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MIDDLE EAST



**SANDGROUSE**  
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*Aims:*

1. To collect, collate and publish ornithological data on the birds of the Middle East.
2. To develop an interest in and conservation of the birds of the Middle East.
3. To develop a mutually beneficial working relationship with all environmental and conservation bodies and natural history societies in and concerned with the Middle East.

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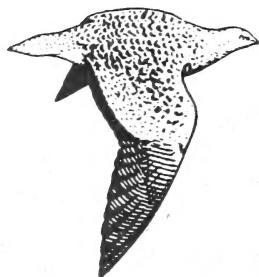
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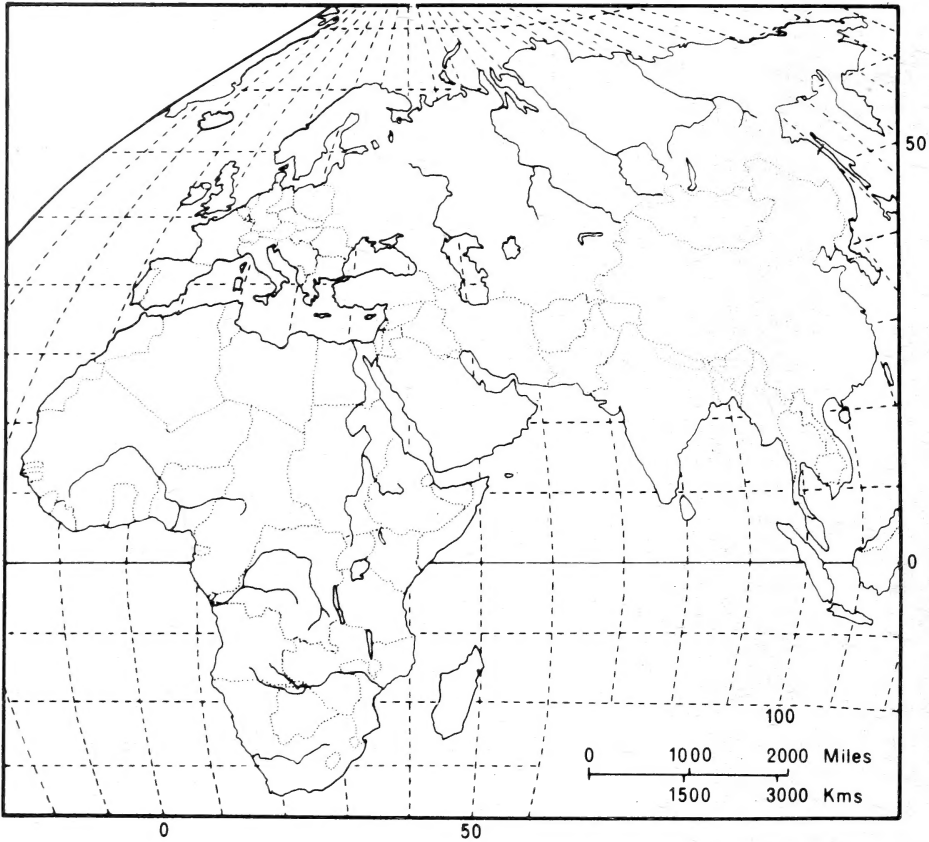
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## EDITORIAL

This is an all-Turkey *Sandgrouse*. Following *Sandgrouse* 9, which carried the results of the OSME Expedition to North Yemen, it is the second time that a whole issue has been devoted to the ornithology of one country. For the first time, however, several of the papers reflect one of OSME's major commitments (and, I believe, its members' interests) by focusing on conservation: one paper is based on Reşit Akçakaya's star turn at the OSME 10th Anniversary Meeting in November 1988 and four others are adapted from talks given at the ICBP European Continental Section Conference at Adana in May 1989, itself a significant event for bird conservation in Turkey and at which OSME was represented (*OSME Bulletin* 23: 23–6). It is especially satisfying that—again for the first time in *Sandgrouse*—three of these papers are by Turkish nationals. Also, with the latest five-year instalment of the Turkey Bird Report forming the main part of this issue, OSME re-confirms its commitment to this important organ which is continually refining and developing knowledge of Turkish bird status and distribution as well as highlighting aspects which are still unclear. It is a particular pleasure with this issue to welcome the sponsorship of Subbuteo Natural History Books Ltd., whose most generous support has subsidised the inclusion of colour photographs.

From the next issue *Sandgrouse* is changing. A new design will consolidate the many gradual alterations which have taken place over the years and introduce further small improvements. And from 1991 each volume will comprise two biannual parts; this six-month publication interval should speed the conversion of papers from typescript to printed page, so addressing a frequent and understandable cause for anxiety on the part of authors. From the society's inception OSME members have borne with a certain irregularity in their journal's publication schedule—an image which the late appearance of this issue has not improved—but *Sandgrouse* aims now to appear on doormats more predictably. Volume 12 will be published in October 1990 and publication thereafter will be in January and July each year.

Duncan Brooks



An equal-area map of the Palearctic, Oriental and Afrotropical zoogeographical regions. OSME's area lies in the centre of the map (see *Notes to Contributors*) which also embraces the breeding grounds and winter quarters of the vast majority of the migrants that pass through the area.

# TURKEY BIRD REPORT 1982-6

edited by

**R. P. Martins**

This report, covering the years 1982-6, has been jointly compiled by RPM, C. R. Robson, D. H. Russell and R. Webb. A small number of significant pre-1982 records, not available at the time previous reports were produced, are also incorporated. The inclusion of both records and species has been selective, and it is important to remember this when reviewing the material presented. The principal function of these reports is to document data which enhance knowledge of status and distribution from a national and/or regional perspective; additionally, observations are presented of species which are scarce, localized or poorly known. For many species treated here, these two themes are closely linked. All species considered globally threatened (Collar & Andrew 1988) are marked by a star (★), and records of them are particularly requested in future; Grimmett and Jones (1989) detail information on the importance of Turkish populations of these species in a European context with regard to specific sites.

A summary of status and regional distribution, as presently understood, is given as an introductory paragraph for each species, and mention is also made of recent papers treating these subjects in detail. In a few cases, where such publications address records from within the period covered, only additional unpublished records are given here. Records refer to single birds unless otherwise stated. Observers' initials are given where the record in question merits this, though where more than three observers are involved only the initials of the principal correspondent are given. Records from published sources (see below) are cited according to normal convention.

During 1982-6 certain developments have occurred in the Turkish ornithological scene which deserve attention. Firstly, the volume of records received demonstrates a significant annual increase in the level of field observations throughout the period. This is a welcome change from the hiatus of the late 1970s and early 1980s when factors associated with political instability resulted in extremely limited observer activity. Particularly since 1983 this situation has improved and Turkey is now an extremely popular destination, visited by numerous observers. Despite this radical change, circumstances demand the seemingly traditional editorial plea for more extensive exploration of poorly known regions, for many unresolved questions about Turkish bird distributions could be clarified by observers willing to pay specific attention to such matters. OSME is establishing a system to assist and advise birdwatchers planning to visit Turkey who have sufficient time to travel in seldom-visited areas, and enquiries are most welcome.

A second important development has been the increase in published material on Turkish ornithology, and the number of new discoveries which have reached the literature in recent years has necessitated some modification of editorial policy. From this report onwards, records listed will include the more significant of those already published elsewhere, rather than treating unpublished records exclusively. Without this change, the present report would clearly have been incomplete.

A further aspect of the increased volume of published material concerns the variety of standards which have been applied to the substantiation and documentation of published records of rarities. It has not always been the case that published details of individual records have met the expectations of observers living in European countries where well-established rarities committees exist. It is to be hoped that, at some time in the future, such an organisation may be convened within Turkey, but in the meantime the formation of an internationally recognized body to assess problematical records would be the most effective interim solution to this chronic problem. OSME is initiating discussions on this matter and welcomes views. Published records of rarities are included here for reasons of completeness, and, where

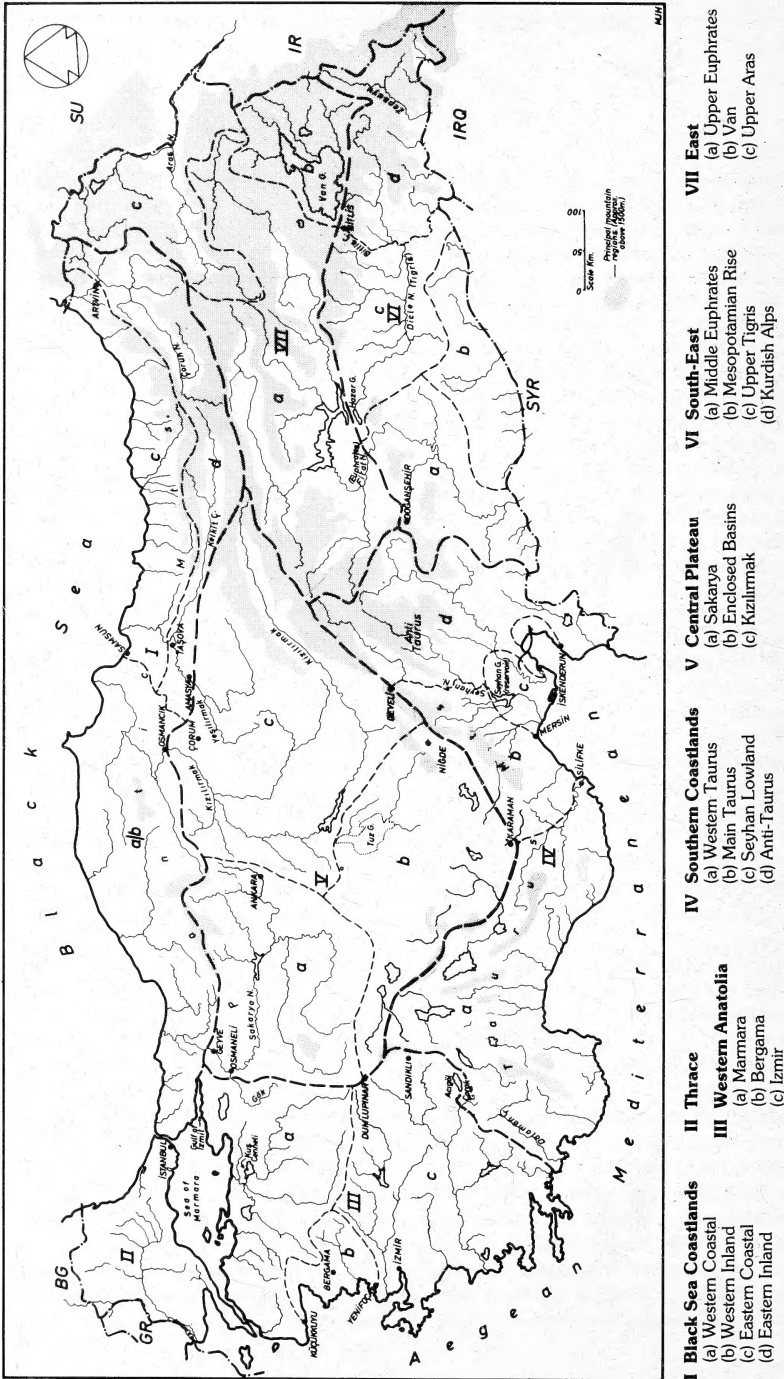


Figure 1. Turkey, showing regions and sub-regions (see Beaman 1986).



necessary, comment is offered, though such comment is not intended to preclude the renewed scrutiny which may become appropriate in a small minority of cases. As in previous reports, unpublished records of unusual species have been omitted if adequate substantiating details were not forthcoming.

Observers travelling to or working in Turkey in the future may find it helpful to consult the notes for contributors already published (Harap & Martins 1986); these include a list of species for which records are particularly sought, with brief reasons for the selection of each. Another valuable source is the 1976-81 report (Beaman 1986) which includes detailed definitions of the regional subdivisions of the country (see also Figure 1) and a useful gazetteer of Turkish wetlands.

The next report will cover the period 1987-91, and records are now requested. Photographs for publication in the report are welcome, and contributors can either send these with their records or list the photographs available in order that they can be requested at a later date; all photographs will be returned. Records and photographs should be sent to Rod Martins, Turkey Bird Report, OSME, c/o The Lodge, Sandy, Beds SG19 2DL, England.

## SYSTEMATIC LIST

### *Gavia arctica*

### **Black-throated Diver**

Widespread and common winter visitor to eastern half of Black Sea coast, less common in western half and on Marmara coast. Recorded on Mediterranean coast, also inland in both winter and summer.

**Black Sea Coastlands:** 4, Kizilirmak delta 3 Oct 84.

**Western Anatolia:** Erdek area (Sea of Marmara): 19 Feb 84; 8, 10 Apr 85.

**Southern Coastlands:** 2, Tasucu 11 May 84.

**East:** 2 1-year-olds perhaps summering, Van Golu 18 Jun 83 (Martins & Robson 1988).

### *Calonectris diomedea*

### **Cory's Shearwater**

Fairly widespread and locally not uncommon summer visitor to Mediterranean and Aegean coasts. Occasionally recorded from Sea of Marmara and even from Black Sea coast. Probably severely under-recorded; may breed.

**Western Anatolia:** 3 from Bandirma-to-Istanbul ferry (Sea of Marmara) 10 Apr 85.

**Southern Coastlands:** A few km south of Tasucu 31 May 83; 5 off Cavus 8 Jul 83; 1, 5 km south of Tasucu 21 Jul 86; 12 off Kas 2 Sep 86.

### *Phalacrocorax pygmeus*

### **Pygmy Cormorant**

★

Very local resident, generally in moderate numbers in marshy wetlands in Western Anatolia and Central Plateau, probably also Thrace. Also occurs in Southern Coastlands outside breeding season. Recorded from Black Sea Coastlands and East in autumn, and records during 1982-6 confirm regular presence in East through breeding season; breeding in East thus probable though presently unproven.

**Black Sea Coastlands:** Kizilirmak delta: 28 Jul 82; 28 and 30 Aug 82; 3, 17 Jun 84; 40, 4-5 Jan 86.

**Western Anatolia:** Regularly recorded at the following sites; maximum counts given here. Apolyont Golu: c. 250, 13 Sep 83; 840, 2 Jan 86. Marmara Golu: c. 300, 16 Sep 83. Buyuk Menderes delta: 140, 23-24 Jan 86. Also recorded at Sinar delta, including 30-80 on 9-12 Sep 84.

**Southern Coastlands:** 200, Akyatan Golu (Seyhan/Ceyhan delta) 10 Oct 82. Regular at Goksu delta outside breeding season, maximum of 100 on 7 Apr 82.

**Central Plateau:** For recent review of status at Sultan marshes see Kasperek (1985). Additional significant counts at this site: 373, 2-4 Oct 82; total of 696 24-30 Aug 86 (comprising 251 at Egri Golu and Sarp Golu, 195 in eastern section of marshes and 250 at

*Unfortunately it has not been possible to use Turkish characters and accents in placenames through the main part of this paper. ED.*

Yay Golu). The only other record received from northern part of Central Plateau was 4 at Yarhisar Golu 6 Jul 84. Reported widely in southern part of the region particularly in wetland complex between Konya, Karaman and Eregli, principal counts as follows. Eregli marshes: 1,000+, 5 Oct 83; 80 (southern marshes), 2–3 Aug 84; 300 (northern marshes), 5–6 Aug 84; 215 on 1–3 Aug and 150 on 14 Aug 86. Hotamis: 450, 6 Oct 82; 400+, 19 May 85 (this site has now been largely drained). 200 at Bogecita and 14 at Turk Golu 30 Apr 86 and 50+ at Salziiner 3 Jul 86. Smaller numbers (less than 10) at many other small wetlands in this area.

**South-East:** 30, Karkamis 13 Apr 82. Birecik: 13, 1 Apr 85; 8, 17 Mar 86.

**East:** Murat valley, north-west of Bulanik: 4–5, 9 Jun 84; several, 23 May 85; 7, 10 May 86; 6, 26 May 86; 2, 17 Jun 86; 26, 11 Jul 86; 60, 13 Sep 86. Small marsh just west of Bulanik: c. 13, 25 Jun 83; 10+, 9 Jun 84; 6, 23–24 May 85; 3, 7 Jun 85; 4, 9 May 86; 10, 27 May 86; 50, 14 Jul 86; 40, 15 Jul 86; 80, 12 Sep 86. Hacli Golu (south-east of Bulanik): 7, 3 Jul 84; 3, 23 May 85; 10 Jul 86. 60, Ercek Golu 5 Aug 82. Van marshes 14 Jul 84. Bendimahi: 11, 13 Sep 84; 8–12, 23–24 Aug 86.

### *Pelecanus onocrotalus*

### White Pelican

Very local summer visitor to extensive wetland areas on Central Plateau (probably also to Southern Coastlands until draining of Amik Golu) and locally in large numbers in Western Anatolia and East. Regularly summers outside breeding areas; fairly widespread on passage across the country. Occasionally recorded in winter, mainly in south of western two-thirds of the country.

**Western Anatolia:** Very few records. Maximum numbers at Manyas Golu: 2,700, 22 Oct 82; 400, 1–3 Sep 84; 110, 9 Apr 85.

**Southern Coastlands:** Widely recorded in small numbers with large counts as follows: at Akyatan Golu (Seyhan/Ceyhan delta), 50 on 6 Apr 82 and 1,500 on 11 Oct 82; 175, Goksu delta 7 Apr 82; c. 400 flying north at an altitude of c. 1,500 m, Uzuncaburc (Taurus mountains) 8 Apr 82; 150 in Gulf of Iskenderun 9 Apr 82; 170, Karatas 10 Oct 82.

**Central Plateau:** Maximum numbers at Sultan marshes/Seyfe Golu: c. 600, May/June 82 (Kasperek 1985); c. 200, 9–10 Jul 82; c. 500, 22 May 83; 207, 21–24 Aug 86. Eregli marshes: 300, 3 Aug 84; 100, 7 May 85; 75, 2 Aug 86. 500+, Hotamis 12 Jul 84. About 250, Tuzla Golu 3 Apr 85.

**South-East:** Birecik: 3, 30 May 84; 31 May 84.

**East:** Birds recorded in mid-summer are perhaps wanderers from Iranian breeding population. Maximum numbers at Bendimahi: c. 500, 21 Jun 83; c. 1,700, 1 Jun 84; c. 300 (11 dead, apparently shot), 7–8 Jun 84; 1,000+, 2 Jul 84; 500+, 19–20 May 85; 300, 26 May and 16 Jun 86. About 50, Hacli Golu (south-east of Bulanik) 20–21 May 85. About 55, Dogubayazit 23 Jun 83.

### *Pelecanus crispus*

### Dalmatian Pelican



Very local resident or partial migrant, generally in small numbers, in extensive wetlands in Black Sea Coastlands, Western Anatolia and Central Plateau; may also breed elsewhere. Otherwise occurs more widely across Turkey on passage, wintering in moderate numbers in western two-thirds (especially Western Anatolia). Apparently declining.

**Black Sea Coastlands:** Kizilirmak delta: 60+, 28 Jul 82; 30–50 breeding pairs between Uzun Golu and Balik Golu Jun 84, 3 on 15 Jul and 20+ on 14 Sep 86.

**Thrace:** 4, Emez (Merik delta) 11 Jun 83.

**Western Anatolia:** Manyas Golu: 5, 2–3 Sep 84; c. 50, 9 Apr 85; c. 15, 12 Apr 85; 19, 2 Jan 86; 18, 12 Jun 86; 28, 12 Aug 86. Apolyont Golu: 2, 8 Apr 85; 11, 13 Jun 86. Karine Golu: 3, 25 May 86; 6, 31 May 86. Bafa Golu: 3, 9–10 Aug 84; 2, 21 May 86; 6, 30 May 86; 7, 31 Aug 86. 2, Sinar delta 10–11 Sep 84. 17, Kus Golu 23 Jun 86. 128, Buyuk Menderes delta 23–24 Jan 86.

**Southern Coastlands:** Goksu delta: 7 Apr 82; 2, 7 May 83; 6 May 85; 5, 30 Oct 85; 30, 16–17 Jan 86; 3, 1–3 Aug 86.

**Central Plateau:** Hotamis: 3, 6 Oct 82; 21 May 84; 5, 12 Jul 84; 5, 19 and 28 May 85. Eregli marshes: 2–4 May 85; 3, 7 May 85; 2, 10 Mar 86; 2, 13 Aug 86; 10, 14 Aug 86. Sultan marshes:

1 Jun 83; 2, 2 Jun 83; 4, 9 Oct 84; 3, 14 Oct 84; 2, 5 May 85; 12 Aug 86. 4, Meketuzlasi 1 May 85. Cavascu Golu 18 Jan 86. 5, Isikli Golu 22 Jan 86.

**East:** Hacli Golu: 24 Jun 83; 3 Jul 84. One (dead), Bendimahi 16 Jul 84.

*Botaurus stellaris***Bittern**

Very local resident in very small numbers in Kizilirmak delta (Black Sea Coastlands) and apparently on Central Plateau and in East. Otherwise a scarce passage migrant and winter visitor, mostly in western two-thirds of Turkey. For recent review of status and distribution in Turkey see Kasperek (1986a).

**Black Sea Coastlands:** Kizilirmak delta: one booming 5 Jul 83 and 7 Jun 84; 2-3, 17 Jun 84; 2 (one booming), 15 Jul 86. One booming, Yesilirmak delta 22-26 May 84.

**Western Anatolia:** Manyas Golu: 25 Mar 83; 9 Apr 85.

**Southern Coastlands:** Goksu delta: 23 Mar 84; 5 Apr 84; 8-9 Apr 85.

**Central Plateau:** Hotamis: 3 booming 31 May 83, one on 19 May and one on 14 Jun 85. Sultan marshes: one, plus 2 dead, 14 Mar, 11-12 Apr and 7 Jun 82. Eregli marshes: 2, 9 May 82; one dead, 28 Dec 82. Golbasi Golu 6 Apr 85. 2, Kuyuk Aslama (25 km south-west of Hotamis) 30 May 86.

**South-East:** Karkamis 13 Apr 82.

**East:** Booming, Dogubayazit 16 Jun 86. Caldiran: booming, 25 Jun 86; 1 Jul 86.

*Bubulcus ibis***Cattle Egret**

Status uncertain. Apparently an irregular visitor (sometimes in moderate numbers) to wetland areas in Black Sea Coastlands, Southern Coastlands, Central Plateau, South-East and East. No evidence of breeding.

**Southern Coastlands:** Goksu delta: 29 Apr 86; 13 May 86.

**Central Plateau:** Sultan marshes 9 Jun 82. Kulu Golu 24 May 83.

**South-East:** Birecik 19 Jun 85.

**East:** 8, 5 km east of Igdir 12 Jun 84. Bulanik: 3 Jul 84; 2, 23 Jun 85. Murat Nehri (north-west of Bulanik): 7 Jun 85.

*Ardea cinerea***Grey Heron**

Rather local resident or partial migrant, generally in moderate numbers, in wetlands in Black Sea Coastlands, Thrace, Western Anatolia, Central Plateau and East, perhaps elsewhere. Widespread throughout Turkey in winter with considerable numbers in western two-thirds.

**East:** Igdir: colony of 17 pairs, 11 Jun 84. Additional summer records as follows. Bendimahi: 3, 21 Jun 83; 4, 8 Jun 84; 48, 9 May 86. Hacli Golu: 4, 24 Jun 83; 10, 10 May 86. Bulanik: c. 10, 25-26 Jun 83; 3-4, 9 Jun 84.

*Mycteria ibis***Yellow-billed Stork**

Vagrant.

**Southern Coastlands:** An immature near Amik Golu 7 May 1962 (Kumerloeve 1963, 1989), the first record for Turkey, has not previously been mentioned in these reports. Goksu delta 28 and 30 May 86, photographed (MAM, BS).

*Ciconia ciconia***White Stork**

Widespread and common summer visitor over much of Turkey, but rather local in Southern Coastlands and South-East, and absent from large parts of Black Sea Coastlands. Recorded in much larger numbers on passage, especially in western two-thirds of Turkey. Occasional in winter, mainly in west and south.

