# Contribution to the knowledge of avifauna of Karacadağ, Southeastern Anatolia (Turkey)

## Prispevek k poznavanju avifavne Karacadağa v jugovzhodni Anatoliji (Turčija)

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## 1. Introduction

Turkey possesses diverse habitat types due to the varying climatic and topographic conditions and it lies on two main bird migratory routes. The avifauna is therefore rich. The ornithological importance of Turkey has been demonstrated by many researchers, national and international (e.g. Ergene 1945, KUMERLOEVE 1963, Beyazit 1982, Beaman 1986, Siki 1988, Kiziroğlu 1989, MARTINS 1989, EAMES 1990 & 1991, KASPAREK 1992, Ayvaz 1993, Kirwan & Martins 1994 & 2000, KIRWAN 1995, KILIÇ 1999, KIRWAN et al. 1999). In spite of this, some parts of Anatolia have not been studied adequately due to the recent security restrictions and to the extreme climatic conditions (KIRWAN & MARTINS 1994, MAGNIN & YARAR 1997). However, a few studies are available from certain localities in South-eastern Anatolia (Biricik 1996, Kiliç 2001, Karakaş & Kiliç 2001 & 2002). The region constitutes the intersection area between Anatolia and the Middle East. An avifaunistic survey will help to evaluate and monitor future changes in the avifauna. It will also be helpful in preparing distribution maps in the region and for establishing its conservation status.

#### 2. Study area and Method

#### 2.1. Study area

Karacadağ (7200 km<sup>2</sup>) is an isolated, inactive volcanic mountain in South-eastern Anatolia, which divides the region in the Diyarbakır basin from the Şanlıurfa plateau. The highest peak of the mountain is Mergimir (1981 m a.s.l.). Other high peaks are Kollubaba (1957 m a.s.l.) and Besrek (1350 m a.s.l.). Some streams exist in the area, many of which dry out during the summer. The region has a typical steppe climate with an average temperature of 15°C, maximum of 42°C (July) and minimum of -2.7°C (January). Precipitation occurs primarily in winter and spring with an average of 491 mm/year (based on data of last 61 years); snowfalls occur during the winter, sometimes also in November and March (TURKISH STATE METEOROLOGICAL SERVICE *unpubl*). In some parts of the area there are paddy fields.

On Karacadağ the most important tree species are two species of Oak (Quercus brantii, Q. infectoria boissieri,), two species of Celtis (C. glabrata, C. tournefortii), three species of Crataegus (C. aronia var. aronia, C. monogyna monogyna, C. orientalis var. orientalis), Nettle Pistacia khinjuk, Wild Pear Pyrus syriaca var. syriaca and Ash tree Fraxinus angustifolia angustifolia. In the open areas, especially above 1300 - 1400 m a.s.l., some species of Milk Vetch (e.g. Astragalus gumnifer, Acantholimon acerosum) are found as dominant in steppe vegetation. The forest is predominant at south and southeast slopes of the mountain. Mountain foothills are covered mainly by meadows. There are a few small settlements with some nomadic family who are staying near the summit of mountain during spring and summer season for stockbreeding aim. In some parts of the area negative anthropogenic effects, including raising livestock, have caused erosion, and the area has been turned to desert. Hunting is very intensive, especially during the winter in January and February. Human activities such as cattle and sheep-grazing are widespread (ERTEKIN 2002).

## 2.2. Methods

Ornithological observations were carried out between March 2001 and March 2002, covering six survey routes (Figure 1). Routes were examined by vehicle and by walking from early morning to afternoon. In total, 20 field days were conducted (Table 1). During the breeding season, the field day frequency and the observation time were increased. Standard ornithological equipment and identification methodology has been used for identifying birds with line transects methodology. The transects were not evenly spaced, and observations were carried out on



Figure 1: Study area of Mt. Karacadağ with survey routes marked: I. Diyarbakır to Besrek hill, II. the new road Diyarbakir to Siverek, III. the old road Diyarbakir to Siverek, IV. the road Diyarbakir to the summit of Karacadağ, V. the road Diyarbakir to Alatosun, VI. the road Diyarbakir to Ovabağ

