

Birds of Nallıhan Bird Paradise (Central Anatolia, Turkey)*

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Abstract: This study was conducted in Nallıhan Bird Paradise (Nallıhan, Ankara), which displays seasonal wetland characteristics. Within the scope of this study, a 12 month field study between August 2000 and July 2001 was carried out in order to determine the avifauna of Nallıhan Bird Paradise. One hundred and thirty bird species belonging to 14 orders and 41 families were recorded in the study area. It was concluded that this area was probably used by a total of 41 actual and/or possible bird species for breeding purposes.

Key Words: Avifauna, Bird, Nallıhan Bird Paradise, Ankara, Central Anatolia, Turkey

Nallıhan Kuş Cenneti (İç Anadolu, Türkiye)'nin Kuşları

Özet: Bu çalışma mevsimsel sulakalan özelliği gösteren Nallıhan Kuş Cenneti (Nallıhan-Ankara)'nde gerçekleştirilmiştir. Çalışmanın amacı, Ağustos 2000-Temmuz 2001 tarihleri arasındaki 12 aylık arazi çalışmalarıyla Nallıhan Kuş Cenneti'nin avifaunasının saptanmasıdır. Sonuç olarak, 14 takım ve 41 familya içinde yer alan 130 kuş türü çalışma alanında kaydedilmiştir. Bununla beraber, çalışma alanı üreme amacıyla, aktif ve/veya muhtemel üreme özelliğine sahip toplam 41 kuş türü tarafından kullanılmıştır.

Anahtar Sözcükler: Avifauna, Kuş, Nallıhan Kuş Cenneti, Ankara, İç Anadolu, Türkiye

Introduction

The bird fauna of Turkey is relatively well known when compared with other groups (Bilgin, 1994). First observations on birds in Anatolia were in the 1830s (Kumerlove, 1986). Especially during the last 50 years, several checklists have been published, starting with Ergene (1945) and followed by Kasparyan (1956), Kumerlove (1961), Beaman (1978), Kiziroğlu (1989), Bilgin and Akçakaya (1990), Turan (1990), Kasperek (1992), and Kasperek and Bilgin (1996). Finally, Kirwan et al. (1998) listed a total of 453 bird species.

Of these 453 bird species, 376 occur regularly at different times of the year, and of the remaining, 56 are vagrants whose origins are Western Palaearctic, Eastern Palaearctic, Afrotropical, Holarctic, Southern Asian, and Nearctic and a few species are semi-cosmopolitan (Bilgin, 1994).

Turkey has one of the richest bird faunas in the Western Palaearctic, because it is located on important migration routes for birds, and includes different kinds of

habitats. Central Anatolia is an important region for bird species in Turkey; there are 32 important bird areas (Magnin et al., 2000). Studies on birds in Central Anatolia have been carried out recently (Kasperek, 1992; Kırac and Kırac, 1996; Pleasance, 1997; Ayaş and Turan, 2001; Perктаş et al., 2004), but studies including Ankara and its environs have been limited (Görgün, 1995; Albayrak, 2002; Perктаş, 2002).

Nallıhan Bird Paradise (NBP) located near the city of Ankara has not been previously studied in terms of its bird species. Therefore, the goal of this paper is to show the birds present in NBP and its ornithological importance.

Study Area

The study area includes NBP and north of Sarıyar Dam Lake. NBP (40° 06' N, 31° 36' E) is situated on the north side of the Sarıyar Dam Lake in the north-west of Central Anatolia (Figure 1). It covers approximately 900 ha and is characterized by seasonal wetlands.

