. In Serbia (bordered by Croatia and Hungary including Baranja/Baranya), Red Kites stopped to nest in the second half of the 20th century (RAŠAJSKI & MARINKOVIĆ 2000). It now seems that Red Kites occur in the southern part of the Pannonian Basin (Baranja/Baranya/Vojvodina Province of Serbia) more frequently than in the second half of the 20th century, not only based on our results but also according to some direct observations (A. TOMIK *pers. comm.*). This lowland area has a character of agricultural landscape with small fields and meadows, small to medium-sized forest patches and small villages which probably meets the requirements of Red Kites. Other parts of Serbia were used by Red Kites to a substantially lesser extent.

The pattern and dynamics of Red Kites' occurrence in Serbia corresponded well to the notion that Red Kites presently occur in Serbia during spring and autumn migrations. The Red Kite population has been well monitored in Switzerland, and we can see some similarities (AEBISCHER 2009). In Switzerland, juvenile Red Kites started their migration between 27 September and 9 October. The birds arrived to their winter quarters between 3 October and 25 October. Juveniles then left their winter quarters between 10 March and 26 April (adults between 4 January and 14 March). Similarly as in Serbia, the spring migration of Red Kites in Switzerland peaks in April and the autumn migration during October.

We can speculate that as the density of Red Kites in central Europe continues to increase, the wintering of Red Kites in Vojvodina will occur more often than in the past. This area could become the next core area for Red Kite nesting in Serbia, thereby extending the area in Baranja/Baranya that is suitable for recovery of the wintering and nesting Red Kite population. Young Red Kites originating in Austria, the Czech Republic, and Slovakia and migrating through Serbia could provide a base for the next breeding population in this area, which has landscape characteristics appropriate for Red Kite breeding. Since the 1970 discovery of the first roosts of wintering Red Kites in Switzerland, the numbers of wintering and nesting birds have steadily increased (AEBISCHER 2009). Thus, the tendency to winter in central

Europe is real, even though many individuals continue, as in the past, to migrate to south Europe (AEBISCHER 2009).

At present, the most pertinent threat for Red Kites in Europe is illegal direct poisoning, indirect poisoning from pesticides, and secondary poisoning from consuming rodents poisoned by rodenticides spread on farmland (SMART *et al.* 2010, BIRDLIFE INTERNATIONAL 2015). We documented a case of illegal poisoning with carbofuran in a Red Kite in Serbia.

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#### 4. Abstract

A total of 13 Red Kites *Milvus milvus* fitted with GPS/GSM telemetry loggers in central Europe were tracked in Serbia from 10 July 2014 until 31 March 2018. These birds remained in Serbia for 138 days (counted as number of one bird/one day stays). Red Kites occurred mostly in the Vojvodina Province (NW Serbia). They were registered most often in April and October, which corresponded to their spring and autumn migrations. It is possible that Red Kites occur in Serbia more often than formerly, and this could in future result in this threatened European raptor's more frequently wintering and breeding within the country.

#### Povzetek

S telemetrijskimi napravami smo označili 13 rjavih škarnikov *Milvus milvus* v srednji Evropi in med 10. 7. 2014 in 31. 3. 2018 spremljali njihovo pojavljanje v Srbiji. Ti osebkii so se v Srbiji zadrževali 138 dni. Večina opazovanj je iz Vojvodine (SZ Srbija). Najpogosteje so se pojavljali med selitvijo – aprila in oktobra. Morda se vrsta v Srbiji pojavljala pogosteje, kot smo domnevali doslej, v prihodnje se zato lahko nadajamo njenega pogostejšega prezimovanja ali celo gnezdenja v državi.

**Key words:** *Milvus milvus*, raptor, vagrancy, migration, poisoning  
**Ključne besede:** *Milvus milvus*, ujeta, selitev, zastrupitev

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## GULL ATTACKS ON MIGRATING BIRDS AT ADA ISLAND (S MONTENEGRO)

### Napadi galebav na ptice selivke na otoku Ada (J Črna gora)

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#### 1. Introduction

Migration poses a high risk for birds as they can experience mortality rates 15 times higher compared to that in stationary periods (SILLETT & HOLMES 2002). Abundant evidence points to heavy mortality of migrating landbirds during long sea-crossings (NEWTON 2008). One of the dangers faced by migrant passerines are specially adapted avian predators like Eleonora's Falcon *Falco eleonora* and Sooty Falcon *F. concolor* (NEWTON 2008) in addition to opportunistic predatory species, like gulls (MACDONALD & MASON 1973). Yellow-legged gulls *Larus michahellis* are omnivorous. The species is well known as a scavenger, food-pirate and for its predatory habits by taking birds in aerial-pursuits (e.g. passerines at sea; MACDONALD & MASON 1973, WITT 1974). In some species predation by Yellow-legged gulls can account for a large percentage of total mortality (e.g. up to 33% in Storm Petrels *Hydrobates pelagicus* at Benidorm Island in Spain) (ORO *et al.* 2005). Other studies have shown that specialized individuals perform most of the kills (ORO *et al.* 2005, GUILLEMETTE & BROUSSEAU 2001, FINNEY *et al.* 2001). Similarly, the Black-headed gull *Chroicocephalus ridibundus* exploits a very wide range of potential food items, including occasional predation on songbirds (CRAMP 1985). Particularly at the northern shores of the Mediterranean Sea and

in the Atlantic, the populations of Yellow-legged gull have increased considerably in the second half of the 20<sup>th</sup> century (VIDAL *et al.* 1998). An example are the breeding numbers on Berlenga Island (120 ha), Portugal, where the population rose from c. 1000 breeding pairs (bp) in June 1939 to a peak of c. 22.500 bp in 1994 (MORAIS *et al.* 1998). Such a high breeding density in large nesting colonies can cause serious damage to other animal and plant species, especially if their populations are weak or have a very limited range (VIDAL *et al.* 1998). In contrast, the Black-headed gull experienced a moderate decline in Europe in the period between 1980 and 2015 (EBCC 2017).

In a study of bird migration by ground observations at the east coast of the Adriatic Sea in Montenegro (SACKL *et al.* 2014, 2016), Yellow-legged and Black-headed gulls were regularly present in numbers up to several 100 birds. While the study aimed to document the magnitude of visual bird migration at the coast off the Bojana-Buna Delta (Montenegro/Albania) we used the opportunity to evaluate the impact of gulls on migrating birds.

#### 2. Methods and study area

Migrating birds were counted from the end of February till the beginning of April 2015 on a daily basis between sunrise till at least noon. Gull attacks were studied for 32 consecutive days between 17 Mar and 10 Apr 2015. Altogether we covered 205.2 observation hours. The observation point was located on the seafront of Ada Island at the mouth of Bojana-Buna River at the border between Montenegro and Albania. The study area and also the detailed method of bird-migration monitoring is described in more detail by SACKL *et al.* (2014). There are two main directions of migration at the site, along the coast to SE (i.e. ducks, gulls, loons, some waders) and from the sea to the coast in NE direction (i.e. some waders, birds of prey, herons) (SACKL *et al.* 2016). Our study was conducted within a study of waterbird migration at the south-east coast of the Adriatic Sea. While scanning the horizon for migrating waterbirds, birds from other taxonomic groups were also observed. They were identified to species if possible. While observing migrating birds gull behaviour was recorded. We

recorded the species of the attacker and the species and the number of birds being attacked. We also recorded whether or not the attack was successful, i.e. the attacked bird was caught and/or eaten.

### 3. Results

Between 24 and 334 gulls of two to eight species were present on any given day in the selected period, not including actively migrating birds (Table 1). Two of the most abundant species, Black-headed and Yellow-legged gulls, represented 37–100% of gulls present. During the same period, we observed 20 attacks involving 22 individuals of six species and on one unidentified passerine. In four instances gulls attacked birds of prey, in two Hoopoe *Upupa epops* and in 16 cases passerines. Except for two cases when groups of two individuals were attacked, gulls attacked individuals migrating singly. In all cases more than one gull was involved. Three species of gulls were observed to attack migrants: Black-headed *Chroicocephalus ridibundus*, Yellow-legged *Larus michabellis* and Mediterranean gull *Ichthyaetus melanocephalus*. Only Yellow-legged gulls were observed attacking birds of prey (i.e.: Marsh Harrier *Circus aeruginosus* and Short-eared Owl *Asio flammeus*), while all three species attacked other taxons of migrants. In two cases an attack

was successful: one Black-headed gull caught and ate a Robin *Erithacus rubecula* and a Yellow-legged gull caught and ate a Skylark *Alauda arvensis*. Thus, attacks were successful in 12.5% of observed cases ( $n = 20$ ). Both passerines and Hoopoes reacted in the same way when attacked. In all cases attacked birds tried to stay above the attackers by continuously ascending to higher altitudes until they reached the shore where they plummeted into the forest behind the shoreline. This usually worked well and the gulls retreated after the attacked bird reached the shore. In case of a successful attack Yellow-legged gulls were taking turns in attacking the Robin and finally a Black-Headed gull joined in, caught it and ate it. In the case of Skylark, the bird seemed exhausted and was already flying very close to water. When it landed only a few meters from shore it was caught and eaten by one of the Yellow-legged gulls.

In the studied period 2,021 passerines (of 29 taxa), 20 Hoopoes and 128 birds of prey (of 11 taxa) were recorded. Gulls attacked 0.8% of all observed migrating passerines (Table 2). This percentage was higher (1.3%) when active fliers like swallows were excluded. On the other hand, when only birds migrating alone and birds migrating in pairs were included, the attack rate was 9.5%. The highest percentage of attacked individuals was registered with Robin (20.4%). The only observed

**Table 1:** Gulls *Laridae* present (not migrating) at the coast of Ada Island at the river mouth of the Bojana-Buna River, 17 Mar to 10 Apr 2015.

**Tabela 1:** Galebi *Laridae* prisotni na obali otoka Ada na ustju reke Bojane-Bune na meji med Črno goro in Albanijo, 17. 3.–10. 4. 2015.

	No. of individuals in period 17.3.–10.4.2015				Days present (%)
	Sum	Min	Average	Max	
<i>Chroicocephalus genei</i>	7	1	1	1	22.6
<i>Chroicocephalus ridibundus</i>	1123	3	36	88	100.0
<i>Hydrocoloeus minutus</i>	150	1	12	24	41.9
<i>Ichthyaetus melanocephalus</i>	213	1	12	105	58.1
<i>Larus canus</i>	47	1	2	6	71.0
<i>Larus cachinnans</i>	1	1	1	1	3.2
<i>Larus michabellis</i>	1066	4	34	281	100.0
<i>Larus fuscus</i>	3	1	2	2	6.5

Wren coming in from the open sea was attacked. Robins that mostly migrated singly (88.5%) were attacked in around one in five cases. On the other hand, Skylarks migrated mostly in groups with only around five percent of individuals migrating singly or in pairs and only 0.5% individuals were attacked. Those migrating singly or in pairs were attacked in almost 10% of cases. We recorded 20 migrating Hoopoes and observed two attacks on this species. Birds of prey were attacked in much lower percentages than passerines. Most of the recorded raptor species are fast flyers, like falcons (43 individuals) or large and heavier species, like Osprey *Pandion haliaetus* (4 individuals). Out of 65 harriers (*Circus* sp.) only one attack was recorded. On the other hand, 15 ind. of owls (Strigiformes) were recorded and they were attacked in three cases.

