

A long-term bird survey of Kulu Gölü, Turkey (2001–2002)

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This paper describes a survey of Kulu Gölü, south of Ankara, for a period of over a year. Due to its location, the area is often visited by birdwatchers, but there has been no long-term survey of its avifauna. This paper describes the results of 40 visits to the lake and reports the observation of several rare birds in Turkey, including Bean Goose *Anser fabalis*. The current breeding status of White-headed Duck *Oxyura leucocephala* is enigmatic; although there are many summering birds there has been little recent proof of nesting activity. While numbers of wintering geese appear to have decreased considerably, those of breeding gulls and terns have remained stable. Current numbers of migrants and wintering birds are also reported.

Kulu Gölü is one of the more accessible Important Bird Areas in Turkey, given that it is just 100 km south of the capital, Ankara. However, despite its ornithological importance, it is less regularly visited than Mogan Gölü to the north and it has not received the systematic attention devoted to other areas in Turkey, notably the Kızılırmak, Göksu and Büyük Menderes deltas or the lakes of the Çukurova system. Thus, a long-term survey of the Kulu area is overdue.

Part of the lake's interest to ornithologists is a product of the fact that it consists of two sections, separated by a broad, alluvial spit. The northern section (Düden Gölü) is saline and drained by the diminutive Kulu River while the southern part (Küçük Göl) is fresh water, fed by an underground spring, its water derived from a subterranean aquifer (Çangiri 1999). The result is a considerable diversity of habitats, ranging from mudflats to *Phragmites* reedbeds, with an accompanying avian diversity. Over 200 bird species have been recorded, including many waders, ducks, geese and passerines, as well as saltwater specialities such as Greater Flamingo *Phoenicopterus ruber* and Avocet *Recurvirostra avosetta*. This paper describes the changes that have occurred at the lake in recent decades, as well as the results of a 13-month bird survey.

Previous ornithological research

One of the earliest accounts of the lake's avifauna is also among the most comprehensive: Kasperek (1987) provided a detailed report for most species known to occur, including many of the wintering and migrant birds. Several summaries of the breeding birds have appeared subsequently (e.g. Ertan *et al.* 1989, Magnin & Yazar 1997, Eken & Magnin 1999). Karauz (1999) surveyed the bird populations of a number of the lakes of the Tuz Gölü basin, including Kulu, while Karauz Kiraç & Kiraç (1996) provided details of some of the breeding waterbirds at Kulu, concentrating on the colonies of gulls and terns. In contrast to the earlier literature, the present paper places greater emphasis on the wintering and migrant species.

Kulu Gölü has long been known as a productive birding area but, since the 1980s, its history appears to have been one of gradual decline. In retrospect, Kasperek (1987) makes interesting reading as he refers to features of the landscape that are now missing—perhaps due to lower water levels at the lake. Among bird species that he listed as breeding were reed-dwellers such as Black-necked Grebe *Podiceps nigricollis*, Marbled Teal *Marmaronetta angustirostris* and, possibly, Black Tern *Chlidonias niger*. It is currently doubtful whether the latter breeds in Turkey, given an ongoing debate concerning its precise status at Uluabat Gölü. However, at least in the past, the report of 50 pairs at Kulu suggests a greater degree of certainty concerning the subject (Kasperek 1987). Apparently, all of these species inhabited a mass of floating vegetation in the centre of the lake, which has now disappeared.

Similarly, there is presently some doubt concerning the breeding status of White-headed Duck *Oxyura leucocephala* at Kulu; once this was a notable speciality. During the 1990s, reviews of the species' status on the Central Plateau initially suggested a population of 150 pairs (Kirwan 1994), although due to ongoing habitat modification this was subsequently considered over-optimistic (Kirwan 1995). Thus, while Kasperek (1987) and Green & Moorhouse (1995) confidently reported

c. 40 breeding pairs at Kulu, only a few years later Karauz Kiraç & Kiraç (1996) cautiously noted only summering individuals. Robinson *et al.* (1998) noted that many males at Kulu Gölü were unlikely to have bred there due to low water levels, and this situation persists to the present. Nevertheless, there are frequently significant numbers of oversummering individuals present, occasionally more than 150 birds. Despite recent reports of courtship behaviour at the lake (S. Karauz pers. comm. 2001), this does not constitute direct proof of breeding. The most recent proof of breeding record involved an observation of fledglings in summer 2001 (B. Kurt pers. comm. 2001). Although there is uncertainty concerning the species' breeding status at Kulu, it appears possible that the birds move between lakes in the region and could breed there again in the future.