Slika 1: Obravnavano območje gore Karacadağ z označenimi popisnimi linijami: I. Diyarbakır – Besrek hrib, II. nova cesta Diyarbakir – Siverek, III. stara cesta Diyarbakir – Siverek, IV. cesta Diyarbakir – summit na Karacadağu, V. cesta Diyarbakir – Alatosun, VI. cesta Diyarbakir – Ovabağ

routes (see Figure 1). All observed birds were registered. In surveys we collected mainly qualitative and not quantitative data. For the systematic list of birds, KASPAREK & BILGIN (1996) was followed. Courtship behaviour, sighting of egg, chick or nest during field excursions were taken as criteria of species reproductive status – if courtship behaviour was observed and egg, chick or nest was recorded, the species was considered as a confirmed breeder (C). All species showing signs of courtship behaviour in an appropriate breeding habitat during the breeding season were considered as probable breeders (P). Resident species (R) were those found in the area in all seasons, and summer migrants (SM) during spring and summer; the latter could also breed in the area. Winter visitors (WV) were those seen in the area only during the winter season. Passage migrant (PM) were seen only during the spring and autumn migration times.

Table 1: Number of field days per month carried out in Karacadağ area

Tabela 1: Število terenskih dni v posameznih mesecih, opravljenih na območju Karacadağa

Years / leta	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total/
								-	_				skupaj
2001	-	-	-	3	3	2	3	I	I	I	I	I	16
2002	I	I	2	-	-	-	-	-	-	-	-	-	4
Total / skupaj	I	I	2	3	3	2	3	Ι	I	Ι	I	Ι	20

## 3. Results and Discussion

Altogether 85 bird species were registered (Table 2). There were 35 confirmed breeders, 19 probable breeders, 33 summer migrants, 21 residents, 14 winter visitors, and 17 passage migrants. According to the Red Data Book criteria (KIZIROĞLU 1993) I found, among breeders, one species threatened with extinction (A.1.2), 12 severely endangered species (A.2), 15 endangered species (A.3), 11 potentially endangered species (A.4) and, among non-breeders, four severely endangered species (B.3). The largest number of bird species was recorded in spring time (Figure 2).

Some species recorded in this study, such as Honey Buzzard *Pernis apivorus*, Griffon Vulture *Gyps fulvus*, Short-toed Eagle *Circaetus gallicus*, Lesser Spotted Eagle *Aquila pomarina*, Lesser Kestrel *Falco naumanni*, Red-footed Falcon *Falco vespertinus*, Peregrine Falcon *Falco peregrinus*, Black-eared Wheatear *Oenanthe hispanica* and Masked Shrike *Lanius nubicus* were not reported in Diyarbakır in earlier studies (KUMERLOEVE 1967, VIELLIARD 1968).

Lesser Kestrel, listed as vulnerable according to IUCN categorization, is a colony breeder in the area (HILTON-TAYLOR 2000). 38 birds of prey Falconiformes occur in Turkey (KASPAREK & BILGIN, 1996), and 19 of them were observed in the study area (Table 2).

In the present study, some species were recorded for the first time in South-eastern Anatolia: Hen Harrier *Circus cyaneus*, Lesser Spotted Eagle, Red-footed Falcon, Merlin *Falco columbarius*, and Peregrine Falcon. In contrast, some species that were noted in the other studies of South-eastern Anatolian avifauna (Beaman 1986, Kasparek 1986, Martins 1989, Eames 1990, KIRWAN 1995) were not found in our study, e.g. Elenora's Falcon Falco elenorae, Red-wattled Plover Vanellus indicus, Pin-tailed Sandgrouse Pterocles alchata, Scops Owl Otus scops, Eagle Owl Bubo bubo, Long-eared Owl Asio otus, Desert Lark Ammomanes deserti, Pale Rock Sparrow Petronia brachydactyla, Yellow-throated Sparrow Petronia xanthocollis, and Cinereous Bunting Emberiza cineracea. In all mentioned studies breeding probability was recorded for the Birecik and Halfeti area, and not especially for Karacadağ. There are also historical records for Little Bustard Tetrax tetrax and Desert Finch Rhodospiza obsoleta from South-eastern Anatolia (PARR 1981), but no recent records. Rose-coloured Starling Sturnus roseus was recorded (MURPHY 1984), but breeding was not confirmed. In this study we confirmed its breeding in the region the first time.