**Western Anatolia:** One found dead at Saraylar (Marmara Island) 24 Jul 81 was ringed as nestling at Olszewo (Poland) 3 Jul 76.

*Geronticus eremita***Bald Ibis**

★

Very rare summer visitor to colony at Birecik in South-East. Declining, and extinction of Turkish population now appears inevitable.

**South-East:** Data from Birecik as follows. 1982: 6 pairs in town and one at World Wildlife Fund site. 1983: 30 (including 17 young, mostly close to fledging), 10 Jun (Martins & Robson 1988). 1984: 8 wild birds present were supplemented by release of 12 captive birds in spring and 3 young were reared. 1985: 24 birds present with 5 nests, breeding success not known. 1986: 15 adults with five juveniles, 10 Jun.

*Platalea leucorodia***Spoonbill**

Local summer visitor or partial migrant in large numbers in wetlands of Western Anatolia, Central Plateau and, in much smaller numbers, East. Widespread on passage. Small numbers winter in Western Anatolia, occasionally elsewhere.

**East:** Bulanik area (Murat river and Hacli Golu): regular breeding season records included c. 30 on 24–25 Jun 83 and 16+ on 10 Jul 86. 3, Bendimahi 21 Jun 83.

*Cygnus cygnus***Whooper Swan**

Rare winter visitor to western two-thirds of Turkey.

**Southern Coastlands:** 16, Goksu delta 16–17 Jan 86 (Dijksen & Koning 1986).

*Cygnus olor***Mute Swan**

Local resident in small numbers at several wetlands in Western Anatolia, Southern Coastlands and Central Plateau. Also fairly widespread winter visitor in small or moderate numbers across Turkey. Apparently declining.

**Western Anatolia:** 15, Buyuk Menderes delta 23–24 Jan 86.

**Southern Coastlands:** Akyatan Golu (Seyhan/Ceyhan delta): 103, 27 Oct 85. Goksu delta: 6, 30 Oct 85; c. 30, 14 May 86. 9, Burdur Golu 20 Jan 86.

**Central Plateau:** Sultan marshes 31 Mar 84. Tuz Golu: 8, 10–20 May 84; 4, 12 Oct 86. Eregli marshes: 2, 27 Sep 84; 1–4, 29 Apr to 9 May, with 20 on 7 May 85; 22, 31 Oct 85; 20, 12–13 Jan 86; 10 Mar 86; 2, 2 Aug 86.

*Anser fabalis***Bean Goose**

Vagrant.

**Central Plateau:** Kulu Golu 2 Apr 85 (CAB).

*Anser albifrons***White-fronted Goose**

Widespread and common passage migrant and winter visitor to wetlands in western two-thirds of Turkey, with especially large numbers wintering on Central Plateau; less common further east. Small numbers of non-breeding birds occasionally summer.

**Central Plateau:** 3, Kulu Golu 17 Jul 86.

**South-East:** 2, Birecik 10–11 Jun 86 (Martins & Robson 1988).

**East:** 2 immatures, Bendimahi 21 Jun 83 (Martins & Robson 1988).

*Branta ruficollis***Red-breasted Goose**

★

Rare winter visitor to Black Sea Coastlands, Thrace and Central Plateau.

**East:** Reported breeding at Ercek Golu: 14 adults and 8 young in south-west corner 5 Aug 82 (Kasperek & van der Ven 1983). An extraordinary record, which has not been repeated and is without precedent in southern Palearctic. As no substantiating description of the birds was published, the record must be discounted unless further details emerge.

*Marmaronetta angustirostris***Marbled Teal**

★

Local breeder in moderate numbers in lowland wetlands of Southern Coastlands, and in small numbers in some wetlands on Central Plateau and at least one locality in East. Mainly a summer visitor but winters in some years. Occasional elsewhere on passage.

**Southern Coastlands:** 3, Burdur Golu 16 Oct 82. Goksu delta: 15+, 17 Jun 83; 12, 13 May 84; 12, 6 May 85; 11, 19 May 86; 153, 1–3 Sep 86; also numerous records of 1–5. Seyhan/Ceyhan delta area: 5, 5 Apr 82; 4, 25 May 84. Karatas: 4, 4 Apr 82; 5, 25 May 84;

10, 10 km to north 2 May 85. Tuzla Golu: 50, 3 Apr; 2, 19 Jun 85.

**Central Plateau:** 3, Kulu Golu 24 May 83. Sultan marshes: 4, 24 Oct 85; 3-4, 24-30 Aug 86. Eregli Golu: 17, 10 Mar 86; 9, 12 Aug 86. Hotamis: 100, 14 Jun 85; 30 Jun 85.

**East:** Van marshes: 10, 13-14 Sep 84; 34, 11 May 85; 2, 25 May 86; up to 6 adults including 3 females with 19 juveniles 1-8 Aug 86; 23 Aug 86; 9, 9 Sep 86. 4+, Bendimahi 21 May 85. Emis (north shore, Van Golu) 19 Jul. 19 adults with 25 juveniles in 4 family parties, Van/Iskelesi 20 Jul 86.

*Anas crecca*

### Teal

Very local resident or partial migrant in very small numbers in wetlands of Black Sea Coastlands, East, and probably Central Plateau. Widespread and common winter visitor and passage migrant to wetlands throughout Turkey, very locally in enormous numbers on Central Plateau and along south coast.

**East:** Female with single young, Hacli Golu 24 Jun 83 (Martins & Robson 1988). Apparently the first confirmed breeding in the region.

*Netta rufina*

### Red-crested Pochard

Fairly widespread and common resident and partial migrant in wetlands of Central Plateau and adjacent parts of Southern Coastlands; also, probably in smaller numbers, in East and perhaps elsewhere. Widespread passage migrant throughout Turkey, wintering in considerable numbers in western two-thirds, but mainly in south and on Central Plateau.

**East:** Breeding confirmed as follows. Van Golu: adult with 7 young, 10 km south of Van 21 Jul 86; 2 pairs with 8 young, 20 km west of Gevas 22 Jul 86.

*Aythya ferina*

### Pochard

Rather local resident in fairly small numbers, in wetlands of Central Plateau, East and possibly elsewhere. Widespread and common passage migrant and winter visitor across Turkey. Considerable concentrations of non-breeders summer in Central Plateau, East and occasionally elsewhere.

**East:** 8 females with broods, Van marshes 19 Jun 83 (Martins & Robson 1988). The first confirmed breeding in the region.

*Clangula hyemalis*

### Long-tailed Duck

Vagrant.

**East:** Male on Van Golu, south-west of Van, 22 May 85 (MAE *et al.*).

*Melanitta fusca*

### Velvet Scoter

Local summer visitor, occasionally in large numbers in East. Breeds very locally on high-altitude lakes (e.g. Nemrut Dagi, north-west of Tatvan). Otherwise a rather local winter visitor in small numbers along Black Sea coast, occasionally west to Sea of Marmara. Recorded inland in winter in Southern Coastlands and on Central Plateau.

**Thrace/Western Anatolia:** 16 near entrance to Dardanelles 9 Jan 82 (BBN).

**East:** 4 males and a female, Bendimahi 4-5 Jul 82.

*Mergus serrator*

### Red-breasted Merganser

Scarce winter visitor to western two-thirds of Turkey, mostly in coastal areas.

**Western Anatolia:** 2 males and 3 females, Erdek (Sea of Marmara) 10 Apr 86.

*Oxyura leucocephala*

### White-headed Duck

★

Local resident or partial migrant in small or moderate numbers in marshy wetlands on Central Plateau and adjacent parts of Southern Coastlands and East. Winter visitor in large numbers to several wetlands in Southern Coastlands, generally in much smaller numbers on Central Plateau and occasionally elsewhere in western two-thirds of Turkey.

**Black Sea Coastlands:** 44, Kizilirmak delta 20 Sep 83.

**Southern Coastlands:** Karamik marsh 24 May 82. Burdur Golu: 2,200, 17 Oct 82; 350, 22 Sep 84; c. 4,500, 20 Jan 86. 2, Karatas 21 Jan 86. 420, Yarisli Golu 21 Jan 86.

**Central Plateau:** Eregli marshes: 98, 5 Oct 82; 3–19, 2–4 Aug 84; 6, 15 Jun 85. Sultan marshes: 14, 30 Sep 82; 40, 17 Apr 84; 40, 5 May 85; 59, 22–24 Oct 85; 37, 24–25 Oct 86. Kulu Golu: c. 57, 24 May 83; 21, 10 May 84; 6, 20 May 84; 48, 28 Apr 85; 8, 11 May 86; 140, 19 Jul 86; 13, 2 Aug 86; c. 50, 6 Sep 86.

**East:** Bendimahi: 4, 7–8 Aug 84; 13 Sep 84; 4, 21 May 85; 23 Jun 85; 7, 16 Jun 86; 3 Aug 86. Van marshes: 22 including female with 3 young, 18–19 Jun 83; up to 3 adults and 7 young, 9 Jul to 8 Aug 86. Perhaps elsewhere at Van Golu (specific localities unknown): 12, 9 Aug 82; 12, 20 May 84; 10, 2 Jul 84; 3, 11 May 85; 13+, 22 May 85; 72, 7 May 86; 16, 24 Aug 86; 12, 9 Sep 86; 10, 10 Sep 86. At or near Gevas (south shore of Van Golu): 9, 22 Jul 84; 6, 20 km west of Gevas 23 Jul 84; 18, 10 May 85; 6, 15 Jan 86. 4, Akdamar (south shore of Van Golu) 24 May 86. Ercek Golu 21 May 85.

*Elanus caeruleus***Black-winged Kite**

Vagrant.

**Central Plateau:** Adult c. 20 km east of Nigde 1 Aug 84, fully described (PB, GdS).

*Milvus milvus***Red Kite**

★

Rare passage migrant and winter visitor across Turkey. Recorded in summer in north and east, but no evidence of breeding. Much confusion has often occurred with pale (especially immature) Black Kites *M. migrans*, and undoubtedly many published records from Turkey are erroneous.

**Thrace:** Camlica (Istanbul) 4 Sep 86 (NC, JM).

**Central Plateau:** Kizilcahaman: 2, 8 Apr 84; 12 May 84 (TS, AS).

**South-East:** Near Halfeti 12 Apr 82 (SG *et al.*).

*Haliaeetus albicilla***White-tailed Eagle**

★

Until recently a local resident in small numbers in wetland areas of Thrace, Western Anatolia, Southern Coastlands, Black Sea Coastlands and probably Central Plateau and East. Now seriously endangered and exact status as a breeding species unclear; perhaps now only a few pairs. More widespread across Turkey outside breeding season, suggesting some immigration.

**Black Sea Coastlands:** Kizilirmak delta: no records since 1977 (Dijksen & Kasperek 1985), so apparently now extinct as a breeder in this region.

**Western Anatolia:** Adult, Sinar delta 9 Sep 84. 1–3, Bafa Golu 19–30 Oct 86.

**Southern Coastlands:** Goksu delta: immature, 7 Apr 82; adult, 30 Oct 85.

**Central Plateau:** Sub-adult, Kizilcahaman 1 Oct 83.

**East:** Adult and immature, Aras river 2 km west of Horasan 8 Jul 82. Adult, Karasu river c. 30 km west of Tercan 12 May 86.

*Gypaetus barbatus***Lammergeier**

Fairly widespread but uncommon resident in most mountainous areas. Apparently absent from Thrace. Occurs erratically at lower altitudes outside breeding season.

**Black Sea Coastlands:** Sivri Kaya or between Sivri Kaya and Ispir: immature, 2 Jul 83; adult, 5 Jul 84; 2, 14 May; 25 May 85; adult, 12 May; 26 Jul 86; 16–17 Sep 86. Immature, north of Kirak 24 May 85. Adult, c. 30 km north of Erzurum 25 Jun 85. Immature, Yoncelik 12 May 86.

**Western Anatolia:** Immature, Uludag 5 Sep 84.

**Southern Coastlands:** Demirkazik/Emlil area: 27 May 83; 29 Jul 84; 3, 13 May 85; 2, 25 May 85; 2, 5 Jun 86; 8 Aug 86; 25 Aug 86; 26 Sep 86. 9 km north of Pozanti 26 Oct 83. Sertival pass 3 Sep 84. Between Pozanti and Camardi 11 May 85. Adult, Elek Golu 15 Jun 85. At least 3, Aladag (localities not specified) 23–25 Jul 86.

**Central Plateau:** North of Kizilcahaman 5 Jun 84.

**South-East:** Adult, Baskale 18 May 85.

**East:** 2 adults between Varto and Erzurum 17 Jul 86.

*Aegypius monachus***Black Vulture**

★

Fairly widespread but rather uncommon resident or partial migrant in most regions. Rather local in Thrace and South-East. Generally in high, arid mountainous areas and plains but occasionally at lower altitudes, especially in west. Occasionally in other areas outside breeding season (a few on passage at Bosphorus and Dardanelles).

**Black Sea Coastlands:** 1 km north of Kirak 24 May. 5 between Ispir and Rize 25 May. 65 km north of Erzurum 25 May. 2, south of Ispir 25 Jun 85.

**Western Anatolia:** Todurge gorge 16 May 85. South of Tavsanli and 20 km north of there 9 Aug 86.

**Southern Coastlands:** 2, north of Karaisali Bucagi 30 May 83. 40 km south of Pozanti 4 Apr 85. Adult, Mut 8 Jul 86.

**Central Plateau:** Kizilcahaman/Soguksu national park: nest with chick 15 Jun 83; at least 7, 6 Jun 84; 2, 3 Apr 85; 4-5, 13 May 85; 16 Jul 86; 1-2, 7 Sep 86. Guvem 16 Jul 86.

**East:** 3, 10 km west of Askale 20 Jun 86. Van 2 Aug 86.

*Accipiter gentilis***Goshawk**

Status uncertain; apparently rather local resident in small numbers in forested or wooded areas in every region except South-East. Records outside breeding season suggest some immigration.

**Black Sea Coastlands:** Kizilirmak delta 14 Jul 83. Borcka 21 Sep 84. Findliki 12 May 85. Sivri Kaya: 18 Jun 86; 9 Jul 86; 16-17 Jul 86.

**Thrace:** Camlica (Istanbul): 22-23 Sep 84; 22 Sep 85. Midye 27 Jun 86.

**Western Anatolia:** Manyas Golu: 21 Oct 82; 1 Sep 84. Sinar delta 9 Sep 84. Ayvacik 17 May 85. Uludag: 29 May 86; 6 Sep 86. Apolyont Golu 8 Sep 86. Between Izmir and Bafa Golu (date not supplied).

**Southern Coastlands:** Termessos 24 Aug 82. Pozanti 29 May 83. Akseki 25 May 84. Beysehir 19 May 85. Karamikbatakligi 19 Jan 86. Taurus range 14 Mar 86. Akseki: 18 May 86; 22 Aug 86. 2, Tasucu 3 Oct 86.

**Central Plateau:** Seyfe Golu: 30 Sep 82; 20 Oct 85. Kizilcahaman 13 May 86. Between Kocayayla pass and Inegol 11 Aug 86.

**South-East:** Isikli 12 Aug 86.

**East:** Near Erzurum 16 Jul 86.

*Accipiter brevipes***Levant Sparrowhawk**

Status uncertain. Apparently a local summer visitor in very small numbers in north-west. Otherwise generally uncommon on passage across Turkey, but locally in considerable numbers in Bosphorus region and around Gulf of Iskenderun and in moderate numbers in eastern Black Sea Coastlands.

**Thrace:** Gelibolu 7 Jun 84. Camlica (Istanbul): 340, 4, 15, 17, 3, 4, 5 and 4 on consecutive days, 17-24 Sep, and 156 on 26 Sep 82; 75, 6 Sep 85.

**Western Anatolia:** Pair displaying, Oyvacik 7 Jun 84. 1 km south-west of Ayvacik 25-26 Jun 86. 2, Ephes 31 Aug 86.

**Southern Coastlands:** Antalya 20 May 85. 22 moving north, Toprakkale 2 May 86.

**South-East:** Near Syrian border (precise locality unknown) 13 Apr 82. Between Cizre and Simak 19 May. Bulandiz 6 May 85. Bulandiz 6 May 86. Saraykoy 29 May 86. Cizre 3 Jun 86. Bitlis 14 Jul 86.

*Aquila clanga***Spotted Eagle**

Rather local winter visitor in fairly small numbers to wetland areas in western two-thirds of Turkey, slightly more widespread on passage. Recorded in summer in north and east.

**Black Sea Coastlands:** Borcka: sub-adult 18 Sep 86; immature, 20 Sep 86; 3, 22 Sep 86. Kizilirmak delta: 2, 4 Jan 86; 5 Jan 86. Rize 28 Aug 86.

**Thrace:** Keric delta 26 Jan 86.

**Southern Coastlands:** Goksu delta: 14 moving south 30 Oct 85; 2, 17 Jan 86; 1-3, 13 Mar

86.

**Central Plateau:** Kurbaga Golu 5 Apr 85. Immature, Sultan marshes 24–25 Oct 85. Isikli Golu 22 Jan 86.

*Aquila heliaca***Imperial Eagle**

★

Rather local resident or partial migrant in small numbers in every region except perhaps Southern Coastlands and South-East (but very local in East). Generally in wooded lowland or hilly areas at moderate altitudes during breeding season but sometimes in virtually treeless areas. More widespread across Turkey on passage and in winter, but winters mainly in west and south and on Central Plateau.

**Black Sea Coastlands:** Adult between Ispir and Erzurum 25 May 85. Nest containing at least one chick at Gumashane in Jun 86. Artvin 11 Jul 86. Zeytinlik 11 Jul 86. 2, 25 km north of Tortum 13 Jul 86. Near Tortum 14 Jul 86. Sub-adult, Borcka 23 Sep 86.

**Thrace:** Bosphorus 19 Sep 84. 10 km east of Enez 26 Jan 86.

**Western Anatolia:** Bafa Golu 23 Jan 86.

**Southern Coastlands:** Immature, Goksu delta 30 Oct 85. Sugla Golu 16 May 86. Adult, Demirkazik 25 Aug 86.

**Central Plateau:** Mogan Golu 28 Apr 82.

**South-East:** Immature, Halfeti 12 Apr 82.

**East:** Bulanik 11 Jul 86.

*Hieraaetus fasciatus***Bonelli's Eagle**

Status uncertain. Probably a rare and local resident in Western Anatolia, Southern Coastlands, South-East and perhaps elsewhere. Much confusion between this species and other birds of prey, especially immature Honey Buzzard; many published records are probably erroneous.

**Western Anatolia:** Acigol 22 Jan 86. 3, Buyuk Menderes delta 24 Jan 86. 15 km east of Kusadasi 24 Jan 86. Immature near Davutlar 30 May 86. Samsun Dagi 23 May 86.

**Southern Coastlands:** Pair 40 km south of Pozanti 4 Apr 85. South of Elek Golu 15 Jan 85. Aladag 23 Jul 85. Juvenile north of Silifke 5 Aug 86.

**Central Plateau:** 2 immatures, Zelve 16 May 85.

**South-East:** Halfeti 15 Apr 82. Family party of 2 adults and 2 juveniles between Cizre and Eruh 16 Jun 83. Halfeti 16 Mar and 20 Mar 86. 14 km south of Simak 14 Jun 86.

**East:** East of Tatvan 22 May 85.

*Pandion haliaetus***Osprey**

Rare summer visitor to wetlands of Black Sea coast. Scarce passage migrant across Turkey.

**Black Sea Coastlands:** Kizilirmak delta: 14–15 Jun and 5 Oct 84.

**Western Anatolia:** Sinar delta 11 Sep 84. Bafa Golu: 15 Sep and 20 Sep 84; 2, 2 Oct 84.

**Southern Coastlands:** Goksu delta: up to 3, 10–11 Oct 82; 30 Oct 85. Between Birkelli and Talchen 10 Apr 86.

**Central Plateau:** Kurbaga Golu 5 Apr 85. Todurge Golu 16 May 85. Eregli 11 Mar 86.

**South-East:** Birecik: 12 Apr 82; 1 Apr 85; 29 Sep 86.

**East:** Murat valley 21 May 85. Ercek gorge 23 May 85. Karasu river 30 km west of Tercam 13 May 86.

*Falco vespertinus***Red-footed Falcon**

Fairly widespread passage migrant across Turkey in irregular numbers, locally common. Occasionally recorded from north, west and East in summer, but no evidence of breeding.

**East:** Pair in hills east of Van 4 Jun 85 (SMA, AE).

*Falco eleonora***Eleonora's Falcon**

Breeds locally on islands in Sea of Marmara and off south-west coast. Locally but regularly recorded along west and south coasts on passage or as non-breeding visitor. Occasionally observed in Bosphorus area and inland in Western Anatolia and Central Plateau. For period



1982-6 over 60 records received, most significant given here. For recent review of status and distribution in Turkey, see Kasperek and Ristow (1986).

**Thrace:** Bosphorus: 19 Sep and 22 Sep 84.

**Western Anatolia:** 6, Ephesus 6 Sep 84. 5, Bafa Golu 18 May 86. 8, Davutlar 20 May 86. 6, Samsun Dagi national park 21 May 86. 8, Priene 25 May 86. 12 south of Milas (toward Gulluke) 28 May 86.

**Southern Coastlands:** Bird ringed as chick on Crete 3 Sep 84 found shot near Kizilot (west of Manavgat) 19 Sep 85.

**South-East:** Birecik: 27 May and 29 May 84; 4 May 86; 10 Jul 86. Cizre 3 Jun 85.

#### *Falco biarmicus*

#### **Lanner**

Status uncertain. Probably a rare resident in all regions except Thrace and Black Sea Coastlands. Apparently more widespread in winter. Chronic confusion with other large falcons, especially Saker and pale morph Eleonora's Falcon, has obscured status of this species, and many published records must be erroneous. Observers are requested to substantiate all future records with a description.

**Thrace:** Bosphorus 22 Sep 84.

**Western Anatolia:** Samsun Dagi 23 May 86.

**Southern Coastlands:** Between Alanya and Anamur 6 May 83. Goksu delta 8 Apr 85. Juvenile, Tuzla 21 Oct 85.

**Central Plateau:** Sultan marshes: 1-2, 1-2 Oct 82; 24 Oct 85; 2, 27 Aug 86. Kizilcahaman: 12 May 84; 2, 8 Apr 85. Near Konya 3 Jul 86. Erciyas Dag 29 Aug 86.

#### *Falco cherrug*

#### **Saker**

Fairly widespread but rare resident in Central Plateau and East plus adjacent areas of Black Sea Coastlands, Southern Coastlands and South-East. In breeding season generally in high, arid plains and broad valleys near suitable breeding sites. Somewhat more widespread across Turkey on passage and in winter.

**Black Sea Coastlands:** South of Ispir 19 Sep 86. Borcka 23 Sep 86.

**Thrace:** Bosphorus 22 Sep 84.

**Southern Coastlands:** Between Seydisehir and Sugla Golu 26 Sep 84. Goksu delta 8 Apr 85. Corak Golu 21 Jan 86. Aladag 24 Jul 86. Demirkazik 25-26 Aug 86. Emil 6 Sep 86.

**Central Plateau:** Sultan marshes 6 Jun 82. Kizilcahaman 1 Oct 83. Hotamis 4 Jul 86.

**South-East:** Birecik 10 Jun 83. 7 km south of Sirmak 18 May 85. Cizre 3 Jun 85. Between Kayseri and Gaziantep 19 Jul 86.

**East:** Ercek Golu 25 Jul 82. Between Van and Ercek 19 Jun 83. Patnos 23 Jun 83. 2, Baskale 4 Jun 84. Dogubayazit 17 Sep 84. 15 km east of Van 15 Jun 86. Between Van and Ercek 20 Jul 86.

#### *Falco peregrinus*

#### **Peregrine**

Probably a rather localized resident or partial migrant in fairly small numbers in hilly or mountainous areas or around sea cliffs. Probably breeds in every region but more common in Black Sea Coastlands, Western Anatolia and Southern Coastlands. Appears to disperse outside breeding season. Also occurs on passage and presumably as winter visitor.