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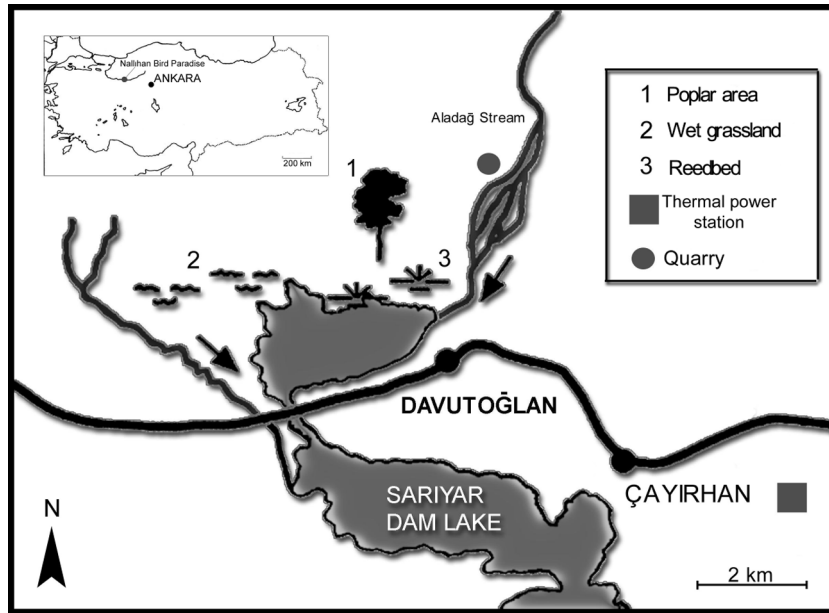


Figure 1. Location of Nallıhan Bird Paradise, Central Anatolia, Turkey.

The study area has a semi-arid cold Mediterranean climate (Akman, 1999). Detailed climate data are only available for Nallıhan, approximately 30 km to the north-west of NBP. During the study period (August 2000 to July 2001), the total annual rainfall was 305.4 mm at Nallıhan, and the annual mean temperature 13.5 °C. According to the average climate data of 25 years (1976-2000) for Nallıhan, the total annual rainfall is 277.1 mm, and the annual mean temperature 12.2 °C. Thus, approximately 6 months of the year are determined to be an arid period in Nallıhan and its environs (Figure 2).

The important habitats of the area include seasonal mudflats, standing ponds, streams, grasslands, wet grasslands, rocky areas, farmlands and settlements.

Vegetation cover is defined as steppe and salt marsh (Doğan, 2000). However, some parts of NBP were almost devoid of vegetation cover during the study period.

Plants of the important habitats in the area were also recorded. Along the entirety of Aladağ Stream, there was a riparian zone. *Typha latifolia*, *Typha angustifolia*,

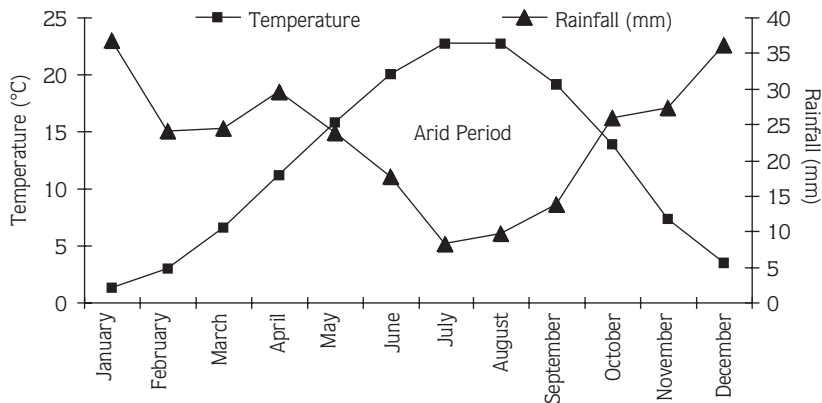


Figure 2. Ombrothermic climate diagram of Nallıhan.

Phragmites australis (reed), *Populus tremula* (white poplar) and *Salix* sp. (willow) were found at intervals in this zone. At the edge of standing freshwater was seen deciduous shrubland and we found short shrubs in this area: *Atraphaxis billardieri*, *Salsola gradis* and *Tamarix parviflora*. In wet grassland, some grass plants were found: *Lythrum salicaria* (red sally), *Crypsis schoenoides*, *Alopecurus myosuroides* and *Plantago major* (large plantain). In grassland, short shrubs were also found: *Salsola incenescens* and *Atraphaxis billardieri*.

Farming is practised in the study area. In particular, the flood area in NBP is farmed during the spring seasonally. Between August 2000 and July 2001, vegetables (e.g., spinach, cabbage, and corn) were grown densely in the study area. Furthermore, fruit gardens and poplar plantations were also seen in the study area.

Conservation of the Study Area

NBP was declared an important bird area (IBA number TR 045), and in 1994 it was also declared a permanent wildlife reserve (Magnin et al., 2000).