Even on the islands in the centre of Düden Gölü there have been noticeable changes: e.g. numbers of Avocet *Recurvirostra avosetta* and Black-winged Stilt *Himantopus himantopus* appear to have decreased since the 1980s. Because several islands become connected to the mainland in summer, this increases the level of disturbance and predation by foxes and dogs. The geography of these islands is quite uncertain and, in the summer heat, additional sandbars to those described earlier (Karauz Kiraç & Kiraç 1996) have appeared.

Due to conflicting reports, it is difficult to determine trends for steppe species in the area; probably none was ever very common. However, in the 1980s, Kasperek (1987) reported flocks of up to 200 Black-bellied Sandgrouse *Pterocles orientalis* and 40 Stone Curlew *Burhinus oedicephalus* at Kulu. Presently, it is rare to see more than small groups of sandgrouse and it is even more unusual to observe Stone Curlew, perhaps due to its nocturnal habits. Heunks *et al.* (2001) reported a population of just 83 Great Bustard *Otis tarda* in four areas of the Konya Basin, including around Tuz Gölü, and some breeding sites are probably reasonably close to Kulu Gölü. These findings give added credibility to the reports of local farmers that groups of up to 20 bustards occur in spring/summer on semi-steppe east of the lake. If correct, this is welcome news, as Kasperek (1987) only reported single birds and my only observation was of a male in flight, on 14 April 2001. This area may also prove suitable for Little Bustard *Tetrax tetrax*, though it has not been observed there. Additionally, there has been little recent evidence of Common Crane *Grus grus* breeding in the Kulu area.

Not all species have undergone such demise and it is notable that the colonies of gulls and terns have remained relatively stable (see Table 1). The principal species breeding at the lake are Mediterranean Gull *Larus melanocephalus* (at least 200 pairs), Black-headed Gull *L. ridibundus* (250 pairs), Slender-billed Gull *L. genei* (200 pairs) and Gull-billed Tern *Sterna nilotica* (300+ pairs). While much higher estimates of the populations of these species have been made (Karauz 1999), the current totals are very similar to those reported by Karauz Kiraç & Kiraç (1996). Despite hunting pressure, numbers of wintering wildfowl also appear little changed to those reported in the 1980s (Kasperek 1987). The numbers of passage waders appear lower than formerly—when more than 1000 Little Stint *Calidris minuta* were occasionally reported—but most of the commoner species are still well represented. Post-breeding flocks of Ruddy Shelduck *Tadorna ferruginea* sometimes reach 2000 and migrant flocks of Garganey *Anas querquedula* similar figures.

Regrettably, a project of the Kulu District Council could threaten bird populations at the lake. Currently, sewerage from Kulu town only enters Kulu Gölü indirectly through a nearby stream (see Magnin & Yazar 1997), but a pipeline and a wastewater treatment plant are being constructed to empty sewage directly into the lake. Though this development will reduce the level of toxicity in the waste and some water inflow in summer may benefit avian populations at the lake, the effects of inputting such chemicals into such a shallow waterbody are uncertain (Başak 2003).

The present study

During the period March 2001 to August 2002, no fewer than 40 visits were made to the lake, mainly to count waders. Usually, the procedure was to walk around the lake: starting at Kulu town and working towards Küçük Göl and the village of Karapınar on the north shore. Visits were at irregular intervals each month according to personal convenience. Usually two visits were made per month but there were four visits in August and December 2001 (see Appendix). Particular attention was paid to the productive freshwater Küçük Göl and to the delta of the Kulu River on the west shore of the lake.