#### 4. Discussion

Based on our data, around one percent of all passerines approaching the mainland from the

Adriatic Sea can expect an attack by gulls. Species with slower flight speeds, i.e. owls and Hoopoes, and species which mostly migrate singly, i.e. owls and Robins, appear to be more prone to attacks. Birds migrating across the sea lose weight and if conditions are unfavourable can be exhausted upon reaching the land (NEWTON 2008). We observed apparent exhaustion several times. One Robin landed twice on the surface of the sea before landing on the shore, where it rested exposed on the sand for at least five minutes. Also, especially exhausted birds and birds flying low are the main target of gulls (MACDONALD & MASON 1973). Our observations support this, since one of two killed birds was a Skylark with apparent signs of exhaustion. Unlike Ada where smaller species were attacked more often, MACDONALD & MASON (1973) report the most frequently attacked species to be thrush-size species like Starlings *Sturnus vulgaris* and Blackbirds *Turdus merula*.

In some areas larger numbers of predators accumulate in response to potential prey and can

**Table 2:** Migration volume and numbers of migrants attacked by gulls in front of the river mouth of the Bojana-Buna River, 17 Mar to 10 Apr 2015

**Tabela 2:** Število selivk in selivk, ki so jih napadli galebi na ustju reke Bojane-Bune, 17. 3.–10. 4. 2015.

	No. of migrating individuals between 17.3–10.4.2015		No. of attacks	% of attacked individuals		% of killed individuals	
	all individuals	birds migrating singly or in pairs		all individuals	birds migrating singly or in pairs	all individuals	birds migrating singly or in pairs
<i>Alauda arvensis</i>	588	31	3	0.5	9.7	0.2	3.2
<i>Erithacus rubecula</i>	61	54	11	18.0	20.4	1.6	1.9
<i>Troglodytes troglodytes</i>	1	1	1	100	100.0		
Unidentified Passeriformes	37	5	1	2.7	20.0		
All Passeriformes	2021	370	16	0.8	4.3		
Passeriformes without hirundines	1207	168	16	1.3	9.5		
<i>Upupa epops</i>	20	16	2	10	12.5		
<i>Asio flammeus</i>	13	11	3	23.1	27.3		
<i>Circus aeruginosus</i>	61	57	1	1.6	1.8		
All Birds of prey	128	108	4	3.1	3.7		



remove up to 10 % of migrants of a certain prey species (NEWTON 2008), which is similar to our study. Difference being, that in the present case the attackers were opportunistic and not obligatory predators. The lack of predator accumulation at Ada may be the result of a widely dispersed migration of passerines across the Mediterranean (NEWTON 2008) or simply of low passerine migration across the Adriatic. Gulls are widespread species along the coasts of Europe and MACDONALD & MASON (1973) believed that they may be one of the most important predators of many species of small migrating birds. Although there are at least five falcons adapted to take either spring or autumn migrants across the Mediterranean (NEWTON 2008), it would seem likely that in case of sparse or unpredictable migration where only opportunistic predation is feasible, gulls would have important impact on small migrants. Migration can account for up to 85 % of apparent annual mortality (SILLETT & HOLMES 2002) and the relative importance of this mortality to overall annual mortality is unclear (NEWTON 2008). It is thus difficult to estimate the impact of gull attacks on migrants. Also, the mortality of migrants may be increased by other opportunistic predators, like Hooded Crow (ZDUNIAK *et al.* 2008), that were also present on Ada.

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### 5. Abstract

Migration poses a high risk to birds. Crossing of large bodies of water is especially demanding for land birds. One of the dangers faced by migrants are opportunistic predators like gulls. Most gulls Laridae are generalist predators with omnivorous diets. Attacking on migrating birds was investigated during ground observations of bird migration at Ada Island (S Montenegro) between 17 Mar and 10 Apr 2015. We recorded 20 attacks on 22 individuals of six species and on one unidentified passerine. In four instances gulls attacked birds of prey, in two

Hoopoe *Upupa epops* and in 16 passerines. Except for two cases when small flocks of two birds were attacked, gulls attacked individuals migrating singly. Considering our data around one percent of passerines migrating during the day across the southern Adriatic Sea can expect to be attacked by gulls. This percentage can be as high as 9.5% for passerines migrating singly.

### Povzetek

Tekom življenja selitev pogosto pticam predstavlja obdobje z največjo smrtnostjo. Za kopenske vrste je še posebej zahtevno prečkanje večjih vodnih površin, kot so morja. Ena izmed nevarnosti za selivke so ob specializiranih plenilcih kot so sokoli *Falco*, so priložnostni plenilci kot so na primer galebi. Večina vrst galeb Laridae je vsejedi in oportunističnih plenilcev. Med 17.3. in 10.4.2015 sva avtorja na otoku Ada v izlivu reke Bojane na meji med Črno goro in Albanijo beležila napade galebov na ptice selivke. V napadih so bile zabeležene tri vrste galebov, rumenonogi *Larus michabellis*, rečni *Chroicocephalus ridibundus* in črnoglavi galeb *Ichthyetus melanocephalus*. Skupaj je bilo zabeleženih 20 napadov na 22 osebkov šestih vrst in na eno nedoločeno vrsto ptice pevke. V štirih primerih so galebi napadli ujedo oz. sovo, v dveh smrdokavro *Upupa epops* in v 16 ptico pevko. Z izjemo dveh primerov, ko je bil napad izveden na skupino dveh osebkov, so bile napadene posamezne ptice. Največ napadov je bilo zabeleženih na taščico *Erithacus rubecula* (11 napadenih osebkov, kar predstavlja 18% vse opazovanih taščic), po deležih pa na močvirsko uharico (3; 23,1%). Glede na zbrane podatke galebi napadejo približno 1 % ptic, ki se tekom dneva selijo čez južni Jadran. Za ptice pevke, ki se selijo posamič, je ta odstotek bistveno višji (9,5 %).

**Key words:** selitev, galebi

**Ključne besede:** migration, gulls

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# PREHRANA SOKOLA SELCA *Falco peregrinus* v URBANEM OKOLJU MARIBORA (SV SLOVENIJA)

## Diet of Peregrine Falcons *Falco peregrinus* in the urban environment of Maribor (NE Slovenia)

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### 1. Uvod

Sokol selec *Falco peregrinus* je ujeta, ki gnezdi na strmih pečinah v gorah in ob obali, najdemo ga tudi na klifih v nižinskih habitatih in odprti pokrajini. Pomembno je, da ima iz gnezda pregled nad širšim prostorom (CRAMP 1980, RATCLIFFE 1980, BIRDLIFE INTERNATIONAL 2004).

V Sloveniji ima status celoletne vrste, preletnika in zimskega gosta (SOVINC 1994). Gnezdi v previsnih stenah nad odprto pokrajino, a tudi na nebotičnikih velikih mest (GEISTER 1995). Sokol selec je sodil med redke vrste, ki so bile pred leti uvrščene na svetovni rdeči seznam ogroženih vrst (SOVINC 1994). Od leta 2015 je med najmanj ogroženimi vrstami v Evropi (Least concern), saj populacija vrste narašča in ne dosega praga kriterija za ranljive vrste (IUCN RED LIST 2016).

Sokol selec je specializiran za lov ptic, v glavnem jih lovi v zraku na odprtem prostoru, tudi nad vodno površino. Redkeje lovi na tleh ali na vodi. Z mrhovino se ne hrani. Prehranjuje se predvsem z majhnimi do srednje velikimi ptiči, ki

jih lovi v zraku. Prehrana je odvisna od ponudbe in habitata, pleni pa izjemno širok spekter ptičjih vrst, od najmanjših gozdnih vrst, npr. kraljička, do velikih vodnih vrst, npr. rac in čapelj. V prehrani prevladujejo vrste iz skupine drozgov in škorci, v urbanem okolju pa domači golobi (CRAMP 1980, RATCLIFFE 1980).

Sokol selec se navadno najprej loti možganov in potem prsnih mišic, včasih pa použije tudi notranje organe plena (CRAMP 1980). Nepoužite pusti končne dele peruti z letalnimi peresi in noge s prsti, slednji ostanki plena pa so tudi najpogostejši na gnezdiščih, kjer krmi mladiče (DREWITT & DIXON 2008). Namen raziskave je na podlagi ostankov plena iz gnezdišča določiti vrste plena in širino prehranjevalne niše sokola selca, ki gnezdi v urbanem okolju Maribora.

### 2. Material in metode

Ostanke plena sokola selca smo zbrali v urbanem okolju po zaključeni gnezditveni sezoni 7. 10. 2015 v Mariboru. Sokol je gnezdil na silosih na Meljski cesti 19, 2000 Maribor (slika 1). Na tem objektu gnezdi že več let. Njegovo pojavljanje na silosih je bilo prvič zabeleženo leta 2001, po letu 2003 pa redno gnezdi (*lastni podatki*). Ta lokacija je prvo potrjeno gnezdenje sokola selca v mestnem okolju v Sloveniji. Silosi za skladiščenje pšenice, ki jih upravlja podjetje Žito d.o.o., so locirani v industrijski coni Maribora v neposredni bližini glavne železniške postaje, hitre ceste in centra mesta. Okolica je pozidana s hišami, stanovanjskimi bloki in manjšimi industrijskimi objekti. Obsežnejša nepozidana območja Meljskega hriba so oddaljena vsaj 400 m.

Ostanke plena, kosti posameznih okončin in letalna peresa smo razvrstili po pripadnosti telesnim regijam. Posamezni ostanek plena smo šteli za enoto plena. Ptiče smo določali po ostankih letalnih peres ter dolžinah kosti s pomočjo primerjalne zbirke in določevalnih ključev (KRYŠTUFEK & JANŽEKOVIČ 1999, BOCHENSKI & TOMEK 2009). Material smo etiketirali in shranili v plastične vreče ter deponirali v zbirko Fakultete za naravoslovje in matematiko Univerze v Mariboru. Povprečno maso posamezne vrste plena smo povzeli iz KRYŠTUFEK & JANŽEKOVIČ (1999), za domačega goloba pa iz RATCLIFFE (1980).



**Slika 1:** Silosi podjetja Žito d.o.o. v Mariboru. S puščico je označeno gnezdišče sokola selca na vrhu objekta (Foto F. Bračko).

**Figure 1:** Silos of the Žito company in Maribor. The Peregrine Falcon's nest on the top of the building is marked with an arrow (Photo F. Bračko).

Za razumevanje prehranjevalnih navad in primerjave smo izračunali frekvenco pojavljanja posamezne vrste plena. Širino prehranjevalne niše (Food Niche Breadth – FNB) smo povzeli iz LEVINS (1968) in je enaka inverzni vrednosti Simpsonovega indeksa. Za primerjave prehrane med različnimi avtorji smo izračunali standardizirano širino prehranjevalne niše ( $FNB_{std}$ ), ki smo jo povzeli iz REYNOLDS & MESLOW (1984) in ima vrednost med 0 in 1:

$$FNB = 1 / (\sum p_i^2),$$
$$FNB_{std} = (FNB - 1) / (S - 1),$$

kjer je  $p_i$  delež posamezne plenjene vrste:

$$p_i = n_i / N,$$

$n_i$  – število osebkov  $i$ -te vrste,  $N$  – število vseh osebkov in  $S$  število plenjenih vrst.

### 3. Rezultati

Iz ostankov prehrane sokola selca smo identificirali 96 enot plena petih različnih vrst ptic (tabela 1). V prehrani izrazito prevladujejo domači golobi *Columba livia domestica* tako v številčnem deležu s 64,6 %, še izraziteje pa v deležu biomase z 89,5 %. Sledijo škorci *Sturnus vulgaris*, katerih številčni delež dosega 28,1 % plena, v biomasi pa 8,9 % (slika 2). Prepoznali smo še ostanke cikovta *Turdus philomelos*, hudournika *Apus apus* in penice *Sylvia sp.* (tabela 1). Vrednost FNB znaša 2,01, standardizirana vrednost  $FNB_{std}$  pa 0,25.

