

OBSERVATIONS ON BREEDING AND NONBREEDING BIRDS IN THE CENTRAL FORE-BALKAN, NORTHERN BULGARIA

Opazovanja gnezdilk in negnezdilk osrednje predbalkanske regije, severna Bolgarija

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1. Introduction

Detailed avifaunal studies in places located to the north of the main Balkan ridge (excluding the Danube and the Black Sea Coast) are scarce and the majority were published some decades ago (PETROV & ZLATANOV 1955, DONCHEV 1970 & 1974, SIMEONOV 1975, NANKINOV & DZHUNINSKI 1985, SPIRIDONOV 1988, STANCHEV 1988, NANKINOV & NANKINOV 1998, STOYANOV 2001).

The necessity for the present investigation was inspired by the fact that most of the regional studies in the Balkan Mountains are rather old and needed to be updated (MILCHEV & IANKOV 1993). The area of the town of Yablanitsa, situated in the Central Fore-Balkan (Northern Bulgaria), was chosen as a suitable place for carrying out such avifaunistic research. Its position at the end of a narrowing valley, confined by the Veslets uplands (to the Northwest) and the Lovech heights (to the Northeast), is the basis of a specific flow of migrating birds, especially during autumn when flying southwards. The region of Yablanitsa is

very close to one of the biggest European migratory routes, the Via Aristotelis, passing along the rivers Iskar and Strouma.

The avifauna of the region of Yablanitsa has not been studied. Apart from the above mentioned literature sources, information for neighbouring places can be found in DRENSKI (1934), PATEV (1950), PESHEV & SIMEONOV (1964), SIMEONOV (1967), SIMEONOV & PENKOV (1969), SPIRIDONOV (1982), SPIRIDONOV *et al.* (1983), SIMEONOV *et al.* (1984), GEORGIEV & ALEXANDROV (1988), MILCHEV & GEORGIEV (1998) and GEORGIEV & MILCHEV (2000). Concrete single records for certain species from the birds of Yablanitsa area were found only in ROBEL *et al.* (1978), PANOVA-ASENOVA *et al.* (1997) and SHURULINKOV *et al.* (2001).

2. Study area and methods**2.1. Study area**

The town of Yablanitsa (400 m a.s.l.) and its bordering territory are located in the central subregion of the Fore-Balkan (Figure 1). It is characterized by a wide range of hill and low mountain relief. The quantitative and qualitative indices of the climate, as well as their regime, indicate a temperate continental climate, and some evidence of mountain climate (GEORGIEV 1991).

The region of Yablanitsa is characterized by a prevalence of land under cultivation (mostly extensively cultivated cereals), dry grasslands and scrubland on a calcareous substratum, hay meadows and grazing grounds. It is bordered to the west by the easternmost slopes of the Dragoitsa Mountains (957 m a.s.l.) and by karst ridges to the north and east. The southern parts reach the village of Ravnishte. The territory studied (covering almost the whole administrative area of the settlement) is approximately 6000 ha.

Being part of the Northern Bulgarian Phytogeographical Region, Central European broad-leaved vegetation dominates around Yablanitsa,

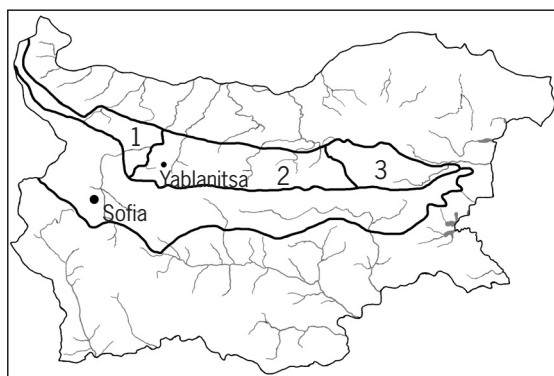


Figure 1: The Balkan Mountains physico-geographical zone in Bulgaria and its Fore-Balkan regions: 1 – Western Fore-Balkan; 2 – Central Fore-Balkan; 3 – Eastern Fore-Balkan

Slika 1: Fizično-geografska conacija gorovja Balkan in predbalkanskih regij v Bolgariji: 1 – zahodna predbalkanska regija, 2 – osrednja predbalkanska regija, 3 – vzhodna predbalkanska regija

including Oak *Quercus* spp., Oriental Hornbeam *Carpinus orientalis* and Beech *Fagus sylvatica*, as well as xerothermic grass formations with a prevalence of Beard-grass *Dichantietia ischaemi*, Meadow-grass *Poaeta bulbosae* and *Poaeta concinnae*, and Ephemeris *Ephemereta* (BONDEV 1991, GEORGIEV 1991).