In the area near Diyarbakır 102 bird species were recorded (BIRICIK 1996), but here the water reservoir area was included. Furthermore 136 bird species were recorded at Göksu Dam, which is situated about 45 km south-east of Karacadağ (KARAKAŞ & KILIÇ 2002). The present study shows some differences, especially in waterbird species due to the habitat differences. Karacadağ has mainly steppe habitats and so is important as a foraging area for the Montagu's Harrier *Circus pygargus*, Long-legged Buzzard *Buteo rufinus*, Lesser Kestrel etc., as already mentioned by MAGNIN *et al.* (2000).

In their description of the distribution of 49 species in South-eastern Turkey KIRWAN & MARTINS (1994) mentioned another 10 species not found in our study: Pygmy Cormorant *Phalacrocorax pygmeus*,



Figure 2: Maximum number of recorded species in Karacadağ area according to the time of year Slika 2: Maksimalno število ugotovljenih vrst na območju Karacadağa po posameznih mesecih

Bittern Botaurus stellaris, Marbled Teal Marmaronetta angustirostris, Smew Mergellus albellus, Eleonora's Falcon, Black-winged Pratincole Glareola nordmanni, Broad-billed Sandpiper Limicola falcinellus, Pied Wheatear Oenanthe pleschanka, Bearded Tit Panurus biarmicus, and Cinereous Bunting. According to them the seasonal status for Spotted Flycatcher Muscicapa striata was uncertain, but we found it to be a passage migrant in the area.

Local people in Karacadağ reported that Chukar *Alectoris chukar* was seen from time to time in the region until some years ago, but during our study we had no sightings. The reason may be the decreased population of this species as a result of increased hunting pressure. Breeding of Spectacled Warbler *Sylvia conspiciliata* has been recorded from Karacadağ in a recent study (WELCH & WELCH 2004), but was not found in this study.

The results of this study show that the region has an important bird potential. The data presented constitute a basis for further research and conservation.

Acknowledgements: I thank Dr. Al Vrezec for his help with the manuscript. Also, thanks are due to Engin. GEM for his help in mapping the study area and the Turkish State Meteorological Service, Diyarbakır Station for meteorological data.

#### Summary

Ornithological observations were carried out between March 2001 and March 2002 in certain parts of Karacadağ, which is located south-west of Diyarbakır, South-eastern Anatolia, Turkey. Karacadağ is an isolated, inactive volcanic mountain, and its surface is mainly coated with basaltic stone and soil with some cultivated areas on foot hills. 85 bird species were recorded in the area. Among these, breeding was confirmed for 35 species, and another 19 species were presumed to breed in the area. 44 species are listed as endangered, e.g. Short-toed Eagle Circaetus gallicus is in the A.1.2 category (threatened with extinction), 12 species are in A.2 (severely endangered), 15 in A.3 (endangered), 11 in A.4 (potentially endangered), four in B.2 (severely endangered, not breeding) and one species in B.3 category (endangered, not breeding), according to the Turkish "Red Data Book". However, Lesser Kestrel Falco naumanni, which is listed as vulnerable (VU A1) according to IUCN classification, is breeding in the area. The list of bird species will help to evaluate and compare the changes in the bird fauna in the future and serve as the basis for future research and conservation efforts in the region.

## Povzetek

Pričujoči prispevek predstavlja rezultate ornitoloških raziskav, opravljenih med marcem 2001 in marcem 2002 v nekaterih delih Karacadağa, ki leži jugozahodno od Diyarbakırja v jugovzhodni Anatoliji, Turčija. Karacadağ je osamljena nedejavna ognjeniška gora, prekrita predvsem z bazaltnimi kamninami, ob njenem vznožju pa je tudi nekaj obdelovanih površin. V obravnavanem območju je bilo zabeleženih 85 vrst ptic, med njimi 35 potrjenih in 19 domnevnih gnezdilk. 44 izmed teh vrst je v Turčiji uvrščenih v "Rdeči seznam": kačar Circaetus gallicus v kategoriji A.1.2 (vrsta, ki ji grozi izginotje), 12 vrst v kategoriji A.2 (močno ogrožena vrsta), 15 v kategoriji A.3 (ogrožena vrsta), 11 v kategoriji A.4 (potencialno ogrožena vrsta), 4 v kategoriji B.2 (močno ogrožena negnezdeča vrsta) in 1 vrsta v kategoriji B.3 (ogrožena negnezdeča vrsta). Na obravnavanem območju gnezdi tudi južna postovka Falco naumanni, ki jo je IUCN klasificiral kot ranljivo vrsto (VU A1). Predstavljeni seznam ptičjih vrst, ugotovljenih v območju, naj bi bil v pomoč pri vrednotenju in primerjavi sprememb ptičje favne v prihodnosti in osnova tako za bodoče raziskovalce kot naravovarstvene aktivnosti v tej regiji.