**Black Sea Coastlands:** 30 km west of Ordu 27 Jul 82. Kizilirmak delta 4 Oct 84. Between Bayburt and Erzincan 16 May 85. Between Ispir and Sivri Kaya 26 Jul 86. Sivri Kaya 16 Sep 86.

**Thrace:** Bozcaada 3 Oct 86. Bosphorus 5 Oct 86.

**Western Anatolia:** Ayvacit 28 Jun 84. 2, Uludag 4 Sep 84. Pazaryolu 15 May 85. Up to 2, Pergammon 12-13 Jun 85. Marmara Golu 25 Jan 86. Samsun Dagi 23 May 86. 24 km north of Bursa 28 May 86.

**Southern Coastlands:** Goksu delta: 4, 13 Oct 82; 2, 30 Oct 85; 16 Jan 86; 29 Apr 86; 2 Sep 86. Egridir Golu 23 May 82. Karamik marsh 26 May 82. Burdur Golu 16 Oct 82. 3, Betisebap 9 Sep 84. 3, Beysehir Golu 10 Oct 84. Demirkazik 24 May 85. Elek Golu 15-16 Jun 85. Yarisli 21 Jan 86. Demirkazik 8 Aug 86.

**Central Plateau:** Kizilcahaman: 9 Aug 82; 2, 8 Apr 84; 12 May 84; 3 Apr 85; 16 Jul 86. Sultan marshes 23 Oct 85. 3, Eregli 11 Mar 86. Kulu Golu: 27 Apr 86; 6 Sep 86. Tuz Golu 18 May 86. Sultan marshes 19–20 May 86. 20 km north of Emirdag 29 May 86.

**South-East:** Birecik: 23 Aug 84; 6 Jul 86; 15–16 Jul 86; up to 2, 16–17 Aug 86. Between Hakkari and Baskale 19 May 85. Between Bitlis and Bayken 25 May 85.

**East:** Nemrut Dagi (near Tatvan): 30 Jun 82; 13 Aug 82. 2, Erzurum 17 May 85. Bendimahi 19 May 85. 2, 6 km north-west of Bogecik 31 May 86. Between Erzurum and Patnos 10 Jul 86. Van marshes 12 Jul 86. Ardahan 21 Sep 86. Cildir gorge 21 Sep 86.

*Tetrao mlokosiewiczii*

**Caucasian Black Grouse**

Scarce and apparently very localized resident at high altitudes in Black Sea Coastlands; western limits unclear.

**Black Sea Coastlands:** 3 near Sarigol 23 Jul 82 (EM). Sivri Kaya: 24 Jun 82 (BK); 3, 2 Jul 83 (Martins & Robson 1988); 6, 5 Jun 84 (DR, KT); 4, 17 Jun 84 (SCH); 8, 5 Jul 84 (RW *et al.*); 4, 23 May 85 (ND); 2–3, 12 Jun 85 (SMA, AE); 11, 8 Jun 86 (MC); 4, 21 Jun 86 (RS *et al.*); 13 Jul 86 (RW *et al.*); 3, 19 Jul 86 (MW); 2, 27 Jul 86 (JM, NC); 6, 16 Sep 86 'in next valley' (LR *et al.*); 4, 17 Sep 86 (MJD, RJM).



Plate 1. Caucasian Black Grouse *Tetrao mlokosiewiczii*, male, Sivri Kaya, May. (Arnoud B. van den Berg)

*Tetraogallus caspius*

**Caspian Snowcock**

Not uncommon but highly localized resident in mountains (generally above 2,400 metres in summer) in eastern third of Turkey, west to main Taurus; western limits unclear.

**Black Sea Coastlands:** Sivri Kaya: 5, 2 Jul 83 (Martins & Robson 1988); c. 5 heard, 5 Jun 84; 2, 12 Jun 84; 3, 17 Jun 84; 2, 12 Jun 85; 4, 12 Jul 86; 12, 13 Jul 86; 8, 27 Jul 86; at least 3, 17 Sep 86.

**Southern Coastlands:** 2, Torosdag (Adana area, exact locality unspecified) 15 Jun 83. Aladag (Demirkazik unless otherwise stated): 5, 27 May 83 (Martins & Robson 1988); 4, 22 May 84; 6, 27 Jun 84; 9 Jul 84; 4, 13 May 85; 2 near Ereğ Golu 15 May 85; 2, 16 May 85; 6–7, 18 May 85; 2, 26 May 85; 9, 18 Jun 85; 2, 1 May 86; 2, 20 May 86; 4, 26 May 86; 'several', 27 May 86; 4, 10 Jun 86; 8, 5–7 Jun 86; 1–2, 25 Jul 86; 3, 7 Aug 86; recorded (numbers not specified) 26 Aug 86.

*Ammoperdix griseogularis*

**See-see Partridge**

Rather local but not uncommon resident in South-East. Found in arid, usually fairly rocky



Plate 2. Caspian Snowcock *Tetraogallus caspius*, Sivri Kaya, May. (Arnoud B. van den Berg)

country not far from Syrian border. Records are listed for all localities except Birecik area, where recorded very regularly in spring and summer in most years during 1982-6.

**South-East:** 5, Karamis (Barak) 13 Apr 82. Pair near Urfa 14 Apr 82. Cizre: 2, 31 May 84; at least 1, 1 Jul 84; 4, 6 May 86; 13 Jun 86. 2 near Kilis 2 Apr 85. Urfa 4 Apr 85. At or near Idil: 6 May 86; 13-14 Jun 86. Halfeti: pair, 23-25 Apr 85; 12 Jun 86.

*Francolinus francolinus*

**Black Francolin**

Scarce but locally not uncommon resident in Southern Coastlands and South-East, occurring in generally moist scrubby areas in two major south coast deltas and their immediate surroundings and along the Tigris near Syrian border. The existence or planned establishment of two 'special protection and reproduction areas' for the species perhaps implies continued existence of populations elsewhere in Southern Coastlands outside known range. For recent review of status and distribution, see van den Berk (1988).

**Southern Coastlands:** Seyhan/Ceyhan delta: 5, Akyatan Golu 6 Apr 82; Karatas 26 May 84. Silifke/Goksu delta area: 3-4, 11 Mar 86; 27-29 May 86; 27-28 Jun 86; 20 Jul 86.

**South-East:** Cizre: 9 (calling and display noted), 15 Jun 83 (Martins & Robson 1988); 2, 1-2 Jun 84; 2-3, 3 Jun 85; 5 males calling 6 May 86; 3 Jul 86; 8 Jul 86.

*Perdix perdix*

**Grey Partridge**

Rather local resident in fairly small numbers in parts of Central Plateau and north of Taurus in Southern Coastlands. Also very local resident in small numbers in Thrace, Western Anatolia, eastern Black Sea Coastlands and East. Generally in rather open agricultural country.

**Southern Coastlands:** Recorded (numbers not specified) Egridir Golu 22-23 May 82.

**Central Plateau:** 4 between Ankara and Keskin 29 Sep 82. Sultan marshes 1 Oct 82 (van den Berk *et al.* 1983). Sultan marshes: Seyfe Golu 26 Jul 86 (Schilperoord & Schilperoord-Huisman 1986); 10, Ovaciftlik 28-29 Aug 86 (Bijlsma & de Roder 1986).

**East:** 2 between Erzurum and Ispir 29 Jun 83 (Martins & Robson 1988).

*Porzana porzana*

**Spotted Crake**

Status uncertain. Rarely but widely recorded on passage across Turkey and probably more

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common than records suggest. May breed very locally in very small numbers in marshy wetlands.

**Southern Coastlands:** Seyhan/Ceyhan delta: 1–2 near Tuzla 4–6 Apr 82; 3 near Karatas 4–5 Apr 82; Akyatan Golu 6 Apr 82 (SG *et al.*). Goksu delta: 7 Apr 82 (SG *et al.*); 2, 12 May 84 (SCH); 2 heard, 7 Oct 86 (MJD, RJM).

**South-East:** Birecik 8–10 May 85 (AMH *et al.*).

**East:** Van marshes: heard 8 May 86 (MU *et al.*); 23–24 Aug 86 (LR *et al.*); up to 35, 9–12 Sep 86 (LR *et al.*).

*Porzana parva*

**Little Crane**

Status uncertain. Rarely but widely recorded on passage across Turkey and probably more common than records suggest. May breed very locally in very small numbers in marshy wetlands.

**Western Anatolia:** 5, Apolyont Golu 8 Apr 85 (de Grissac & Beaudoin 1985).

**Southern Coastlands:** Seyhan/Ceyhan delta: 3 near Tuzla 4–6 Apr 82; 2 near Karatas 4 Apr 82. Goksu delta: 3, 30 Apr 86 (MU *et al.*); 20 Aug 86 (JM, NC).

**East:** Up to 3, Van marshes 9–11 Sep 86 (LR *et al.*).

*Porzana pusilla*

**Baillon's Crane**

Status uncertain. Rarely but widely recorded on passage across Turkey and probably more common than records suggest. Recorded in winter from Western Anatolia. May breed very locally in very small numbers in marshy wetlands.

**Southern Coastlands:** Outside period 1982–6, 6 at Goksu delta 1 Jul 1977 (CDRH). Goksu delta 13 Mar 86 (JWB).

**South-East:** 2, Birecik 25 Jun 86 (CDRH).

**East:** Van marshes 23 Aug 86 (LR *et al.*).

*Crex crex*

**Corncrake**

★

Status uncertain. Rarely but widely recorded on passage across Turkey but probably more common than records suggest. Could breed.

**Western Anatolia:** Balik Kooperatif (Bafa Golu) 9 Aug 84 (GdS). Apolyont Golu 8–9 Sep 86 (Bijlsma & de Roder 1986).

**East:** 3 near Askale 27 May 85 (PB, GdS).

*Porphyrio porphyrio*

**Purple Gallinule**

Rare resident at Goksu delta. Recorded occasionally from Central Plateau where status uncertain.

**Southern Coastlands:** Goksu delta: 4, 7 Apr 82 (SG *et al.*); 4, 7 Jun 83 (CR); 3, 27 Aug 84 (TC); 16–19 Apr 85 (PR); 5, 12 May 85 (MD *et al.*); 3, 14–15 May 85 (KG *et al.*); 2, 10 Mar 86 (JWB); 2, 29–30 Apr 86 (MU *et al.*); 2, 18 May 86 (SRC *et al.*); adult feeding 2 young, 19 May 86 (NW, MW); 4 Jun 86 (RS *et al.*); 4 including fully grown juvenile and chick, 19–20 Jul 86 (RW *et al.*); 4, 27 Jul 86 (JS, JHC); 18, 3 Aug 86 (LR *et al.*); 3, 20 Aug 86 (JM, NC); 3, 7 Oct 86 (MJD, RJM).

*Grus grus*

**Crane**

Fairly widespread and not uncommon resident or partial migrant in marshy wetlands in Central Plateau and East, more locally in Black Sea Coastlands, Southern Coastlands, South-East and possibly Western Anatolia. More widespread on passage across Turkey and in much larger numbers; considerable numbers remain in winter in Central Plateau and adjacent parts of Western Anatolia, occasionally in much smaller numbers elsewhere. Extensive survey of wintering populations at wetlands in western two-thirds of Turkey was conducted in 1982; total wintering population recorded 12,690 (van den Berk *et al.* 1983).

*Grus leucogeranus***Siberian White Crane**

★

No records this century except for hybrid below. Presence of early bronze age bones has been documented (Boessreck 1987), but validity of two nineteenth century records (April, September) (Kasperek 1987a) has been both questioned (Harrap 1987) and supported (Walters 1988).

**East:** Apparent hybrid *G. leucogeranus* × *G. grus* with Cranes in Murat valley west of Bulanik (Davidson 1985). This bird seems more likely to have originated through a conservation management programme in USSR than from natural hybridization.

*Anthropoides virgo***Demoiselle Crane**

Rare and very local breeding summer visitor in East. On passage occurs in larger numbers in East, occasionally west to Sea of Marmara. For recent review of status and distribution in Turkey, see Kasperek (1988).

**Southern Coastlands:** Golbasi 6 Apr 85 (de Grissac & Beaudoin 1985).

**Central Plateau:** Kulu Golu 8 May 83 (Kasperek 1987b). Seyfe Golu 11 May 84 (SB).

**East:** Murat valley: 2, Senova (between Mus and Elazig) 2 Jun 84; pair near Malazgirt 8-10 Jun 84 (TS, AS). Bulanik/Balatos area: 2 pairs, 26 Jun 83 (Martins & Robson 1988); 2, 9 Jun 84 (SCH); 20 May 85 (ND); 3, 22 May 85 (KG *et al.*); 2, 10 May 86 (MU *et al.*); pair, 26 May 86 (NM, MW); 2 adults and full-grown juvenile 29 May and 10 Jul 86 (MP, SS, RW *et al.*); 2, 11 Jul 86 (JHC, JS); 5, 15 Jul 86 (LR *et al.*); 22, including flock of 18 with 2 juveniles, 31 Jul 86 (NC, JM). 2 in Yoncali area 29 Jun 86 (CDRH).

*Tetrax tetrax***Little Bustard**

★

Status uncertain. May still survive as rare and localized resident or summer visitor on Central Plateau and adjacent parts of Southern Coastlands. Recorded in late autumn in East and spring in South-East (where it is reported to winter). For review of historical and current status and distribution in Turkey, see Kasperek (in press).

**Central Plateau:** Sultan marshes 31 Oct 82 (Kasperek 1985).

*Otis tarda***Great Bustard**

★

Local resident and partial migrant (though movements poorly understood) on Central Plateau and adjacent parts of Southern Coastlands, apparently in small numbers, and in South-East and East where locally more common. Recorded autumn to spring in Western Anatolia and on south coast. Considerable numbers winter in South-East; such concentrations appear too large to originate entirely from birds breeding in this region and may comprise birds from elsewhere in Turkey (breeding areas in East are clearly vacated in winter) and/or outside it; there is no evidence for latter possibility. Despite evidence of decline in recent decades, particularly in west of range, survey by Gorup and Parr (1985) indicated that short-term prospects for the species' survival are less dire than previously believed and that Turkey may be one of the more important centres of distribution. See also Kasperek (in press) for review of historical and current status and distribution in Turkey. There is an acute need for a systematic survey of Turkish breeding populations.

**Central Plateau:** 2, Tuz Golu 19 Jun 82. 3, north of Eber Golu 5 Sep 86. Moulded feathers found at Malya Devlet near Seyfe Golu 21-24 Aug 86.

**South-East:** 5, including female with part-grown chick at Coltepe 14 Jun 83 (Martins & Robson 1988). Near Nusaybin 18 May 85.

**East:** 3, 20 km south-west of Patnos 24 Jun 83 (Martins & Robson 1988). Between Patnos and Malazgirt 8-10 Jun 84. Bendimahi 12 May 85. 17 between Patnos and Bulanik 12 May 85. At or near Bulanik/Balatos: 3, 20 May 85; 7, 21 May 85; 30, 10 May 86; 26 May 86; 2, 29 May 86; 18 Jun 86. 2 km west of Patnos 9 May 86. 9, 5 km east of 'Malazgin' (exact locality not identified) 9 May 86. 6 between Dogansu and Bulanik 23 May 86.

*Dromas ardeola***Crab Plover**

Vagrant.

**Southern Coastlands:** 5, Goksu delta 15 Jul 86, photographed (Bouwman 1987). First record for Turkey.

*Cursorius cursor***Cream-coloured Courser**

Scarce summer visitor (perhaps all or mostly non-breeding) to South-East and adjacent parts of Southern Coastlands. Recorded in autumn in East.

**South-East:** Bolatlar 30 May 84 (SCH, DR, KT).

*Glareola pratincola***Collared Pratincole**

Rather local summer visitor, sometimes in considerable numbers, to dry wetland margins in all regions except perhaps South-East. More widespread on passage, though mainly in western two-thirds of Turkey.

**Black Sea Coastlands:** Breeds at Cernek Golu (Kizilirmak delta) (Dijksen & Kasperek 1985).

**South-East:** 2, Cizre 15 Jun 83.

*Glareola nordmanni***Black-winged Pratincole**

Generally uncommon and local on passage, mostly in eastern two-thirds of Turkey. Occasionally in considerable numbers. Regularly recorded in summer.

**Central Plateau:** Sultan marshes: 14, 30 Sep to 4 Oct 82 (van den Berk *et al.* 1983); 19, 22–24 Oct 85 (van den Berk *et al.* 1986). 2, Eregli Golu 1–3 Aug 86 (Schilperoord & Schilperoord-Huisman 1986). Kulu Golu: c. 15 on 5 Sep, 6 on 6 Sep 86 (JM, NC).

*Charadrius mongolus***Lesser Sand Plover**

Vagrant. At least two historical records have been cited in the literature but their provenance is unclear (Bezzel 1986). A full review is needed of all reports from Turkey.

**Southern Coastlands:** No records during 1982–6. 2, Goksu delta 11 Apr 80 (Bezzel 1986); some descriptive details were published.

*Charadrius leschenaultii***Greater Sand Plover**

Rather local summer visitor in small or moderate numbers to Central Plateau, perhaps very locally also in South-East and East; occurs on open sand flats, mudflats or steppe in vicinity of water. Regularly recorded on passage on south coast, occasionally elsewhere.

**Southern Coastlands:** Near Karatas: 26 May 84; 2 May 86. Goksu delta: 13 May 84; 17 May 85; up to 15, 10–14 Mar 86; 4 Aug 86.

**Central Plateau:** Hotamis: 21 May 85; 3–4, 12 Jul 84; 1–2, 14 Jun 85. 4 near Goloren 31 May 86. Near Sazgecit 31 May 86. 2 pairs on lake 15 km north of Yesilhisar 25 May and 9 Jun 86. 16 (including at least 13 juveniles) near Bezirhane 17 Jul 86. 10, Kulu Golu 17 Jul 86. 18, Eregli 4 Aug 86. 20, Ak Golu (Eregli Golu) 14 Aug 86.

*Charadrius morinellus***Dotterel**

Passage migrant, found locally in considerable numbers on Central Plateau, occasionally in smaller numbers elsewhere. Has occurred in summer on Central Plateau but no evidence of breeding, and in early winter in Central Plateau and South-East.

**Southern Coastlands:** 20, Akyatan Golu (Seyhan/Ceyhan delta) 27 Oct 85. 21, Ak Golu (Goksu delta) 30 Oct 85. (van den Berk *et al.* 1986.)

**Central Plateau:** 3, Tuzla Golu (Palas Golu) 21 Oct 85. 40, Sultan marshes 22–25 Oct 85. (van den Berk *et al.* 1986.)

*Hoplopterus indicus***Red-wattled Plover**

Resident or summer visitor, breeding in areas of gravel deposits with associated pools along Tigris near Syrian border. First recorded 1983 and perhaps spreading.

**South-East:** All records are from Cizre area: 5, including at least 2 pairs displaying, 15–16 Jun 83 (Murphy 1984; Martins & Robson 1988); 5, 19 May 84 (KG *et al.*); up to 6, including 2 chicks, 31 May to 2 Jun 84 (SCH, DR, KT); pair with 3 chicks, 18 May 85; 4, 3 Jun 85 (SMA,

AE); 6, including apparently incubating bird, 6 May 86 (MU *et al.*); 2, 21 May 86 (SRC *et al.*); at least 4, 23 May 86 (MW, NW); 10, 13-14 Jun 86 (RS *et al.*); c. 10, 8 Jul 86 (RW *et al.*); 7, 21 Aug 86 (LR *et al.*).

*Chettusia gregaria*

### Sociable Plover

★

Rare passage migrant. Recorded in spring in South-East, and in autumn in Central Plateau, eastern Black Sea Coastlands and East.

**Central Plateau:** Sultan marshes 22-24 Oct 85 (van den Berk *et al.* 1986).

*Chettusia leucura*

### White-tailed Plover

Status uncertain. Has bred Central Plateau and occasionally recorded between spring and autumn usually in very small numbers from Southern Coastlands, Central Plateau, South-East and East.

**Western Anatolia:** Manyas Golu 21-22 Oct 82 (van den Berk *et al.* 1983).

**Southern Coastlands:** Goksu delta 7 Apr 82 (SG *et al.*); 18 Apr 85 (PR).

**Central Plateau:** Hotamis 21 May 84 (DR, KT). 13, Hotamis 14 Jun 85 (EB, PdH). Kuyuk Aslama (25 km south-west of Hotamis) 30 May 86 (EvdB, RvM, RS).

**East:** 38 (in 2 flocks) over Nemrut Dag (near Tatvan) 27 Sep 86 (MJD, RJM).

*Calidris canutus*

### Knot

Vagrant.

**Southern Coastlands:** Goksu delta 30 Oct 85 (van den Berk *et al.* 1986).

**Central Plateau:** Hotamis Golu 11 May 85 (KG *et al.*).

*Limicola falcinellus*

### Broad-billed Sandpiper

Uncommon passage migrant in wetlands across Turkey.

**Southern Coastlands:** Goksu delta: 14, 13 May 84 (SCH); 22 May 84 (DR, KT); 29 Jun 84 (RW *et al.*); 11 Mar 86 (JWB *et al.*); 5, 19 May 86; 2, 19 Aug 86 (NC, JM).

**Central Plateau:** 5, Hotamis Golu 14 May 85 (SMA, AE). 2, Ak Golu (Eregli Golu) 14 Aug 86 (LR *et al.*). 2, Sultan marshes 27 Aug 86 (Bijlsma & de Roder 1986). 6, Kulu Golu 29 Aug 86 (NC, JM).

**East:** 2, Bendimahi 9 May (MU *et al.*). Van marshes: 2, 3 Aug 86 (NC, JM); 70, 23 Aug 86; 23, 24 Aug 86; 76, 9 Sep 86; 34-35, 10-11 Sep 86 (LR *et al.*).

*Lymnocyptes minimus*

### Jack Snipe

Status uncertain. Rarely recorded passage migrant and winter visitor to wetlands and other moist habitats in western two-thirds of Turkey. Probably more common than observations suggest.

**Southern Coastlands:** Seyhan/Ceyhan delta: 3, 5 Apr 82; Tuzla Golu 21 Oct 85. 2, Ak Golu (Goksu delta) 7 Apr 82.

**Central Plateau:** Eregli Golu 7-9 Oct 82. Tuz Golu 7-9 Oct 82. (van den Berk *et al.* 1983.) 3, Seyfe Golu (Sultan marshes) 20 Oct 85.

*Gallinago media*

### Great Snipe

Status uncertain. Rarely recorded passage migrant in wetlands across Turkey. Probably more common than observations suggest. Recorded in winter on Central Plateau and in south.

**Black Sea Coastlands:** 2 near Ispir 14 May 85 (AMA *et al.*).

**Southern Coastlands:** 2 between Adana and Karatas 25 May 84 (AS, TS).

**Central Plateau:** Kurbaga 5 Apr 85 (de Grissac & Beaudoin 1985). Ak Golu (Eregli Golu) 11 Sep 86 (LR *et al.*).

**East:** Van marshes: 2, 14 Jun 84 (SCH); 2, 23 May 85 (KG *et al.*); 22 May 86 (SRC *et al.*); 27 May 86 (MP, SS); 3, 24 Sep 86 (MJD, RJM). Bulanik/Balatos area: 5, 10 May 86 (MU *et al.*); 1-2, 26-27 May (MP, SS, MW, NW). Ercek Golu 24 May 86 (MW, NW). Near Askale 27 May 86 (MW, NW).

*Scolopax rusticola***Woodcock**

Fairly widespread but uncommon passage migrant and winter visitor, perhaps mainly in coastal areas; scarce inland. Perhaps more common than records suggest.