V pregled ostankov plena sokola selca smo vključili samo ostanke telesnih okončin (tabela 2), peres nismo našli. Najštevilčnejše so peruti v skupnem številu 40 primerkov, zadnjih okončin pa je bilo 27 primerkov. Glede na anatomsko



**Tabela 1:** Pregled plena sokola selca *Falco peregrinus*: povprečna masa, število (n) in delež plenskih vrst, povprečna biomasa in delež biomase plenskih vrst v prehrani sokola.**Table 1:** Prey overview of the Peregrine Falcon *Falco peregrinus*: average mass, number (n) and share of prey species, average biomass and share of prey species biomass in the falcon's diet.

Vrsta / species	Masa/ Mass (g)	n	% n	Biomasa/ Biomass(g)	% biomase
<i>Columba livia domestica</i>	360	62	64,6	22320	89,5
<i>Sturnus vulgaris</i>	82	27	28,1	2214	8,9
<i>Turdus philomelos</i>	77	4	4,2	308	1,2
<i>Sylvia</i> sp.	18	1	1	18	0,1
<i>Apus apus</i>	41	2	2,1	82	0,3
<b>Skupaj / Total</b>		96	100	24942	100

**Tabela 2.** Pregled plena sokola selca *Falco peregrinus*.**Table 2.** Overview of the Peregrine Falcon's *Falco peregrinus* prey.

Plen / kosti Prey / Bones	<i>Columba livia domestica</i>	<i>Sturnus vulgaris</i>	<i>Turdus philomelos</i>	<i>Sylvia</i> sp.	<i>Apus apus</i>
<b>Cel skelet / Whole skeleton</b>		2			
Lobanja / Skull		8			
Kljun / Maxillary		17	2		
<b>Skupaj lobanja / Total skull</b>		25	2		
Perut / Wing	22		2	1	2
Nadlahtnica / Humerus	13				
<b>Skupaj peruti / Total Wing</b>	35		2	1	2
Noga / Leg	11				
Tarzometatarzus/ Tarsometatarsus	4				
Prsti / Phalanx	12				
<b>Skupaj noge / Total Leg</b>	27				

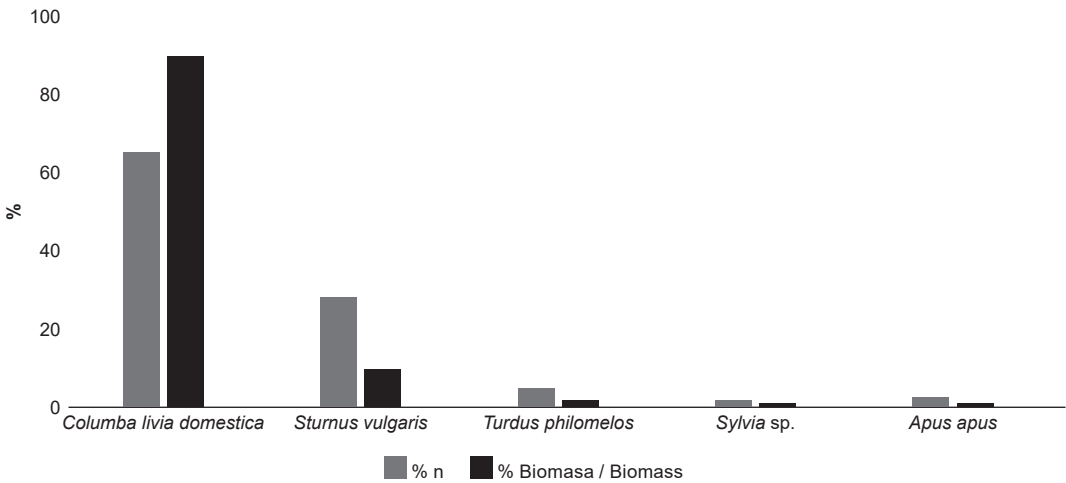
pripadnost posamezni telesni regiji se ostanki plenskih vrst med vrstami precej razlikujejo. Od golobov smo našli samo ostanke perutnic in nog, od škorcev pa samo lobanje ali dele lobanj, poleg tega pa še dva ohranjena kadavra škorca (tabela 2).

#### 4. Diskusija

V Sloveniji še ni opravljenih raziskav o prehrani in plenskih vrstah sokola selca, zato naša raziskava

prinaša primarno informacijo o njegovih prehranjevalnih navadah v urbanem okolju. Za Slovenijo je to prvi primer gnezdenja sokola selca v urbanem okolju. Naravno gnezdišče je v mestnem okolju nadomestila visoka stavba, s katere ima sokol dober razgled nad širšo pokrajino, kar mu omogoča tudi lažje zaznavanje in lov plena.

Ugotovili smo pet različnih vrst plena, kar je nizka vrednost, saj CRAMP (1980) in RATCLIFFE (1980) poročata, da se v prehrani sokola selca prej



Slika 2. Številčni in biomasni deleži plenskih vrst v prehrani sokola selca *Falco peregrinus*.

Figure 2: Number and biomass shares of prey species in the diet of the Peregrine Falcon *Falco peregrinus*.

ali slej znajdejo vse vrste ptic iz njegovega lovnega habitata. Ob pregledu literature o prehrani sokola selca je vsem skupen večinski delež plena, ki ga sestavljajo domači golobi, drozgi, vodne ptice in škorci (CRAMP 1980, RATCLIFFE 1980). V zadnjem desetletju je več raziskav iz urbanega okolja, v katerih prav tako poročajo o domačem golobu kot najpogostejšem plenu. Na primer v jugozahodni Angliji je domači golob zastopan z 41,8 % (DREWITT IN DIXON 2008), na območju Varšave pa z 32 % (REJT 2001).

Standardizirana vrednost širine prehranjevalne niše v urbanem okolju Maribora je primerljiva s pomladanskimi rezultati raziskave CHANG-YONG & HYON-YOUNG (2015). Navedena avtorja sta spremljala sezonsko dinamiko prehranjevalnih navad sokola selca na območju Korejskega polotoka (vrednosti  $FNB_{std}$  pomlad=0,29, poletje=0,11, jesen=0,17 in zima=0,13). CHANG-YONG & HYON-YOUNG (2015) utemeljujeta, da je razlog za široko prehranjevalno nišo v pomladanskem času povišana potreba sokola po energiji v obdobju gnezdenja. Tudi naši rezultati se nanašajo pretežno na gnezditveno obdobje, zato je primerljiv rezultat smiseln.

Sokol selec pleni izjemno širok spekter ptičjih vrst. Plen se razlikuje glede na habitat, vrstno sestavo ptic v okolici in sezono, v urbanem okolju prevladujejo domači golobi v vseh letnih časih (npr.

REJT 2001, DREWITT & DIXON 2008). Večinski delež prehrane sokola selca v urbanem okolju Maribora prav tako sestavljajo golobi. Ugotavljamo, da se bistvena komponenta sestava prehrane sokola selca, to so domači golobi, v urbanem okolju Maribora bistveno ne razlikuje od rezultatov drugih evropskih raziskav. Glede na celotno število (pet) plenjenih vrst ptičev je naš vzorec reven, sploh v primerjavi s študijo DREWITT & DIXON (2008), kjer so ugotovili 98 različnih vrst. Domnevamo, da je to predvsem posledica enkratnega vzorčenja v jeseni, ko so v okolici gnezdišča ostali sami koščeni ostanki plena. Ob aktivnem gnezdišču sokola selca lahko najdemo množico populjenih ptičjih peres, ki pomagajo pri identifikaciji plena in jih pri našem vzorčenju nismo našli.

Glede plenjenja golobov želimo postaviti v ospredje še dva pojavi. Najprej, da so med uplenjenimi golobi tudi gojene živali, za katere skrbijo rejci golobov (pismonoše in tekmovalni golobi). Izvor golobov izkazujejo obročki na nogah uplenjenih živali kot tudi „zaprti“ obročki v okolici gnezda. Pravega razloga za preferenco do gojenih golobov ne poznamo, morebiti imajo rejeni golobi večjo maso in so slabši letalci. Drugi pojav se nanaša na vedenje lokalne populacije prosto živečih domačih golobov, ki gnezdi na isti stavbi kot sokol selec. Domači golobi, ki gnezdi na silosih

sintopno s sokolom selcem, so razvili način za izogibanje napadom sokola selca. Ti golobi se takoj po vzletu zelo hitro spustijo na tla, prav tako se na stavbo vračajo tik ob steni stavbe (*lastna opažanja*). Obrambno pa se ne vedejo druge jate golobov, ki živijo na drugih stavbah v Mariboru.

## Zahvala

Podjetju Žito d.o.o. se zahvaljujemo, ker so nam omogočili zbiranje materiala na svojem dvorišču in silosu za žito.

## 5. Povzetek

V članku predstavljamo prehranske navade sokola selca *Falco peregrinus* v urbanem okolju Maribora. Prehrano smo ugotavljali z analizo ostankov plena v gnezdu. Te smo nabrali po zaključenem gnezdenju na gnezdišču na žitnem silosu in ob njem v oktobru 2015. Ostanke plena, predvsem kosti in perje, smo razvrstili po pripadnosti posameznemu delu telesa: lobanja s kljunom, peruti ter noge. Najštevilčnejše so bile peruti z 41,7 %, nekoliko manj je bilo ostankov nog z 28,1 %. V skupnem seštevku smo ugotovili 96 enot plena, ki je pripadal petim različnim vrstam ptic. V številu osebkov in po biomasi so prevladovali domači golobi *Columba livia domestica* s 64,6 % v številu in z 89,5 % v biomasi plena. Drugi najpogostejši plen sokola selca so bili škorci *Sturnus vulgaris*.

## Abstract

The article presents dietary habits of the Peregrine Falcon in the urban environment of Maribor. The diet was studied with an analysis of prey remnants at the nesting site. In October 2015, prey remnants were collected after the nesting in and around the nest built on top of the grain storage silo. Prey remnants, mostly bones and feathers, were sorted into body parts: skull with the beak, wings, and legs. Wings were the most numerous remnants with 41.7%, followed by legs and skulls with 28.1% each. In total, 96 units of prey were found, belonging to five different species of birds. The number of specimens and biomass was dominated by Feral Pigeons *Columba livia domestica* with 64.6% in number and 89.5% in prey biomass. The

second most frequent prey of falcons were Starlings *Sturnus vulgaris*.

**Cljučne besede:** domači golob, *Falco peregrinus*, prehrana, urbani habitat

**Keywords:** diet, *Falco peregrinus*, feral pigeon, urban habitat

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## AN EARLY AND THE FIRST DOCUMENTED RECORDS OF CITRINE WAGTAIL *Motacilla citreola* IN MONTENEGRO

### Prvo dokumentirano opazovanje citronaste pastirice *Motacilla citreola* v Črni gori

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Since the 1980s, Citrine Wagtail *Motacilla citreola* has been known as a rare vagrant in most Central and West European countries (LEXINGTON *et al.* 1991, SNOW & PERRINS 1998). The recent increase of observations outside its regular distribution appears to be linked to the species' westward expansion in western Russia and Ukraine (MEISSNER & SKAKUJ 1997, MURAVIEV *et al.* 2014). Additionally, identification techniques and the identification skills of many birdwatchers – in particular of birds in variable 1<sup>st</sup> winter plumages – have advanced considerably over the last decades (e.g., BARTHEL 1990, ALSTRÖM & MILD 2003). With occasional nesting records outside the species' regular breeding area, scattered but established populations currently exist in Belarus, the Baltic states and Poland (MEISSNER & SKAKUJ 1997, SNOW & PERRINS 1998).