Results

For a complete list of species and maximum monthly totals see the Appendix, which covers the 13-month period from August 2001 to August 2002 (serious study of the lake's avifauna only commenced in the former month). Table 1 summarises previous and my own estimates for several important breeding species at the lake, as well as four species that use the area in winter or as a post-breeding moult site.

Wildfowl

Like other playa lakes, Kulu Gölü is primarily of importance for these species as a migration stopover and wintering area, and the numbers of ducks and geese are erratic, e.g. in early September 2001 very few ducks were present, but within a few days over 1000 Garganey *Anas querquedula* had arrived. Such a rapid turnover demonstrates one of the chief limitations of attempting a comprehensive study without working permanently on site.

Nevertheless, general indications suggest a decline in numbers since Kasperek's (1987) report on the lake. In the 1980s, over 10,000 Ruddy Shelduck were reported on post-breeding dispersal, but present-day figures for July are closer to 2000. On migration, Garganey still occurs in flocks of up to a 1000 or more, and it is not uncommon to see flocks of 1000–2000 Shoveler *Anas clypeata* (Table 1). One of the most important constituents of the lake's avifauna is the globally threatened White-headed Duck and, while Kasperek (1987) reported flocks of 500 in July, current numbers only rarely reach 200. Up to 19,000 White-fronted Geese *Anser albifrons* formerly wintered in the Kulu area (Kasperek 1987), but most recent counts have been of 2000–4000 birds (Table 1).

Surprisingly, not all such changes are due to hunting pressures, as this problem appears reduced. When I first visited the lake in the 1990s, as many as ten hunters were sometimes observed working the area around Küçük Göl but since then activity has been lower. Clearly, this is a view based on personal impressions but, as the lake is a designated Specially Protected Area, Konya Natural Park wardens visit it occasionally. Probably, a more serious pressure on the environment comes from changes in agricultural practice and the decline in arable land, reducing the feeding opportunities for geese.

Gulls

Estimates of gull and tern numbers have varied considerably, possibly due to changing conditions at the lake. However, there appears greater stability in numbers of these species than among wintering geese. Since the 1980s, there would appear to have been at least 200 pairs of the major gull species while numbers of Gull-billed Tern *Gelochelidon nilotica* have apparently increased (See Table 1). During the most recent decade, several Armenian Gull *Larus armenicus* have summered on the lake and there have even been records of breeding (Karauz 1999). If this continues to increase it may have a negative effect on colonies of the smaller species. Also in recent years, several pairs of Spoonbill *Platalea leucorodia* have taken to nesting on the islands alongside the gulls (Karauz 1999).

Table 1. Summary of the estimated numbers of selected species at Kulu Gölü by various authors. For breeding gulls and terns, Karauz Kiraç & Kiraç (1996) and Karauz (1999) have provided the most reliable estimates, as these authors visited the islands. Present estimates of the numbers of gulls represent a compromise between my own and Karauz and Kiraç's (pers. comm. 2002) observations in the same period. Their estimates for gull and tern numbers were made on 25 May 2002 and, given broad agreement with my data, Table 1 provides a compromise between the two sets of totals. All other data in the right-hand column of Table 1 are based purely on personal observations. Most estimates of breeding bird populations were made in May.

Species	Kasperek (1987)	Ertan <i>et al.</i> (1989)	Karauz Kiraç & Kiraç (1996)	Karauz (1999)	This study
Breeders					
Black-necked Grebe <i>Podiceps nigricollis</i>	100–150 pairs	120 pairs	2 pairs		1–2 birds
Spoonbill <i>Platalea leucorodia</i>				2–5 pairs	2 pairs
White-headed Duck <i>Oxyura leucocephala</i>	30 pairs		38 birds	30 pairs	17 birds
Black-winged Stilt <i>Himantopus himantopus</i>	80 pairs	100 pairs	8 pairs	62 pairs	29 birds
Avocet <i>Recurvirostra avosetta</i>	150–200 pairs	200–400 pairs	143 pairs	276 pairs	60+ birds
Collared Pratincole <i>Glareola pratincola</i>			3 pairs		3 birds
Greater Sand Plover <i>Charadrius leschenaultii</i>	5 pairs	5 pairs	1 pair		1 pair
Mediterranean Gull <i>Larus melanocephalus</i>	<30 pairs	389 pairs	180 pairs	1190 pairs	790 pairs
Slender-billed Gull <i>Larus genei</i>	100 pairs	100 pairs	326 pairs	200 pairs	230 pairs
Armenian Gull <i>Larus armenicus</i>				1 pair	3–4 birds
Gull-billed Tern <i>Gelochelidon nilotica</i>	200 pairs	200 pairs	473 pairs	775 pairs	150 pairs
Wintering/post-breeders					
Greater Flamingo <i>Phoenicopterus ruber</i>	3000 birds	3000 birds		4500 birds	2000 birds
White-fronted Goose <i>Anser albifrons</i>	19,000 birds			5055 birds	2000 birds
Ruddy Shelduck <i>Tadorna ferruginea</i>	10,000 birds	10,000 birds		950–1310 birds	2000 birds
Shoveler <i>Anas clypeata</i>	3000 birds				2000 birds