**Western Anatolia:** Uludag 7 Apr 85.

**Southern Coastlands:** Between Silifke and Olba 12 Mar 86.

**Central Plateau:** 2, Seyfe Golu 21–24 Aug 86. Ovaciftlik (Sultan marshes) 28–29 Aug 86.

**South-East:** West of Gaziantep 15 Mar 86. North of Halfeti 16 Mar 86.

*Limosa lapponica***Bar-tailed Godwit**

Rare passage migrant across Turkey. Recorded in winter on south-west coast.

**Western Anatolia:** Selcuk 13 or 14 May 82 (JWB).

**Southern Coastlands:** Goksu delta: 10, 12–15 Oct 82 (van den Berk *et al.* 1983); 4, 11 Mar 86; 3, 14 Mar 86 (JWB *et al.*); 19 May 86 (MW, NW).

**Central Plateau:** 4, Seyfe Golu 29–30 Sep 82 (van den Berk *et al.* 1983). Kulu Golu 20 May 84 (DR, KT). Hotamis Golu 19 May 85 (AMA *et al.*). 10, Seyfe Golu 21–24 Aug 86 (Bijlsma & de Roder 1986).

**East:** Bendimahi: 7 Jun 84; 2, 8 Jun 84 (SCH).

*Numenius phaeopus***Whimbrel**

Scarce passage migrant in wetlands and coastal areas across Turkey.

**Western Anatolia:** 2, Manyas Golu 20–22 Oct 82 (van den Berk *et al.* 1983).

**Southern Coastlands:** Goksu delta: 2, 12–15 Oct 82 (van den Berk *et al.* 1983); 12 May 85 (MD *et al.*).

**East:** Van marshes: 8 May 86 (MU *et al.*); 9 Sep 86 (LR *et al.*).

*Numenius tenuirostris***Slender-billed Curlew**

★

Now an extremely rare passage migrant across Turkey. In the past occasionally recorded in winter from Western Anatolia, Southern Coastlands and Central Plateau. Although suitable wintering habitat exists, there are no recent winter records. This species appears to be under threat of extinction.

**Southern Coastlands:** Adult, Goksu delta 10 Jul 86 (MW); description supplied.

*Xenus cinereus***Terek Sandpiper**

Uncommon passage migrant in wetlands across Turkey.

**Southern Coastlands:** Goksu delta 13–15 May 85 (KG *et al.*). Near Karatas (Seyhan/Ceyhan delta) 18 May 85 (MD *et al.*).

**Central Plateau:** Kulu Golu 17 Jul 86 (RW *et al.*).

**East:** 11, Bendimahi 12 May 85 (AMA *et al.*). 15, Hacli Golu 17 Jul 86 (MW). 7 along south-east shore of Van Golu 18–24 Jul 86 (Schilperoord & Schilperoord-Huisman 1986). Van marshes 3–4 Aug (NC, JM).

*Arenaria interpres***Turnstone**

Rather local and uncommon on passage across Turkey. Occasional in winter on south-west coast.

**Black Sea Coastlands:** Up to 3, Kizilirmak delta area 4–5 Oct 84.

**Western Anatolia:** 5, Sinar delta-near Bogaz 10 Sep 84.

**Southern Coastlands:** 8, Yumurtalik (Seyhan/Ceyhan delta) 30 Oct 85 (van den Berk *et al.* 1986). Goksu delta: 6, 13 May 85; 14 May 85; 3, 30 Oct 85 (van den Berk *et al.* 1986); 2, 18 May 86; 2, 26 May 86; 11, 2–4 Sep 86 (Bijlsma & de Roder 1986).

**Central Plateau:** Kulu Golu: 23 May 83; 2, 10 May 84; 11 May 85. Hotamis Golu 11 May 85. Eregli: 2 May 85; 3, 7 May 85. Aksehir Golu 25 May 86.

**East:** Van marshes: 3, 3 Aug 86; 24 Aug 86.

*Phalaropus tricolor***Wilson's Phalarope**

Vagrant.



**Black Sea Coastlands:** Balik Golu (Kizilirmak delta) 19 Sep 83 (Bräuning 1984; Dijkzen & Kasperek 1985); no description published.

*Phalaropus lobatus***Red-necked Phalarope**

Scarce and local passage migrant in wetlands and coastal areas across Turkey. Sometimes in considerable numbers in East.

**Black Sea Coastlands:** Uzun Golu (Kizilirmak delta) 22 Sep 83 (Dijkzen & Kasperek 1985).

**Western Anatolia:** Cigli 18 Aug 84.

**Southern Coastlands:** Tasucu 16 May 85. 2 near Karatas (Seyhan/Ceyhan delta) 2 May 86.

**Central Plateau:** Sultan marshes 30 Sep to 4 Oct 82 (van den Berk *et al.* 1983). 12, Kulu Golu 13 May 85. Todurge Golu 16 May 85. 5, Sultan marshes 27 Aug 86 (Bijlsma & de Roder 1986). 4, Kulu Golu 6 Sep 86.

**East:** Bendimahi: 11, 8 Jun 84; 103, 21 May 85; 280, 9 May 86; 50+, 26 May 86. 12, Ercek Golu 19 May 85. 380, Van marshes 7 May 86. Hacli Golu 17 Jul 86. Van marshes: 4, 9 Sep 86; 8, 10 Sep 86.

*Stercorarius parasiticus***Arctic Skua**

Scarce passage migrant along Black Sea coast and through Bosphorus and Sea of Marmara. Also recorded from Aegean and Mediterranean coasts and inland in east. For analysis of skua records in the Middle East, see Meininger and Sorensen (1986).

**Southern Coastlands:** Goksu delta 28 May 86 (MU *et al.*).

*Stercorarius longicaudus***Long-tailed Skua**

Vagrant.

**Thrace:** No records during 1982–6. 2 adults or sub-adults, Bosphorus 29 Sep 1979 (L. Svensson in Glutz von Blotzheim and Bauer 1982); no description published. First record for Turkey.

*Larus ichthyaetus***Great Black-headed Gull**

Rare winter visitor and passage migrant. Recorded in wetlands and coastal areas in Black Sea Coastlands, Thrace, Southern Coastlands and East.

**Southern Coastlands:** Adult moulting into breeding plumage near Karatas 4 Apr 82. Sub-adult at Tuzla Golu and immature at Seyhan river mouth 5 Apr 82 (SG *et al.*).

*Larus melanocephalus***Mediterranean Gull**

Local summer visitor in small numbers to wetlands of Central Plateau (and perhaps East). Regularly recorded in summer along Marmara and Aegean coasts but no evidence of breeding. Otherwise, widespread and common passage migrant in coastal areas in western two-thirds of Turkey, but apparently only in fairly small numbers in this area in winter. Regular in moderate numbers on passage in Central Plateau and occasionally other inland areas in western two-thirds of Turkey. Recorded in winter in eastern Black Sea Coastlands and in summer and autumn in East, where breeding could perhaps occur.

**East:** 2, Ercek Golu 6 Jun 84 (SCH). About 20, Bendimahi 20 May 85 (ND).

*Larus audouinii***Audouin's Gull**

★

Scarce and local resident on Mediterranean and south Aegean coasts. Occasionally recorded north to Sea of Marmara. Has bred at at least one site on south coast.

**Western Anatolia:** Present Karaburna peninsula (east of Cesme) 15 Mar 82, Alocati Bay (south of Cesme) 18 Mar 82, near Sigacik 21 Jun 82, Bodrum 15 Aug 82. Bodrum 3 Oct 86. Off Dikli 4 Oct 86.

**Southern Coastlands:** Goksu delta/Tasucu area: 24 records of up to 12 birds (mostly 1–5), Apr–Aug in all years 1982–6; many of these birds may have originated from colony of c. 20 pairs on small island off Aydinlik observed 16 Apr 85 (PRA). West of Erdemli Jun 82. 2, mouth

of Sedre river (between Antalya and Anamur) 29 Jun 84. Ovacik 29 Jun 84.

*Larus canus*

### Common Gull

Rather local and uncommon winter visitor to wetlands and coastal areas across Turkey (mainly west and north). Irregularly reported in much larger numbers.

**Thrace:** Istanbul 3 Sep 86.

**Black Sea Coastlands:** 16, Kizilirmak delta 4–5 Jan 86. Immature, Balik Golu (Kizilirmak delta) 15 Sep 86. Juvenile between Iksidere and Borcka 18 Sep 86.

**Central Plateau:** Sultan marshes 26 Sep 82 (Kasperek 1985). Kulu Golu 10 May 85. 1-year-old, Todurke Golu 16 May 85.

*Larus marinus*

### Great Black-backed Gull

Vagrant.

**Southern Coastlands:** 1-year-old, Ak Golu (Goksu delta) 6 May 85 (AMA *et al.*). At sea near Tasucu 22 Jun 86 (MP, SS).

*Gelochelidon nilotica*

### Gull-billed Tern

Widespread and common summer visitor to wetlands and their environs on Central Plateau, more locally in Western Anatolia and East, probably in Thrace and perhaps elsewhere.

**East:** Extensive series of breeding-season observations from numerous localities throughout 1982–6 may indicate regular breeding. 2 juveniles at Van marshes 2–8 Aug 86 (NC, JM) is the only record demonstrating strong probability of local breeding. Elsewhere, small numbers (up to 40) recorded from Murat valley (particularly between Bulanik and Balatos), between Bulanik and Agri, between Agri and Patnos, Ercek Golu and various localities around Van Golu. Up to 350 at Bulanik 31 Jul 86.

*Sterna caspia*

### Caspian Tern

Very local summer visitor in fairly small numbers to wetlands in Central Plateau and East. More widespread but generally uncommon on passage across Turkey, mainly coastal areas. Occasional in winter at coastal localities in south-west and south.

**East:** 11 records on dates throughout breeding season from Bulanik/Murat valley and several localities (particularly Bendimahi) at Van Golu demonstrate regular occurrence in the region. 2 juveniles at Van Golu 11 Sep 86 (LR *et al.*) perhaps indicate local breeding.

*Sterna bengalensis*

### Lesser Crested Tern

Vagrant.

**Southern Coastlands:** No records during 1982–6. 1-year-old, Goksu delta 28 May 73, apparently seen well and briefly described (Witt 1976).

*Sterna sandvicensis*

### Sandwich Tern

Fairly widespread and generally not uncommon passage migrant in coastal areas, wintering in coastal areas in western two-thirds of Turkey. Locally in much larger numbers. Occasionally inland on passage.

**East:** Bendimahi: 2, 4–5 Jul 82; 8 Jun 84. Van marshes 2 Aug 86.

*Sterna albifrons*

### Little Tern

Rather local summer visitor to Central Plateau and even more locally in all other regions except Black Sea Coastlands where apparently absent. Locally in considerable but generally moderate numbers, breeding in coastal areas and in wetlands and along rivers inland. More widespread on passage.

**South-East:** Cizre: 2, 1–2 Jun 84; 4, 19 May 85; 'noted in all river valleys' on journey from Midyat to Bitlis via Batman 24 May 86.

**East:** Regularly recorded throughout breeding season from several localities, particularly Murat valley area and around Van Golu.

*Chlidonias leucopterus***White-winged Black Tern**

Status uncertain. Fairly widespread and common passage migrant in wetlands and coastal areas, especially in eastern two-thirds of Turkey. Regularly recorded throughout summer but no definite evidence of breeding. Presumably even more common on autumn passage than definite records suggest, since records of unidentified *Chlidonias* are often received.

**East:** 9, including 3 juveniles, Hacli Golu 17 Jul 86 (MW) is noteworthy, though no proof that juveniles were bred in Turkey.

*Pterocles senegallus***Spotted Sandgrouse**

Vagrant.

**South-East:** Female, Birecik 18 Jul 86, seen well in flight and description provided (JHC, JS). First record for Turkey.

*Pterocles alchata***Pin-tailed Sandgrouse**

Status uncertain. Not uncommon apparent summer visitor, sometimes in large numbers, to South-East. Otherwise, only a few records from Central Plateau, which may well represent wandering birds from South-East.

**Central Plateau:** Between Hotamis and Kuyuk Aslama 30 May 86. 3, 16 km south-west of Goloren 31 May 86 (EvdB, RvM, RSche).

**South-East:** Birecik: at least 17 records, late May to Sep, for all years 1982-6; records typically less than 100, but 4 of 100-200, and 1000+ on 24 May 86. Coltepe 14 Jun 83 (Martins & Robson 1988). 2, Bolatlar 30 May 84. Cizre: 15, 31 May 84; 6, 1 Jun 84; c. 100, 2 Jun 84.

*Columba oenas***Stock Dove**

Rather local and uncommon resident or partial migrant in wooded but open upland areas over much of Turkey, except apparently South-East and much of Central Plateau. More widespread on passage, wintering in western two-thirds of Turkey (mainly west and south-west). Locally recorded in considerable numbers.



Plate 3. Striated Scops Owl *Otus brucei*, Birecik, May. (Magnus Ullman)

The inclusion of colour plates has been subsidised by Subbuteo Natural History Books Ltd.

**Western Anatolia:** Near Sogusku 13 May 86. 13, Apolyont Golu 8–9 Sep 86.

**Central Plateau:** 3, Aksaray 4–5 Sep 86.

*Streptopelia senegalensis*

### Palm Dove

Local resident, often in considerable numbers, at certain (usually urban) settlements, probably in all regions except East. Well established populations exist in South-East and in Istanbul area (Black Sea Coastlands/Thrace). Not infrequently recorded from widely scattered localities in Western Anatolia and Southern Coastlands as well as in regions where well established populations exist. Not always clear whether such records represent wandering individuals or, perhaps more likely in many cases (as range is apparently expanding), recently established populations. Records are listed only from localities where previously unrecorded.

**Thrace:** Near Eceabat 17 Sep 84.

**Southern Coastlands:** Antalya 10 May 85.

**Central Plateau:** Present, Ankara 10 May 85.

**South-East:** 25, Halfeti 5 May 85. Small numbers between Gaziantep and Urfa Jun 86.

*Tyto alba*

### Barn Owl

Status uncertain. Apparently rare resident in Thrace, extreme western Black Sea Coastlands, Western Anatolia, Central Plateau (though perhaps absent from most of this region), Southern Coastlands and South-East. Few records from eastern third of Turkey. For recent reviews of distribution, see Kasperek (1986b) and Kumerloeve (1986).

**Western Anatolia:** Erdek 8 Apr 85 (LR *et al.*).

**Southern Coastlands:** Pale-breasted bird, Goksu delta 12 May 84 (SCH). Heard, Tasucu 27–28 Jul 86 (JHC, JS).

**Central Plateau:** One dead near Ilgin 18 Jan 86 (LJD, FJK).

*Otus brucei*

### Striated Scops Owl

Status uncertain. Apparently rare summer visitor (first recorded in 1982) to at least 3 localities in Euphrates valley in South-East. Records recently reviewed in detail by van den Berg *et al.* (1988), and only those not listed there are given here.

**South-East:** Birecik: 2 adults and 3 juveniles, 30 Jun 84 (RW *et al.*); 2 adults and 2 juveniles 6–7 Jul 86; 5 juveniles, 9 Jul 86 (CDRH); adult and 2 juveniles, 10 Aug 86; seen and heard, 30 Sep 86 (MJD, RJM). Halfeti area: 26 Jul 85 (PB, GdS); 16–18 Mar 86 (JWB).



Plate 4. Striated Scops Owl *Otus brucei*, Birecik, May. (Arnoud B. van den Berg)

*Otus scops***Scops Owl**

Fairly widespread and not uncommon summer visitor to Western Anatolia and Southern Coastlands, locally across rest of Turkey. Also occurs on passage.

**South-East:** Heard near Uludere 18 May 85. About 3 near Betisebab 19 May 85.

*Bubo bubo***Eagle Owl**

Status uncertain. Probably thinly distributed resident over most of Turkey, possibly absent from Thrace.

**Southern Coastlands:** Yumurtalik Golu (Seyhan/Ceyhan delta) 29 Oct 85. 2 pellets found at Egridir Golu May 86.

**Central Plateau:** Between Sarkisla and Gemerek 28 Dec 82. Feather at Cavus 8 Jul 83. Seyfe Golu 20 Oct 85.

**South-East:** Recorded during breeding season at Birecik 1983-6. Isikli: 16 May 85; adult and juvenile 10 Jul 86.

**East:** Burnubalak (near Patnos) 2 Jun 84. Regularly recorded at Ercek gorge, where pair and 2 recently hatched young 21 May 85. Van 24-25 May 86.

*Strix aluco***Tawny Owl**

Status uncertain. Apparently rather locally distributed resident in small numbers over much of Turkey but apparently absent from most of South-East and all of East. Found in areas of deciduous and coniferous woodland.

**South-East:** Isikli 16 May 85.

*Asio otus***Long-eared Owl**

Status uncertain. Apparently thinly distributed in small numbers across western two-thirds of Turkey in winter. Recorded in breeding season in woodland areas in every region but, except in South-East, only occasionally. Probably more widespread than records suggest.

**Western Anatolia:** Balikeshir Golu 21 May 82. Elek Golu 15 Jun 85. Akyatan Golu (Seyhan/Ceyhan delta) 14 Jan 86.

**Central Plateau:** Seyfe Golu 29 Sept 82.

**South-East:** Pair at Birecik 1982-6, breeding confirmed (pair with 2 young) 10 Jun 83 and 20 May 86 (nest with young).

*Asio flammeus***Short-eared Owl**

Scarce passage migrant and winter visitor in western two-thirds of Turkey. Has bred in Central Plateau and probably East.

**Southern Coastlands:** Akyatan Golu (Seyhan/Ceyhan delta) 10 Oct 82. Goksu delta: 13 Oct 82; 29-30 Oct 85; 11 Mar 86.

**East:** 2, including one in display flight, near Malazgin 9 May 86 (MU *et al.*). Balatos: one in display flight, 10 May 86 (MU *et al.*); 17 Jun 86. Bulanik 9 Jul 86. Sivri Kaya 16 Sep 86.

*Aegolius funereus***Tengmalm's Owl**

Status uncertain. 3 records from widely spaced localities in northern Turkey suggest that this species may be a widely distributed resident in montane coniferous forest in Black Sea Coastlands, adjacent areas of Central Plateau and (in isolated tract of forest) on Uludag in Western Anatolia. This inferred range requires confirmation but, nonetheless, these records are a significant expansion of known range in western Palearctic.

**Black Sea Coastlands:** One day-roosting at c. 3,000 metres at Sivri Kaya 15 Sep 86 (LR, GdS *et al.*).

**Western Anatolia:** No records 1982-6. One seen and calling on Uludag during night of 15-16 Jun 79 (Mertens 1981). First record for Turkey.

**Central Plateau:** No records 1982-6. One heard calling at night 20-27 Jun 81 (observer M. Siering in Baris *et al.* 1984).

*Apus pallidus***Pallid Swift**

Status uncertain. Regular summer visitor in small numbers to Ulüdag (Western Anatolia) and recently found breeding at one site in East. Rarely and locally recorded elsewhere, most often in extreme east Southern Coastlands and adjacent parts of South-East.

**Black Sea Coastlands:** 10–25, Camlica (Istanbul) 23–24 Oct 82.

**Western Anatolia:** About 20 at colony on Uludag 4–5 Sep 84 and c. 50 there 29 May 86.

**South-East:** 3, c. 10 km north of Kilis 2 Apr 85.

**East:** Several pairs nesting, Ishak Pasa Sarayi (Dogubayazit) 22 May 85.

*Apus affinis***Little Swift**

Very local and rather uncommon summer visitor to extreme eastern Southern Coastlands and a few localities in South-East.

**South-East:** Regularly recorded in Birecik and Halfeti areas where maxima of c. 15 pairs and 7 birds respectively. 20, 14 km south of Siirt 8 Jul 86 (RW *et al.*).

*Halcyon smymensis***Smyrna Kingfisher**

Local and generally uncommon resident in coastal lowlands and along rivers in south Western Anatolia and in Southern Coastlands. Rarely recorded from South-East where status unclear. A few records outside known breeding areas suggest limited, perhaps irregular, dispersal within these regions outside breeding season. For review of status and distribution see van den Berk and Kasperek (1988).

**Western Anatolia:** Between Didim and Kusadasi 17 Sep 83.

**Southern Coastlands:** Tarsus area 6 Apr 82. 3, Patara (west of Kas) 26 May 82. 2, Tarsus area 3 May 85. Lamas (south of Erdemli) 12 May 85. 3, Goksu delta 16 Jan 86.

*Ceryle rudis***Pied Kingfisher**

Rather local but not uncommon resident in wetlands and along rivers in coastal lowlands in south Western Anatolia and in Southern Coastlands, extending inland along major rivers. Also found along major rivers in South-East and adjacent parts of East. Some dispersal within these regions outside breeding season. Has occurred in north Western Anatolia.

**Western Anatolia:** Buyuk Menderes delta 27 Apr. Gulluk 30 May 86. Iasos (west of Milas) 29 Oct 86.

**Southern Coastlands:** Regularly recorded throughout breeding season in Silifke/Goksu delta area; birds visiting apparently active nest-hole 12 May 82. Near Tarsus 15 May 85. South of Mut 17 Jan 86. 6 south of Kahramanmaras 8 Jun 86.

**South-East:** Regularly recorded in breeding season along Euphrates and Cizre area of Tigris. Hilvan Apr 82. 2 near Basnik 30 Jun 82. Near Baykan 30 Jun 82. Near Diyarbakir 10 May 85. South of Siirt 8 Jul 86.

*Merops superciliosus***Blue-cheeked Bee-eater**

Local and generally uncommon summer visitor to dry, open country in South-East and adjacent parts of Southern Coastlands. A little more widespread on passage.

**South-East:** Regularly recorded in Birecik area: maximum of c. 60, 29 May 85.

**South-East/East:** 3 between Van and Hakkari (exact locality unclear) 22 Jun 85.

**East:** 2 in Siirt area 21 May 85. 5 between Van and Bulanik 22 May 85. 2, Balatos 10 May 86.

*Jynx torquilla***Wryneck**

Status uncertain. Local summer visitor in small numbers to forested areas of Southern Coastlands and apparently Black Sea Coastlands. Otherwise a rather uncommon passage migrant throughout Turkey. Occasional in winter in south-west and south. Passage obscures breeding status and distribution.

**Black Sea Coastlands:** Ispir 11 May 86.

**Western Anatolia:** Buyuk Menderes delta 25 Jan 86. Near Aydin 28 Apr 86. Bafa Golu 19 Oct 86.

**Southern Coastlands:** Juvenile with traces of down (thus bred locally) c. 60 km north of Akseki 17 Jul 86 (RW *et al.*).

**South-East:** Halfeti 12 Apr 82.

**East:** At least 2, Ardahan 26-27 Aug 86.

*Picus viridis*

**Green Woodpecker**

Fairly local resident in small numbers in both deciduous and coniferous woodland over much of Turkey but very local in interior and apparently absent from most of Central Plateau, South-East and East.

**South-East:** Birecik 16 May 85.

**East:** Near Kusgunkiran pass (near Resadiye) 23 Jul 86 (Schilperoord & Schilperoord-Huisman 1986).

*Dryocopus martius*

**Black Woodpecker**

Local and uncommon resident in montane coniferous forest in Black Sea Coastlands, north Western Anatolia and extreme north of Central Plateau.

**Black Sea Coastlands:** Sumela 28 May 86. Borcka/Ardahan area 23 Sep 86.

**Western Anatolia:** Uludag: up to 2, 6-8 Sep 84; 2, 7 Apr 85; 5-7 Sep 86.

*Dendrocopos leucotos*

**White-backed Woodpecker**

Status uncertain. Apparently rare and very local resident in Black Sea Coastlands, Thrace, Western Anatolia and Southern Coastlands.

**Thrace:** 2, Midye 22 May 83 (Martins & Robson 1988).

**Western Anatolia:** Kocayayla pass (Bursa area) 11 Aug 86 (Schilperoord & Schilperoord-Huisman 1986).

**Southern Coastlands:** About 10 km north of Akseki: 3, 14 Jul 84; 2 (1 heard only), 30 Jun 85; 2 adults with a juvenile 9 Jul 86.

**East:** Borcka 19 Sep 86 (LR *et al.*).

*Ammomanes deserti*

**Desert Lark**

Presumably resident (although no winter records) at one locality in South-East.