At present, the first records of Citrine Wagtail in former Yugoslavia, and in particular Montenegro, remain unclear. On 26 Apr 1987 an adult male was observed in the Sečovlje Salina, Slovenia, which is – as far as I know – the first published record for the former Yugoslav countries (POLAK 1987, HANŽEL & ŠERE 2011). In Croatia, the species was reported for the first time in May and Sept 1997 when a total of four birds were caught during ringing operations at Lake Vransko in northern Dalmatia (STIPČEVIĆ *et al.* 2000). In Apr 2014 and in Apr 2015, respectively, HULO (2013/14) and DERVOVIĆ (2014/16) added the species to the bird lists of Serbia and Bosnia-Herzegovina. In

addition, from May – Jun 2016 territorial birds and a female which was, obviously, feeding small chicks were present at Vlasina Reservoir in south-eastern Serbia (MEDENICA & MIRIĆ 2015/16). While the latter constitutes the first nesting record on the Balkan Peninsula, the species is to my knowledge not known from the Autonomous Province of Kosovo and Metohija/Republic of Kosovo (ŠCIBAN *et al.* 2015) and the present Republic of Macedonia (VELEVSKI & VASIĆ 2017).

For Montenegro, Citrine Wagtail is not listed in the digital Avibase bird check-list of the country (<http://avibase.bsc-eco.org>; last update 2 May 2006) as well as in the most recent bird list after the independence of Montenegro from the former State Union of Serbia and Montenegro in 2006 (SAVELJIĆ & JOVIĆEVIĆ 2015). In the course of an evaluation of the species' status in the country, after two current sightings in the Bojana-Buna river delta, I came upon the obituary of British ornithologist BOB SCOTT (1938–2009), published in *The Times* (London) on 4 April 2009 and in *British Birds* (NEWELL 2009). Both sources mention, besides a number of new species Mr. Scott added to the British list as well as the check-lists of some other countries, a first record of Citrine Wagtail in Montenegro, but without any further details.

The short reference to the first sighting in „Yugoslavia (Apr 1987)” in LEXINGTON *et al.* (1991: 327), later cited by HADARICS & PELLINGER (1993), apparently concerns the Slovene bird in Sečovlje (POLAK 1987). According to the wife of BOB SCOTT, Ann, the early Montenegrin record should have been published by a library or university in former Yugoslavia. Because I could not find any other publication referring to the record in Montenegro, the relevant observation was probably never formally published. However, a friend of Mrs. and Mr. Scott who was with the group of British ornithologists in Yugoslavia, remembers the bird and is certain that the sighting was made at the Ulcinj Salina in May 1982 (A. SCOTT *in litt.*, 21 May 2016). Two more recent observations in Montenegro concern a male in the Ulcinj Salina on 3 May 2013 and a female which a holiday group of Austrian birdwatchers noted in the Tivat Salina, Boka Kotorska, on 17 Apr 2014. Consequently, unaware of the 1982 sighting in Ulcinj, STUMBERGER & SAMWALD (2016) suppose





**Figure 1:** Male Citrine Wagtail *Motacilla citreola* with male Yellow Wagtail *Motacilla flava cinereocapilla*, Salina Ulcinj, Montenegro, 18 Mar 2016 (photo: P. Sackl)

**Slika 1:** Samec citronaste pastirice *Motacilla citreola* s samcem rumene pastirice *Motacilla flava cinereocapilla*, Ulcinjske soline, Črna gora, 18. 3. 2016 (foto: P. Sackl)

that their observations may constitute the first records for Montenegro.

Following to the bird in Tivat in 2014, two more Citrine Wagtails were sighted at the Ulcinj Salina: on 18 Mar 2016 I noticed a male in breeding plumage within a loose flock of approximately 25 White *Motacilla alba* and a few Yellow Wagtails *Motacilla flava* ssp. *cinereocapilla*. During the late afternoon I was able to observe the bird while feeding in the mudflats of lowly flooded



**Figure 2:** Citrine Wagtail *Motacilla citreola*, 1<sup>st</sup> winter, Ulcinj Salina, Montenegro, 20 Nov 2017 (photo: P. Sackl)

**Slika 2:** Citronasta pastirica (*Motacilla citreola*), 1y, Ulcinjske soline, Črna gora, 20. 11. 2017 (foto: P. Sackl)

evaporation basins for 2 – 3 hours, before the whole group was flushed by the locals. The single male showed a comparably narrow black to blackish-grey nape-band, interrupted on both sides, and rather narrow to almost lacking white tips and white edges on the outer greater coverts (Fig. 1). Both characteristics are indicative for 1<sup>st</sup> summer males as well as the form *werae* which shows only slight and inconsistent differences to the nominate subspecies *citreola* (ALSTRÖM & MILD 2003). Finally, on 20 Nov 2017 I managed to shoot some pictures of a bird in 1<sup>st</sup> winter plumage on the salina's main dam, close to the evaporation basins where I saw the male in spring 2016 (Figure 2). This bird was also loosely associated with 8 – 10 mainly 1<sup>st</sup> winter White Wagtails, a seasonally late male Yellow Wagtail in winter plumage, and some Water Pipits *Anthus spinoletta*.

The late Bob Scott was a renowned ornithologist, well-respected for his identification skills, who served until his death as a member of the British Ornithologist's Union Council (BOU) and the Rarities Committee for the Seychelles (NEWELL 2009). Hence, there remains no doubt as to the identification of the bird in the Ulcinj Salina in May 1982 which, by preceding the first published sightings in Slovenia and Croatia, constitutes the first record of the species in the former Yugoslavian countries. While the rather late records in, particularly, Serbia and Bosnia-Herzegovina as well

as a gap of more than 30 years until the more recent observations in Montenegro since 2013, may derive from the political and economic upheavals after the last Balkan Wars, a total of five sightings of Citrine Wagtail are currently on record for the country.

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### Povzetek

S ciljanim pregledom literature in neobjavljenih virov sem ovrednotil status citronaste pastirice *Motacilla citreola* v Črni gori. Prvo opazovanje je iz maja 1982, ko je skupina britanskih ornitologov pod vodstvom Boba Scotta opazovala en osebek. To je hkrati tudi prvo opazovanje na zahodnem Balkanu. Po več kot tridesetih letih brez novih opazovanj je bila vrsta spet opazovana v Ulcinjskih (maj 2013, marec 2016, november 2017) in Tivatskih solinah (april 2014), skupno je iz Črne gore torej znanih pet podatkov.

### Abstract

For evaluating the current status of Citrine Wagtail *Motacilla citreola* in Montenegro, all available sightings were compiled from published and unpublished personal sources. A hitherto hardly known record of the species for the country by a holiday group of British birdwatchers, under the guidance of renowned ornithologist BOB SCOTT (1938–2009), dates from May 1982. The sighting in the Ulcinj Salina, in 1982, constitutes the first record of Citrine Wagtail in Montenegro and in the Western Balkans. More than 30 years later the species was sighted, between 2013 and 2017, again in the Ulcinj Salina (May 2013, Mar 2016, Nov 2017) and in the former Tivat Salina (Apr 2014). Hence, five observations are currently on record for Montenegro.

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## IZ ORNITOLOŠKE BELEŽNICE

## From the ornithological notebook

## SLOVENIJA / SLOVENIA

SIVA GOS *Anser anser*

**Greylag Goose** – In December 2017 and January 2018 more than 1000 Greylag Geese were present at the Medvedce reservoir, with up to 1,928 individuals counted on 4 Jan 2018. On that day, 494 White-fronted Geese were also observed. This is the highest number of Greylags counted so far in Slovenia and the highest number of any geese since the end of the 1990s.

Največje število gosi pri nas je bilo doslej zabeleženo na Ormoškem jezeru, in sicer v 90. letih 20. stoletja, ko so gosi tam redno prezimovale. Takrat se je občasno zbralo do 5000 gosi različnih vrst (ŠTUMBERGER 2000, ŠTUMBERGER 2001). V tistem času so bila visoka števila (2380) gosi zabeležena tudi na Ptujskem polju (BOMBEK 2001). Konec 90. let so na Dravi prevladovala njivske gosi *Anser fabalis*. Sivih gosi je bilo doslej največ zabeleženih na preletu (okoli 1300) nad Ptujskim jezerom (ŠTUMBERGER 1995), več kot 1000 v Škocjanskem zatoku (ŠKORNIK 1982) ter do 700 na Ormoškem jezeru (ŠTUMBERGER 2000). V zadnjem času so jate več kot sto sivih gosi manj pogoste (DENAC *et al.* 2011), zabeležene pa so bile na Cerkniškem jezeru (BORDJAN 2012), ribniku Komarnik (R. Šiško *pisno*) in na Ptujskem jezeru (L. Božič *pisno*). Na zadrževalniku Medvedce so bile sive gosi med 2002 in 2008 preletnice in zimske gostje z maksimumom nekaj deset osebkov (BORDJAN & BOŽIČ 2009). Od leta 2012 pa število sivih gosi narašča. Tako je bil maksimum v letu 2012 121 osebkov, 2013 327 osebkov, 2014 366, 2015 496, 2016 pa že 627 osebkov. Jeseni 2017 in pozimi 2017/2018 je število sivih gosi doseglo nov višek. Prve gosi so se jeseni pojavile sredi septembra in število je počasi naraščalo do viška 4. 1. 2018, ko smo našli 1928 sivih gosi. Več kot 1000 gosi je bilo zabeleženih od sredine decembra vse do konca januarja, potem pa močno upadlo na 280 osebkov v začetku februarja, morda zaradi otoplitve. Tega dne je bilo prešteti še 494 beločelih gosi. Gosi so prenočevale znotraj zadrževalnika, prehranjevale pa so se deloma na njivskih površinah v okolici zadrževalnika, deloma ob

robu obrežne vegetacije na južni in zahodni strani vodne površine. Število sivih gosi je najvišje kadarkoli prešteto doslej v Sloveniji in najvišje število gosi katerekoli vrste po koncu 90. let.

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RJASTA KOZARKA *Tadorna ferruginea*

**Ruddy Shelduck** – one observed on 23 Apr 2018 on Medvedce water reservoir (NE Slovenia). This is the second observation for the site and a rare one for Slovenia; accepted by the Slovenian Rarities Committee (Category C5)

Rjasta kozarka je redka vrsta Slovenije s 15 potrjenimi opazovanji v kategoriji C (HANŽEL 2017). Dne 23.4.2018 sem opazil eno rjasto kozarko na zadrževalniku Medvedce (SV Slovenija). Zgodaj zjutraj je počivala na vodni površini in se oglašala. Kmalu je zletela in začela krožiti. Bila je zelo vznemirjena. Po kakih petih minutah je odletela proti severu. Ptica ni kazala znakov, na podlagi katerih bi lahko sklepal, da gre za ubežnico. Ali je bil opazovani osebek iz naturalizirane ali pa iz naravne populacije, ni mogoče trditi z vso gotovostjo. Sicer gre za drugo opazovanje vrste na zadrževalniku (BORDJAN & BOŽIČ 2009).