Whereas the increase in the number of gulls and terns is very apparent from these figures, other species have been subject to less complete and detailed reports. For example, less certain are the numbers of White-headed Duck, as some authors prefer to think in terms of summering birds and others in terms of breeding pairs (Karauz Kiraç & Kiraç 1996, Karauz 1999).

Waders

For an inland location, the presence of large numbers of waders is one of the most interesting features of Kulu. This is due to ready availability of mudflats and the presence of fresh and salt water, attracting a broad range of species, although as with other migrant waterbirds numbers vary dramatically.

The freshwater Küçük Göl appears to be particularly attractive to species such as Red-necked Phalarope *Phalaropus lobatus*, Curlew Sandpiper *Calidris ferruginea*, Temminck's Stint *C. temminckii* and Dunlin *C. alpina*. A similar range of species still occurs at the lake as was reported in the 1980s (Kasperek 1987). Although it is very rare to encounter thousands of Little Stint *Calidris minuta*, it is not unusual for their numbers to reach hundreds, as is the case for Little Ringed Plover *Charadrius dubius*. Several species reported by Kasperek (1987) were not observed during the present survey, most notably Terek Sandpiper *Xenus cinereus* and Broad-billed Sandpiper *Limicola falcinellus*. The majority of individuals of these species that pass through Turkey use the eastern flyway through Van Gölü and Erçek Gölü, with only smaller numbers moving through the Central Plateau (e.g. Martins 1989, Kirwan & Martins 1994).

Passerines

There have been relatively few interesting records of passerines at the lake, presumably because most observers principally focus their attention on waterbird species. However, Küçük Göl does hold breeding European Reed Warbler *Acrocephalus scirpaceus*, Moustached Warbler *A. melanopogon*, Bearded Tit *Panurus biarmicus* and possibly Penduline Tit *Remiz pendulinus*. The reeds there also attract a range of migrants: Whitethroat *S. communis*, Chiffchaff *Phylloscopus collybita* or Willow Warbler *P. trochilus*, Nightingale *Luscinia megarhynchos*, Common Redstart *Phoenicurus phoenicurus*, as well as occasional Bluethroat *Luscinia svecica* and Thrush Nightingale *Luscinia luscinia*. The Appendix gives an indication of the temporal distribution of these species.

Other records

Bean Goose *Anser fabalis*

A very rare visitor to Turkey, Kulu has remarkably hosted two records: one on 2 April 1984 (Kasperek 1987) and two on 22 February 2002. It was not possible to confirm, through detailed observation of the bill pattern, the taxon involved, the relatively small size of these birds suggests that the north-west Siberian subspecies *rossicus* was involved. Given the numbers of White-fronted Geese *Anser albifrons* wintering in the area, the species may be under-recorded in central Turkey. Several were also observed at Seyfe Gölü on 23 February 2003.

Black-winged Pratincole *Glareola nordmanni*

Small numbers move through the Central Plateau on migration (e.g. Martins 1989). During the study period the only record was of five on 26 May 2002. Unlike the resident Collared Pratincole *G. pratincola*, this species shows a preference for the freshwater environment of the Küçük Göl.