2.2. Methods

The data for the present study were collected over a 13-year period (1990 – 2002) with 796 days spent in the region, 416 of which were combined with field observations. The largest part of the field work was conducted during spring and autumn and in the breeding season. In addition, regular winter observations were carried out. A total of 1902 birds of 53 species were captured by mist nets, ringed and released in the area. The migration, status and occurrence of species were investigated by transect and stationary (point counts) methods (BIBBY *et al.* 1992). During the study period about 2400 km were walked along two transects (totalling 34 km), passing through the most representative habitats around the town of Yablanitsa (shrubby karst ridges, dry grasslands, lands under cultivation, small artificial lakes, coniferous monocultures, mixed and broad-leaved forests). The breeding reliability of species was specified in accordance with YEATMAN (1976).

3. Results

In total, 156 species of birds were recorded in the region of Yablanitsa. Their periods of presence (with earliest and latest dates), breeding reliability, status and rate of occurrence are shown in Table 1.

92 breeding species were found in the area. The composition of the breeding avifauna was as follows: confirmed breeding – 71 species, probable breeding – 12 species, possible breeding – 9 species.

A total of 127 species were recorded throughout the spring migration (between the middle of February and the beginning of June). The peak month, with 104 species noted, was April. Nine species were observed only during the spring passage: Rough-legged Buzzard *Buteo lagopus*, Peregrine Falcon *Falco peregrinus*, Lapwing *Vanellus vanellus*, Wood Sandpiper *Tringa glareola*, Scops Owl *Otus scops*, Marsh Warbler *Acrocephalus palustris*, Pied Flycatcher *Ficedula hypoleuca*, Jackdaw *Corvus monedula* and Hooded Crow *Corvus corone cornix*.

140 species were recorded during the autumn migration (between the end of July and the beginning of November). In August, the peak month, 109

species were recorded. 21 species were only observed in the autumn: Cormorant *Phalacrocorax carbo*, Little Egret *Egretta garzetta*, Gadwall *Anas strepera*, Garganey *Anas querquedula*, Honey Buzzard *Pernis apivorus*, Black Kite *Milvus migrans*, Osprey *Pandion haliaetus*, Baillon's Crake *Porzana pusilla*, Snipe *Gallinago gallinago*, Green Sandpiper *Tringa ochropus*, Yellow-legged Gull *Larus cachinnans*, Tawny Owl *Strix aluco*, Nightjar *Caprimulgus europaeus*, Thrush Nightingale *Luscinia luscinia*, Redstart *Phoenicurus phoenicurus*, River Warbler *Locustella fluviatilis*, Sedge Warbler *Acrocephalus schoenobaenus*, Icterine Warbler *Hippolais icterina*, Willow Warbler *Phylloscopus trochilus*, Red-breasted Flycatcher *Ficedula parva* and Reed Bunting *Emberiza schoeniclus*.

Three species, White-fronted Goose *Anser albifrons*, Black-headed Gull *Larus ridibundus* and Rook *Corvus frugilegus*, were recorded only during the winter.

4. Discussion

The orientation of the Balkan Range lies across the migratory routes of birds over Bulgaria. This is the main reason why, during autumn, a great part of the passage is concentrated in the low hilly areas of the Fore-Balkan (comprising the northern parts of the main Balkan ridge). Here the birds build their fat reserves before crossing the higher parts of the Balkan Mountains on the way to their wintering grounds (PESHEV 1974). This explains the fact that the species' list during autumn migration is longer than that for the spring. In spring, some birds, breeding primarily north of Bulgaria, are trying to reach their breeding areas as quickly as possible and the territory of Yablanitsa at that time lies in a "migration shadow". Thus species such as Willow Warbler and Thrush Nightingale are not recorded in spring.