The primary problem that affects the natural ecosystem is the pollution in the Sakarya River, which is a source of Sarıyar Dam Lake. The dam lake is heavily polluted, especially by untreated sewage from Ankara (Magnin et al., 2000). Furthermore, the pollution in Sarıyar Dam Lake also included organochlorine compounds and heavy metals (Ekmekçi, 1990).

Materials and Methods

Observation surveys were performed between August 2000 and July 2001. The area was visited once a month and during the breeding season twice a month. The counting methods suggested by Bibby et al. (1992) were applied for different bird groups. Counting was started at sunrise and continued until sunset. Telescopes (40 X 60) and binoculars (16 X 24) were used during the counting period.

The possible status of recorded species for the study area is given: resident (R) –virtually always present in NBP, winter visitor (WV) present from November to March (individuals from some species in this category are also given as passage migrants), summer visitor (S) – regularly observed in spring (individuals from some species in this category are also given as passage migrants), passage migrant (PM) – only present in spring

and/or autumn migration periods, vagrant (V) – a category used for migratory species that swerved from normal migratory routes, and some species are given as unknown (?).

Results

In NBP, 130 bird species were recorded between August 2000 and July 2001. They belong to 41 families (Appendix 1). The highest numbers of species were recorded in September 2000 (45 species) in autumn and May 2001 (63 species) in spring. The smallest numbers of species were recorded in autumn (29 in November 2000) and winter (30 in December 2000) (Figure 3).

The possible status of all bird species was determined during the study period (Appendix 1).

During spring 2001, actual and/or possible breeding bird species were recorded in the study area and represented 32% (n = 41) of the total bird species recorded. Of 41 breeding bird species, 16 were resident breeders (RB) (Appendix 1).

Discussion

In Turkey, 4 dam lakes (Demirköprü, Sarıyar, Hirfanlı and Yedikır) have been declared important bird areas so far. NBP, located at the Sarıyar Dam, includes species with an unfavourable conservation status in Europe (Magnin et al., 2000). Because of this characteristic, NBP and the Sarıyar Dam were determined as distinct place from the others.

Turkey has 2 important migration routes and 3 migration gates, namely the Bosphorus in the north-west, Artvin-Borçka pass in the north-east and Hatay-Belen pass in the south (Sutherland and Brooks, 1981; Van der Have et al., 1989; Kok and Ongeane, 1995; Mrlik et al., 1995; Kaya et al., 1999). During the autumn and the spring migration periods, some wetlands in Central Anatolia have been used by different bird species that are passage migrants (Perktas et al. 2004).

In NBP, the number of bird species changed in autumn 2000 and spring 2001 (Figure 3). This was related to the study area including suitable settling areas for passage migrants, which entered from both of Turkey's north and south migration gates. Especially in spring 2001, summer visitors and passage migrants arrived in the study area during the same period. Therefore, the number of bird