Jack Snipe *Lymnocyptes minimus*

Though not usually considered rare, this species is only infrequently reported in Turkey and no published records are available from the lake (Kasperek 1987, Martins 1989, Kirwan & Martins 1994). It was observed on several occasions in autumn 2001 and 2002, and can be considered a fairly regular migrant, though doubtless often overlooked.

Citrine Wagtail *Motacilla citreola*

A pair was present at Küçük Göl throughout April 2002 and may have attempted to breed but their efforts were apparently curtailed by haymaking activities. In addition, Citrine Wagtail probably also attempted to breed at Kulu in the early 1990s (G. M. Kirwan *in litt.* 2002). In Turkey, the species has been spreading west since the late 1980s (Kirwan & Martins 1994, Roselaar 1995) and it now

almost certainly breeds at most suitable wetlands on the Central Plateau (Eken & Magnin in prep., Kirwan *et al.* 2003, G. M. Kirwan *in litt.* 2002).

Twite *Acanthus flavirostris*

A flock of five was observed beside Küçük Göl on 4 January 2002, the first published record for the site (Kasperek 1987). There are occasional records of high montane species on the Central Plateau in winter but there appears to be very few records of Twite in the Ankara area.

Red-fronted Serin *Serinus pusillus*

One was observed near Kulu town on 9 December 2001. Winter records of this species are available from Eymir Gölü and the Middle East Technical University campus, both close to Ankara (KAD Ringing Report 2002). The nearest known breeding area for the species is Uludağ, c. 300 km west of Ankara, but suitable habitat also exists in the Ilgaz and Köroğlu ranges north-east of the capital, which plausibly harbour breeding populations.

Conclusions

Compared to earlier accounts (Kasperek 1987, Karauz Kiraç & Kiraç 1996), three types of change have occurred at the lake: geographical, e.g. changes to the islands in the lake, economic and ecological. Not all of these are a result of human activities. In recent years, the unusually long, hot and dry Anatolian summers appear to have wrought equally significant changes at Kulu.

Clearly, the lake is still of international importance for wildlife, but the effects of many of these changes have thus far gone either unnoticed or unreported. While gull and tern colonies appear to remain at 1980s levels, other species seem to be decreasing. Birds that were once almost symbolic of the lake now require new research; particularly White-headed Duck, which summers at the lake but may no longer breed.

Kulu Gölü remains one of the most ornithologically interesting lakes in Turkey and, if we are to adequately preserve it, much can be learned from the fate of other Anatolian wetlands, particularly the situation facing the rather poorly known, smaller lakes of the Konya Basin, south of Kulu, which often dry-up in summer due to climatic conditions (and change) and because of the disappearance of surface or underground water sources. It is therefore difficult to recommend specific solutions, but whether their precarious summer hydrology should be accepted as being merely a result of 'natural developments' must be a subject for future discussions among conservationists, as this factor threatens the very existence of these lakes.

Acknowledgments

I would like to thank a number of people for their help and comments in the preparation of this manuscript. These include Bahtiyar Kurt, Sühendan Karauz, Kerem Boyla, Çağan Şekercioğlu, Esra Başak, Metehan Özen and Can Bilgin. Some of these accompanied me in the field, as did Barbaros Demirci, Tuba Kılıç, Güven Eken, Stephen Warchol and Eren Atak. All of these contributed to the very considerable pleasure I obtained from my observations of the lake. I also thank Guy Kirwan and an anonymous referee for their helpful comments on an earlier version of the manuscript.

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Appendix. Maximum numbers of all bird species observed at Kulu Gölü, Turkey, in August 2001–August 2002. Number of visits each month is presented in brackets. The lake is often frozen during the months highlighted (January and February). An asterisk denotes those species known to breed. No observations were made in July. Interesting observations are emboldened. Pr = present but not counted. H = heard.