While carrying out a survey of nesting White Storks *Ciconia ciconia* in Lovech district (the current study area is a part of this district) KATRANZHIEV (1982) reported three observations of Black Storks *Ciconia nigra* during the breeding season. Up to the end of 1993 there were no records for this species around Yablanitsa. During 1994 six Black Storks were recorded, in 1998 11 individuals, and in 2000 40 individuals (all of them migrating birds). Coupled with the increasing records, in 2000 two breeding pairs were found in the vicinity of the town. These records indicate that recently the breeding population, as well as the number of migrating birds, is increasing. MICHEV & SIMEONOV (1985) and NANKINOV (1997) noted a similar tendency for the

whole of Bulgaria. They suggested that some of the factors favouring the increasing population are the construction of artificial lakes in mountainous and wooded areas, the establishment of fish ponds, and the economic crisis in East European countries, accompanied by the cessation of much industrial activity and depopulation of some areas.

The breeding population of the Collared Dove *Streptopelia decaocto* decreased markedly after the end of 1995. An abundant species throughout the town of Yablanitsa up to this time (with 10 – 15 birds recorded per day from one point in the town), the species is now less numerous, with only a few records weekly. The situation appears to be the same in the other parts of Bulgaria (PESHEV *et al.* 2003). The reasons for such a decline may be complex but the inclusion of the Collared Dove in the list of hunting species in Bulgaria is one of the most probable.

Black Woodpecker *Dryocopus martius* was a rarely recorded species in this region of the Balkan Mountains some decades ago (DONCHEV 1970, FILIPOV 1981). Even in the Vasiliovka Mountains, neighbouring the area under study and with quite old and suitable Beech forests, it was recorded only once during the breeding season between 1982 and 1986 (GEORGIEV & ALEXANDROV 1988). Up to 1995 the Black Woodpecker was not recorded in the region of Yablanitsa. After that date, wandering individuals appeared many times in quite different woodland habitats around the town. It appears that the reduction of the old forests throughout its natural nesting areas has forced the species into less typical biotopes, like those surrounding the town of Yablanitsa (40 to 70 year-old coniferous monocultures, closely planted mixed forests comprising Lime *Tilia tomentosa*, Oriental Hornbeam, Austrian Pine *Pinus nigra* and Oak). Recently, 4 to 6 pairs of Black Woodpecker have bred in the area.

Northward expansion resulted in the appearance and increase in the breeding population of Woodchat Shrike *Lanius senator* during the last few years (CRAMP & PERRINS 1993, HAGEMEIJER & BLAIR 1997). Around Yablanitsa, for the first time on 18 Jun 1994 an adult male, carrying food, was recorded in a suitable habitat, a thin strip of False Acacia *Robinia pseudacacia*. In 2001 breeding Woodchat Shrikes were found in three localities totalling 7 to 8 breeding pairs. In 2002 numbers increased to 10 to 12 breeding pairs. Bearing in mind the appropriate habitats for this species in the region, its numbers can be expected to increase in the following years.

The Black-headed Bunting *Emberiza melanocephala* is a species currently expanding its breeding range northwards (MICHEV & SIMEONOV 1985, HAGEMEIJER & BLAIR 1997). It is fairly numerous at some places in Northern Bulgaria (SHURULINKOV *et al.* 2001). The latter reported the first occurrence in the region of Yablanitsa, an adult male on 18 Jul 1999. The penetration of the species northwards of the Balkan Mountains is probably closely related to the meridional “corridor” provided by the Iskar River Gorge (SHURULINKOV *et al.* 2001). The second observation during the breeding season was on 2 Jun 2000 (single male). During the breeding season of 2001 four singing males were counted in the cereal fields around the town. It is likely that the breeding population of the Black-headed Bunting in the region will continue to increase.