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MOŠKATNA BLEŠČAVKA *Cairina moschata*

**Muscovy Duck** – A female with downy young observed near Bela village in Tuhinje valley on 26 Aug 2018; this is the fourth breeding record in Slovenia, confirmed by the Slovenian Rarities Committee (Category E')

Moškatna bleščavka je v Evropi tujerodna vrsta iz Srednje in Južne Amerike (CARBONERAS & KIRWAN 2017), ki se vse pogosteje pojavlja tudi v Sloveniji (npr.: HANŽEL 2017). Doslej so bila dokumentirana opazovanja štirih



gnezditve vrste. Tri so bila sicer v bližini naselij, vendar je šlo za prosto gibajoče osebkke, v enem primeru pa za opazovanje družine na dvorišču (ATLAS PTIC 2018A). Iz tega je vidna težavnost odločitve, kdaj gre za ubežnico in kdaj še vedno za domačo ptico (VREZEC 2001). Dne 26. 8. 2018 sem se peljal skozi Tuhinjsko dolino in pri zaselku Bela pri Motniku v daljavi opazil vozilo z vklapljenimi vsemi štirimi smerokazi. Iz previdnosti sem upočasnil in opazil, da dvoje vozil stoji na nasprotnem pasu. Ko sem pripeljal bliže, sem videl, da je na cestišču črno-bela raca s puhastimi mladiči. Tudi sam sem moral ustaviti in počakati, da je skupina odracala čez cestišče proti potoku Motniščica. Najbližja hiša je bila oddaljena slabih sto metrov. Verjetno je opazovana samica dvoriščna ptica, ki je gnezdila prosto v naravi. Torej gre za četrty primer gnezdenja vrste zunaj dvorišča in prvi v avgustu. Doslej so bila gnezdenja zabeležena eno v juniju (ATLAS PTIC 2018), dve v juliju (PODHRAŠKI 2014, A. KOTNIK *pisno*) in eno v septembru (BORDJAN 2015).

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### RIBJI OREL *Pandion haliaetus*

**Osprey** – one migrating individual observed at Rzenik, Velika planina (1650 m a.s.l.) on 4 Apr 2017; a rare alpine record for Slovenia

Ribji orli se čez Slovenijo selijo od marca do maja (BORDJAN 2012). Običajno se zadržujejo ob jezerih in manjših ribnikih, tudi potokih. Večina do konca maja zapusti Slovenijo, negnezdeče osebkke pa lahko vidimo



**Slika 1 / Figure 1:** Ribji orel / Osprey *Pandion haliaetus*, Rzenik, Velika planina (1650 m n. v.), 4. 4. 2017 (foto: D. Grohar)

tudi kasneje. Dne 4. 4. 2017 sem en osebek opazoval na planini Rzenik na Veliki planini na nadmorski višini 1650 m (slika 1). Proti vrhu sem zagledal, kako se spreletava nad krošnjami smrek in macesnov in ob termiki pridobiva višino. V sistematični raziskavi selitve ujed na Breginjskem Stolu ribji orel sicer ni bil zabeležen (DENAC 2010), vendar je raziskava potekala že po višku selitve te vrste. Na avstrijskem Štajerskem vrsto redno opazujejo na selitvi v visokogorju z najvišjima opazovanjema na 1950 oz. 2100 metrih nadmorske višine. Selitev ribjih orlov na tej nadmorski višini torej ni redkost, vendar jo je težko spremljati zaradi pomanjkanja rednih opazovalcev v visokogorju.

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### ŠKOLJKARICA *Haematopus ostralegus*

**Oystercatcher** – One migrating individual observed on 2 Sep 2018 near Vrhnika (central Slovenia); the first observation for Ljubljansko barje; record accepted as a regional rarity by the Slovenian Rarities Committee

Školjkarica je vrsta, ki jo komisija za redkosti obravnava kot regionalno redkost (HANŽEL 2017). Dne 2. 9. 2018 sem bil navzoč pri obročkanju ptic na Ornitološki postaji pri Vrhniku. Jutranja oblačnost se je dopoldan pričela umikati. V zraku so se pojavili sršenarji *Pernis apivorus* in se počasi začeli pomikati proti zahodu in jugozahodu. Skupaj sem jih v slabi uri naštel 18. Kmalu za prvo skupino sršenarjev je s severa naravnost proti nam priletela ptica, ki zaradi leta in oblike ni sodila na Barje. Skozi daljnogled sem videl večjega pobrežnika s precej močnim, ravnim, dolgim kljunom, črno glavo in belim trupom. Ob zamahu pa se je videla še črna zgornja stran peruti z očitno belo črto. Ptica nas je brez glasu preletela, se obrnila proti jugozahodu in izginila. Gre za prvo opazovanje vrste na Ljubljanskem barju (TOME *et al.* 2005) in redkejšo jesensko opazovanje v Sloveniji (ŠKORNIK 2012, ATLAS PTIC 2018). Omeniti velja, da je bila školjkarica v tem času (29. 8. in 4. 9. 2018) opazovana tudi na akumulaciji Brežice (ATLAS PTIC 2018B).

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## MALI ŠKURH *Numenius phaeopus*

**Whimbrel** – 1 ind. on 1 Apr 2018 at Škocjanski zatok Nature Reserve (SW Slovenia)

V Sloveniji je mali škurh reden spomladanski preletnik, ki se povečini pojavlja posamič. Višek spomladanskega preleta je ravno v mesecu aprilu (ŠKORNIK 2012). Dne 1. 4. 2018 sva se s kolegom odpravila na obhod po Naravnem rezervatu Škocjanski zatok, ko sva na opazovalnici št. 10 opazila malega škurha (slika 2). Po telefonskem pogovoru z Igorjem Brajnikom, ki v Naravnem rezervatu Škocjanski zatok opravlja redni tedenski monitoring vrst, sva zvedela, da je to po štirih letih prvi opazovani mali škurh v Naravnem rezervatu; vendar je pregled podatkov v NOAGS pokazal, da je bil mali škurh v zadnjih štirih letih večkrat opazovan v spomladanskem času.

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**Slika 2 / Figure 2:** Mali škurh / Whimbrel *Numenius phaeopus*, Škocjanski zatok, Koper 1. 4. 2018 (foto: Ž. Pečar)

## VELIKI SKOVIK *Otus scops*

**Scops Owl** – one individual with Hungarian ring caught on 4 Sep 2018 at Ljubljansko barje; third recovery in Slovenia and the first after 1964

V Sloveniji smo v letu 2018 intenzivno spremljali selitve velikih skovikov, saj o poteh njihove selitve še vedno ne vemo zelo veliko. Tako sva se, v okviru spremljanja jesenske selitve, v noči s 4. na 5. 9. odpravila na Ljubljansko barje pri Brestu. Od večera do jutra sva predvajala posnetek petja samca velikega skovika, saj sva v mrežo želela ujeti čim več osebkov, da bi jih opremila z individualnimi obročki. Na najino veliko veselje se nama je v mrežo malo pred polnočjo ujel osebek. Kar je bilo pri tem najbolj vznemirljivo, je bilo spoznanje, da ptica že ima obroček (Budapest LM 05874)

(slika 3). Veliki skovik je bil obročkan na Madžarskem v bližini kraja Nagykáta (47°22'21"N 19°44'43"E) kot mladič v gnezdu dne 6. 7. 2018. Razdalja med obema krajema je 430 km. Gre za izjemno in pomembno najdbo, prvo za velikega skovika po letu 1964 na območju Slovenije (Božič 2009).

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**Slika 3 / Figure 3:** Veliki skovik / Scops Owl *Otus scops*, Brest, Ljubljansko barje, 4. 9. 2018 (foto: T. Zagoršek)



### ČEBELAR *Merops apiaster*

**Bee-eater** – two solitary breeding pairs observed in 2017, one of them near the village of Paunoviči in Bela krajina (SE Slovenia). This is the first breeding record for the region. The second individual was observed along the Reka river near the village of Jablanica (SW Slovenia).

Čebelar je redka gnezdilka Slovenije, ki ima le nekaj stalnih gnezditvenih kolonij (ATLAS PTIC 2018). Je družabna vrsta, ki v glavnem gnezdi v kolonijah v peščenih stenah (KRIŠTIN & PETROV 1997). Kljub temu pa se pojavljajo tudi posamezni pari (TRSTENJAK 2001, FEKONJA 2007). V letu 2017 sem naletel na gnezdeči par čebelarjev na dveh lokacijah. Konec junija smo na Mladinskem ornitološkem taboru že prvi dan (26. 6.) opazovali čebelarja v bližini vasi Paunoviči. Par smo nato opazovali še cel teden. Zadrževala sta se v bližini vrtače, v kateri je bila zaradi erozije manjša spodjedena peščena stena z luknjo. Dne 17.7.2017 sem v bližini vasi Jablanica pri Ilirski Bistrici opazil čebelarja, ki je posedal na suhem drevesu ob strugi reke Reke. Kasneje sem opazil še drugi osebek. Oba sta izmenično lovila in posedala. Občasno pa sta poletela proti Reki. Ob strugi sem našel več primernih peščenih sten, a luknje nisem našel. Dva tedna kasneje sta bila čebelarja še vedno tam. Ob Reki je čebelar v preteklosti že gnezdil (SURINA 2000), medtem ko gre v Beli krajini za novo gnezdilko (ATLAS PTIC 2018c).

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### PEGAM *Bombycilla garrulus*

**Waxwing** – one individual observed on 15 Jun 2018 at Črnotiče (SW Slovenia); an exceptionally late record, possibly of captive origin

Dne 15. 6. 2018 zgodaj zjutraj smo se Jože Kozina, Miro Perušek in avtor prispevka odpeljali na ornitološki izlet po slovenskem Krasu. Ko smo že zapustili Črnotiče nad Črnim Kalom, smo se ustavili na robu borovega gozda. Pihala je kar močna burja, tako da smo nekatere vrste ptičev opazovali kar iz avtomobila. Ob opazovanju skalnega strnada *Emberiza cia* je Jože opazil rjavkastega ptiča, velikosti slegurja *Monticola saxatilis*, ki je priletel mimo. Usedel se je na suho vejo okoli 30 m stran od nas. Na suhi veji pred nami je čepel pegam, ki je nato zletel malo niže. Uspešno smo ga dokumentirali (slika 5). Kljub burji smo pregledali širšo okolico, vendar pegama nismo

več našli. Še dobro, da je Miro napravil dokazni posnetek, saj je pegama v času gnezdenja nemogoče videti v Sloveniji ali srednji Evropi. Ob tem se seveda zastavlja vprašanje, od kod je priletel ta osebek, saj v zimi 2017/2018 v Sloveniji pegamov ni bilo opaziti. Ali je možno, da bi ga kdo pri nas ali v bližnji Italiji imel v ujetništvu? Tako pozna opazovanja pegama v srednji Evropi so izjemna, obstajajo le posamični podatki iz Slovaške iz prve polovice 20. stoletja, ko so bili pegami opazovani julija oziroma avgusta (GLUTZ VON BLOTZHEIM & BAUER 1985).

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**Slika 5 / Figure 5:** Pegam / Waxwing *Bombycilla garrulus*, Črnotiče, 15. 6. 2018 (foto: M. Perušek)

### BRŠKINKA *Cisticola juncidis*

**Zitting Cisticola** – nest found in reedbed on 11 Aug 2018 at Sečovelje salt pans (SW Slovenia) at a height of 1.5 metres; both the nest height and location are unusual for the species

Od 9. 8. do 13. 8. 2018 sva z Rudijem Tekavčičem obročkala ptiče v Stojbah v Sečoveljskih solinah. Pri obročkanju sta sodelovala tudi Al Božič in Maks Sešlar. Po končanem obročkanju 11. 8. 2018 sva se z Maksom s kolesom odpeljala opazovat pobrežnike v solinah in druge vrste ob Dragonji. Ko sva prišla skoraj do konca ceste, sva na drugem bregu Dragonje zaslišala značilno petje brškink. Ob tem pa sva nad seboj zagledala črno štorčlo *Ciconia nigra*, ki ni ravno pogosta v Sečoveljskih solinah. (ŠKORNIK 2012).