<i>Anas querquedula.</i>	20	1500								1	4	/	30
29. *Shoveler.													
<i>Anas clypeata.</i>		1000	500	300	600	300	10	1500	50			/	30
30. *Red-crested Pochard.													
<i>Netta rufina.</i>			20	5				10	2			/	2
31. *Pochard.													
<i>Aythya ferina.</i>	30	20	30	10	5		50	70		15	20	/	25
32. Tufted Duck.													
<i>Aythya fuligula.</i>			8									/	
33. White-headed Duck.													
<i>Oxyura leucocephala.</i>	120	80	200	100	60		3		60	15	20	/	50
34. Osprey.													
<i>Pandion haliaetus.</i>									1			/	
35. Marsh Harrier.													
<i>Circus aeruginosus.</i>	1	1	2		1			5	6	4		/	1
36. Hen Harrier.													
<i>Circus cyaneus.</i>			1	1	1	4		2				/	
37. Pallid Harrier.													
<i>Circus macrourus.</i>		1										/	
38. *Montague's Harrier.													
<i>Circus pygargus.</i>	1	1										/	1
39. Sparrowhawk.													
<i>Accipiter nisus.</i>				1	1							/	1
40. Buzzard.													
<i>Buteo buteo.</i>	1		1									/	1
41. *Long-legged Buzzard.													
<i>Buteo rufinus.</i>		2	1	2			1	1	2		1	/	1
42. Lesser Kestrel.													
<i>Falco naumanni.</i>												/	3
43. *Kestrel.													
<i>Falco tinnunculus.</i>					1							/	1
44. Red-footed Falcon.													
<i>Falco vespertinus.</i>			1									/	
45. Hobby.													
<i>Falco subbuteo.</i>	1											/	
46. Merlin.													
<i>Falco columbarius.</i>						1						/	
47. Peregrine.													
<i>Falco peregrinus.</i>								1				/	1
48. *Quail.													
<i>Coturnix coturnix.</i>										3	8	/	1
49. *Water Rail.													
<i>Rallus aquaticus.</i>	h	h	h	h	h			2h.	h	4h	h	/	h
50. *Moorhen.													
<i>Gallinula chloropus.</i>	Pr.	Pr.	3	6	2				10	20		/	2
51. *Coot.													
<i>Fulica atra.</i>	10	15	30	300	1000	250	50	40	50	15		/	15
52. Common Crane.													
<i>Grus grus.</i>							350					/	
53. *Oystercatcher.													
<i>H. ostralegus.</i>								3	4	6	4	/	
54. *Black-winged Stilt.													
<i>H. himantopus.</i>	2									30	300	/	30
55. Stone Curlew.													
<i>Burhinus oedicephalus.</i>									1			/	
56. *Avocet.													
<i>Recurvirostra avocetta.</i>	10	50	30	2				10	60	20	100	/	15

<i>Actitis hypoleucos.</i>		1						4	1	1	/	5	
86. Turnstone.													
<i>Arenaria interpres.</i>									2		/		
87. Red-necked Phalarope.													
<i>Phalarops lobatus.</i>		4									/	5	
88. *Mediterranean Gull.													
<i>Larus melanocephalus.</i>	500	35	50					100	1000	1000	/	15	
89. Little Gull.													
<i>Larus minutus.</i>										4	/		
90. *Black-headed Gull.													
<i>Larus ridibundus.</i>	2	5	2	4	15		10	100	100	1000	30	/	
91. *Slender-billed Gull.													
<i>Larus genei.</i>								20		100	300	/	30
92. Lesser Black-backed Gull.													
<i>Larus fuscus.</i>		3		1							/		
93. Armenian Gull.													
<i>Larus armenicus.</i>	30	8	20		30		4	3		4	20	/	
94. Yellow-legged Gull.													
<i>Larus cachinnans.</i>			10	2						2	/		
95. *Gull-billed Tern.													
<i>Sterna nilotica.</i>								5		500	1000	/	
96. Common Tern.													
<i>Sterna hirundo.</i>											/	1	
97. Little Tern.													
<i>Sterna albifrons.</i>		1									1	/	
98. Whiskered Tern.													
<i>Chlidonias hybridus.</i>										4	3	/	
99. Black Tern.													
<i>Chlidonias nigra.</i>		1								4	1	/	2
100. White-winged Tern.													
<i>Chlidonias leucopterus.</i>										40	/	15	
101. *Black-bellied sandgrouse.													
<i>Pterocles orientalis.</i>	h	h						2			/		
102. Domestic Pigeon.													
<i>Columba livia (dom.)</i>	20	Pr.	40	10	100	Pr.	100	20	10	40	60	/	20
103. *Collared Dove.													
<i>Streptopelia decaoto.</i>	5	10	10	5	Pr.	Pr.	4	Pr.	5	10	/	5	
104. *Little Owl.													
<i>Athene noctua.</i>	1		1		1	1			1		/		
105. Swift.													
<i>Apus apus.</i>									15	25	50	/	
106. Alpine Swift.													
<i>Apus melba.</i>									1		/		
107. Kingfisher.													
<i>Alcedo atthis.</i>			1								/		
108. Bee-eater.													
<i>Merops apiaster.</i>		20									/		
109. Wryneck.													
<i>Jynx torquilla.</i>									2		/	1	
110. Hoopoe.													
<i>Upopa epops.</i>	3	2							2		4	/	8
111. *Calandra Lark.													
<i>Melanocoryptus calandra.</i>		20	4000	30	5000	14	500	10	50	Pr.	6	/	
112. Bimaculated Lark.													
<i>M. bimaculata.</i>		2									/		
113. Short-toed Lark.													
<i>Calandrella brachydactyla.</i>		30							4		/		