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Arrived / Prispelo: 12.7.2004 Accepted / Sprejeto: 7.3.2005

## APPENDIX / PRILOGA

**Table 2:** List of bird species recorded in the study area surrounding Mt. Karacadağ, with risk status and maximum numbers of individuals counted each month (+ species was recorded, but not counted; Migration status: R – Resident, SM – Summer migrant, WV – Winter visitor, PM – Passage migrant; Breeding status: C – Confirmed breeding, P – Probable breeding). Risk status (according to Kiziro LU 1993): A.1.2 Threatened with extinction, A.2 severely endangered, A.3 endangered, A.4 potentially endangered, B.2 severely endangered (not breeding), B.3 endangered (not breeding).

**Tabela 2:** Pregled ptičjih vrst, ugotovljenih na območju gore Karacadağ, z gnezditvenim statusom, selitvenim statusom in ogoroženostjo vrst ter maksimalnim številom ptic, ugotovljenih v posameznih mesecih (+ ugotovljeno le pojavljanje vrste; selitveni status: R – stalnica, SM – poletni gost, WV – zimski gost, PM – preletni gost; gnezditveni status: C – potrjena gnezditev, P – verjetna gnezditev). Ogroženost (Kiziro Lu 1993): A.1.2 vrsta, ki utegne v celoti izginiti, A.2 močno ogrožena vrsta, A.3 ogrožena vrsta, A.4 potencialno ogrožena vrsta, B.2 močno ogrožena vrsta (ne gnezdi), B.3 ogrožena vrsta (ne gnezdi).

						Month / 1	meseci							Status / status	
Species / vrsta		2002						2001					Breeding/ gnezditev	Migration/ selitev	Risk/ ogroženost
	Ч	II	III	IV	Λ	ΙΛ	VII	VIII	IX	×	XI	XII			
Ciconia ciconia			6	61	30	4	8	2					C	SM	A.3
Anser albifrons	23												I	ΜV	B.2
Pernis apivorus					3								I	ΡM	A.3
Milvus migrans				I	п	I	6	Ι	Ι				Р	SM	A.4
Neophron percnopterus					Ι	I							Ъ	SM	A.3
Gyps fulvus				I									Ъ	SM	A.2
Circaetus gallicus				I					п				I	ΡM	A.1.2
Circus aeruginosus				~	7								I	ΡM	A.3
Circus cyaneus	I			4	2							I	I	ΜV	A.3
Circus pygargus				I									I	ΡM	A.3
Accipiter nisus	п	5									I		I	ΜV	A.4
Buteo buteo				18	7	5	п						Ъ	R	A.3
Buteo rufinus	I					I	3						Р	R	A.2
Aquila pomarina				I									I	ΡM	A.2
Aquila chrysaetos	I												Ъ	R	A.3
Hieraaetus pennatus				I				I	I				Ъ	SM	A.2
Falco naumanni		9	8	11	30	20	29	13	48				C	SM	A.3
Falco tinnunculus	I	I	4	5	2				п		2	4	C	R	A.4
Falco vespertinus									~				I	ΡM	A.2
Falco columbarius	I												I	ΜV	B.2
Falco peregrinus					7		Ι	Ι					I	ΡM	A.2
Gallinago gallinago										7			I	ΡM	B.2
Tringa ochropus							7			I			I	ΜV	B.2
Actitis hypoleucos										I			I	ΡM	A.3
Larus ridibundus		350	100										Р	R	B.3
Larus armenicus		800	400										Р	R	I