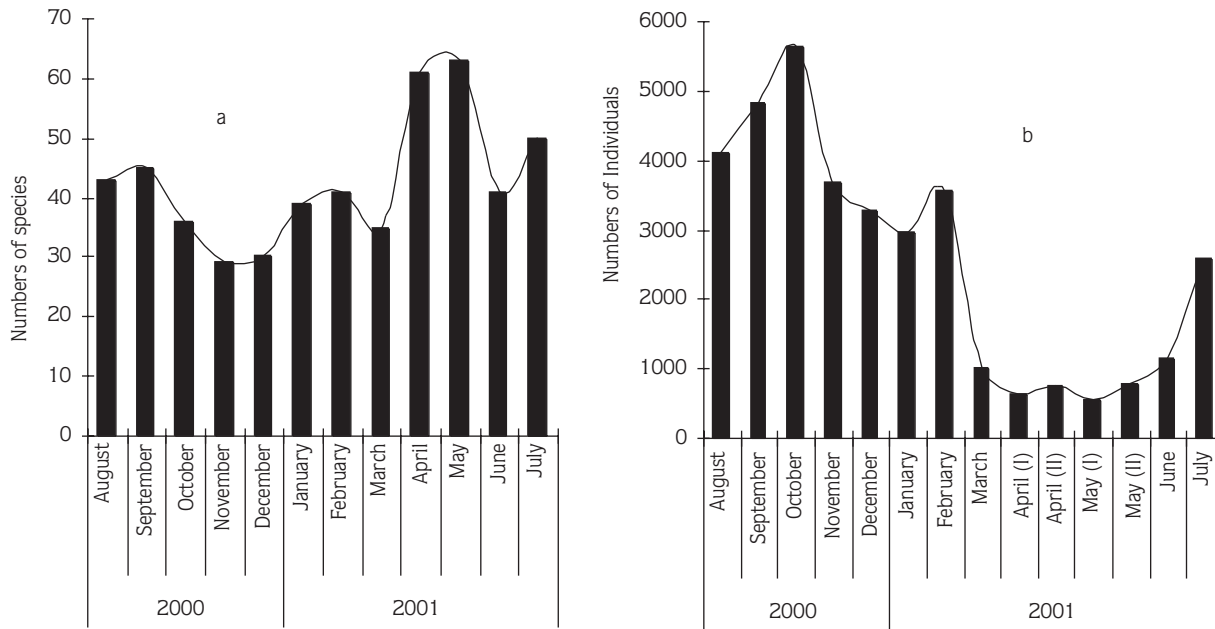


Figure 3. Numbers of bird species (a) and numbers of individuals (b) during the study period (August 2000-July 2001) in the study area. (Observations were performed twice in April 2001 and May 2001. I and II indicate observations in these months).

species reached a maximum in May 2001. In consideration of this situation, increasing bird species and bird numbers in autumn 2000 were related only to passage migrants, because summer visitor species left the study area during this term.

NBP was determined to be an important area for passage migrants (26%) and summer visitors (24%). In terms of passage migrants, 2 important non-passerine bird species (*Pelecanus onocrotalus* and *Platalea leucorodia*), which have been declared strongly declined in Turkey (Tucker and Heath, 1994), were observed in the study area. Moreover, previous observations in NBP showed that the teal (*Anas crecca*) and common crane (*Grus grus*) reached huge numbers as passage migrants in November 2000 (Demirci, 2000; Kılıç, 2000).

Many bird species that were summer visitors in the study period appeared for possible breeding in the study area. In terms of the summer visitors, 5 important non-passerine bird species (*Nycticorax nycticorax*, *Ardeola ralloides*, *Ciconia ciconia*, *Milvus migrans* and *Neophron percnopterus*) that have been declared to they have declined in Turkey (Tucker and Heath, 1994) bred in the study area and its environs. However, especially the Egyptian Vulture (*Neophron percnopterus*), which has decreased sharply in the Western Palearctic (Donazar et

al., 2002), used the study area and its environs for breeding and feeding. Furthermore, *Ciconia nigra*, which has been determined to be rare in Europe and data on its population sizes or trends in Turkey are limited (Tucker and Heath, 1994), bred in the study area. Thus, NBP was a settling, feeding and breeding area for some species mentioned above during the study period.

Throughout the study period, however, the grey heron (*Ardea cinerea*), ruddy shelduck (*Tadorna ferruginea*), and black-headed gull (*Larus ridibundus*) were regularly observed in large numbers each month. Therefore, they were declared characteristic bird species for NBP.

Different wetlands in Central Anatolia are used by waterfowls and waders (Barış, 1989). NBP as a wintering area was also determined as an important area for Podicipedidae, Phalacrocoracidae, Ardeidae and Anatidae in the study period.

Although NBP has been defined as a temporary wetland (Magnin et al., 2000), this was not observed during the study period. Since good rainfall did not fall in the study area throughout the year (August 2000-July 2001), aridity was seen and the vegetation structure did not develop well in the same period.

NBP has good potential as a breeding, settling and feeding area for bird species (Magnin et al., 2000), but this potential was not apparent during the study period. Thus, the decreased preference for NBP by these birds during the study period may have been due to the aridity and poor vegetation structure related to the climatic conditions. Finally, according to the climatic data, NBP suffered an extreme year between August 2000 and July 2001.

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Appendix 1. Numbers and status of bird species recorded in Nallihan Bird Paradise.