Changes in the wintering status of three species were also recorded. According to DONCHEV (1970 & 1974), Woodlark *Lullula arborea*, Starling *Sturnus vulgaris* and Corn Bunting *Miliaria calandra* do not spend the winter in the Balkan Mountains (especially the northern parts). Single birds and small flocks of these species were recorded around Yablanitsa in wintertime (Dec and Jan). Known to winter regularly in Southern Bulgaria, it appears that they may cross both sides of the Balkan ridge during mild and snowless winters.

Summary

The territory of the Central Fore-Balkan (a part of the Balkan Range) is one of the most poorly studied areas in Bulgaria. Bird surveys of the region of Yablanitsa (located in this part of the Balkan Mountains) were carried out during 1990 – 2002. A total of 156 species of birds were recorded, 92 bred and 46 were resident. Earliest and latest dates of presence, breeding reliability, status and occurrence of the species are summarised. During the spring passage 127 species were recorded while the species list of the autumn migration numbered 140. Changes in the breeding and wintering status were recorded for several species. A trend of increasing populations was recorded for Black Stork *Ciconia nigra*, Black Woodpecker *Dryocopus martius*, Woodchat Shrike *Lanius senator* and Black-headed Bunting *Emberiza melanocephala*. A significant decline was recorded for breeding numbers of Collared Dove *Streptopelia decaocto*. Thought to be migratory species for the Balkan Mountains, Woodlark *Lullula arborea*, Starling *Sturnus vulgaris* and Corn Bunting *Miliaria calandra* were found in the area during winter.

Povzetek

Predbalkanska regija je eno izmed najslabše preučevanih območij v Bolgariji. Sicer pa je bil v obdobju 1990 – 2002 opravljen temeljit popis ptic v okrožju Jablanice, ki leži v tem delu gorovja Stara planina. Zabeleženih je bilo 156 vrst (med 92 gnezdkami 46 stalnic). V članku so rezimirani najzgodnejši in najpoznejši datumi daljše navzočnosti, zanesljivost gnezdenja, status in pojavljanje vrst. Med spomladansko selitvijo je bilo registriranih 127 vrst, medtem ko je seznam jesenskih preletnikov štel 140 vrst. Zabeležene so bile spremembe v statusu več prezimujočih in gnezdečih vrst. Naraščajoči populacijski trend je bil ugotovljen pri črni štoklji *Ciconia nigra*, črni žolni *Dryocopus martius*, rjavoglavem srakoperju *Lanius senator* in črnoglavem strnadu *Emberiza melanocephala*. Precejšen upad je bil zabeležen v številu gnezdečih turških grlic *Streptopelia decaocto*. V obravnavanem območju so bile v zimskem obdobju ugotovljene tudi vrste, ki naj bi v območju Stare planine imele status selivke, in sicer hribski škrljanec *Lullula arborea*, škorec *Sturnus vulgaris* in veliki strnad *Miliaria calandra*.

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
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APPENDIX / PRILOGA

Table 1: Period of presence, breeding reliability, status and occurrence of the birds recorded in the region of Yablanitsa (Abbreviations used: BREEDING: Co – confirmed breeding; Pr – probable breeding; Po – possible breeding; STATUS: (main/lesser status): RB, rb – resident breeder; MB, mb – migratory breeder; PM, pm – passage migrant; W, w – wanderer; WV, wv – winter visitor; OCCURRENCE: A – abundant (annual; numerous records); C – common (annual; frequent records); U – uncommon (annual; one/few records per year); R – rare (accidental records not every year); VR – very rare (single record during the whole period of investigation).

Tabela 1: Obdobje daljše navzočnosti, zanesljivost gnezdenja, status in pojavljanje ptic, zabeleženih v območju Jablanice (okrajšave: GNEZDENJE: Co – potrjeno gnezdenje; Pr – verjetno gnezdenje; Po – morebitno gnezdenje; STATUS: (pomemben/manj pomemben): RB, rb – gnezdilka stalnica; MB, mb – seleča se gnezdilka; PM, pm – preletnik; W, w – klatež; WV, wv – zimski gost; POJAVLJANJE: A – številčen (vsakoleten; številni podatki); C – pogost (vsakoleten; številni podatki); U – nepogost (vsakoleten; eden/nekaj podatkov na leto); R – redek (naključno zabeležen, a ne vsako leto); VR – zelo redek (en sam podatek v vsem raziskovalnem obdobju).