Ko je v zraku naredila krog ali dva, nama jo je uspelo tudi dokumentarno slikati. Bolj po naključju sva na drugi strani Dragonje opazila brškinjo z majhno zeleno kobilico v kljunu. Odločila sva se, da bova opazovala, kam bo odletela s hrano v kljunu. Včasih je brškinja pri gnezdu zelo skrivnostna, tako da jo enkrat vidiš, drugič se skrivnostno pojavi ali izgine dobesedno pred očmi. Končno sva ugotovila, da opazuje to brškinjo v bližini njenega gnezda in zato sva se umaknila okoli 20 m stran. Ko je še večkrat s hrano v kljunu priletela in odletela z vrha trstičevja, sva pomislila na speljane mladiče. Presenečenje je bilo popolno, saj je bilo značilno gnezdo malo pod vrhom trstja (slika 6), ne



**Slika 6 / Figure 6:** Gnezdo brškinke *Cisticola juncidis* / Zitting Cisticola's nest, Dragonja, Sečoveljske soline, 11. 8. 2018 (foto: D. Šere)



**Slika 7 / Figure 7:** Sestoj trstja / Reedbed *Phragmites* sp. z gnezdom (puščica) / with nest (arrow), 13. 8. 2018 (foto: D. Šere)

pa na tleh v travi, kot je to običajno. Gnezdo je bilo dobrega 1,5 m od tal, v gnezdu so bili trije mladiči, stari od 4–5 dni. Kar nekaj gnezd sem doslej našel pri nas ali na otoku Pagu, vendar zmeraj na tleh in to pokončno „spletene“ v „sveži oz. zeleni“ travi. Dne 13. 8. 2018 sva ponovno obiskala omenjeno gnezdišče (slika 7) in obročkala mladiče. Mogoče še majhna zanimivost: ko sva našla gnezdo, je bilo trstičevje ob vodi v vlažnem blatu, ob drugem obisku pa je bilo pod vodo, kar je verjetno vpliv plime in oseke. Pregledal sem literaturo in ugotovil, da ima brškinja gnezdo v trstičju le izjemoma, višina 1,5 metra od tal pa je prav tako nadpovprečna (GLUTZ VON BLOTZHEIM & BAUER 1991). Možno je, da je bila prisiljena splesti gnezdo na vrhu trstja, saj je bila vsa trava v okolici Dragonje in ceste pokošena.

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### BRKATA SINICA *Panurus biarmicus*

**Bearded Tit** – one male caught and ringed on 23 Oct 2018 at Šebrelje (W Slovenia) at an altitude of 640 m a.s.l.; a rare record away from this species' suitable habitat

Dne 23. 10. 2018 sem doma v vasi Šebrelje na koruzni njivi obročkal ptice (slika 8). Dan je bil lep, sončen, četudi se je v dolini zadrževala gosta megla. Nenadoma sem zaslišal oglašanje ptice, katere glas sem doslej slišal le na posnetku. Takoj sem vklopil predvajalnik in v hipu se mi je v nastavljeno mrežo ulovil samec brkate sinice (slika 9). Odraslega samca brkate sinice sem obročkal z oznako AX



**Slika 8 / Figure 8:** Koruzna njiva / Maize field, Šebrelje, Cerklje ob Gori, 23. 10. 2018 (foto: B. Lapanja)





**Slika 9 / Figure 9:** Brkata sinica / Bearded Tit *Panurus biarmicus*, Šebrelje, Cerkno, 23. 10. 2018 (foto: B. Lapanja)

36070 ter si zapisal naslednje biometrične podatke: dolžina peruti 59 mm, teža 12,5 g. Zanimivo je, da je brkata sinica preletela našo planoto na višini 640 m nadmorske višine, saj je to vrsta trstišč in nižin (GLUTZ VON BLOTZHEIM & BAUER 1993). Potem ko sem jo še fotografiral in nato izpustil, se je oglašanje te zanimive vrste sinice slišalo še med njenim letom proti jugozahodu.

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### PROGASTI TKALEC *Ploceus manyar*

**Streaked Weaver** – Icy female caught and ringed on 28 Aug 2018 at Hraše Ponds (C Slovenia); confirmed by the Slovenian Rarities Committee (KRED) (category E) as the first record for Slovenia

Kot vsako leto sem tudi leta 2018 avgusta obročkal ob Hraških mlakah. Trstičje je tokrat zraslo zelo visoko in bilo idealno za lov. V večjem številu so prevladovali trstnice, ujel pa sem tudi slavce *Luscinia megarhynchos*, velike slavce *Luscinia luscinia*, vse tri vrste cvrčalcev *Locustella* sp. in modre taščice *Luscinia svecica*. Zabeleženih je bilo tudi 12 tujih najdb, največ močvirskih trstnic *Acrocephalus palustris* (pet), vse z obročki iz Belgije. Prvič je bila v Hrašah 22. 9. 2018 obročkana tudi svilnica *Cettia cetti*, obročkal jo je M. Pustoslemšek. Dne 28. 8. 2018 sem po uspešnem lovu zaključeval z obročkanjem. Ko sem šel pobirati mreže,



**Slika 10 / Figure 10:** Progasti tkalec / Streaked Weaver *Ploceus manyar*, Hraške mlake, Smlednik, 28. 8. 2018 (foto: D. Grohar)

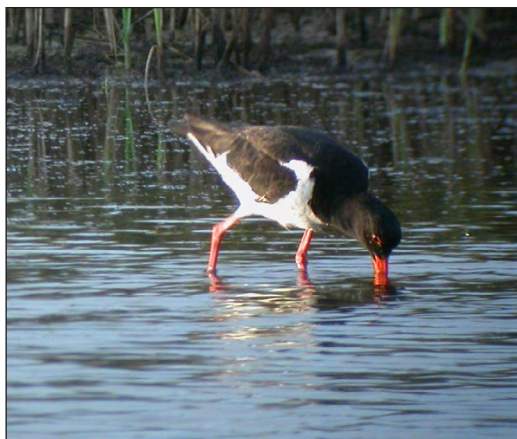
se je v zadnjo ujela neobičajna ptica (slika 10). Bila je majhna, čokata, z močnim debelim kljunom. Vzel sem biometrične podatke (dolžina peruti 65 mm, teža 11,7 g) ter jo obročkano z oznako AH 88419 vrnil v naravo. Z D. Šeretom, s katerim sem takoj stopil v stik, sva ugotovila, da gre za progastega tkalca, ki živi v trstičevju ob Nilu na severu Egipta (kamor jo je vnesel človek) in v jugovzhodni Aziji (BIRDLIFE INTERNATIONAL 2018). Ali gre za pobegli osebek iz ujetništva, ali pa je do tod priletel sam? Ujel sem prvoletno samico brez kakršnihkoli znakov, da bi bila ptica z ujetništva. Pri gojiteljih ta ptica ni pogosta, o gojenju v Sloveniji nimam podatkov.

Pripis: Vrsta se ne seli na daljše razdalje (CRAIG 2018), zato je kljub zgoraj zapisanemu manj verjetno, da bi Slovenijo dosegel osebek iz prostoživečih azijskih populacij. Komisija za redkosti je opazovanje potrdila kot prvo za Slovenijo (kategorija E).

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### HRVAŠKA / CROATIA

ŠKOLJKARICA *Haematopus ostralegus*  
**Oystercatcher** – 38 individuals seen migrating



**Slika 11 / Figure 11:** Školjkarica / Oystercatcher *Haematopus ostralegus*, Kolansko blato, otok Pag, 6. 7. 2018 (foto: D. Šere)

over stony meadows NW of Poveljana in SE part of Pag Island on 29 Apr 2018; probably one of the largest flocks recorded in Croatia

Školjkarica je maloštevilna gnezdilka severnega Jadrana (ŠKORNIK 2012) in Ulcinjskih solin (SAVELJIĆ *et al.* 2007). Večja števila so opazovana na selitvi na izlivu reke Bojane/Bune na meji Črne gore z Albanijo (SACKL *et al.* 2014). Drugod po Jadranu se školjkarica pojavlja v manjšem številu (do 10 os.) na izlivu reke Neretve (RUCNER 1998), posamezni osebk pa se bolj ali manj redno pojavljajo še v Sečoveljskih solinah (ŠKORNIK 2012) in na otoku Pagu (ŠERE 2015, D. TOME *pisno*). Dne 29.4.2018 sem severozahodno od Poveljane (jugovzhodni del Paga) oprezal za pticami skalnatih travnikov, ko me je na višini več kot 100 m preletela jata 38 školjkaric. Letele so vzporedno z obalo Jadrana, t.j. SZ-JV. Na Pagu so posamezni osebk opazovani bolj ali manj redno v poletnih mesecih (D. TOME *osebno*), tako da gre verjetno za največje opazovano število školjkaric in eno redkejših spomladanskih opazovanj na Pagu ter tem delu Jadrana (Hrvaška in Slovenija).

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**ŠKOLJKARICA** *Haematopus ostralegus*  
**Oystercatcher** – one individual observed on 6 Jul 2018 at Kolansko blato (Pag Island, N Dalmatia); scarce record for the island

Dne 6. 7. 2018 sem v poznih popoldanskih urah v mlaki Rogoza na Kolanskem blatu opazil plevico *Plegadis falcinellus*. Ker sem imel pred kamp-prikolico na stavitu že pripravljen digiskop, sem se odločil, da plevico tudi slikam. Ko sem se vrnil, sem na veliko presenečenje pred seboj zagledal še školjkarico (slika 11), ki je prej še ni bilo. Bredla je po vodi in se prehranjevala. Sam sem imel dotlej to vrsto priložnost opazovati na otoku Pagu samo enkrat, in sicer 29. 5. 2015 na Malem blatu (ŠERE 2015).

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### ZLATOVRANKA *Coracias garrulus*

**Roller** – one individual observed at Kolansko polje (Pag Island, N Dalmatia) on 2 Jul 2018; a rare record for the island

Dne 2. 7. 2018 sem na Kolanskem polju opazoval odrasel osebek zlatovranke. Sedela je na vrhu grmu, a zletela, ko sem se pripeljal mimo. Usedla se je kar precej stran na drug grm in tako se mi je ponudila priložnost, da jo dokumentarno slikam (slika 4), preden zleti stran. Naslednji dan sem si vzel čas in prehodil skoraj celotno območje tega polja, vendar je nisem več opazil. Pomislil sem na možnost gnezditve, na spolno nezrel osebek ali zgodnjega preletnika, ki gnezdi nekje v bližini. To je moj drugi podatek o vrsti s Paga. Prvič sem jo zabeležil dne 4. 5. 2009 (ŠERE 2009) na istem mestu kot leta 2018. Naslednje leto načrtujem postavitev gnezdilnic za to



**Slika 4 / Figure 4:** Zlatovranka / Roller *Coracias garrulus*, Kolansko polje, Kolan, otok Pag, 2. 7. 2018 (foto: D. Šere)



vrsto na Kolanskem polju. Na osnovi teh podatkov lahko sklepam, da je zlatovranka zelo redka vrsta otoka Paga.