Euring Code and Species Name	2000						2001						Status		
	August	September	October	November	December	January	February	March	April ¹		May ²	June		July	
									I	II	I	II			
00070	500	2625	431		98	41									WV, PM
00090			20		31	20		6					17		WV, PM
00720					421	266									WV
00880		12													PM
01040	69	5							1	6	24	76	21		S
01080	16	4									5	9	4		S
01190	168	3							11	31	55	61	62		S, PM
01210			48	79	237	6	23	18	2	13	3	1			WV
01220	227	414	289	391	307	58	89	105	74	262	14	112	216	163	R, RB
01240										1					V
01310	18	21		1				4	16	47	28	62	3	4	S, PM
01340	48	2	1					2	28	22	11	159	61	24	S, PM
01440									14						PM
01710	194	653	2500	600	269	598	462	31	51	21	8	43	175	223	R, PM, RB
01790						2	15								WV
01820				1											?

1 and 2: Because of the breeding season, 2 field surveys were performed in Nallihan Bird Paradise in April and May 2001. **Actual and/or possible breeding bird species are in bold.**

Appendix 1. (Continued)

	2000					2001							Status	
	August	September	October	November	December	March		April		May ²	June	July		
						I	II	I	II					
01840				17									WV	
01860		3	1	235	676	550	547	6	25	10	5	3	8	R, WV
01890								3						V
01910		8	84	39										PM, WV
01940			371	205	2	374	53							WV
01980			2	106	170	220								WV
02030				3										?
02380								2	1	1	1	1	5	S
02470	12	4						4	1	1	3	1	3	S
02560		1												?
02600	1								1					V
02610			1						1					V
02620								1						?
02870		2	1			1	2					1		WV
02880	2	2	3	3	5			2	3	1	1	1	2	R, RB
02980	1													?

Appendix 1. (Continued)

	2000												2001						Status
	2000						2001												
	August	September	October	November	December		January	February	March	April ¹	May ²	June	July						
03040							1											?	
	<i>Falco tinnunculus</i> LINNE, 1758																		
03550												2							V
	<i>Alectoris chukar</i> (GRAY, 1830)																		
04240																			V
	<i>Gallinula chloropus</i> (LINNE, 1758)																		
04290	250		6	602	34	88	48												WV, PM
	<i>Fulica atra</i> LINNE, 1758																		
04500																			V
	<i>Haematopus ostralegus</i> LINNE, 1758																		
04550	32	7								1	1								PM
	<i>Himantopus himantopus</i> LINNE, 1758																		
04560			30																PM
	<i>Recurvirostra avosetta</i> (LINNE, 1758)																		
04690	1													2	10	5			S
	<i>Charadrius dubius</i> SCOPOLI, 1786																		
04700																			PM
	<i>Charadrius hiaticula</i> LINNE, 1758																		
05170																			PM
	<i>Philomachus pugnax</i> (LINNE, 1758)																		
05450																			?
	<i>Tringa erythropus</i> (PALLAS, 1764)																		
05460	116	1																	PM
	<i>Tringa totanus</i> (LINNE, 1758)																		
05530	7	1					2	1											WV, PM
	<i>Tringa ochropus</i> LINNE, 1758																		
05560				1															PM
	<i>Tringa hypoleucos</i> LINNE, 1758																		
05820	2149	700	1691	1580	518	398	1169	587	167			245	1659						R, RB
	<i>Larus ridibundus</i> LINNE, 1766																		
05925			2																V
	<i>Larus cachinnans</i> PALLAS, 1811																		

Appendix 1. (Continued)

	2000												2001							Status
	August	September	October	November	December	January		February		March		April ¹		May ²		June	July			
						I	II	I	II	I	II	I	II	I	II			I	II	
06650	32	65	5			25	12	9	5	10	10	10	10	10	10	9	22	R, RB		
06840	3	4	4	11	5	8	4		10	10	4	2	1			1		R, RB		
06870												1		1		3		S		
07240									1	1	1	1						PM		
07950																10		V		
08400	1	6										12						S		
08410	5										3	1	2			5		S		
08460		4							1	6	1	1	5			2		S		
08480									1									?		
08760				2														?		
08780						2	3	4			1	1				5		R		
08870						1												?		
09720	9	12	3	1	2	7	42	9	20	2	2	2	2	2	4	45		R, RB		
09760			1		10	2					1				18			R		
09780						15		2										WV		
09910	10								10							1		S		