Legend / legenda:

-  period of presence in the region of Yablanitsa / obdobje navzočnosti vrst v območju Jablanice
- ? the species probably exists in the region of Yablanitsa, but there are no proofs / vrsta se najbrž pojavlja v območju Jablanice, le da ni dokazov
- 25 / 00 date and year of the observation, marking the earliest/latest date of the presence; columns correspond to the months / datum opazovanja z najzgodnejšim/najpoznejšim datumom po posameznih mesecih
- 25 / 00² exponents presenting data according to: 1 – local representatives of the Union of Hunters and Fishermen in Bulgaria; 2, 3, 4, 5, 6 - BORIS NIKOLOV (*pers. comm.*) / podatki pridobljeni od: 1 - lokalnih predstavnikov Bolgarske zveze lovcev in ribičev; 2, 3, 4, 5, 6 - BORISA NIKOLOVA (*ustno*)

Species / vrsta	Month / mesec												Breeding/ gnezditvev	Status/ status	Occurrence / pojavljanje as breeder/ gnezditvev	as non- breeder/ izven gnezditvev
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
<i>Tachybaptus ruficollis</i>			?	?				02 / 95				06 / 92 06 / 97		pm	-	U
<i>Phalacrocorax carbo</i>				17 / 98		15 / 96		22 / 96		21 / 01				w, pm	-	R
<i>Isobrychus minutus</i>													Co	mb	U	-
<i>Nycticorax nycticorax</i>					05 / 00	25 / 94	15 / 95							pm, w	-	U
<i>Ardeola ralloides</i>					05 / 00		05 / 96							pm, w	-	R
<i>Egretta garzetta</i>							13 / 96							pm	-	R
							22 / 92									
<i>Egretta alba</i>				14 / 01								27 / 98		wv, pm	-	R
<i>Ardea cinerea</i>														pm, W, wv	-	C
<i>Ciconia nigra</i>		10 / 01						24 / 98					Co	mb, pm, w	U	C
<i>Ciconia ciconia</i>		27 / 01						25 / 00					Co	mb, pm	C	C
<i>Anser albifrons</i>	02 / 97 30 / 93											?		wv	-	R
<i>Anas strepera</i>							15 / 97							pm	-	VR
<i>Anas platyrhynchos</i>			20 / 93	21 / 00	?	?	29 / 94	28 / 01	?	?	?	06 / 92	Po	mb, pm	R	R
<i>Anas querquedula</i>			?	?			07 / 96 19 / 96							pm	-	R
<i>Pernis apivorus</i>				?	?		21 / 97	22 / 99						w, pm	-	U
<i>Milvus migrans</i>				?				24 / 98 24 / 00						pm	-	R
<i>Circus gallicus</i>				12 / 01				25 / 00					Pr	mb, pm	U	C
<i>Circus aeruginosus</i>			25 / 00		09 / 99		25 / 00	27 / 00						PM	-	C
<i>Circus cyaneus</i>	04 / 93	?	02 / 92							20 / 01	07 / 01	?		wv, pm	-	R
<i>Circus pygargus</i>				22 / 95 28 / 01			25 / 00	04 / 00						pm	-	R
<i>Accipiter gentilis</i>													Co	rb, pm, w	U	C
<i>Accipiter nisus</i>													Pr	rb, pm, WV	U	C
<i>Buteo buteo</i>													Co	RB, PM	A	A
<i>Buteo lagopus</i>						25 / 00								wv	-	VR