						Month /	meseci							Status / status	
- Species / vrsta		2002						2001					Breeding/ gnezditev	Migration/ selitev	Risk/ ogroženost
I	I	II	III	IV	>	ΓΛ	IIV	VIII	IX	×	XI	XII			
Chlidonias leucopterus					40								I	ΡM	A.2
Columba livia	35	15	23		61					Iζ	40	112	С	R	I
Columba palumbus						7	ĸ						С	R	A.4
Streptopelia decaocto	4			7								6	Р	R	I
Streptopelia turtur				32	13	2							С	SM	A.2
Streptopelia senegalensis	5	2	4		ŝ	8	9		8	6	4	4	С	R	A.2
Athene noctua	п	п	к	3	5	7	Ι	5			I	г	С	R	A.3
Caprimulgus europaeus					I								Р	SM	A.2
Apus apus				5	70	45	δo						С	SM	A.4
Merops apiaster				21	34	II	I	20	II				С	SM	A.4
Coracias garrulus				5	7								С	SM	A.2
Upupa epops			I	I	I	г	Ι	5					С	SM	A.2
Melanocorypha calandra		ιξο	131	811	41			2				ι7ο	С	R	I
Melanocorypha bimaculata		δo	45	33	9	20	20	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					С	SM	I
Calandrella rufescens					7			Iζ					Ρ	SM	A.3
Galerida cristata	22	25	24	ζI	47	25	35	25	55	IŞ	23	157	С	R	I
Alauda arvensis		200		34	27							400	С	R	I
Hirundo rustica			61	86	62	120	30	5	39				С	SM	I
Anthus campestris			8										I	ΡM	A.3
Motacilla flava						I			16				I	ΡM	I
Motacilla cinerea				I									I	ΡM	A.4
Motacilla alba	8			4						I		7	С	R	A.4
Cercotrichas galactotes				7	2	5							С	SM	I
Erithacus rubecula	$\sim$									8	7	5	I	ΜV	I
Luscinia svecica						I							Р	SM	I