**South-East:** Birecik: 3, including a pair, 8-11 Jun 83 was first record for Turkey (Murphy 1984; Martins & Robson 1988). Regularly recorded in breeding season at same site 1984-6, often singing or in pairs, with breeding observations as follows: 2 adults feeding 2 recently fledged juveniles 31 May 84 (SCH, AS, TS); adult with juvenile 18 Jul 86 (JHC, JS); up to 7, including 2 juveniles, 10 Aug 86 (NC, JM); adult and juvenile 17 Aug 86 (LR *et al.*).

*Motacilla citreola*

**Citrine Wagtail**

Status uncertain. Apparently very local summer visitor (recent colonist) to East and perhaps adjacent areas of Black Sea Coastlands. Also recorded, apparently as rare passage migrant, from Southern Coastlands and Central Plateau.

**Southern Coastlands:** Seyhan/Ceyhan delta: 4 and 16 Apr 82.

**Central Plateau:** Todurke Golu 16 May 85.

**East:** Bendimahi (Van Golu): 4 Jul 82; 2, 21 Jun 83; 5 males and 3 females, and nest with 2 eggs, 21 May 85 (KG *et al.*); juvenile 16 Jul 85; pair, 26 May 86; 5 males 16 Jun 86. Bulanik: 25 Jun and different individual 26 Jun 83. Near Caldiran 22 Jun 83. 3, Ardahan 21 Jun 84. Van marshes: female, 8 May 86; juvenile, 9 Sep 86.

*Bombycilla garrulus*

**Waxwing**

Vagrant.

**Western Anatolia:** Aphrodisias 20 Oct 82, substantiated with a note detailing a convincing suite of diagnostic field characters (BBN).

*Prunella ocularis***Radde's Accentor**

Status uncertain. Apparently local and generally uncommon resident or partial migrant in high mountains in East and adjacent parts of Black Sea Coastlands, South-East and Southern Coastlands. Probably more widely distributed than records suggest. On rocky slopes with low scrub, generally above 2,200 metres in summer.

**Black Sea Coastlands:** One singing north of Ispir 11 May 86 (MU *et al.*).

**Southern Coastlands:** Demirkazik: at least 6 plus nest with 4 young 27 May 83 (Martins & Robson 1988); pair feeding young in nest 26 May 85; pair feeding juvenile 16 Jun 85; 26 May 86; adult with juvenile 24 Jul 86; 3 adults with juvenile 25 Aug 86. 4, Cukurbag 29 Jul 85. Near Halfeti: 16 Mar 86; 2, 20–21 Mar 86 (JWB). 9, Emli 6 Sep 86.

**East:** Nemrut Dag (near Tatvan): 4, including fledgling, 8 Jul 86; 22 Aug 86; 27 Sep 86. Baskale: 8 singing, 2–5 Jun 84; 5, 11 Jun 84; at least 5, 7 Aug 86. Pair, Palandoken ski resort (near Erzurum) 28 Apr 86. 3 pairs north of Guzeldere pass at 2,600 metres 16 Jun 86.



Plate 5. Radde's Accentor *Prunella ocularis*, juvenile, Nemrut Dağ, June. (Tom Francis)

*Luscinia luscinia***Thrush Nightingale**

Not uncommon passage migrant, mainly in western two-thirds of Turkey.

**Black Sea Coastlands:** Kilyos 25 Sep 84.

**Western Anatolia:** 5, Sinar delta 8 Sep 84. Bursa 21 Apr 86. One singing, Ephesus 26 Apr 86. 4, Uludag area 5–7 Sep 86. 3, Apolyont Golu 8–9 Sep 86.

**Southern Coastlands:** Goksu delta 8 Apr 85. One singing, Barla (western shore of Egridir Golu) 22 May 86.

**South-East:** Isikli: 2, 7 May 85; 16 May 85. Birecik: one singing, 17 May 85; 2, 5 May 86. 2, Halfeti 26 Jul 85.

*Luscinia svecica***Bluethroat**

Local and generally uncommon summer visitor to high uplands in East and adjacent parts of Black Sea Coastlands and South-East. Uncommon on passage across Turkey. Occasional in winter in coastal areas in western two-thirds of Turkey. Passage obscures breeding status and distribution. Records suggesting breeding are given here.



**Black Sea Coastlands:** South of Kirak 24 May 85. 3 near Askale 27 May 86.

**South-East:** Baskale: 2 pairs, 3 Jun 86; 11 Jun 84; 7 Aug 86.

**East:** 8–10 singing in Aras valley south of Soylemez 13 May 85. 2 males c. 28 km north of Hinis 18 Jun 86. Male, Yoncalik 19 Jun 86. Bulanik 12 Jul 86.

*Oenanthe pleschanka*

### Pied Wheatear

Status uncertain. Formerly believed to be primarily an uncommon passage migrant, mainly through eastern two-thirds of Turkey. However, this assessment now confounded by proposed elevation of race *cyprica*, a migratory endemic breeder on Cyprus, to specific rank (Sluys & van den Berg 1982), a treatment which appears to be gaining increasing acceptance. Recent records of small or moderate numbers of definite and apparent *cyprica* at Goksu delta in Southern Coastlands (see Cyprus Pied Wheatear, below) demonstrate unsurprising occurrence of this form as an overshooting spring migrant on south coast, and thus many previous records of 'Pied Wheatear', particularly in central southern Turkey, may well have been *cyprica*. Status of *cyprica* and the continental form *pleschanka* can only be clarified if observers provide detailed field descriptions for future records. There are old reports of Pied Wheatear breeding in Turkey, but it now seems wiser to discount these—not only in view of regular confusion with other wheatears (especially some Black-eared Wheatears *O. hispanica*), but also because the recent era of radically increased observer activity has produced no further breeding evidence. Records listed below were submitted as *pleschanka* but, on basis of evidence presented, could equally refer to *cyprica*.

**Central Plateau:** Male near Eregli 2 Aug 84 (PB, GdS).

**South-East:** Male 10 km north of Kilis 2 Apr 85 (de Grissac & Beaudoin 1985).

**South-East/East:** At least one, Siirt/Van area (exact locality not specified) 12 Jul 86 (LR, GdS *et al.*) Between Patnos and Dedeli 18 Jul 86.

*Oenanthe pleschanka cyprica*

### Cyprus Pied Wheatear

Apparently regular passage migrant (overshooting breeding range in Cyprus) to coastal localities in Southern Coastlands and perhaps elsewhere (see Pied Wheatear, above).

**Southern Coastlands:** Goksu delta: 'Pied Wheatear' recorded 10 Apr 85 (CAB) seems most likely to be *cyprica*; up to 6 definite *cyprica*, 11–14 Mar 86 (JWB).

*Oenanthe moesta*

### Red-rumped Wheatear

Status uncertain.

**South-East:** Glimmerveen & Hols (1986) offer brief (and inadequate) descriptive details of 4 recent claimed and/or possible records. There are no other reports from Turkey.

*Oenanthe xanthopyrna*

### Red-tailed Wheatear

Status uncertain. Apparently a rare and local summer visitor in small numbers to East and South-East. Recorded on passage in Southern Coastlands. For detailed review of recent records see Kasparek (1986c).

**Southern Coastlands:** Goksu delta 1 May 84.

**South-East:** Yesilce/Isikli: 16 and 19 May 85; male carrying food to nest, 28 May 85; 2, 30 May 85; 1 Jun 85; pair, 25 May 86; pair with 2 young plus 2 singing, 9 Jun 86 (EvdB, RvM, RSche); 6, including some juveniles, 6 Jul 86 (RW *et al.*). Halfeti: 12 Apr 82; 1–2 Apr 83; 20–21 Mar 86. Near Uludere 19 May 85. Suvarihalil pass 19 May 85. Between Hakkari and Beytisebap 20 May 85.

**East:** Nemrut Dag (near Tatvan): 10 and 27 May 83; 22 Aug 86; 3, 27 Sep 86. Pair in Munzur Daglari near Ovacik 19–20 May 82. Between Van and Ercek 23 Sep 86. A probable (most plumage characters seen, but not rump and tail), Palandoken ski resort (near Erzurum) 27–28 Apr 86.

*Cisticola juncidis*

### Fan-tailed Warbler

Normally a local and uncommon resident in lowland areas in south Western Anatolia and in Southern Coastlands. Widely and irregularly recorded from all other regions, apparently in

association with fluctuations in population levels. Numbers have decreased recently.

**Western Anatolia:** Bergama 9 Jul 83. 2, Priene 9 Jul 83. Sinar delta 12 Sep 84. 3, Bafa Golu 15 Sep 84. 2 west of Kusadasi 18 Sep 84. Buyuk Menderes delta 20 Sep 84. South of Kusadasi 24 May 86. Karine 25 May 86.



Plate 6. Ménétries's Warbler *Sylvia mystacea*, male, Birecik, May. (Arnoud B. van den Berg)



Plate 7. Green Warbler *Phylloscopus nitidus*, Çamçavus (Ikizdere, Rize), May. (Arnoud B. van den Berg)



Plate 8. Cinereous Bunting *Emberiza cineracea*, male, Yesilce (Gaziantep), May. (Arnoud B. van den Berg)

**Southern Coastlands:** Seyhan/Ceyhan delta: 5 Apr 82; 5, 10-11 Oct 82. Acigol 18 May 82. Goksu delta: a few, 29 Apr 86; 10, 1-3 Sep. At least 2 north of Karatas 2 May 86.

**East:** West of Ardahan 27 Aug 86.

*Locustella naevia*

**Grasshopper Warbler**

Status uncertain. Apparently rare passage migrant through western two-thirds of Turkey; no evidence of breeding.

**Western Anatolia:** Apolyont Golu 12 Aug 86.

**Southern Coastlands:** Beysehir Golu 18 May 82. Goksu delta: 30 Oct 85; 12-13 Mar 86.

*Locustella fluviatilis*

**River Warbler**

Status uncertain. Apparently rare passage migrant in very small numbers across Turkey. Probably more widespread and frequent than records suggest.

**East:** Van marshes 11 May 85 (AMA *et al.*).

*Locustella luscinioides*

**Savi's Warbler**

Scarce and local summer visitor to wetlands in all regions except South-East. Also very scarce passage migrant across Turkey.

**Black Sea Coastlands:** Kizilirmak delta (Balik Golu) 15 Sep 86.

**Western Anatolia:** Apolyont Golu: 23 Apr 84; 3 singing, 23 Apr 86.

**Southern Coastlands:** Goksu delta: 10 Mar 86; 17 May 86; 2, 4 Jun 86; 2, 10 Jul 86; 27 Jul 86.

**Central Plateau:** Eregli 4 Aug 84. Kulu Golu 5 May 85. 5, Kuguk Aslama (25 km south-west of Hotamis Golu) 30 May 86. Several, Salzpınar (north-west of Hotamis Golu) 5 Jul 86. Sultan marshes: 3, 21-24 May 86; 24-25 Aug 86.

**South-East:** Birecik 8-10 May 85.

**East:** Regularly recorded at Van marshes (latest date 11 Sep), where maximum of 6 singing 18-19 Jun 83, and in Bulanik area where maximum of 7 singing 25 Jun 83.

*Acrocephalus melanopogon*

**Moustached Warbler**

Status uncertain. Apparently local summer visitor in small numbers to wetlands in East, probably on Central Plateau and elsewhere. Otherwise uncommon passage migrant across Turkey, wintering in south and west in fairly small numbers.

**Western Anatolia:** Apolyont Golu 8 Apr 85. Buyuk Menderes delta 24 Jan 86.

**Southern Coastlands:** 2, Karatas 25 May 84. Several, Burdur Golu 20 Jan 86. 4, Ak Golu 10-12 Mar 86.

**Central Plateau:** Kulu Golu 28 Apr 85. Eregli 29 Apr 85. 7, Kuguk Aslama (25 km south-west of Hotamis) 20 May 86. 4, Salzpınar (north-west of Hotamis) 5 Jul 86. 2, Sultan marshes 21-24 and 27 Aug 86. Several, Hotamis 24 Aug 86.

**South-East:** Birecik: 4 Apr 85; 8-10 May 85.

**East:** Regularly recorded at Van marshes (up to 40) and at Bendimahi. 3, Bulanik 25 Jun 83. 4, Ercek Golu 11 May 85.

*Acrocephalus schoenobaenus*

**Sedge Warbler**

Status uncertain. Apparently rather local but not uncommon summer visitor to wetlands on Central Plateau, also in smaller numbers in Black Sea Coastlands, Western Anatolia, South-East, East and perhaps elsewhere. Otherwise rather local and uncommon on passage across Turkey.

**Southern Coastlands:** Mut 21 May 84. Several west of Alanya 13 May 85. Several, Goksu delta 15 May 85.

**Central Plateau:** About 20, Todurke Golu 16 May 85.

**East:** Regularly recorded during breeding season from Van marshes, Bendimahi and Bulanik area. Gevas 18 Jun 83. Several, Ardahan 21-22 Jun 83.

*Acrocephalus agricola***Paddyfield Warbler**

Vagrant? The possibility that this species could become a localized summer visitor cannot be discounted.

**East:** 2–3 singing at Van marshes 8 May 86; 2 were trapped, measured and photographed (van den Berg & Bosman 1988; MU *et al.*).



Plate 9. Paddyfield Warbler *Acrocephalus agricola*, Van marshes, May 1986. (Magnus Ullman)

*Acrocephalus palustris***Marsh Warbler**

Status uncertain. Summer visitor to East and eastern Black Sea Coastlands. Widespread passage migrant, usually in small numbers.

**Black Sea Coastlands:** Regularly recorded in summer at Sivri Kaya. Kizilirmak delta 15 Jul 86.

**Thrace:** 2, including singing male in suitable breeding habitat, Midye 22 May 83.

**Western Anatolia:** About 20, Apolyont Golu 13 Jun 86.

**Southern Coastlands:** Recorded regularly at Goksu delta with exceptional total of 45–50 presumed migrants, including many singing, 6 May 85.

**East:** Regular summer records from Bulanik area.

*Acrocephalus scirpaceus***Reed Warbler**

Local but not uncommon summer visitor to wetlands in Thrace, Western Anatolia, Southern Coastlands, Central Plateau, East and perhaps elsewhere. Recorded in winter in Western Anatolia. Fairly widespread in somewhat larger numbers on passage across Turkey.

**Black Sea Coastlands:** 2, Ispir 26 Jul 85.

**Western Anatolia:** Common at Apolyont Golu 6 Jun 84 and 13 Jun 86. 2, Buyuk Menderes delta 30 May 86.

**Southern Coastlands:** Goksu delta: very common 4 Jun 86; present 5 and 20 Jul 86; 200, 4 Aug 86. 2, Beysehir Golu 24 Jun 82. At least 10, Cavus (26 km south of Antalya) 8 Jul 83.

**Central Plateau:** Hotamis: 5, 21 May 84; 20, 14 Jun 85; 25+, 30 May 86; 20, 4 Jul 86. Eregli Golu: 8, 2–3 Aug 84; several, 19 Jul 86. 5, Eber Golu 25 May 86. Singing, Aksehir Golu 25 May 86. Common, Salzpinar (north-west of Hotamis) 5 Jul 86.

**South-East:** Birecik: 27 Jun 82; 5, 29 May 84.

**East:** Van marshes: 15+, including at least 6 singing, 18–19 Jun 83; up to 6, 12–14 Jul 86; numerous, 2 Aug 86. Bendimahi: 5 Jul 82; common nearby, 16 Jun 86; present, 9 Jul 86. Noted in Murat valley north-west of Bulanik 10 Jul 86.

*Hippolais languida***Upcher's Warbler**

Local and generally uncommon summer visitor to rocky hills and mountainous country in South-East. A little more widespread on passage.

**Black Sea Coastlands:** 3 near Ispir 12 May 86 (MU *et al.*).

**Southern Coastlands:** Regularly recorded singing in small numbers at several sites in Tasucu area in breeding season. 3 near Balandiz 6 May 85.

**South-East:** Regularly recorded in breeding season in Gaziantep area, Halfeti and Birecik (where 40 migrants 8-9 May 85). Suvarihalil pass 19 May 85. Idil 4 May 86.

*Hippolais olivetorum*

#### Olive-tree Warbler

Rather local and generally uncommon summer visitor to Thrace, Western Anatolia and Southern Coastlands. Recorded from western Black Sea Coastlands.

**Thrace:** 2, c. 11 km north of Ecebat 16 May 83. 2 singing at Topkapi Palace (Istanbul) 18 May 86 (MU *et al.*).

**Western Anatolia:** Regularly recorded in small numbers at Ayvacik where breeding confirmed in 83 and 86. Several singing, Mili 2 May 86.

**Southern Coastlands:** Regularly recorded in Akseki area where maximum of 6 singing 28 May 85. About 9 singing, Kovada Golu (south of Egridir) 26 May 86. Silifke area: 12 in hills above town 13 May 85; 15 May 85. One singing at Tasucu 27-29 Jun 86.

**South-East:** At least 1 pair near Gaziantep 8 Jul 86. Birecik 8 Jul 86.

*Hippolais icterina*

#### Icterine Warbler

Status uncertain. Scarce passage migrant and perhaps occasional breeder though confirmation required (one old record). However, apparently no recent evidence to suggest that occasional singing birds, usually in Thrace and north Western Anatolia, are not on passage.

**Black Sea Coastlands:** Istanbul: 21 Jun 82; 2, 11 Sep 86.

**Western Anatolia:** 2, Uludag 11 Sep 83. Ephesus 14 Sep 84. 10km south of Ezine 17 Sep 84. Pergamum 24 Apr 86. Ephesus 26 Apr 86. 2, Afyon Kutalya 5 Sep 86.

**Southern Coastlands:** Karatas 2 May 86.

**South-East:** Near Tuzla 5 Apr 82. Cukurbag 28 Jul 84. Isikli 7 May 85. Seyfe Golu 21-24 Aug 86. Borcka 19 Sep 86.

*Sylvia cantillans*

#### Subalpine Warbler

Fairly widespread and not uncommon summer visitor to western half of Western Anatolia, where southern limit of breeding range unclear, and locally in parts of Thrace. A little more widespread on passage, normally in western two-thirds of Turkey.

**Southern Coastlands:** Male, Akseki 23 May 85.

**South-East:** Birecik: 23 Jul 84; 9-10 Jul 86. Several, Isikli area 12-13 Aug 86.

**East:** 2, Baskale 7 Aug 86 (JM).

*Sylvia mystacea*

#### Ménétries's Warbler

Rather local and uncommon summer visitor to South-East and probably adjacent areas of East. Recorded in spring in Central Plateau and Southern Coastlands.

**South-East:** Near Kilis 2 Apr 85.

*Sylvia melanothorax*

#### Cyprus Warbler

Status uncertain.

**Southern Coastlands:** Male near Anamur 4 Apr 86 (Kasperek 1986d); the published description is indicative of this species, but is not sufficiently detailed to exclude other similar species.

*Sylvia rueppelli*

#### Rüppell's Warbler

Widespread and fairly common summer visitor to Western Anatolia and Southern Coastlands, perhaps also southern Thrace, extreme southern edge of Central Plateau and extreme south-west of South-East. Recorded in summer in western Black Sea Coastlands.

**Western Anatolia:** Erdek: several pairs, 10 Apr 85; 4, 15 May 86.

**Southern Coastlands:** Pair, Akcadag pass 3 Apr 85. About 6 near Bulandiz 6 May 85. 20, Cesme 21-22 May 86. 3, Koprubasi 23 May 86. Present, Egridir Golu 26 May 86.

*Sylvia nisoria***Barred Warbler**

Very local and uncommon summer visitor to all regions. Otherwise uncommon passage migrant across Turkey. Clear evidence of breeding from only an extremely small number of localities; passage obscures breeding status and distribution.

**Black Sea Coastlands:** 4 near Askale 27 May 86.

**Western Anatolia:** Afyon-Kutalya 5 Sep 86.

**Southern Coastlands:** 2, Mut 21 May 84. Antalya 20 May 85. Topbogazi 3 May 86.

**Central Plateau:** Kulu Golu 11 May 85. 3, Sultan marshes 28–29 Aug 86.

**South-East:** Side 5 May 83. Near Bulandiz 6 May 85. 2 singing near Erzincan 15 May 85. Birecik: 5 May 86; 6, 12 Aug 86. 5, Durnalik 14 Aug 86. Isikle/Yesilce: up to 3, 15–16 May 85; 4 May 86; 4, 13 Aug 86.

*Phylloscopus nitidus***Green Warbler**

Locally common summer visitor to deciduous or mixed montane forest, recorded from three areas in Black Sea Coastlands as far west as Abant. No records from extensive parts of this region, but location of known sites suggests that distribution may be continuous throughout this area where suitable habitat exists. Confirmation required. Recorded in East on passage.

**Black Sea Coastlands:** One carrying food 35 km south of Bafra 15 Jul 86 (RW *et al.*). Up to 3 singing 5 km east of Abant Golu 13–14 May 86.

*Phylloscopus bonelli***Bonelli's Warbler**

Local and generally uncommon summer visitor in small numbers to hilly or mountainous areas in western Black Sea Coastlands, fringe of Central Plateau and extreme south-east. May be more widespread than records suggest. A little more widespread on passage when it also occurs in Thrace.

**Western Anatolia:** 2 singing several km south of Ayvacik 27 Jun 82. 12+ near Ayvacik 25–26 Jun 86.

**South-East:** Birecik 13 Apr 82. 2, Halfeti 15 Apr 82. Isikli 19 May 85.

**East:** Near Bulanik 23 May 85.

*Regulus regulus***Goldcrest**

Fairly widespread and fairly common resident or partial migrant in montane coniferous forest in Black Sea Coastlands, more locally in Western Anatolia and Southern Coastlands, and very locally in Thrace and northern fringe of Central Plateau. Somewhat more widespread in these regions and occasionally elsewhere on passage and in winter, when there is some evidence of immigration.

**South-East:** Birecik 17 Mar 86.

*Regulus ignicapillus***Firecrest**

Local and uncommon resident or partial migrant in small numbers in montane mixed and coniferous forest of Black Sea Coastlands and even more locally in Western Anatolia and Southern Coastlands. A little more widespread on passage and in winter, when it also occurs in Thrace and Central Plateau. Probably some immigration in winter.

**Black Sea Coastlands:** Up to 2 singing near Abant Golu 13–14 May 86.

*Muscicapa striata***Spotted Flycatcher**

Status uncertain. Apparently local and uncommon summer visitor to deciduous woodland in Black Sea Coastlands, Thrace, north Western Anatolia and Central Plateau, but perhaps more common and widely distributed. Fairly common or locally numerous on passage across Turkey. Passage obscures breeding status and distribution.

**Central Plateau:** Some, Guzelor 30 Jul 86.

**South-East:** Between Simak and Siirt 8 Jul 86.

**East:** 3 juveniles, Van 6 Aug 86.

*Ficedula parva***Red-breasted Flycatcher**

Scarce summer visitor to montane deciduous forests in Black Sea Coastlands; further records required to clarify range. Otherwise fairly widespread and locally common autumn passage migrant along Black Sea coast, generally uncommon or scarce elsewhere. Rare on spring passage across Turkey.

**Black Sea Coastlands:** Sumela: 4 Jul 83; 1-2 carrying food, 13 Jun 85. 3, including 1 singing, 5 km east of Abant Golu 13-14 May 85. Ispir: 12 May 86; 30 May 86. Istanbul 16 May 86.

**Central Plateau:** 2, Sultan marshes 30 Sep 82. Mucur 30 Sep 82.

**South-East:** Birecik 17 Apr 86.

*Ficedula semitorquata***Semi-collared Flycatcher**

Status unclear due to fact that this species was formerly considered a race of Collared Flycatcher. Apparently a scarce summer visitor locally distributed in parts of eastern Black Sea Coastlands and perhaps northern Thrace, East, Central Plateau and east Southern Coastlands. May be more widespread. May also occur on passage.