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### RDEČA LASTOVKA *Cecropis daurica*

**Red-rumped Swallow** – a nest discovered near Stara Novalja (Pag Island, N Dalmatia); last juvenile seen on 12 Oct 2018; a relatively late record

Dne 9. 7. 2018 sem našel aktivno gnezdo rdeče lastovke pri cerkvi Sv. Antona pri Stari Novalji na otoku Pagu. Poleg cerkvice stoji manjša opuščena stavba (slika 12), v kateri je bila svojčas večja vodna črpalka. Na oknih ni stekel in tako je možen dostop pticam v ta prostor. Tistega dne sta starša hranila mladiče v gnezdu (slika 13), občasno je kateri že pogledoval iz gnezda ali celo zletel iz njega ter se usedel na železno ogrodje, kjer je bil en mladič 13. 7. tudi fotografiran (slika 14). Zaradi kasnejših opazovanj in spremljanja nadaljnega gnezdenja sta bila oba starša tudi obročkana. Skupno so bili opazovani trije mladiči, ki so skupaj s starši še nekaj dni prenočevali v gnezdu ali zunaj gnezda v stavbi. Ponoven obisk omenjenega gnezdišča dne 29. 8. 2018 je ponudil zanimivo sliko. Dve odrasli rdeči lastovki sta se kar nekaj časa spreletavali okoli te stavbe, vendar v samo zgradbo oziroma h gnezdu nista zleteli. Malo kasneje sta se usedli na suho vejo bližnjega drevesa in takrat se je na eni od lastovk zasvetil svetel obroček na desni nogi. Iz tega opazovanja se da zaključiti, da sta se še oba starša konec avgusta zadrževala v območju okoli tega



**Slika 13 / Figure 13:** Gnezdo rdeče lastovke *Cecropis daurica* / Red-rumped Swallow's *Cecropis daurica* nest, Stara Novalja, otok Pag / Pag Island, 9. 7. 2018 (foto: D. Šere)



**Slika 14 / Figure 14:** Rdeča lastovka / Red-rumped Swallow *Cecropis daurica*, 1cy, Stara Novalja, otok Pag / Pag Island, 13. 7. 2018 (foto: D. Šere)



**Slika 12 / Figure 12:** Opuščena zgradba pri Stari Novalji / Abandoned building near Stara Novalja, otok Pag / Pag Island, 9. 7. 2018 (foto: D. Šere)



**Slika 15 / Figure 15:** Rdeča lastovka / Red-rumped Swallow *Cecropis daurica*, 1cy, Stara Novalja, otok Pag / Pag Island, 12. 10. 2018 (foto: D. Šere)

gnezdišča. Gnezdenje ni bilo ugotovljeno, čeprav bi bilo še možno. Možnost gnezdenja dopolnjuje podatek, da se je en mladič rdeče lastovke 12. 10. 2018 spreletaval v tej stavbi in bil takrat tudi slikovno dokumentiran (slika 15). Težko je potrditi, ali je bil to eden od mladičev iz prvega legla, kar pa je glede na časovno obdobje (julij – oktober) malo verjetno. Podatek bi imel bistveno večjo vrednost, če bi bili takrat mladiči obročkani. Večja verjetnost pa je, da sta starša med tem časom speljala drug zarod. To domnevo dopolnjuje podatek iz bližnje Paklenice-Starigrad, kjer so v gnezdu prenočevale rdeče lastovke še od 16. 9. do 2. 10. 2004 (LUKAČ 2011). Rdeče lastovke so bile doslej že večkrat opazovane na otoku Pagu, predvsem v spomladanskem času. Opažene so bile tudi poleti, vendar kljub vztrajnemu iskanju gnezda po opuščeni stavbah gnezdenje ni bilo potrjeno. Dne 30. 8. 2005 sem eno prvoletno rdečo lastovko obročkal na Kolanskem blatu. Kasnejši datumu opazovanj niso bili zabeleženi. Glede na to, da rdeče lastovke gnezdiijo po celini okoli otoka Paga, preseneča dejstvo, da na tem otoku ni bolj številna. Upošteva je dejstvo, da je pri cerkvi Sv. Antona pri Stari Novalji že več kot deset let stalna opazovalna točka za spremljanje preleta rožnatih škorcev *Pastor roseus* v zadnjih dneh maja, lahko domnevamo, da je rdeča lastovka v tej zgradbi zanesljivo gnezdila prvič.

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### ROŽNATI ŠKOREC *Pastor roseus*

**Rose-coloured Starling** – several hundred individuals observed on Pag Island (N Dalmatia) between 26 and 28 May 2018; last major influx at the site dates to 2002

Že več kot 20 let od zadnjih dni meseca maja do prvih dni junija redno spremljam selitev rožnatih škorcev na Pagu. V tem obdobju so se pojavljali redno vsako leto, vendar je njihovo število nihalo med 50 in 100 osebkov v enem letu (od konca maja do prvih dni junija). Zadnje množično pojavljanje sega v leto 2002, ko je število preseglo 1000 osebkov. Ob tej priložnosti bi dodal, da številčnost in pojavljanje nista povezana z dozorevanjem murv, češenj ali rojenjem kobilic, kar se je v teh letih sicer zgodilo samo enkrat. Ko priletijo, se prehranjujejo s tistimi plodovi, ki so najbolj zreli in številni. Za celotno

obdobje je že v pripravi obširnejši prispevek o pojavljanju rožnatih škorcev na otoku Pagu. Dne 26. 5. 2018 sem se s prijateljema Jožetom Kozino in Mirom Peruškom odpravil na Pag z namenom, da slikamo in opazujemo



**Slika 16 / Figure 16:** Rožnati škorec / Rose-coloured Starling *Pastor roseus*, 26. 5. 2018, Tovarnele, Lun, otok Pag / Pag Island (foto: D. Šere)

prihajajoče rožnate škorce. Na naše veliko presenečenje so nas že na poti po Jadranski magistrali proti cilju preletele številne jate. Ko smo prispeli v Lun na skrajnem severu Paga, so nas že obletavali številni škorci (slika 16). Običajno se tu rožnati škorci prehranjujejo z murvami, češenj ni bilo, ker so jih lastniki že obrali. Spustili smo se v pristanišče zaselka Tovarnele, kjer je nekaj sto rožnatih škorcev „napadalo“ zrele murve *Morus* sp. okoli hiš. Od tod naprej običajno eni letijo čez morje proti otoku Rabu, drugi proti obali celine. Ene jate so prihajale, druge odhajale, tako da škorcev ni bilo mogoče natančno prešteti. Naslednji dan smo obiskali ostale kraje otoka, tja do Povljane. Skoraj ves čas smo imeli priložnost opazovati manjše jate rožnatih škorcev, ki so letele proti severu otoka. Dne 28. 5. pa so vse jate, ki smo jih videli, letele proti jugu. Morda so se prvi rožnati škorci že vračali proti svojim gnezdiščem v skrajni vzhodni Evropi in Aziji. Leta 2018 so rožnate škorce v velikem številu opazovali tudi drugod v Evropi.

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## NOVE KNJIGE

## New Books

**Newton, I. (2017): Farming and Birds. – HarperCollins Publishers, London. 628 strani. ISBN 978-0-00-814790-7.**

Ornitologi in ljubitelji ptic smo se že skorajda navadili, da vsakih nekaj let Ian Newton, sedaj že upokojeni angleški ornitolog, obogati naše strokovne in domače knjižnice z novim presežnim delom, ki obravnava določen vidik življenja ptic. Vsa po vrsti so namreč s svojim celovitim pristopom ter odličnim avtorjevim poznavanjem tematike in dosedanjih raziskav postala referenčna dela, h katerim se pogosto vračamo.

Tako smo se lahko samo razveselili ob novici, da je Newton svoje najnovejše delo posvetil enemu od najbolj kritičnih varstvenih področij in ekosistemov na planetu, tj. kmetijstvu in kmetijski krajini. Kakovost njegove knjige povsem zadosti visokim pričakovanjem in navduši z mojstrskim prepletom ornitologije, ekologije in kmetijstva. Kot v uvodu zapišejo uredniki, bo ta knjiga zanimiva vsem ljubiteljem narave in obvezno branje za strokovnjake, ki se profesionalno ukvarjajo s področjem kmetijstva.

Delo obsega 22 poglavij, ki jih lahko okvirno razdelimo na štiri dele. V prvem delu avtor postavi okvir z opredelitvijo kmetijske krajine in poskusom razvrstitve gnezdkil Velike Britanije glede na njihovo povezanost s kmetijskimi ekosistemi v prvem poglavju ter predstavitev populacijskih trendov ptic kmetijske krajine v drugem. Naslednji dve poglavji zgoščeno predstavita razvoj kmetijstva v Veliki Britaniji od neolitika do t.i. povojne kmetijske revolucije. Pri tem so nenehne in pogosto izrazite spremembe v rabi tal predstavljene skozi prizmo njihovega vpliva na ptice. Izkaže se, da gre za zelo zanimivo perspektivo, ki razširja obzorja in bo verjetno marsikoga spodbudila k bolj poglobljenemu proučevanju vpliva razvoja kmetijstva na naravo tudi v zgodovini slovenskih dežel.

V drugem delu avtor v treh poglavjih poda splošen pregled povezav med kmetijskimi praksami, ekologijo agroekosistemov in pticami.

Ta vključuje fizično okolje (podnebje, tla), (talne) nevretenčarje, poljščine, vrste domačih živali, plevele, škodljivce in bolezni. Tretji del knjige je najbolj obsežen in obravnava učinke sodobnih kmetijskih proizvodnih sistemov na populacije ptic. Podrobno so predstavljeni poljedelski pridelovalni sistemi in njivske površine, različni tipi in oblike rabe travišč, mokrišča, odprte vodne površine, gozdovi, grmišča in vresišča, kmetijska poslopja, mejice in druge linearne strukture ter kmetovanje na višjih nadmorskih višinah. Posebni poglavji v tem delu sta posvečeni tudi problematiki neposrednih in posrednih učinkov pesticidov na ptice ter zmanjševanju populacij žuželk. Knjiga se zaključi s pregledom dosedanjih poskusov varstva ptic s pomočjo kmetijsko-okoljskih programov. Avtor tu poda pregled različnih ukrepov, izpostavi (uspešne) programe varstva določenih ciljnih vrst in na podlagi pregleda raziskav presodi uspešnost dosedanjih kmetijsko-okoljskih shem.

Glede na obsežnost in vso tragiko hitrega izginjanja biotske pestrosti v kmetijski krajini vsak pisec, ki se loti te tematike, težko ostane pozitiven. Knjiga zato kljub svoji izjemni berljivosti na mnogo mestih ni prijetno branje. Avtorju se tukaj uspe dvigniti nad čustva in izogniti zagrenjenosti, ki v razpravah in delu naravovarstvenikov na tem področju ni tako redka. S tem ohrani širino, ki je nujno potrebna za objektivno obravnavo te v resnici zelo kompleksne družbene problematike.

V odlično pripravljenem besedilu, ki je obogateno z ravno pravnjo količino slikovnega materiala, je težko najti kak pomembnejši vidik, ki bi ga bilo potrebno izpostaviti kot kritiko. Smiselno pa je opozoriti, da se je avtor osredotočil na Veliko Britanijo, zato tujim bralcem, zlasti iz južne in vzhodne Evrope, knjiga ne bo podala povsem celovite slike dogajanja v njihovi domači državi. Tega avtorju seveda ne moremo zameriti, bi pa bilo koristno, da bi bolj poglobljeno spoznali tudi problematiko opuščanja kmetovanja in posledičnega zaraščanja ter izginjanja nekaterih regionalno specifičnih in tradicionalnih proizvodnih sistemov.

Interdisciplinarni preplet biologije in kmetijskih znanosti pri razlagi sprememb v populacijah ptic kmetijske krajine je v zadnjih desetletjih vse bolj v ospredju. Ta knjiga zaokrožuje dosedanja raziskovanja in avtor naporu številnih raziskovalcev s tem delom izkazuje dolžno spoštovanje. Po branju si lahko samo želimo, da bodo pisci problematiko varstva ptic in kmetijstva na takšnem nivoju kmalu lahko osvetlili tudi v navezi z ekonomsko in drugimi družboslovnimi znanostmi. Interdisciplinarni pristop Newtonne knjige je tako svojevrsten mejnik, ki vabi nove znanosti in geografska območja, da skupaj dajo svoj prispevek k razumevanju in iskanju rešitev za varstvo ptic kmetijske krajine v prihodnosti.