Species / vasa     2002     2001     Recently     Megnitor/ specifies     Megnitor/ specifies     Recently/ specifies     Recently/ specifies     Megnitor/ specifies     Recently/ specifies     Megnitor/ specifies     Recently/ specifies     Megnitor/ specifies     Recently/ specifies     Megnitor/ specifies     Recently/ specifies     Megnitor     Recently/ specifies     Megnitor     Recently/ specifies     Megnitor     Recently/ specifies     Megnitor     Recently/ specifies     Recently/ specifies     Recently/ specifies     Recently/ specifies     Megnitor     Recently/ specifies     Megnitor     Recently/ specifies     Megnitor     Recently/ specifies     Megnitor     Recently/ specifies     Megnitor     Recently/ specifies     Megnocis     Recently/ specifies							Month /	meseci							Status / status	
$\begin{array}{l c c c c c c c c c c c c c c c c c c c$	Species / vrsta		2002						2001					Breeding/ gnezditev	Migration/ selitev	Risk/ ogroženost
Invarie garantic $3$		-	E	III	N IS	>	VI	VII	VIII	IX	×	XI	XII			
Promisarue ohruno $2$ <th< td=""><td>Irania gutturalis</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td><td></td><td></td><td></td><td></td><td>Ь</td><td>SM</td><td>ı</td></th<>	Irania gutturalis								3					Ь	SM	ı
$\begin to the product of the produ$	Phoenicurus ochruros										7			I	WV	I
Onemetric sidelina     8     10     15     19     16     15     10     15     1     2     3     1     1     1     2     3     1     1     1     1     2     3     1     1     1     1     1     1     1     1     1     2     3     1     1     1     1     2     3     1     1     1     1     1     1     1     1     2     3     1 <td>Phoenicurus phoenicurus</td> <td></td> <td></td> <td></td> <td>18</td> <td></td> <td>5</td> <td></td> <td></td> <td>27</td> <td>3</td> <td></td> <td></td> <td>C</td> <td>SM</td> <td>I</td>	Phoenicurus phoenicurus				18		5			27	3			C	SM	I
Onamble onamble     2     3     3     9     NM     N       Omanihe onamble finishii     2     3     2     1     2     1     2     NM     N       Omanihe finishii     2     3     6     9     4     1     2     C     SM       Omanihe finishii     2     1     2     1     2     2     N       Syluid acomuniti     3     1     2     1     2     N     N       Syluid acomuniti     3     2     1     1     2     N     N       Syluid acomuniti     3     2     1     1     1     2     N     N       Maciagua remage     3     2     1     1     2     2     N     N       Amaciagua remage     3     2     2     2     2     N     N     N       Amaciagua remage     1     2     2     2     2     N     N     N       Amaciagua	Oenanthe isabellina		8	IO	15	19	16	IS	60	29	12			C	SM	I
Onembre bipania     z <thz< th="">     z     z</thz<>	Oenanthe oenanthe					7	3			3				Ь	SM	A.3
Ormank finckii     2     3     6     9     4     1     2     1     1     1     1     2     SM       Tindia menula     3     1     2     1     1     1     1     2     Wr       Sylvia arriapilia     2     2     1     1     1     1     2     Wr       Sylvia arriapilia     2     2     1     1     1     1     2     Wr       Musicipa arriapilia     2     2     1     1     1     1     2     N     N       Musicipa arriapilia     3     2     2     1     1     2     N     N       Musicipa arriapilia     3     2     2     2     2     2     N     N       Musicipa arriapilia     1     4     2     6     2     2     N     N       Musicipa arriapilia     1     1     1     6     2     2     N     N       Taniu enunjor <t< td=""><td>Oenanthe hispanica</td><td></td><td></td><td></td><td></td><td>5</td><td></td><td>7</td><td>I</td><td></td><td></td><td></td><td></td><td>C</td><td>SM</td><td>I</td></t<>	Oenanthe hispanica					5		7	I					C	SM	I
Tindax menda $3$ $1$ $1$ $1$ $1$ $1$ $2$ $W$ Sylvia arriaquilla $2$ $2$ $1$ $2$ $2$ $1$ $2$ $2$ $2$ Sylvia arriaquilla $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaqua arriaqui $3$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaqua arriaqua $3$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaqua arriaqua $3$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaqua arriaqua $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaqua arriaqua $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaqua arriaqua $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaqua arriadua $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lamia rollaria $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lamia rollaria $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lamia rollaria $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lamia rollaria $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$	Oenanthe finschii		7	3	9	6	4	I	7					C	SM	I
Sylvia comunis8PSMSylvia arriagilla $2$ $1$ $6$ $2$ $1$ $8$ Sylvia arriagilla $27$ $27$ $2$ $1$ $16$ $27$ $20$ Masciaga striata $37$ $2$ $27$ $2$ $16$ $29$ $20$ Masciaga striata $37$ $2$ $2$ $23$ $-7$ $20$ $20$ Masciaga striata $37$ $2$ $2$ $2$ $23$ $-7$ $20$ Masciaga striata $2$ $2$ $2$ $2$ $2$ $20$ $20$ Masciaga striata $2$ $2$ $2$ $2$ $2$ $2$ $20$ Masciaga striata $2$ $2$ $2$ $2$ $2$ $20$ $20$ Masciaga striata $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaga striata $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaga striata $2$ $2$ $2$ $2$ $2$ $2$ $2$ Masciaga striata $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lanisa straat $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lanisa straat $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lanisa straat $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ $2$ Lanisa straat $2$ $1$ $4$ $2$ $2$ $2$ $2$ $2$ $2$ Lani	Turdus merula	3									Ι		I	I	WV	I