Species / vrsta	Month / mesec												Occurrence / pojavljanje			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Breeding/ gnezditiev	Status/ status	as breeder/ gnezditiev	as non- breeder/ izven gnezditive
<i>Aquila pomarina</i>				?	07 / 99				24 / 98 25 / 00	?				pm	-	R
<i>Pandion haliaetus</i>									25 / 00					pm	-	VR
<i>Falco tinnunculus</i>			10 / 01							20 / 01			Co	mb	C	U
<i>Falco vesperinus</i>				29 / 01	03 / 02				24 / 00 25 / 00					PM	-	R
<i>Falco subbuteo</i>				22 / 00					25 / 00				Pr	mb, pm	U	C
<i>Falco peregrinus</i>			25 / 00											w	-	VR
<i>Alectoris chukar</i> ¹	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
<i>Perdix perdix</i>	?	?	?	?	?	?	18 / 99 ²	?	?	?	?	?	Co	rb	VR	?
<i>Coturnix coturnix</i>				16 / 98						19 / 02			Co	MB, pm	A	C
<i>Phasianus colchicus</i>	?	?	?	?	10 / 97 ¹	?	?	26 / 93	?	?	?	?	Po	rb	VR	VR
<i>Porzana pusilla</i>							13-18 / 97							pm	-	VR
<i>Grex crex</i>				28 / 01			13 / 01						Co	pm, mb	U	C
<i>Gallinula chloropus</i>				21 / 00						14 / 00			Co	mb	C	U
<i>Chonadrus dubius</i>				14 / 01			28 / 95						Co	mb	U	VR
<i>Vanellus vanilleus</i>			20 / 93 ⁴											pm	-	VR
<i>Gallinago gallinago</i>									03 / 00 19 / 01					pm	-	R
<i>Scolopax rusticola</i>			10 / 01 25 / 00							13 / 00				pm	-	R
<i>Tringa ochropus</i>								14 / 97 20 / 01						pm	-	R
<i>Tringa glareola</i>					02 / 02								Pr	mb, pm	U	VR
<i>Actitis hypoleucos</i>				04 / 99					18 / 00					wv	-	VR
<i>Larus ridibundus</i>		05 / 97												w	-	VR
<i>Larus cachinnans</i>							13 / 01						Co	RB	A	A
<i>Columba livia</i> var. dom.														pm	-	R
<i>Columba oenas</i>				30 / 01			10 / 01	19 / 01					Co	mb, PM	U	A
<i>Columba palumbus</i>		16 / 01	21 / 93	?	?	02 / 00			21 / 01	?	27 / 00		Co	rb	C	C
<i>Streptopelia decaocto</i>													Co	rb	C	C

Species / vrsta	Month / mesec												Occurrence / pojavljanje			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Breeding/ gnezditvev	Status/ status	as breeder/ gnezditvev	as non- breeder/ izven gnezditve
<i>Sreptopelia turtur</i>				29 / 01					20 / 00				Co	mb, PM	C	C
<i>Cuculus canorus</i>			31 / 01		19 / 94	?	13 / 01 15 / 95						Co	mb, PM	C	C
<i>Otus scops</i>				29 / 01			?							pm	-	VR
<i>Athene noctua</i>													Co	rb	C	C
<i>Srix aluco</i>									20 / 98					w	-	VR
<i>Caprimulgus europaeus</i>				?					17 / 98					pm	-	VR
<i>Tachymarpis melba</i>				14 / 01	09 / 99	21 / 97 ^r			25 / 98				Co	PM	-	C
<i>Apus apus</i>				21 / 00					25 / 98				Co	mb, PM	U	C
<i>Alcedo atthis</i>				?	?		06 / 94 06 / 96			27 / 00			Po	mb, pm	U	C
<i>Merops apiaster</i>				20 / 98					24 / 98					PM	-	A
<i>Upupa epops</i>			31 / 01						26 / 98				Co	mb, pm	C	C
<i>Jynx torquilla</i>				05 / 94					27 / 00				Co	mb, pm	U	C
<i>Picus canus</i>													Pr	rb	R	R
<i>Picus viridis</i>													Co	rb	U	C
<i>Dryocopus martius</i>													Co	rb, w	U	C
<i>Dendrocopos major</i>													Co	rb	C	C
<i>Dendrocopos syriacus</i>													Co	RB	A	A
<i>Dendrocopos medius</i>	05 / 94	?		?	09 / 01				27 / 00	?	?	25 / 94	Pr	rb, w	R	U
<i>Dendrocopos minor</i>													Co	rb	C	C
<i>Galerida cristata</i>													Co	rb, wv	U	C
<i>Lullula arborea</i>													Co	rb, MB, pm	A	A
<i>Aldaia arvensis</i>													Co	rb, MB, pm	A	A
<i>Riparia riparia</i>				28 / 01 30 / 01				20 / 96		14 / 00				pm	-	U
<i>Hirundo rupestris</i>				?	?	08 / 01	?	?	26 / 00				Po	mb, pm	VR	VR
<i>Hirundo rustica</i>			31 / 01							03 / 97			Co	MB, PM	A	A
<i>Hirundo daurica</i>				06 / 00						03 / 97			Co	mb, pm	C	C
<i>Delichon urbica</i>			12 / 99							03 / 97			Co	MB, PM	A	A
<i>Anthus campestris</i>				29 / 01		02 / 00	?	?	04 / 01				Po	mb, pm	R	R