**Black Sea Coastlands:** Ispir: female, 5 Jul 84; male, 10 Jun 85; 7, 12 May 86; 30 May 86; pair 6 km to north-west 19 Jun 86; female with 3 juveniles, 25-26 Jul 86. Abant Golu 13 May 86. Male, Yoncalik 19 Jun 86. 17 km east of Gumushane 20 Jun 86. 4 km east of Gumushane 20 Jun 86. At least 4, 106 km south of Ispir 10 Jul 86.

**Thrace:** Male, Midye 22 May 83.

**Western Anatolia:** Male, Manyas Golu 1 Sep 84.

**Southern Coastlands:** 4, Karatas 2 May 86. Male, Topbogazi 3 May 86. Near Demirkazik 25 Jul 86.

**Central Plateau:** Male and 2 juveniles, Gorome 20 Jul 86. About 4, Avanos 28 Jul 86. At least 10, Guzelor 30 Jul 86. Koprucoren 9 Aug 86.

**South-East:** Male, Elmaci (Catak gorge) 20 Jun 83. 2, Birecik 4 Apr 85. 2 between Urfa and Harran 19 Mar 86. Male, Isikli 4 May 86. 2, Encinli 5 May 86.

**East:** Pair with 3 juveniles, outskirts of Van 2 Aug 86. 3 juveniles, Van 6 Aug 86. Baskale 7 Aug 86.

*Ficedula albicollis***Collared Flycatcher**

Status unclear (see comments under Semi-collared Flycatcher). Apparently rather uncommon passage migrant across Turkey.

*F. semitorquata/albicollis* **Semi-collared/Collared Flycatcher**

Some of the following records may relate to Semi-collared Flycatcher, as the observers did not record that species during travels in Turkey, only reporting Collared Flycatcher. They are thus included here for completeness. Meaningful interpretation of their significance must await a more extensive series of definite records of Collared Flycatcher.

**Black Sea Coastlands:** Camlica (Istanbul): 3, 30 Aug 84; 31 Aug 84.

**Western Anatolia:** Uludag: 6 Sep 84; 2, 7 Sep 84.

**Southern Coastlands:** Male, Akcadag pass 3 Apr 85.

**Central Plateau:** Male, 100 km south of Ankara 6 Apr 85. Male, Mamasim Baraji 6 Apr 85.

**South-East:** Birecik 4 Apr 85.

*Ficedula hypoleuca***Pied Flycatcher**

Status partly unclear due to problems in separating this species from other 'pied' flycatchers. Apparently an uncommon passage migrant in small numbers across Turkey.

**Southern Coastlands:** Goksu delta 11 Mar 86 is an early record.

*Panurus biarmicus***Bearded Tit**

Local resident or partial migrant in all regions except South-East. Wanders outside breeding season across Turkey. Some immigration may occur.

**Black Sea Coastlands:** Present, Kizilirmak delta 16 Jul 86.

**Southern Coastlands:** Pair, Seyhan/Ceyhan delta 5 Apr 82. 2, Karamik marsh 24 May 82. Goksu delta: 18 May 85; 4, 27–29 May 86; 12, 20 Aug 86.

**East:** Bulanik 25 Jun 83. Van marshes: 3, 18–19 Jun 83; male 22 May 85; 4, 8 May 86; 9 Jul 86; 14 Jul 86; c. 20, 2 Aug 86.

*Sitta tephronota*

**Eastern Rock Nuthatch**

Local and uncommon resident in small numbers in South-East (and perhaps in adjacent parts of Southern Coastlands) and East. Occurs together with Rock Nuthatch in at least some locations. Further clarification of distribution required.

**South-East:** Regularly recorded at Yesilce/Isikle as follows: 14, 8 Jun 83; family party, 1 Jun 84; 4, 16 May 85; 2, 17 May 85; pair feeding young, 19 May 85; up to 5, 28 May 85; 10, 6 Jun 86; 5, 9 Jun 86; 2, 6 Jul 86; 2, 11 Jul 86; 12 Aug 86; c. 10, 13 Aug 86; locally common, 1–2 Oct 86. Records from nearby or, perhaps, exactly the same area: 30 km north-west of Gaziantep 11 Apr 82; up to 5, 'near Gaziantep' 28–30 May 84; 2, 'near Gaziantep' 21 Mar 86; at least 5, north-west of Gaziantep 1 Jun 86. 3 between Cizre and Sirnak 16 Jun 83. Dimalik (north-west of Gaziantep): 30 Jun 84; 4, 14 Aug 86. Halfeti: at least 12, 15 Apr 82; 3, 26 Jul 84; c. 6, 9 May 85; at least 10, 16–18 Mar 86; 10, plus 5 more to south, 12 Jun 86; 3, 17 Jul 86. 2, 15 km north of Cizre 6 May 86.

*Sitta neumayer*

**Rock Nuthatch**

Widespread and common resident over most of Turkey, but rather local in Black Sea Coastlands and apparently absent from Thrace. The following records are from localities where range may, or is known to, overlap with Eastern Rock Nuthatch.

**South-East:** Yesilce/Isikle: 2, 30 Jun 84; 3, 7 May 85; 16–17 May 85; at least 15, 28 May 85; 4 May 86; 21 May 86; 2, 1 Jun 86; 9 Jun 86; at least 3, 6 Jul 86; 5, 11 Jul 86; 5, 12 Aug 86; present, 1–2 Oct 86. Recorded 'near Gaziantep' 28 and 30 May 84, with several elsewhere but nearby 30 Jun 84. At or near Halfeti: at least 10, 26 Jul 84; present, 16–18 Mar 86. North of Halfeti: pair, 12 Jun 86; 10, 17 Jul 86.

*Tichodroma muraria*

**Wallcreeper**

Rather local and uncommon resident and partial migrant in high mountains of eastern Black Sea Coastlands, Southern Coastlands, South-East and southern fringe of Central Plateau. May well occur more widely and commonly than records suggest. Found in precipitous places at high altitudes in breeding season. Disperses more widely in winter, occurring down to sea level.

**Southern Coastlands:** Urfa 12 Mar 86. 2–3, Cennet-Cehennem 13 Mar 86. Silifke 14 Mar 86. 3–4, Aladag 25 Jul 86.

**South-East:** Halfeti 20 Mar 85. Birecik 15–16 May 85.

*Certhia familiaris*

**Treecreeper**

Rather local and uncommon resident in forested areas of Black Sea Coastlands, northern Thrace, north Western Anatolia and northern fringe of Central Plateau and East. Appears to overlap to some extent with Short-toed Treecreeper though generally occurring at higher altitudes. Reported from Southern Coastlands in autumn, but this requires confirmation. Confusion with Short-toed Treecreeper appears to be commonplace amongst observers.

**Thrace:** Kiyikoy 8 Jun 84.

*Certhia brachydactyla*

**Short-toed Treecreeper**

Status uncertain. Apparently rather local but not uncommon resident in wooded areas in western two-thirds of Turkey, but very local on Central Plateau, seeming to occur up to considerable altitudes and to overlap with Treecreeper in north and north-west, perhaps elsewhere. Apparently absent from eastern Black Sea Coastlands, South-East and East.

**Thrace:** Midye: 3–4, 22 May 83; 26 Jun 84.

**Southern Coastlands:** Present, Aksu 24–25 May 85. Kovada Golu 26 May 86.



**Central Plateau:** 3, Sultan marshes 21-24 Aug 86.

*Remiz pendulinus*

### Penduline Tit

Fairly widespread and locally common resident or partial migrant in Thrace and Western Anatolia, locally also in Black Sea Coastlands, Southern Coastlands, Central Plateau, East and extreme eastern South-East. More widespread outside breeding season when dispersal and possibly some immigration occur.

**Black Sea Coastlands:** Pair, Yoncalik 11 May 86. At least one, 106 km south of Ispir 10 Jul 86.

**Western Anatolia:** Pair nesting at Milas 30 May 86.

**Southern Coastlands:** Goksu delta: pair, Ak Golu 6 May 85; 37, 27 Jul 86; 20, 20 Aug 86. 3, Dinar (south of Isparta) 20 May 86. Hoyran Golu 21 May 86. 2, Egridir Golu 26 May 86. Elek Golu 7 Jun 86. 2 west of Beysehir Golu 4 Jul 86. 8 near Demirkazik 27 Jul 86.

**Central Plateau:** At least 10, Salzpinar 5 Jul 86. 2, Eregli 18 Jul 86. At least 10, Sultan marshes 27 Jul 86. 8 at Eregli Golu and 30+ elsewhere at Eregli 2-3 Aug 86. At least 20, Cavuscu Golu 6 Aug 86.

**East:** Van marshes: pair nest-building 23 May 85; 3 juveniles, 6 Aug 86. 2 nesting near Hacli Golu 23 May 85. Aras valley south of Soylemez 13 May 85. 3, Bendimahi 3 Aug 86.

*Lanius minor*

### Lesser Grey Shrike

Fairly local and rather uncommon summer visitor to Central Plateau and East, even more locally to western Black Sea Coastlands, Thrace, Western Anatolia, northern fringe of Southern Coastlands and eastern South-East. Widespread through Turkey in much larger numbers on passage.

**Black Sea Coastlands:** Between Sivri Kaya and Erzurum 10 Jul 86.

**Thrace:** Midye 22 May 83.

**South-East:** Nemrut Dagi 30 Jun 82. 5, Birecik 23 Jul 84. Between Birecik and Cizre 7 Jul 86. 4, including 1 immature, north of Cizre 8 Jul 86.

*Lanius senator*

### Woodchat Shrike

Fairly widespread and not uncommon summer visitor to Western Anatolia, locally also Thrace, Southern Coastlands, South-East, probably adjacent parts of Central Plateau and possibly elsewhere. More widespread across much of Turkey on passage, especially in spring.

**Black Sea Coastlands:** East of Istanbul 21 Jun 85.

**East:** Between Van and Bitlis 14 Jul 86.

*Corvus ruficollis*

### Brown-necked Raven

Vagrant. The possibility of confusion with Raven should be noted: Ravens in the Middle East may show brown on neck, and in parts of Iran the two species apparently interbreed.

**South-East:** 7, Cizre 9 Jul 85 (Jakobsen 1986). First record for Turkey.

*Passer hispaniolensis*

### Spanish Sparrow

Widespread and common summer visitor to Thrace and most of Western Anatolia, more locally in western Black Sea Coastlands, Southern Coastlands, Central Plateau, South-East and perhaps East. Locally occurs in even larger numbers. Generally found in lowland agricultural areas, but in similar habitat at higher altitudes inland. A little more widespread on passage. Occasionally recorded in winter in west, south and on Central Plateau, rarely in quite large numbers.

**Black Sea Coastlands:** Present north of Erzurum 14 Jul 86.

*Passer montanus*

### Tree Sparrow

Status uncertain. Apparently rather local resident or partial migrant in Black Sea Coastlands, Thrace, parts of Central Plateau and adjacent parts of Southern Coastlands. Generally in small or moderate numbers. Somewhat more widespread and more numerous in winter, especially

in west and south.

**Southern Coastlands:** Silifke 8 Apr 82.

**South-East:** Isikli 28 May 86.

*Petronia xanthocollis*

### Yellow-throated Sparrow

Scarce and local summer visitor to South-East; apparently spreading.

**South-East:** Regularly recorded from Birecik area, 5 May to 7 Jul, with maximum count of at least 10, 29 May 84; 2 adults feeding juvenile, 7 Jul 86. At least 6, Cizre 19 May 85. Halfeti area: 2, 9 May 85; 6, 12 Jun 86.

*Petronia brachydactyla*

### Pale Rock Sparrow

Local and usually rather uncommon summer visitor (occasionally in larger numbers) to parts of South-East and immediately adjacent parts of Southern Coastlands and East. Found in both open grassland and on partly scrub-covered, rocky slopes, or in vineyards and other crops. Arrives late, apparently in variable numbers. Evidence suggests that breeding range in Turkey may vary with seasonal conditions and/or as function of apparently irruptive or semi-nomadic movements (the species may be common at a particular site in one year, absent the next). Status and distribution need clarification.

**Southern Coastlands:** Belen pass 10 Apr 82 was earliest record during 1982–6.

**South-East:** Idil area, where records suggest that breeding occurs regularly: 7, 6–8 km east of Idil 15 Jun 83 when singing and territorial behaviour observed (CM, RPM, CRR); 5 near Idil 18 May 85; many, 6 km south-east of Idil 21 May 85. Birecik: up to 25, 28–31 May 84; 5, 15–16 May 85; 2, 30–31 May 85; 7 Jul 86. Yesilce/Isikli area: 3, 28 May 85; 1 Jun 86; Isikli 6 Jul 86. 50 near Gaziantep 28 and 30 May 84. 2, Halfeti 26 Jul 84. 3 between Cizre and Simak 18 May 85.

*Carduelis spinus*

### Siskin

Very local resident or partial migrant in very small numbers in montane forests in Black Sea Coastlands and north Western Anatolia, possibly elsewhere. Otherwise not uncommon on passage in western two-thirds of Turkey, wintering mainly in west and south. Locally found in quite large numbers.

**Black Sea Coastlands:** Sivri Kaya: at least 10 and many heard, 1 Jul 83; 3, 5 Jun 84; 3, 11–12 Jun 85; 4, 21 Jun 86; several, 26 Jul 86. Present, Ispir 24–26 May 85. Up to 7, 5 km east of Abant Golu 14 May 86. Ikizdere 8 Jul 86. Rize 9 Jul 86.

**Southern Coastlands:** Present, 8 km north of Akseki 29 May 85.

*Loxia curvirostra*

### Crossbill

Rather local but not uncommon resident in montane coniferous forest in parts of Black Sea Coastlands, northern parts of Western Anatolia and Central Plateau, and Southern Coastlands. Occurs more widely during irruptive movements. Some spring records from other parts of Turkey might refer to breeding birds.

**Black Sea Coastlands:** Bolu Dag 23 Jun 82. 3, Camlica (Istanbul) 25 Sep 83. Present south of Sinop (near Dranoz) 6 Oct 84. 3, Cataltepe pass (north of Kastamonu) 7 Oct 84.

**Southern Coastlands:** Pozanti: 6, 29 May 83; 31 Aug 86. At least 10 north-west of Salda Golu 22 Sep 84. Present, Sertavul pass 28 Apr 86. Breeding south-east of Egridir 24–25 May.

*Rhodospiza obsoleta*

### Desert Finch

Local resident in small numbers in cultivated areas and arid country in South-East and immediately adjacent parts of Southern Coastlands.

**South-East:** Small numbers regularly recorded from localities in Gaziantep area during 1982–6 including breeding records from Yesilce/Isikle: nest with 2 chicks 16 May 85; empty nest (at Isikli) 4 May 86. Regularly recorded during 1982–6 in Birecik area north to Halfeti (where maximum count of 12) with high counts at Birecik as follows: 17, 22–25 Jul 84; 25, 30–31 May 85; 75+, 15 Jul 86. 2, c. 10 km north of Kilis 2 Apr 85. 4, Bolatlar (near Akcakale) 21 May 85. 5, Adyaman 26 May 85. At least 10, Duralik 14 Aug 86.

*Bucanetes githagineus***Trumpeter Finch**

Status uncertain. Probably rare summer visitor, recorded from Southern Coastlands, South-East and East; occurrence perhaps due more to nomadic than strictly seasonal movements. Has bred. For other, previously unpublished, records outside period 1982-6, see Krieger (1988).

**South-East:** No records during 1982-6. 7, including 5 juveniles, 5 km south of Buyuk Araptar 28 Jun 1977 (CDRH). This is the 1977 record cited in Krieger (1988) where location is given incorrectly as Birecik area.

*Carpodacus erythrinus***Scarlet Rosefinch**

Rather local but not uncommon summer visitor to Black Sea Coastlands and more locally in northern parts of Western Anatolia, Central Plateau, East and perhaps Thrace. Usually found in mixed forests at moderate or high altitudes. Occasionally recorded elsewhere on passage.

**Thrace:** Singing, Midye 23 May 83.

**Southern Coastlands:** 3, Tarsus 3 May 85.

**Central Plateau/Southern Coastlands:** 4, Topuzdagi 7 May 85.

*Coccothraustes coccothraustes***Hawfinch**

Local and uncommon resident in deciduous woodland in Thrace, northernmost part of Western Anatolia and perhaps elsewhere. Occurs more widely and in larger numbers as passage migrant across Turkey and as winter visitor across western two-thirds.

**Western Anatolia:** Denizkent 15 May 86.

**Central Plateau:** 2, Sogusku 13 May 86.

*Emberiza leucocephalos***Pine Bunting**

Vagrant. For discussion of some historical records see Kasparek (1986e).

*Emberiza citrinella***Yellowhammer**

Status uncertain. Reported to have bred in north-west where perhaps resident in very small numbers, though confirmation required. Otherwise rather local and generally uncommon passage migrant across Turkey, wintering in western two-thirds.

**Thrace:** Kiyikoy 8 Jun 84.

**Western Anatolia:** Uludag 7 Apr 85. Near Pazaryeri 23 Jun 86.

**Southern Coastlands:** At least 20 near Yesilova 21 Jan 86.

*Emberiza cineracea***Cinereous Bunting**

Very local and scarce summer visitor to scrub-covered slopes in uplands in Western Anatolia, fringe of Central Plateau, Southern Coastlands, South-East and East. Recorded in spring on south coast. May be more widespread than records suggest.

**Western Anatolia:** Pergamon: 2, 2 May 83; singing, 12-13 Jun 85. Pair, Bafa Golu about 20 May 86.

**Southern Coastlands:** South of Akseki 12 May 85.

**Central Plateau:** 5, Guzelyurt/Ihlara 28 Aug 86.

**South-East:** Regularly recorded in Gaziantep area (particularly at Yesilce/Isikle) throughout 1982-6 with maximum counts as follows: 15+, 16 May 85; at least 8, 28 May 85; c. 20, 13 Aug 86. Halfeti: 6, 12 Apr 82; 2, 9 May 85. 2, 10 km north of Kilis 2 Apr 85. 2 between Birecik and Cizre 18 May 85.

**East:** Nemrut Dagi 8 Jul 86.

*Emberiza caesia***Cretzschmar's Bunting**

Fairly widespread summer visitor particularly in southern and western parts of Western Anatolia, Southern Coastlands and perhaps locally in Thrace. A little more widespread on passage. Recorded in summer in western Black Sea Coastlands.

**Western Anatolia:** Singing, Erdek 15 May 86.

**Southern Coastlands:** 2, Cukurbag 28 Jul 84.

**South-East:** Singing, Simak 6 May 86.

*Emberiza schoeniclus*

**Reed Bunting**

Local resident in moderate numbers in wetlands of Black Sea Coastlands, Central Plateau, East and perhaps Western Anatolia; breeding birds are perhaps of one or more of the intermediate/thick-billed race(s), *intermedia*, *reiseri* and *caspia*. More widespread on passage, wintering in wetlands in western two-thirds of Turkey, generally in moderate numbers; most immigrants appear to be of thin- or intermediate-billed race(s).

**Western Anatolia:** 2 near Bafa Golu 24 May 86.

**East:** Van marshes: at least 10, 18–19 Jun 83; at least 3, 11 and 23 May 85; common, 8 and 25 May 86; adult with juvenile, 14 Jul 86. At least 3, Bendimahi 21 May 85. Bulanik: 15+, 25 Jun 83; common, about 27 May 86.

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## REFERENCES

- BARIŞ, S., AKÇAKAYA, R. & BILGIN, C. 1984. The birds of Kizilcahamam. *Birds of Turkey* 3. Kasperek, Heidelberg.
- BEAMAN, M. 1986. Turkey: bird report 1976-1981. *Sandgrouse* 8: 1-41.
- BEZZEL, E. 1986. Lesser Sandplover, *Charadrius mongolus*, in Turkey. *Zool. Middle East* 1: 24-6.
- BIJLSMA, R. G. & DE RODER, F. E. 1986. Notes on the birds of some wetlands in Turkey. *WIWO Rep.* 12. Zeist.
- BOESSRECK, J. 1987. Frühbronzezeitliche Knochenfunde des Nonnenkranichs (*Grus leucogeranus*) aus der Südosttürkei. *Ökol. Vögel*. 9: 127-9.
- BOUWMAN, R. G. 1987. Crab Plover in Turkey in July 1986. *Dutch Birding* 9: 65-7.
- BÄRUNING, C. 1984. Wilson wassertreter (Phalaropus tricolor) in der Türkei. *Orn. Mitt.* 36: 139.
- COLLAR, N. J. & ANDREW, P. 1988. Birds to watch: the ICBP world checklist of threatened birds. *ICBP Tech. Publ.* 8. Cambridge.
- DAVIDSON, N. 1985. A possible hybrid Common Crane × Siberian White Crane in Turkey. *OSME Bull.* 15: 1-3.
- DE GRISSAC, P. & BEAUDOIN, C. 1985. Turkey, 1985 3 Mar.-12 Apr. *Groupe Orn. Loire Atlantique Bull.* 5: 75-103.
- DIJKSEN, L. & KASPAREK, M. 1985. The birds of the Kizilirmak delta. *Birds of Turkey* 4. Kasperek, Heidelberg.
- DIJKSEN, L. J. & KONING, F. 1986. Mid-winter waterfowl census, Turkey 1986, with a review of previous counts. *WIWO Rep.* 13. Zeist.
- GLIMMERVEEN, U. & HOLS, H. 1986. Red-rumped Wheatear, *Oenanthe moesta*, in Turkey. *Zool. Middle East* 1: 26-8.
- GORIUP, P. & PARR, D. 1985. Results of the ICBP bustard survey in Turkey, 1981. *Bustard Stud.* 2: 77-97.
- GLUTZ VON BLOTZHEIM, U. N. & BAUER, K. M. 1982. *Handbüch der Vögel Mitteleuropas* Vol. 8/I. Akademische, Wiesbaden.
- GRIMMETT, R. F. A. & JONES, T. A. 1989. Important bird areas in Europe. *ICBP Tech. Publ.* 9. Cambridge.
- HARRAP, S. 1987. Comments on historical records of the Siberian White Crane in Turkey. *OSME Bull.* 19: 18-19.
- HARRAP, S. & MARTINS, R. 1986. Turkish Bird Report: notes for contributors. *OSME Bull.* 17: 37-43.
- JAKOBSEN, O. 1986. Occurrence of Brown-necked Raven, *Corvus ruficollis*, at Cizre in eastern Turkey. *Zool. Middle East* 1: 32-3.
- KASPAREK, M. 1985. *Die Sultanssümpfe: Naturgeschichte eines Vogelparadieses in Anatolien*. Kasperek, Heidelberg.
- KASPAREK, M. 1986a. On the occurrence of the Bittern, *Botaurus stellaris*, in Turkey. *Zool. Middle East* 1: 33-41.