Sylvia arrizopila $7$ $1$ <th< td=""><td>Sylvia communis</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>8</td><td></td><td></td><td></td><td></td><td>Ь</td><td>SM</td><td>I</td></th<>	Sylvia communis								8					Ь	SM	I
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Sylvia atricapilla				5		Ι							Р	SM	I
$\label{eq:matrix} \eqref{matrix} \$	Phylloscopus collybita				27	7				16	25			Р	SM	I
Parta major $35$ $2$ $3$ $2$ $3$ $2$ $3$ $4$ $2$ $3$ $4$ $2$ <	Muscicapa striata									23				I	ΡM	I
Sitta neumger256CROrolus orolus12222SMLanius collurio11422NSMLanius collurio1142162SMLanius collurio12142NLanius collurio1216210CSMLanius senator773476CSMLanius senator273476CNLanius senator21497347777Pica pica2014020201246436CNCorus frugilegus231497402201246436CNSurmus undgaris231497230250201246436SMPaser hispanidensis11111111111Surmus role33330250201246436SMPaser hispanidensis11111111111Paser hispanidensis1111111111111Paser hispanidensis11	Parus major	35	2										30	I	WV	I
	Sitta neumayer		2			5				9				C	R	I
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Oriolus oriolus					7	7							C	SM	I
Lanius minor   2   10   -   PM     Lanius senator   16   2   10   -   C   SM     Lanius senator   7   7   3   -   C   SM     Lanius senator   2   5   2   2   3   4   7   5   P     Pica pica   2   5   1   47   7   5   1   6   C   R     Pica pica   20   1   49   7   5   1   6   C   R   N     Corvus finglegus   50   1   497   40   220   12   46   43   64   C   R     Sturmus vulgaris   2   1   49   230   250   20   20   1   4   4   4   64   C   R     Ruser domesticus   +   +   +   +   +   +   +   4   C   SM     Paser bispaniolensis   150   200   200   20   20   20   C   SM  <	Lanius collurio				II	4								Р	SM	I
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Lanius minor					7								I	ΡM	I
Lanius nubicus73-PMPica pica $2$ $5$ $5$ $2$ $2$ $3$ $4$ $7$ $5$ $1$ $6$ $C$ $R$ Corvus flugglegus $50$ $1$ $1$ $2$ $2$ $2$ $3$ $4$ $7$ $5$ $1$ $6$ $C$ $R$ Corvus flugglegus $50$ $1$ $497$ $4$ $220$ $12$ $46$ $43$ $64$ $C$ $R$ Surrus volgaris $2$ $2$ $2390$ $2550$ $20$ $20$ $C$ $R$ Paser domesticus $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $R$ Daser bipaniolensis $3$ $150$ $200$ $200$ $C$ $C$ $R$	Lanius senator					16	7	IO						C	SM	I
Pica pica   2   5   2   2   3   4   7   5   1   6   C   R     Corvus frugilegus   50   1   47   7   5   1   66   C   R     Corvus frugilegus   50   1   497   2   2   2   40   2     Sturmus ubgaris   25   1   497   40   220   12   46   43   64   C   R     Nuruus roseus   1   2390   2550   20   20   12   46   43   64   C   R     Paser domesticus   +   +   +   +   +   +   +   K   C   SM     Paser bispaniolensis   53   150   200   20   20   20   20   SM   C   SM     Paser bispaniolensis   53   150   200   20   20   20   SM   C   SM     Paser bispaniolensis   5   5   5   5   5   SM   SM   SM   SM	Lanius nubicus				$\sim$									I	ΡM	I
Corvers frugilegus   50   1   26   -   WV     Corvers corries   23   -   WV   -   WV     Corvers corries   25   1   497   40   220   12   46   43   64   C   R     Sturmus volgaris   2   2390   2550   20   20   20   C   R     Passer domesticus   +   +   +   +   +   +   +   K   R     Passer hispaniolensis   33   150   200   200   C   SM	Pica pica	2	2	5	7	2	ĸ	4			5	I	9	C	R	I
Corversion cornix   23   1   497   40   220   12   46   43   64   C   R     Sturmus rulgaris   25   1   497   40   220   12   46   43   64   C   R     Sturmus roseus   2390   2550   20   20   20   C   SM     Paser domesticus   +   +   +   +   +   +   +   K   R     Paser hispaniolensis   53   150   200   200   C   SM	Corvus frugilegus	δo		I									26	I	WV	I
Sturnus ulgaris   25   1   497   40   220   12   46   43   64   C   R     Sturnus roseus   2390   250   20   20   20   C   SM     Paser domesticus   +   +   +   +   +   +   +   K     Paser hispaniolensis   53   150   200   200   C   SM	Corvus corone cornix	23												I	WV	I
Starmus roseus 2390 2550 20 C SM   Passer domesticus + + + + + + + K   Passer hispaniolensis 53 150 200 C SM	Sturnus vulgaris	25	I	497		40		220	12	46		43	64	C	R	I
Passer domesticus   +   +   +   +   +   +   C   R     Passer hispaniolensis   53   150   200   C   SM	Sturnus roseus					2390	2550	20						C	SM	I
Passer hispaniolensis 53 150 200 C SM	Passer domesticus	+	+	+	+	+	+	+	+	+	+	+	+	C	R	I
	Passer hispaniolensis					53	ıξo	200						C	SM	I

						Month /	meseci							Status / status	
Species / vrsta		2002						2001					Breeding/ gnezditev	Migration/ selitev	Risk/ ogroženost
	-	II	III	N	>	ΓΛ	IIV	VIII	IX	×	X	XII			
Petronia petronia			8		5					100		20	C	R	ı
Fringilla coelebs	35	30								45		53	I	WV	ı
Carduelis carduelis	6	33	16			13			12			8	C	R	A.4
Carduelis cannabina												LΙ	١	WV	A.4
Emberiza schoeniclus	IŞO											100	١	ΜV	A.4
Emberiza melanocephala				47	105	16							C	SM	A.3
Miliaria calandra		75	55	71	83	3	53	IŞ					С	SM	I