Species / vrsta	Month / mesec												Breeding/ gnezditrev	Status/ status	Occurrence / pojavljanje as breeder/ gnezditrev	as non- breeder/ izven gnezditve
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
<i>Anthus trivialis</i>				12 / 01	07 / 00	21 / 97			21 / 01				PM		-	A
<i>Anthus pratensis</i>	?	09 / 01	12 / 01						19 / 02	07 / 01			pm		-	C
<i>Motacilla flava</i>				07 / 94				27 / 00					Co	mb, pm	C	C
<i>Motacilla cinerea</i>													Co	rb, mb	C	C
<i>Motacilla alba</i>		16 / 01							21 / 00				Co	mb, PM	C	A
<i>Troglodytes troglodytes</i>													Co	rb, w	U	C
<i>Prunella modularis</i>			09 / 01	09 / 00					20 / 01				pm		-	R
<i>Erithacus rubecula</i>													Co	RB, PM	C	A
<i>Luscinia luscinia</i>			?	?		28 / 00	05 / 01						pm		-	R
<i>Luscinia megarhynchos</i>			31 / 01				04 / 93 04 / 02						Co	mb, PM	C	A
<i>Phoenicurus ochruros</i>	16 / 01			07 / 99	?	?	?	?	08 / 94 28 / 00				Po	mb, pm	U	U
<i>Phoenicurus phoenicurus</i>								28 / 01					pm		-	U
<i>Saxicola rubetra</i>			16 / 98						15 / 00				Co	mb, pm	R	C
<i>Saxicola torquata</i>				01 / 92	19 / 94	?	?	26 / 98	20 / 01				Pr	mb, pm	R	U
<i>Oenanthe oenanthe</i>				02 / 91					25 / 00				Co	mb, pm	C	C
<i>Oenanthe hispanica</i>				?	02 / 00	?	?	17 / 98					Po	mb, pm	VR	VR
<i>Monticola saxatilis</i>				23 / 00					13 / 01				Co	mb	U	-
<i>Turdus merula</i>													Co	rb, MB, PM	A	A
<i>Turdus pilaris</i>			23 / 00						14 / 00				pm, vv		-	U
<i>Turdus philomelos</i>			03 / 94							07 / 01			Co	mb, PM	C	A
<i>Turdus viscivorus</i>													Co	rb, MB, pm	C	C
<i>Locustella fluviatilis</i>								23 / 98					pm		-	VR
<i>Acrocephalus schoenobaenus</i>				?			18 / 97 30 / 00	?					pm		-	R
<i>Acrocephalus palustris</i>				05 / 00			?						pm		-	VR
<i>Acrocephalus arundinaceus</i>			?	08 / 99			16 / 96						Po	mb, pm	R	R
<i>Hippolais icterina</i>				?		24 / 97	16 / 98						pm		-	R
<i>Sylvia nisoria</i>			14 / 01			20 / 02							Co	mb, pm	C	U
<i>Sylvia curruca</i>			14 / 01				27 / 98						Pr	mb, pm	U	C