- KASPAREK, M. 1986b. On the distribution and systematic position of the Barn Owl, *Tyto alba*, in Turkey and adjacent areas. *Zool. Middle East* 1: 44–51.
- KASPAREK, M. 1986c. New records of the Red-tailed Wheatear, *Oenanthe xanthopyrma*, in Turkey. *Zool. Middle East* 1: 51–4.
- KASPAREK, M. 1986d. The Cyprus Warbler, *Sylvia melanothorax*, recorded in Turkey. *Zool. Middle East* 1: 54–6.
- KASPAREK, M. 1986e. On records of the Pine Bunting, *Emberiza leucocephalos*, in Turkey from the last century. *Zool. Middle East* 1: 56–9.
- KASPAREK, M. 1987a. Historical records of the Siberian White Crane in Turkey. *OSME Bull.* 18: 4–5.
- KASPAREK, M. 1987b. The birds of Kulu Gölü. *Birds of Turkey* 5. Kasperek, Heidelberg.
- KASPAREK, M. 1988. The Demoiselle Crane, *Anthropoides virgo*, in Turkey: distribution and population of a highly endangered species. *Zool. Middle East* 2: 31–8.
- KASPAREK, M. in press. Status and distribution of Great Bustard and Little Bustard in Turkey. *Bustard Stud.*
- KASPAREK, M. & RISTOW, D. 1986. On the occurrence of Eleonora's Falcon, *Falco eleonora*, in Turkey. *Zool. Middle East* 1: 60–9.
- KASPAREK, M. & VAN DER VEN, J. 1983. The birds of Ercek Gölü. *Birds of Turkey* 1. Kasperek, Heidelberg.
- KRIEGER, H. 1988. The Trumpeter Finch, *Bucanetes githagineus*, in Turkey. *Zool. Middle East* 2: 43–5.
- KUMERLOEVE, H. 1963. L'avifaune du Lac d'Antioche (Amik Gölü-Göl Başı) et de ses alentours. *Alauda* 31: 110–36, 161–211.
- KUMERLOEVE, H. 1986. Sur la présence de la chouette effraye *Tyto alba* (Scopoli 1769) en Turquie. *Alauda* 54: 263–7.
- KUMERLOEVE, H. 1989. Zum Vorkommen des Nimmersatts (*Mycteria ibis*) im Vorderen/Mittleren Orient. *Orn. Mitt.* 41: 22.
- MARTINS, R. & ROBSON, C. 1988. Selected bird observations from Turkey: spring and summer 1983. *OSME Bull.* 20: 11–20.
- MEININGER, P. & SORENSEN, U. G. 1986. The occurrence of skuas (Stercorariidae) in the Middle East, with special reference to Egypt and the northern Red Sea. *Vogelwarte* 97: 139–45.
- MERTENS, R. 1981. Erstnachweis des Rauhfusskauzes (*Aegolius funereus*) für die Türkei. *Vogelwelt* 102: 30–1.
- MURPHY, C. 1984. Recent trips to eastern Turkey. *OSME Bull.* 13: 8–12.
- SCHILPEROORD, L. & SCHILPEROORD-HUISMAN, M. 1986. Observations of waterbirds in some wetlands in Turkey July/August 1986. *WIWO Rep.* 14. Zeist.
- SLUYS, R. & VAN DEN BERG, M. 1982. On the specific status of the Cyprus Pied Wheatear *Oenanthe cyprica*. *Ornis Scand.* 13: 123–8.
- VAN DEN BERG, A., BISON, P. & KASPAREK, M. 1988. Striated Scops Owl in Turkey. *Dutch Birding* 10: 161–6.
- VAN DEN BERG, A. B. & BOSMAN, C. A. W. 1988. Paddyfield Warbler, *Acrocephalus agricola*, at Van Gölü, eastern Turkey. *Zool. Middle East* 2: 16–18.
- VAN DEN BERK, V. 1988. The Black Francolin in Turkey. *Sandgrouse* 10: 51–7.
- VAN DEN BERK, V. & KASPAREK, M. 1988. The White-breasted Kingfisher, *Halcyon smymensis*, in Turkey: on the occurrence of an endangered species. *Zool. Middle East* 2: 19–25.
- VAN DEN BERK, V., VAN DEN BERK, N., BIJLSMA, R. G. & DE RODER, F. E. 1983. *The importance of some wetlands in Turkey as transient and wintering areas for waterbirds.* Zwolle.
- VAN DEN BERK, V., VAN DORP, D., VAN HOORN, O. & VOS, R. 1986. Cranes and waterfowl counts of some Turkish wetlands October–November 1985. *WIWO Rep.* 10. Zeist.
- WALTERS, M. 1988. [Letter]. *OSME Bull.* 20: 44.

WITT, H. H. 1976. Beobachtungen zum Vorkommen und zur Brut einiger Non-Passerer an der türkischen Südküste bei Silifke. *Vogelwelt* 97: 139-45.

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# TURKEY'S BIRD HABITATS AND ORNITHOLOGICAL IMPORTANCE\*

by

**Y. Sancar Bariş**

This paper seeks to emphasize Turkey's ornithological importance by reviewing the general nature of the country's geography, bird habitats, land use and avifauna and by enumerating the endangered or vulnerable species that breed and/or winter in Turkey or migrate through the country.

## GEOGRAPHICAL REGIONS

Turkey may be divided into seven major geographical regions, differing in their climate and topography and consequently in their fauna and flora: Marmara, Black Sea, Aegean, Mediterranean, Central Anatolia, Eastern Anatolia and South-east Anatolia (Figure 1). Each region can be further divided into sub-regions and districts (Erol 1982). (For alternative, but broadly similar system of divisions, see Beaman 1986 and Martins 1989.)

### **Topography**

Mountains, high plateaux and steppes comprise almost the entire eastern half of the country, with the Pontic mountains in the north and the Taurus mountains in the south perhaps forming Turkey's most outstanding topographical features. Low plains, often interspersed with hilly areas, are restricted to river deltas and valleys and to the geologically old areas of north-west Turkey and Central Anatolia. In lowland areas, the land is divided by numerous rivers and streams which form flat and fertile river-beds and extensive deltas at the river mouths. Freshwater, salty and brackish lakes are widespread throughout Turkey.

### **Climate**

Turkey lies in the subtropical climatic zone but a wide variety of climatic regimes are found within the country in accordance with variations in, for example, altitude and distance from the sea. The Aegean and Mediterranean coasts have a typically Mediterranean climate with hot dry summers and mild rainy winters; temperatures rarely fall below 0°C and snow is exceptional. The northerly Marmara region has a more humid Mediterranean climate which becomes even more humid towards the Black Sea coast. Due to precipitation levels which vary little through the year, the Black Sea region has milder summer and winter extremes and the average annual rainfall increases from 450 mm in the western parts to 2,350 mm in the eastern coastal regions. In both the Black Sea and the Mediterranean regions, as one proceeds inland, the climate becomes cooler and humidity increases with the increasing altitude. Descending from the mountains to the plateau of Central Anatolia the steppe-inland climate becomes predominant, characterized by cold winters and hot summers with extremes of -40°C and 40°C; the dry season is long and the main precipitation is limited to spring and autumn. Eastern Anatolia is a mountainous plateau with an average altitude of 2,000 metres and the climate resembles that of Central Anatolia but is even more extreme. Long and very cold winters with temperatures down to -40°C are typical. In South-east Anatolia a semi-arid Mediterranean climate dominates, with a summer maximum temperature of 46°C and very low precipitation (Nuhrat & Ortac 1984).

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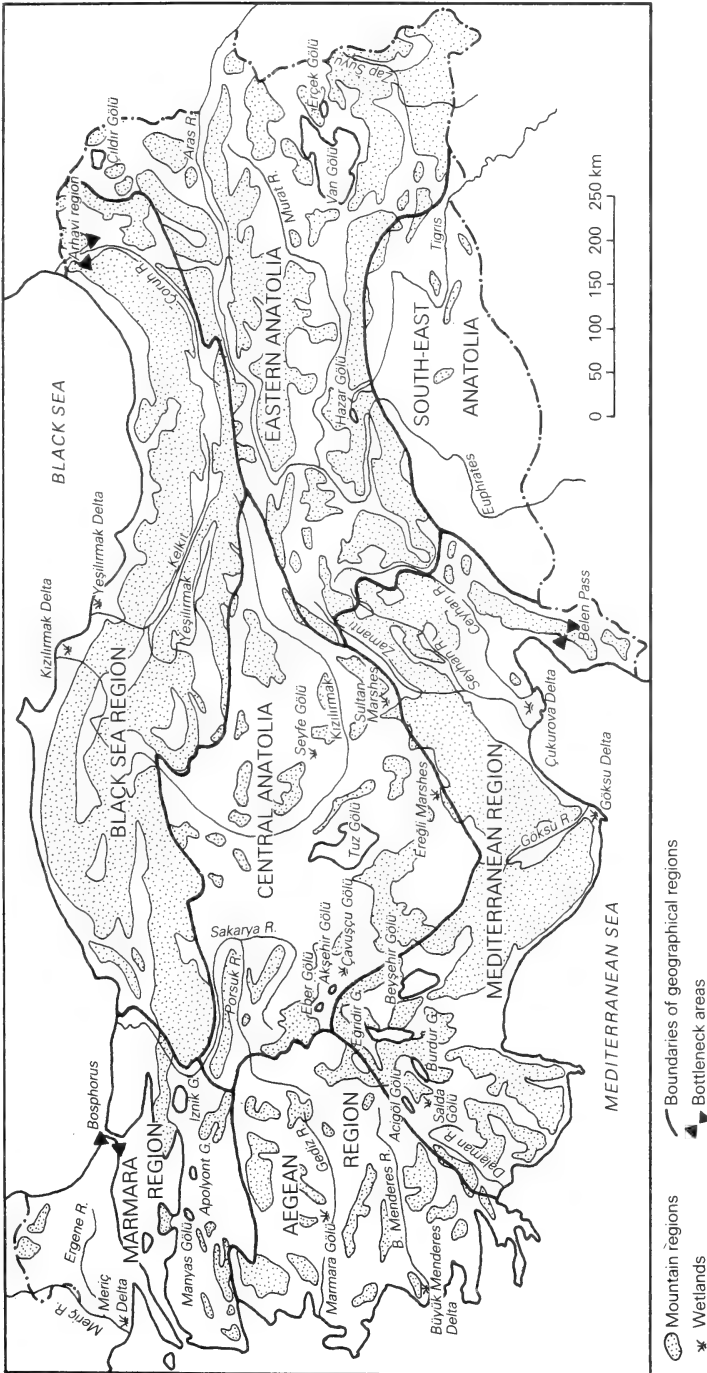


Figure 1. Geographical regions and key geographical features of Turkey.

## HABITATS

The main bird habitats in Turkey can be divided into eight groups: alpine, coastal, forest, steppe/grassland, agricultural land, wetlands, semi-desert and urban (Figure 2).

The **Alpine** habitats are mainly confined to the high peaks of the Taurus in the Mediterranean region, the Pontic Alps in the eastern Black Sea region and to mountain summits in Eastern Anatolia.

The **Coastal** habitats include Mediterranean maquis and garigue following the river valleys and plains extending inland from the coast in the Aegean and Mediterranean regions. Similar vegetation is also found on the narrow Black Sea coastal strip. Cliffs and sandy or shingle beaches are widely encountered on all coasts.

Once widespread, **Forests** are now mainly confined to the higher and more remote parts of the country, extensive areas having been destroyed as a result of demand for new agricultural land. Natural forests are restricted to northern Thrace in the Marmara region, to the Pontic and Taurus mountains and to a few highland areas in Eastern Anatolia. Black Sea and Thracian forests have a rich undergrowth and are characterized by beech *Fagus* at lower altitudes, accompanied or replaced by fir *Abies* and spruce *Picea* at higher levels. In the eastern Black Sea region, due to the high precipitation, this beech complex is even more dense and rich and forms a remarkable subtropical forest similar to the forests of the western Caucasus and the southern Caspian ranges. Dry Mediterranean forests characterized by pines *Pinus* and hornbeam *Carpinus*, interspersed with oaks *Quercus* and, at greater elevations surmounted by fir, cedar *Cedrus* and juniper *Juniperus*, replace the coastal maquis and occur up to 2,000 metres. Aegean forests have been almost completely degraded leaving only a few isolated areas of pine and oak and some secondary garigue in the uncultivated areas. Small- to medium-sized islands of surviving oak, pine and juniper surrounded by the vast secondary steppe are found in the higher parts of Central, Eastern and South-east Anatolia (Cepel 1978; Ozenda 1979).

**Steppe**, alpine steppe and grassland cover a large part of the land in Eastern, South-east and Central Anatolia, central parts of Thrace, and inland slopes of the Black Sea and Mediterranean regions. Most of this, however, is secondary steppe, having originally been woodland (Cepel 1978).

**Agricultural land**, reclaimed mainly from forests and overgrazed steppe, is widespread in Turkey. Cereals, seeds and sugar-beet are the main crops in Central and Eastern Anatolia



Plate 1. Degraded and overgrazed coniferous forest, Aladağ (Taurus mountains). (Duncan Brooks)

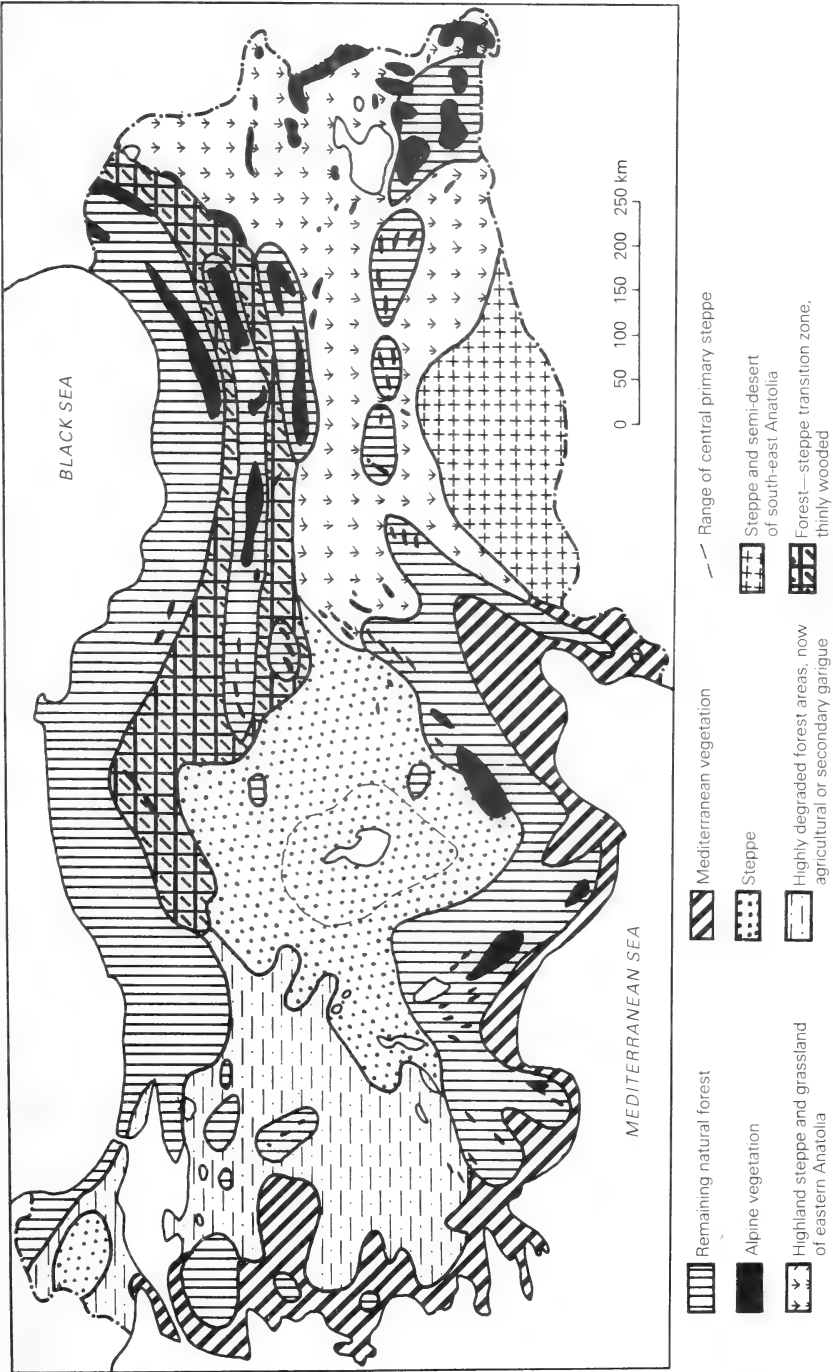


Figure 2. Major vegetation zones of Turkey (based on Cepel 1978 and Ozenda 1979).

whereas coastal areas and Thrace are characterized by large fruit plantations, vegetable gardens and cultivated plants such as tobacco. The eastern Black Sea region is famous for its hazel *Corylus avellana* and tea plantations. Agriculture in South-east Anatolia is at present limited to small areas around the Euphrates and Tigris, and vineyards and fruit gardens are typical. However, huge irrigation projects are presently under construction and it is widely feared that these may have a radical and widespread impact on the region's ecology.

**Wetlands** are numerous and range from coastal lagoons to high volcanic lakes. Coastal wetlands are mainly represented by deltas whereas inland wetlands are usually closed basin systems with salty lakes at their heart, surrounded by extensive reeds and marshes. The Euphrates and Tigris rivers form important riverine habitats in South-east Anatolia with tamarisk *Tamarix* scrub, sand-banks and barren gravel islands being typical features.



Plate 2. The Euphrates at Birecik. (Gernant Magnin)

Scarcely vegetated stony **Semi-desert** areas are found in South-east Anatolia.

**Urban areas** are widely distributed but occupy only a very small percentage of the land and are of particular significance for only a few relatively common species, e.g. Palm Dove *Streptopelia senegalensis*.

## LAND USE

The land is extensively used by man, often in even the most remote areas. Almost all arable land is heavily cultivated, and a large variety of crops is grown, as described above. The coastline is heavily used for tourism especially in the Aegean and Mediterranean regions. The vast steppes and grasslands of Anatolia are important grazing areas for sheep. Relatively little land is used for industrial purposes, and this is concentrated around big cities. Large-scale sea transport occurs, especially in the Marmara Sea which forms the only outlet from the Black Sea through the Bosphorus and Dardanelles.

## AVIFAUNA

As a result of an extensive variety of climates and habitats, the Turkish avifauna is highly diverse, with a total so far of 371 species from 180 genera known to occur regularly, including 180 resident breeders and 106 migrant breeders. Turkey's geographical position seems to be especially important for this diversity, as the ranges of many west Palearctic species reach their limit in Turkey (Ertan *et al.* 1989). Anatolia has the westernmost part of the breeding ranges of 23 species which have their main distribution in Asia:



Plate 3. Arable fields and overgrazed hillside, central Anatolia. (Gemant Magnin)

Caucasian Black Grouse <i>Tetrao mlokosiewiczii</i>	Finsch's Wheatear <i>Oenanthe finschii</i>
Caspian Snowcock <i>Tetraogallus caspius</i>	Red-tailed Wheatear <i>O. xanthopyrmyna</i>
See-see Partridge <i>Ammoperdix griseogularis</i>	Upcher's Warbler <i>Hippolais languida</i>
Black Francolin <i>Francolinus francolinus</i>	Ménétries's Warbler <i>Sylvia mystacea</i>
Greater Sand Plover <i>Charadrius leschenaultii</i>	Green Warbler <i>Phylloscopus nitidus</i>
Red-wattled Plover <i>Hoplopterus indicus</i>	Eastern Rock Nuthatch <i>Sitta tephronota</i>
White-tailed Plover <i>Chettusia leucura</i>	Pale Rock Sparrow <i>Petronia brachydactyla</i>
Smyrna Kingfisher <i>Halcyon smyrnensis</i>	Yellow-throated Sparrow <i>P. xanthocollis</i>
Pied Kingfisher <i>Ceryle rudis</i>	Red-fronted Serin <i>Serinus pusillus</i>
Bimaculated Lark <i>Melanocorypha bimaculata</i>	Cinereous Bunting <i>Emberiza cineracea</i>
Radde's Accentor <i>Prunella ocularis</i>	Grey-necked Bunting <i>E. buchanani</i>
White-throated Robin <i>Irania gutturalis</i>	

Eight species which breed mainly in the forests and wooded areas of Europe and the Mediterranean basin reach their eastern breeding limit in Anatolia:

Olive-tree Warbler <i>Hippolais olivetorum</i>	Short-toed Treecreeper <i>Certhia brachydactyla</i>
Subalpine Warbler <i>Sylvia cantillans</i>	Serin <i>Serinus serinus</i>
Rüppell's Warbler <i>S. rueppelli</i>	Cirl Bunting <i>Emberiza cirlus</i>
Firecrest <i>Regulus ignicapillus</i>	Cretzschmar's Bunting <i>E. caesia</i>

Similarly, 13 species from wetlands and forests of Eurasia have their southern limit in Turkey:

Red-necked Grebe <i>Podiceps grisegena</i>	Lesser Spotted Eagle <i>Aquila pomarina</i>
Mute Swan <i>Cygnus olor</i>	Crane <i>Grus grus</i>
Gadwall <i>Anas strepera</i>	Black-headed Gull <i>Larus ridibundus</i>
Garganey <i>A. querquedula</i>	White-backed Woodpecker <i>Dendrocopos leucotos</i>
Shoveler <i>A. clypeata</i>	Sedge Warbler <i>Acrocephalus schoenobaenus</i>
Velvet Scoter <i>Melanitta fusca</i>	Marsh Warbler <i>A. palustris</i>
White-tailed Eagle <i>Haliaeetus albicilla</i>	

Remarkable in this group is the Velvet Scoter, a relict species breeding in a few lakes in Eastern Anatolia. Three Middle Eastern species, Yellow-vented Bulbul *Pycnonotus xanthopygus*, Graceful Warbler *Prinia gracilis* and Dead Sea Sparrow *Passer moabiticus*, reach their northern limit in southern Turkey. Furthermore the Striated Scops Owl *Otus brucei*, Desert Lark *Ammomanes deserti*, Desert Finch *Rhodospiza obsoleta* and (perhaps) Trumpeter Finch *Bucanetes githagineus* have marginal breeding distributions in southern Anatolia (Hollom et al. 1988).

Thus, it is obvious that Anatolia is the meeting point of many species whose breeding distributions are centred in distinct biogeographical areas, and that in this sense Turkey forms a bridge between Europe, Asia and the Middle East (Figure 3).

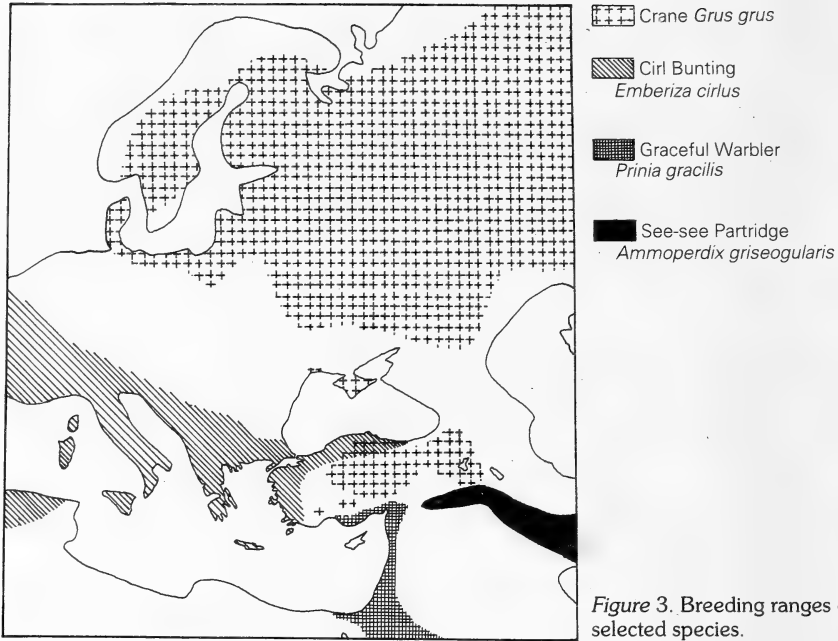


Figure 3. Breeding ranges of four selected species.

### Globally Threatened Species

29 species which are threatened on a global scale occur in Europe (taken here to include all of Turkey: Grimmett & Jones 1989), and of these the following 12 breed in Turkey.

**Pygmy Cormorant** *Phalacrocorax pygmeus*. Mainly a resident or partial migrant wetland species. Its range is restricted to the south-east of the western Palearctic, and habitat loss due to drainage is the main reason for its present decline. It breeds and winters in several Turkish wetlands.

**Dalmatian Pelican** *Pelecanus crispus*. Now one of the most endangered pelicans in the world, its breeding range stretches from the Balkans to China but is highly disjunct and the total population is estimated at 530–1,368 breeding pairs (Crivelli and Schreiber in Crivelli *et al.* 1988). It is threatened by drainage, disturbance at its breeding sites and persecution by fishermen. Perhaps 90–200 pairs breed in Turkey in 3–6 colonies, mainly at Manyas Gölü, Kızılırmak delta and the Ereğli marshes, and up to 600 birds winter in coastal wetlands (Cramp & Simmons 1977–83).