<i>Turdus philomelos.</i>				1								/	
143. *Cetti's warbler.													
<i>Cettia cetti.</i>		1	2	1	1	1		1		2	2	/	1
144. *Sedge Warbler.													
<i>A. schoenobaenus.</i>	2									2	2	/	2
145. *Moustached Warbler.													
<i>A. melanopogon.</i>			1							2	1	/	3
146. *Reed Warbler.													
<i>A. scirpaceus.</i>	2							6		10	2	/	5
147. *Great Reed Warbler.													
<i>A. arundinaceus.</i>	3	2							2	6	10	/	5
148. Whitethroat.													
<i>Sylvia communis.</i>									1			/	
149. Willow/ Chiffchaff.													
<i>Phylloscopus sp.</i>	10	20	5						8	20	50	/	10
150. Goldcrest.													
<i>Regulus regulus.</i>				1								/	
151. Spotted Flycatcher.													
<i>Muscicapa striata.</i>	1	5										/	3
151. Nightingale.													
<i>Luscinia megarhynchos.</i>									1			/	
152. Thrush Nightingale.													
<i>Luscinia luscinia.</i>									1			/	
153. Penduline Tit.													
<i>Remiz pendulinus.</i>		2	2									/	
154. *Bearded Reedling.													
<i>Panurus biarmacus.</i>		5	5	10	3							/	h
155. Red-backed Shrike.													
<i>Lanius collurio.</i>		1								2		/	2
156. Lesser Grey Shrike.													
<i>Lanius minor.</i>												/	4
157. *Magpie.													
<i>Pica pica.</i>	5	10	Pr.	5	5	10	5	Pr.	20	5	4	/	
158. *Jackdaw.													
<i>Corvus monedula.</i>	10	15	200	40	200	20	30	Pr.	5	5	10	/	Pr.
159. Rook.													
<i>Corvus frugilegus.</i>			200	100	Pr.	100	100	40				/	
160. Raven.													
<i>Corvus corax.</i>							1					/	
161. *Starling.													
<i>Sturnus vulgaris.</i>			300			2000			1000	10	15	/	500
162. *House Sparrow.													
<i>Passer domesticus.</i>			20	Pr.	Pr.							/	
163. Chaffinch.													
<i>Fringilla coelebs.</i>				1		2			2			/	
164. Greenfinch.													
<i>Carduelis chloris.</i>				5	2							/	
165. *Goldfinch.													
<i>Carduelis carduelis.</i>		2	5					1	20			/	3
166. *Linnet.													
<i>Carduelis cannabina.</i>				1		3						/	
167. Twite.													
<i>Carduelis flavirostris.</i>						5						/	
168. Red-fronted Serin.													
<i>Serinus pusillus.</i>				1								/	
169. *Black-headed Bunting.													
<i>Emberiza bruniceps.</i>									2	3		/	3