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<i>Sylvia communis</i>				06 / 94					26 / 98				Pr	mb, PM	C	C
<i>Sylvia borin</i>				09 / 99 30 / 01			22 / 95		18 / 00					pm	-	R
<i>Sylvia atricapilla</i>			31 / 01						08 / 94				Co	mb, PM	C	C
<i>Phylloscopus sibilatrix</i>				12 / 01	01 / 92	?	04 / 90		23 / 98				Po	mb, pm	VR	C
<i>Phylloscopus collybita</i>			09 / 01							21 / 01			Pr	mb, pm	C	C
<i>Phylloscopus trochilus</i>				?	?		15 / 01			14 / 00				PM	-	C
<i>Regulus regulus</i>				01 / 91						20 / 01				pm, vv	-	U
<i>Regulus ignicapillus</i>			31 / 01							27 / 00				pm	-	R
<i>Muscicapa striata</i>				28 / 01	07 / 99		11 / 94		14 / 00					PM	-	A
<i>Ficedula parva</i>								22-23/98						pm	-	VR
<i>Ficedula albicollis</i>			31 / 01	12 / 01			25 / 01	05 / 01						pm	-	R
<i>Ficedula hypoleuca</i>				28 / 91	?		?	?						pm	-	VR
<i>Aegithalos caudatus</i>													Co	RB, pm	C	C
<i>Parus palustris</i>													Co	rb, w	U	C
<i>Parus lugubris</i>													Co	rb, w	C	C
<i>Parus ater</i>				07 / 94				05 / 01						pm, vv	-	U
<i>Parus caeruleus</i>													Co	rb, PM	C	C
<i>Parus major</i>													Co	RB, w	A	A
<i>Sitta europaea</i>													Co	rb	C	C
<i>Certhia familiaris</i>	?	03 / 97 ⁶			06 / 00	?	?	?	?	?	?	?	Co	rb	R	R
<i>Oriolus oriolus</i>				21 / 00				27 / 98					Co	MB, pm	C	C
<i>Lanius collurio</i>				28 / 91 28 / 01					20 / 01				Co	MB, PM	A	A
<i>Lanius minor</i>					03 / 02		20 / 96						Co	mb, pm	U	U
<i>Lanius excubitor</i>			23 / 00					26 / 00					Co	pm, vv	-	C
<i>Lanius senator</i>				07 / 00				19 / 01					Co	mb, pm	C	U
<i>Garrulus glandarius</i>													Co	RB	C	C
<i>Pica pica</i>													Co	rb	R	R
<i>Corvus monedula</i>				16 / 98	08 / 99									pm	-	R
<i>Corvus frugilegus</i>														wv	-	VR

Species / vrsta	Month / mesec												Occurrence / pojavljanje			
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<i>Corvus corone cornix</i>				11 / 99	02 / 92									pm	-	R
<i>Corvus corax</i>													Co	rb	C	C
<i>Sturnus vulgaris</i>													Co	mb, PM, w	C	A
<i>Passer domesticus</i>													Co	RB, PM	A	A
<i>Passer montanus</i>													Co	rb, PM	A	A
<i>Fringilla coelebs</i>													Co	rb, PM, wv	C	A
<i>Fringilla montifringilla</i>			21 / 93						21 / 01					pm, wv	-	U
<i>Serinus serinus</i>	04 / 94	?	31 / 01	09 / 99			11 / 93	?	19 / 02	?	?	?		pm, wv	-	R
<i>Carduelis chloris</i>													Co	rb, PM, WV	C	A
<i>Carduelis carduelis</i>													Co	rb, PM, WV	C	C
<i>Carduelis spinus</i>				10 / 99					19 / 01					pm, wv	-	U
<i>Carduelis cannabina</i>									19 / 02				Co	rb, pm	U	C
<i>Pyrrhula pyrrhula</i>			20 / 93				08 / 01		27 / 00				Co	wv, w	-	U
<i>C. coccyzina</i>													Co	rb	C	C
<i>Emberiza citrinella</i>													Pr	rb, pm, WV	U	A
<i>Emberiza cirlus</i>													Pr	rb	U	U
<i>Emberiza cia</i>													Co	rb	U	R
<i>Emberiza hortulana</i>				12 / 01			20 / 96						Co	mb, PM	U	C
<i>Emberiza schoeniclus</i>									21 / 01					pm	-	VR
<i>Emberiza melanocephala</i>				?	02 / 00	22 / 01							Co	mb	U	VR
<i>Miliaria calandra</i>													Co	MB, rb, PM	A	A