Appendix 1. (Continued)

	2001												Status				
	2000						2001										
	August	September	October	November	December	January	February	March	April		May	June		July			
09920	2	5													5	10	S
10010	10									30		7	31	50	30		S
10110											1						V
10140					100												PM
10170			4	2		4	1			4	1	4					PM
10190		6		1													PM
10200	2	5	5				4	1	100	1	100	1		2			PM
10990							3	2	1			1					WV
11040										26	17	4	9	2	2		S
11170													1				V
11210				1													WV
11370									14								PM
11390			2	2						1		4					PM
11440	6	13	2				1	2	1	2	1			2	10		S
11460	9	2									2	1	1				S
11470								2	1	1	1	1	4		1		S

Appendix 1. (Continued)

	2000							2001							Status
	August	September	October	November	December	January	February	March	April ¹	May ²	June	July			
11500		1								2	5		S		
11660	3							2		3	4	1	S		
11870					1	4	1	4	4	4	6	1	R, RB		
12020						4	4						PM		
12200	4							3	6	8	10	3	S		
12430								1					?		
12550									1	2	8	1	S		
12670											1		V		
12770							4	2					PM		
13110					1			20					PM		
13120								10					PM		
13150				1									V		
13350		5								2			PM		
13480								8					PM		
14620							8						?		
14640			2	1		7	5	6	4	6	9	6	R, RB		

Appendix 1. (Continued)

	2000												2001						Status
	2000				2001														
	August	September	October	November	December	January	February	March	April ¹		May ²		June	July					
14810	<i>Sitta neumayer</i> MICHAHELLES, 1830	9	10	12	1	1	1	6	7	1	1	1	1	6	5	R, RB			
14820	<i>Tichodroma muraria</i> (LINNE, 1766)				1											?			
14900	<i>Remiz pendulinus</i> (LINNE, 1758)														1	?			
15080	<i>Oriolus oriolus</i> (LINNE, 1758)											1	6	6	3	S			
15150	<i>Lanius collurio</i> LINNE, 1758	3	6							1	2	5	5	5	5	S			
15190	<i>Lanius minor</i> GMELIN, 1788	19	5											1	1	PM			
15200	<i>Lanius excubitor</i> LINNE, 1758		3												1	V			
15230	<i>Lanius senator</i> LINNE, 1758	1														?			
15240	<i>Lanius nubicus</i> (LICHTENSTEIN, 1823)		3													PM			
15390	<i>Garrulus glandarius</i> (LINNE, 1758)					2					1					?			
15490	<i>Pica pica</i> (LINNE, 1758)	12	22	2	16	7	15	11	7	2	3	2	3	1	1	R, RB			
15590	<i>Pyrrhocorax pyrrhocorax</i> (LINNE, 1758)								2	2					2	S			
15600	<i>Corvus monedula</i> LINNE, 1758	14	2			1				8		25	15	1	75	S			
15630	<i>Corvus frugilegus</i> LINNE, 1758				7	9	20									WV			
15670	<i>Corvus corone cornix</i> LINNE, 1758	58	58	32	50	109	34	22	28	18	15	24	13	15	16	R, RB			
15720	<i>Corvus corax</i> LINNE, 1758						1	2	4		4	2	2	2	2	S			

Appendix 1. (Continued)

	2000						2001						Status			
	August	September	October	November	December		April ¹		May ²	June	July					
							I	II								
15820	7								1	1	7	30	S			
										40			PM			
15840																
15910	80	50	18	60	20			42	10	28	40	10	33	11	R, RB	
15920		3								10	170	20	19	32	S	
15980	10	50	63					28	38	35	5	30	22	24	R, RB	
16360				7											WW	
16380															?	
16400			1												V	
16490															?	
16530	4		1	10				6	14	30	13	20	21	18	26	R, RB
16540			1													V
16600		2		2	10			1	10							WW
17170																WW
18600																WW
18660											2			2		V

Appendix 1. (Continued)

	2000					2001							Status	
	August	September	October	November	December	January	February	March	April ¹	May ²	June	July		
18770							1	1					V	
18810										4	17	3	2	S
18820		11				1	10	5	9	4	9	14	1	R, RB