TANJA ŠUMRADA



## NAJAVE IN OBVESTILA

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### Announcements

#### Announcement of the 2019 Monticola meeting

Monticola: 55th International meeting in 2019 at Lake Bohinj

MONTICOLA is the International Association for Ornithology of the Alps. The annual meetings take place in different parts of the Alps (eg 2018 in Vallouise / France). The 2019 meeting is scheduled 11 to 16 June 2019 and takes place in Ribčev Laz at Lake Bohinj, Slovenia. During the meeting several field trips will take the participants to a variety of places and habitats in the Slovenian Alps; evening lectures concerning different topics of ornithology will be held either in English or in German. For details see [www.monticola.org](http://www.monticola.org) or contact Clemens Lunczer, who is organising the meeting, via e-mail ([c.lunczer@t-online.de](mailto:c.lunczer@t-online.de)).

Guests are welcome, and we look forward seeing you at Lake Bohinj in June 2019!

# monticola





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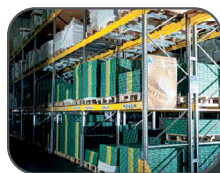
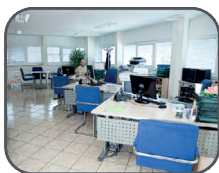
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# Navodila za avtorje / Instructions for authors

Original work from all fields of ornithology, irrespective of its geographic origin, is published in *Acrocephalus*. However, submissions from southeast Europe and eastern Mediterranean are particularly encouraged. Submissions are considered on the condition that papers are previously unpublished, are not simultaneously submitted elsewhere and that all the authors approve of the content.

*Acrocephalus* publishes original articles, review articles, points-of-view, editorials (commissioned by the editor), letters, short communications, short notes ("From the ornithological notebook"), thesis abstracts and book reviews. Contributions can be published in English or Slovene. Manuscripts must be written with a solid basis in the English language. For papers with an inadequate level of English the editor reserves the right to delay their entry in the editorial process pending language editing at the expense of the authors.

## Submission process:

Manuscripts should be submitted by e-mail to [jurij.hanzel@dopps.si](mailto:jurij.hanzel@dopps.si). Original articles and review articles are peer-reviewed by two referees and further reviewed by the editor and the editorial board. The procedure can therefore be expected to last at least three months. The authors should modify their work according to the referees' comments and explain any non-accepted comments when returning the manuscript. The editor decides whether the manuscript should be accepted, rejected or additional review is to be made. Points-of-view and short communications are reviewed by one referee, while short notes ("From the ornithological notebook") are reviewed by the editor. All manuscripts are proofread for the correct use of English and Slovene.

## General remarks:

Manuscripts should be edited in Microsoft Word or OpenOffice.org (DOC or DOCX format), the font should be Times New Roman, size 12pt and formatted in single spacing. Send figures separately from the manuscript in TIFF or JPG formats with a resolution of at least 300 dpi. For vector graphics EPS and CDR are preferred. Send tables and graphs in XLS format, each in a separate worksheet of the same XLS document. Titles and legends of tables and graphs should be included both in the manuscript and the XLS document. English bird names should follow SVENSSON *et al.* (SVENSSON L., MULLARNEY K., ZETTERSTRÖM D. (2009): *Collins Birdguide*. 2nd Edition. – HarperCollins, London). Scientific bird names should follow recommendations of the British Ornithologists' Union Records Committee Taxonomic Sub-committee [<http://www.bou.org.uk/british-list/bour-reports-and-papers>]. Slovene bird names should follow JANČAR *et al.* (JANČAR T., BRAČKO F., GROŠELJ P., MIHELČIĆ T., TOME D., TRILAR T., VREZEC A. (1999): *Imenik ptic zahodne Palearktike*. – *Acrocephalus* 20 (94/96): 97–162).

## Format of original articles submitted for publication

The manuscript should be headed by the title, article type, names of authors, their affiliation and e-mail addresses. If the first author is not the corresponding author, this should be indicated.

**Abstract:** It should present the aims, methods, main results and conclusions in no more than 250 words. References and abbreviations should not be used in the abstract.

**Key words:** Give up to 8 keywords separated by commas. Choose them carefully, because they serve indexing purposes and enable readers to find your paper in online databases.

**Main text:** The IMRAD structure (Introduction, Methods, Results, Discussion) should be followed. Scientific names in italics should be given in the title (if appropriate), at the first mention of the species in the abstract and at the first mention in the main text.

**References** should be cited in alphabetical order and, for the same author, in chronological order. If the author published more than one work in the same year, a small letter is added to the year (e. g. TOME 1990A). In the

text, references are cited as HOWELL (2012) or (HOWELL 2012), as appropriate. Works written by two authors are cited as (BORDJAN & BOŽIĆ 2009), those by more than two authors as (BORDJAN *et al.* 2013). Citing unpublished data should be avoided as much as possible, these references should only be mentioned in the main text, not in the list of references. Citing of papers in preparation is only allowed if they are already accepted for publication. References should be cited in the following style:

**journal paper:** PETKOV N. (2011): Habitat characteristics assessment of the wetlands with breeding Ferruginous Duck *Aythya nyroca* and Pochard *A. ferina* in Bulgaria. – *Acrocephalus* 32 (150/151): 127–134.

**book:** BALMER D. E., GILLINGS S., CAFFREY B. J., SWANN R. L., DOWNE I. S., FULLER R. J. (2013): *Bird Atlas 2007–11: The Breeding and Wintering Birds of Britain and Ireland*. – BTO Books, Thetford.

**chapter in book:** DIEDRICH J., FLADE M., LIPSBERGS J. (1997): Penduline Tit *Remiz pendulinus*. pp. 656–657. In: HAGEMELER W. J. M., BLAIR M. J. (eds.): *The EBCC Atlas of European Breeding Birds*. – T & AD Poyser, London.

**short note:** ERNST S. (2013): Pygmy Owl *Glaucidium passerinum*. – *Acrocephalus* 34 (156/157): 131–132.

**conference proceedings:** VREZEC A. (2007): The Ural Owl (*Strix uralensis macroura*) – status and overview of studies in Slovenia. pp. 16–31. In: MÜLLER J., SCHERZINGER W., MONING C. (eds.): *European Ural Owl workshop: Bavarian forest national park*. – Graphischer Atelier H, Prague.

**dissertation or thesis:** LIČINA T. (2012): [Predation of eggs in artificial ground bird nests in forest in the area of Menina mountain]. BSc thesis. – Univerza v Ljubljani, Biotehniška fakulteta, Oddelek za biologijo. (in Slovene)

**web source:** ZOIS, S. (1790/1800): *Aves terrestres Europae*. – [<http://www.dlib.si/details/URN:NBN:SI:DOC-YJ3DA9MZ>], 01/05/2014.

**legislation:** URAĐNI LIST RS (2011): Uredba o Načrtu upravljanja Krajinskega parka Sečoveljske soline za obdobje 2011–2021. No. 53/2011.

Titles of works, published in languages other than English or Slovene, should only be translated if a translated title is supplied with the original work. For example:

MONTADERT M., LÉONARD P. (2011): [Breeding biology of Hazel Grouse *Bonasa bonasia* in the South-Eastern French Alps (1<sup>st</sup> part)]. – *Alauda* 79 (1): 1–16. (in French)

Titles, originally in a script other than Latin, should be latinized even if the original language is preserved.

**Tables** should be headed by an informative title and a brief explanatory legend, enabling the reader to understand the general meaning without referring to the main text. Tables are drawn without vertical lines and referred to as, e. g. "Table 1" in the text.

**Figures:** Titles should be given below the figures. They are referred to as, e. g. "Figure 1" in the text.

## Format of other sections

**Review articles and points-of-view** should follow the same general rules as original articles, but the titles of sections may be adapted to the content.

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**Forum:** The author of the comment is allowed one comment, to which the author of the original article can reply in the same issue.

**Short notes "From the ornithological notebook":** The title is the name of the species. A short abstract should give the date of observation, observation site with coordinates (UTM, degrees or Gauss-Krüger) and summarize the note. In the text, references are cited as SNOW & PERRINS (1998) or (SNOW & PERRINS 1998) as appropriate. Short notes should be submitted in separate files, one note per file.

**Special abbreviations used in text:** English: *pers. comm.*, *unpubl.*, *own data*, *in print*, *in prep.*; Slovene: *pisno*, *ustno*, *neobj.*, *lastni podatki*, *v tisku*, *v pripravi*.



## Uvodnik / Editorial

### 1 ČRNA GORA – REFERENČNA VREDNOST ZA NARAVO

(B. RUBINIĆ)

Montenegro – a reference value for nature

(B. RUBINIĆ)

## Originalni članki / Original articles

### 7 BREEDING BIRDS IN THE NARTA LAGOON (SW ALBANIA) IN 2016

(V. MLADENOV, R. GEORGIEVA, M. ILIEV, Y. BARZOVA,

S. DJULGEROVA, M. TOPI, R. LLESHI & S. C. NIKOLOV)

Gnezdiške lagune Narta (JZ Albanija) leta 2016

(V. MLADENOV, R. GEORGIEVA, M. ILIEV, Y. BARZOVA,

S. DJULGEROVA, M. TOPI, R. LLESHI & S. C. NIKOLOV)

## Kratki prispevki / Short communications

### 27 OCCURRENCE OF RED KITES *Milvus milvus* IN SERBIA BASED ON BIRDS TRACKED BY TELEMETRY DEVICES

(I. LITERÁK, R. RAAB, S. VYHNAL, P. SPAKOVSKY, J. STEINDL)

Pojavljanje rjavih škarnikov *Milvus milvus*, spremljanih s telemetrijo, v Srbiji

(I. LITERÁK, R. RAAB, S. VYHNAL, P. SPAKOVSKY, J. STEINDL)

### 33 GULL ATTACKS ON MIGRATING BIRDS AT ADA ISLAND (S MONTENEGRO)

(D. BORDJAN, I. KLJUN)

Napadi galebov na ptice selivke na otoku Ada (J Črna gora)

(D. BORDJAN, I. KLJUN)

### 39 PREHRANA SOKOLA SELCA *Falco peregrinus* V URBANEM OKOLJU MARIBORA (SV SLOVENIJA)

(F. JANŽEKOVIČ, F. BRAČKO, A. TOMAŽIČ, T. KLENOVŠEK,

N. MENCINGER)

Diet of Peregrine Falcons *Falco peregrinus* in the urban environment of Maribor (NE Slovenia)

(F. JANŽEKOVIČ, F. BRAČKO, A. TOMAŽIČ, T. KLENOVŠEK,

N. MENCINGER)

### 45 AN EARLY AND THE FIRST DOCUMENTED RECORDS OF CITRINE WAGTAIL *Motacilla citreola* IN MONTENEGRO

(P. SACKL)

Prvo dokumentirano opazovanje citronaste pastirice *Motacilla citreola* v Črni gori

(P. SACKL)

### 49 Iz ornitološke beležnice /

From the ornithological notebook

SLOVENIJA / SLOVENIA: *Anser anser*, *Tadorna*

*ferruginea*, *Pandion haliaetus*, *Haematopus*

*ostralegus*, *Numenius phaeopus*, *Otus scops*, *Merops*

*apiaster*, *Bombycilla garrulus*, *Cisticola juncidis*,

*Panurus biarmicus*, *Ploceus manyar*

HRVAŠKA / CROATIA: *Haematopus ostralegus*,

*Coracias garrulus*, *Cecropis daurica*, *Pastor roseus*

### 59 Nove knjige / New Books

### 61 Najave in obvestila / Announcements