**Bald Ibis** *Geronticus eremita*. Doomed in Turkey, since, of the three individuals which returned to Birecik in 1989, two were killed in a storm and the wild population is now represented by a single bird which does not breed (Bariş and Magnin, unpubl.).

**Marbled Teal** *Marmaronetta angustirostris*. A breeder on small shallow freshwater lakes with an estimated world population of a few thousand pairs. Up to 70 individuals breed in the Göksu delta, the Ereğli marshes and irregularly at other wetlands (Cramp & Simmons 1977–83).

**White-headed Duck** *Oxyura leucocephala*. The world population is believed to be about 15,000 individuals. Up to 150 pairs breed each year in the Central Anatolian wetlands. Turkey is also an important wintering area, with 6,000–9,000 birds wintering at Turkish lakes, 90% at one site, Burdur Gölü (Cramp & Simmons 1977–83). Drainage of breeding habitat is the main threat to this species.

**White-tailed Eagle** *Haliaeetus albicilla*. Has declined in most of its range in Europe due to human persecution, habitat destruction and pollution. The Turkish population is at most 20–25 breeding pairs (Cramp & Simmons 1977–83), possibly now much less even than this (Martins 1989).

**Black Vulture** *Aegypius monachus*. Seriously threatened in Europe and already extinct in many places. The main reasons for its decline are persecution, habitat destruction and reduced food supplies. There are several hundred pairs in Turkey.

**Imperial Eagle** *Aquila heliaca*. Has a scattered distribution from Europe to central Asia, with small populations in a number of European countries. The Turkish population is about 50–150 pairs (Cramp & Simmons 1977–83).

**Lesser Kestrel** *Falco naumanni*. Throughout its range, numbers have declined recently, probably due to the use of insecticides and modern agricultural methods. It is a widespread and locally common bird in Turkey though there is no information on the size or stability of the population.

**Little Bustard** *Tetrax tetrax*. The present status in Turkey is unclear, but it bred in South-east Anatolia in the past.

**Great Bustard** *Otis tarda*. A typical steppe and farmland species, steadily decreasing all over its world range mainly due to pesticides and other changes in agricultural practice and to hunting pressure. Although legally protected in Turkey, the effects of hunting are probably still severe and the population is estimated to be 100–500 pairs (Cramp & Simmons 1977–83).

**Audouin's Gull** *Larus audouinii*. The rarest breeding gull in the western Palearctic with a world population of 5,500–6,000 pairs (Collar & Andrew 1988). About 50 pairs breed off the south and west coasts of Turkey (Cramp & Simmons 1977–83).

### Other Important Species

In addition to species threatened globally, 35 have relatively limited world ranges with important populations in Europe (Grimmett & Jones 1989), and 17 of these breed regularly in Turkey:

Yelkouan Shearwater *Puffinus (puffinus) yelkouan*

Shag *Phalacrocorax aristotelis*

Radde's Accentor *Prunella ocularis*

White-throated Robin *Irania gutturalis*

Ring Ouzel *Turdus torquatus*

Subalpine Warbler *Sylvia cantillans*

Sardinian Warbler *S. melanocephala*

Green Warbler *Phylloscopus nitidus*

Bonelli's Warbler *P. bonelli*

Firecrest *Regulus ignicapillus*

Sombre Tit *Parus lugubris*

Rock Nuthatch *Sitta neumayer*

Short-toed Treecreeper *Certhia brachydactyla*

Masked Shrike *Lanius nubicus*

Serin *Serinus serinus*

Crimson-winged Finch *Rhodopechys sanguinea*

Cirl Bunting *Emberiza cirrus*

The European breeding ranges of Radde's Accentor, White-throated Robin and Crimson-winged Finch are entirely confined to Turkey.

Grimmett and Jones (1989) listed a further 181 species as vulnerable in Europe and 93 of these breed in Turkey: some 30 have an important part of their European breeding ranges in Turkey and the European breeding ranges of six are almost entirely confined to Turkey:

Greater Sand Plover *Charadrius leschenaultii*

Black-bellied Sandgrouse *Pterocles orientalis*

Smyrna Kingfisher *Halcyon smyrnensis*

Pied Kingfisher *Ceryle rudis*

Krüper's Nuthatch *Sitta krueperi*

Cinereous Bunting *Emberiza cineracea*

### Migrants and Wintering Species

Turkey is also important for migration, being situated on both the east–west and north–south migration routes. Large numbers of raptors and other soaring birds converge at three bottleneck areas (Figure 1): in the north, the Bosphorus in the west and the Arhavi–Borçka area in the east, and in the south the area of the Belen pass; from here the birds continue southwards through Syria. The Bosphorus is of major importance for the migration of storks

and raptors breeding in the western Palearctic and wintering in Turkey, the Middle East and Africa. Both species of stork and a good variety of raptors occur and it is believed that almost the entire populations of Black Stork *Ciconia nigra*, Levant Sparrowhawk *Accipiter brevipes* and Lesser Spotted Eagle migrate through the Bosphorus, especially in autumn (Bijlsma 1987). The huge numbers of migratory raptors that breed in European USSR are concentrated during migration at the eastern end of the Black Sea, and the Arhavi-Borçka region has a record daily total of 137,000 birds (Andrews *et al.* 1977). Sparrowhawk trapping and raptor shooting by the local people are common practices here, and an estimated 25,000 raptors are killed annually (Magnin 1989). As well as raptors, Belen is important for Spoonbills *Platalea leucorodia* and White Pelicans *Pelecanus onocrotalus*, with probably the whole west Palearctic population of the latter passing through the area (Sutherland & Brooks 1981).

Turkey is also of great importance for migrating and wintering waterfowl and waders. The southern coastlands, especially the Göksu and Çukurova deltas are of extreme importance during autumn migration as they are the last stop-over places before birds cross the Mediterranean Sea. The Kızılırmak delta on the Black Sea coast is relatively more important in spring as it forms the last stop-over before birds cross the Black Sea. Many lakes and marshes in the Marmara, Aegean, Central Anatolia and Eastern Anatolia regions are used by hundreds of thousands of migrant birds as feeding and resting places. The deltas on the south and west coasts, as well as the lakes in western Anatolia and the non-freezing salt lakes of Central Anatolia are important areas where large numbers of waterfowl winter. Coastal wetlands in the Çukurova region and the Göksu delta are very important as the only non-freezing refuges during long hard winters.

## CONCLUSION

It is hoped that this general review will help in the understanding of the Turkish avifauna and its problems. It is obvious that a good deal of ornithological research is urgently needed the better to understand and to manage the environment and wildlife of Turkey.

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## REFERENCES

- ANDREWS, J., BEAMAN, M., FISHER, P., HEREWARD, T., HEUBECK, M., MORTON, M., PORTER, R. & ROUND, P. 1977. A 'new' raptor migration route through N.E. Turkey. *Orn. Soc. Turkey Bull.* 14: 2-5.
- BEAMAN, M. 1986. Turkey: bird report 1976-1981. *Sandgrouse* 8: 1-41.
- BIJLSMA, R. G. 1987. Bottleneck areas for migratory birds in the Mediterranean region. *ICBP Study Rep.* 18. Cambridge.
- CEPEL, N. 1978. Orman ekolojisi. *Orman Fakültesi Yayınları* 257. İstanbul.
- COLLAR, N. J. & ANDREW, P. 1988. Birds to watch: the ICBP world checklist of threatened birds. *ICBP Tech. Publ.* 8. Cambridge.
- CRAMP, S. & SIMMONS, K. E. L. (eds) 1977-83. *The Birds of the Western Palearctic* Vols 1-3. Oxford University Press.
- CRIVELLI, A. J., JERRENTUP, H. & MITCHEV, T. 1988. Electric power lines: a cause of mortality in *Pelecanus crispus*, a world endangered species, in Porto Lago, Greece. *Colonial Waterbirds* 11 (2).
- EROL, O. 1982. Türkiye: Naturräumliche Gliederung. Tübinger Atlas des Vorderen Orients. Wiesbaden.
- ERTAN, A., KILIÇ, A. & KASPAREK, M. 1989 *Türkiye'nin Önemli Kuş Alanları*. DHKD, İstanbul.



- GRIMMETT, R. F. A. & JONES, T. A. 1989. Important bird areas in Europe. *ICBP Tech. Publ.* 9. Cambridge.
- HOLLOM, P. A. D., PORTER, R. F., CHRISTENSEN, S. & WILLIS, I. 1988. *Birds of the Middle East and North Africa: a companion guide*. Poyser, Calton.
- MAGNIN, G. 1989. Falconry and hunting in turkey during 1987. *ICBP Study Rep.* 34. Cambridge.
- MARTINS, R. P. 1989. Turkey Bird Report 1982–6. *Sandgrouse 11*: 1–41.
- NUHRAT, C. & ORTAC, A. (eds) 1984. *Yiirt Ansiklopedisi* Vol. 11. Anadolu Yayinalik, Istanbul.
- OZENDA, P. 1979. Vegetation map of the Council of Europe member states. *Nature and Environment Ser.* 16. Strasbourg.
- SUTHERLAND, W. J. & BROOKS, D. J. 1981. The autumn migration of raptors, storks, pelicans and spoonbills at the Belen pass, southern Turkey. *Sandgrouse 2*: 1–21.

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# AN OVERVIEW OF BIRD CONSERVATION IN TURKEY\*

by

**H. Reşit Akçakaya**

The aim of this paper is to summarize the status of and problems involved in bird conservation in Turkey. It will review three major threats to wildlife—and particularly to birds—and will then summarize conservation efforts and the problems that need to be solved to enable the implementation of a more effective conservation programme. The information presented was collated by members of the Working Group for Bird Protection in Ankara and Istanbul and was mostly obtained during the Group's various projects.

## THREATS

Although Turkey has one of the richest bird faunas in the Middle East, it is probably also the country which is losing its wildlife fastest. The very high priority given to economic development, together with a lack of information and awareness of environmental values, has in recent years accelerated the loss of biological diversity in Turkey. Even over such a short period as 10 years casual observation has indicated that not only the actual amount of loss, but, more importantly, the rate of loss, has increased considerably.

Grimmett and Jones (1989) and Grimmett *et al.* (1989) have summarized threats to 79 individual sites which are important to birds, but in general there is a lack of information and statistics about most aspects of human threats to wildlife. For this reason, I will outline the major factors—habitat loss, pollution and hunting—by giving a few specific examples from our own studies.

### Loss of Habitat

The most important threat to bird populations in Turkey is the loss of their habitats which is taking place at a rate that increases every year. There is virtually no habitat that is not affected by human disturbances, but those most seriously threatened are wetlands and forests. In wetlands, this is usually through drainage, done either to expand agricultural land or to reduce flooding on farmland surrounding the wetlands. There are drainage plans for several major wetlands in Turkey, e.g. the Ereğli-Karapınar wetlands (a known breeding area for Dalmatian Pelicans *Pelecanus crispus*) where construction of a military airbase is planned.

Amik Gölü in southern Turkey was the first important wetland lost to drainage. The lake was drained in the 1950s, causing the extinction of the only Turkish population of Darter *Anhinga melanogaster*, a species which otherwise breeds in the west Palearctic only in southern Iraq. Darter was not the only species affected by the drainage, of course, and at least ten species of fish which were endemic to the lake became extinct when it disappeared (Kuru 1987). Amik Gölü was also a breeding and wintering place for pelicans, waders, waterfowl and herons (Kumerloev 1989).

Even when the complete drainage of a wetland can be prevented, irrigation may damage the natural functioning of the ecosystem. In the 1970s State Water Works, the government office responsible for irrigation and drainage, was planning to drain the Sultan marshes, a wetland of international importance in central Turkey (Akçakaya *et al.* 1983; Kasperek 1985). As a result of the intervention of Turkish and European conservation organizations, State Water Works decided that it was not feasible to drain the whole wetland after all, and changed its plans so as to carry the irrigation water around the wetland. Subsequently, however, it changed its mind again and decided to pour the water drained from agricultural land into the wetland from one side and to take it out from the other. This wetland has always been in a closed basin, and the salt lake in the middle of the wetland is one of its essential features. Our study showed

\* This paper is adapted from a talk given at the 10th Anniversary Meeting of OSME, London, 26 November 1988.

that the new plan will cause a drastic decline in the concentration of salts in this lake and therefore change its characteristics. Furthermore, the new plan will alter the natural rhythm of the water level, will increase the probability that the wetland will completely dry out in years of low rainfall, and the input of water returning from agricultural lands may cause pollution (Akçakaya *et al.* 1983). Of course, it is much more difficult to predict the ecological changes that may result from these changes in the hydrology of the region, but it is obvious that when the new irrigation system is completed in a few years time the Sultan marshes will not be the same ecosystem that it has been for millennia.

Another common problem in wetlands, and also in other habitats, is overgrazing. As more and more land is used for agriculture, large numbers of cattle and sheep are forced to graze in the small strip of grassland which is often all that remains between wetlands and crops. This results in the accelerated erosion of land and destruction of feeding and nesting habitat for many wetland birds, particularly waders. In the Sultan marshes, reeds growing as floating islands are annually cut by villagers for feeding their cattle in winter. In our study, we concluded that reed-cutting was far less harmful for this wetland than overgrazing in the floodplains around it.

In coastal areas the major cause of habitat loss is development for tourism, which has accelerated considerably in the last few years. A 7-km beach near Dalyan in south-west Turkey is one of the most important egg-laying places in the Mediterranean for the loggerhead turtle *Caretta caretta* (Baran & Kasperek 1989). Behind the beach there is a large lagoon of reed-beds and brackish lakes which are a breeding area for all of three species of kingfisher found in Turkey, including the rare Smyrna Kingfisher *Halcyon smymensis* and Pied Kingfisher *Ceryle rudis* (Kılıç & Kasperek 1989). Recently, a large tourist development was proposed for this beach, including a hotel with a capacity of thousands. It was delayed as a result of intense reaction both from within Turkey and also from European organizations, especially because the development was financed by a German company. At present, at least, plans to build the hotel have been dropped, although similar developments continue elsewhere on the coast.

Forests are also threatened by human activities. Only about 11% of the land surface in Turkey is forested, and all forests are managed by the government. There are four major threats to the forest habitat in Turkey. Fire accounted for the destruction of 13,000 km<sup>2</sup> between 1937 and 1983, and, although this rate has decreased recently, about 30 km<sup>2</sup> still burns every year (Işık 1987). Secondly, forests are destroyed by grazing and browsing, especially by goats. In a parallel to the problem occurring around wetlands, herds are forced to find food in the forest as their grazing lands are converted to arable. Air pollution is a local problem around several copper smelters and thermal generators using coal as fuel, and the fourth factor is the forestry service itself. Because of increasing pressure from the government to produce more forest products, forests are managed in a way that is far from being optimal for wildlife. For example, clear-felling, even on steep slopes, is a common practice, and native broad-leaf trees such as *Fagus* are replaced with fast-growing coniferous species, decreasing the ecological diversity.

The third habitat seriously threatened is actually a complex of habitats from grasslands and steppe to semi-deserts, occurring mainly in the south-east of Turkey. This region has a very distinctive bird fauna, and several semi-desert species are found only in this region of the country. The threat to the wildlife of this region is the biggest irrigation project in Turkey, probably one of the biggest in the world. This project, called GAP ('South-east Anatolia Project' in Turkish), involves the longest water tunnel and the fifth largest hydroelectric dam in the world, and will irrigate 18,000 km<sup>2</sup>, more than the total area irrigated in Turkey now (Anon. 1985; *OSME Bull.* 22: 46-7). Besides the permanent loss of historic ruins dating back to 4,000 BC under the waters of 15 hydroelectric dams, this project will drastically change the unique ecosystems of this region. The project, which was funded in part by loans from European and American institutions, appears not to have had any kind of environmental impact assessment study, and to this date the likely effects on the wildlife in the region are unknown. A team of scientists organized by the National Research Council is expected to carry out a series of excursions to the area to study the endangered populations, but the project does not yet have sufficient funds (C. Bilgin pers. comm.).

## Pollution

Pollution is now much more widespread in Turkey than it was just a decade ago. Environments around all big cities are seriously threatened by municipal and industrial waste, but a much more dangerous trend for wildlife is that pollution is no longer restricted to these areas.

In the north-east corner of Kuş (Manyas) Gölü in north-west Turkey is the Kuşçenneti National Park. This national park, known as the 'bird paradise' in Turkish, is famous for its tree-nesting Dalmatian Pelicans, 270 recorded species and 3,000 breeding pairs of Spoonbill *Platalea leucorodia*, herons and cormorants, all on just 64 ha of willow trees and reed-beds. A recent study by the Working Group for Bird Protection showed that Kuş Gölü is now seriously threatened by industrial pollution originating from several factories along the streams that feed the lake (Akçakaya and Bilgin 1988b).

Another important source of pollution is intensive agriculture. Irrigation water draining from farmland into lakes and streams is usually polluted with artificial fertilizers and often carries a high concentration of insecticides. A dramatic example of the effect of pesticide pollution was observed in the late 1950s and 1960s in the population of Bald Ibis *Geronticus eremita* at Birecik in south-east Turkey. Two ministries, Health and Agriculture, sprayed the area with DDT as a measure to combat malaria and locust swarms. Wildlife mortality was severe, and 70% of the Bald Ibis population died in a few years; no young were fledged in the colony until the 1970s. Conservation projects, set up first by the World Wildlife Fund and later by the Turkish government could not stop the decline of the population. In 1988 only four pairs nested in the colony, and half of these eight birds had been released from the cages of the captive breeding station (U. Hirsch pers. comm.). The species is now all but extinct as a wild bird in Turkey.

## Hunting

Hunting is probably not as important a problem as the loss of habitat and pollution, although locally it can cause more harm to certain populations. The hunting law includes regulations about protected species, protected areas, bag limits and hunting methods. There are about 60 species that can be hunted (mostly ducks, geese, gamefowl and crows), and hunting is prohibited in national parks, nature reserves and other protected areas. Although the legislation is quite inadequate in certain respects, it could reduce the damage to wildlife if enforced—but unfortunately it is not. The damage has two aspects: the number of birds killed and the species hunted. A study of the Sultan marshes by the Working Group for Bird Protection estimated that the number of waterfowl hunted there in only one season was about 100,000, including birds shot and killed but not recovered by the hunters (Bilgin 1983; Akçakaya *et al.* 1983). This is a very large number even for a wetland such as the Sultan marshes where the average waterfowl population during winter is about 300,000. Considering that this area was a hunting reserve at that time, and that the law was well enforced compared to other areas, the damage done by hunting in other wetlands can be substantial. Fortunately, the Sultan marshes are now a nature reserve and hunting is forbidden throughout the year.

Although most bird species not considered to be game are protected by law, they are nonetheless frequently hunted. Examples of such species include gulls, cormorants, Greater Flamingo *Phoenicopterus ruber*, storks, pelicans, herons, and almost all species of raptor (Magnin 1989). The only population of Purple Gallinule *Porphyrio porphyrio* in Turkey is on the verge of extinction because of intensive hunting (Akin & Bilgin 1988). Foreign tourists are also a part of the hunting problem. Some tourists from other Middle Eastern countries are interested in buying birds of prey for use in falconry, and pay large amounts of money for falcons. Collectors from European countries take birds and eggs as specimens, and smuggle them out of Turkey (e.g. Anon. 1987).

## CONSERVATION EFFORTS AND PROBLEMS

The government organization responsible for nature conservation, including the 17 national parks and 22 nature reserves, is the Department of National Parks of the Ministry of Agriculture

and Forestry. The total area of national parks that are of primarily natural (not historical) interest is about 1,900 km<sup>2</sup>, which is only 0.24% of the land area of Turkey. National parks and nature reserves most important for birds are Kuşçenneti at Kuş Gölü, Soğuksu near Ankara, Uludağ in north-west Anatolia, Sultan marshes and Dilek peninsula south of Izmir. Some of the conservation problems in these important bird areas—pollution of Kuş Gölü and irrigation in the Sultan marshes—have been outlined above, while at Dilek, Uludağ and Soğuksu the important problems are the number and activities of visitors, and the new facilities built for them. The Department of National Parks gives a higher priority to visitors than to wildlife, and this is causing much disturbance in several national parks (e.g. Banş *et al.* 1984).

Other responsibilities of this department include game and hunting reserves, and the Bald Ibis captive breeding programme at Birecik. Ever since it was started in 1977, this reintroduction project has failed to stop the decline of the Bald Ibis population. Breeding success of captive birds was lower than that of wild birds, and reintroduced birds did not migrate with the wild population; instead most stayed at Birecik and became dependent on the food provided by the wardens of the breeding station (Akçakaya & Bilgin 1988a; Akçakaya 1990). There were a number of technical mistakes which brought this about, but the fundamental reason seems to have been a lack of interest by the officials responsible for the project.

The other conservation-related governmental organization is the Undersecretariat for Environment, which is primarily concerned with air pollution. Recently, it played a major negative role in wildlife conservation by being the only organization to claim that the tourist development at Dalyan would have no detrimental effects on the wildlife of the region.

There are a number of non-governmental conservation organizations in Turkey, although few are active. A small number of groups have recently been formed as a reaction to the increased destruction of nature, but these do not have the experience and background to be immediately effective. Older organizations on the other hand, such as the Working Group for Bird Protection, suffer from a lack of resources. The Group's major activities over the last 10 years have been as follows:

- 1978–82 IUCN/WWF joint project 'Research Project for Management of Sultan Marshes'.
  - 1982 Preliminary survey for 'Education Project for Monk Seal Conservation' (with DHKD).
  - 1983–4 Survey of the birds of Kızılcahamam area (*Birds of Turkey* 3).
  - 1983–6 Studies on the Bald Ibis population in Turkey and evaluation of the captive breeding project (financed by WWF).
  - 1984 Adaptation and translation of ICBP popular bird book.
  - 1987 Adaptation and translation of ICBP 'Flying Visitors' wallchart.
  - 1988 Presentation of four papers on bird conservation at two symposia in Turkey.
  - 1988 'Case Study of Lake Kuş' (prepared for European Institute for Environmental Policy).
  - 1988 Educational field trips with biology students at Middle East Technical University.
  - 1988 Publication of Bird Protection Group Bulletin (with DHKD); distributed to 30 individuals, 20 biology departments, 2 forestry departments.
  - 1987–8 Contributions to projects by WIWO (migration routes), ICBP (illegal shooting and catching, by G. Magnin), ICBP and DHKD (educational booklet, 'Important Bird Areas').
- Activities planned for the future include two projects: developing a computerized ornithological database and preparing a national red data list of birds. The Society for Protection of Wildlife (DHKD) is another active conservation group, with which we have worked closely in the past. Its main activities are in the area of conservation education, and it has organized 'Nature and Children' weeks in primary schools for several years; it was also active against the hotel building at Dalyan.

The major bottleneck that limits the effectiveness of bird conservation activities in Turkey is the shortage of two important items. The first is resources: funds available for conservation are extremely limited, and in most cases non-existent. Second is information, for despite the admirable efforts and achievements of OSME, scientific information on the birds of Turkey is limited and, more importantly, much of it is unpublished and held in western Europe; even published material can be difficult of access for Turkish researchers and conservationists.

OSME is currently trying to improve this situation by making its archive material available to workers in Turkey. Another problem is a lack of coordination, or even communication, between government, universities, non-governmental groups and European organizations.

We believe that the most important prerequisite for a more effective conservation programme, both scientific and educational, is the formation of an information base, and our two major projects planned for the next three to four years (see above) are geared towards this end. Our most sincere hope is that these projects will also initiate new channels of communication and cooperation among all the groups concerned with the conservation of Turkey's wildlife.

## REFERENCES

- AKÇAKAYA, H. R. 1990. Bald Ibis *Geronticus eremita* population in Turkey: an evaluation of the captive breeding project for reintroduction. *Biol. Conservation* 51 (in press).
- AKÇAKAYA, H. R. & BILGIN, C. C. 1988a. Evaluation of efforts to save the Bald Ibis population in Birecik. In: Uslu, O., Evirgen, M. M. & Müezzinoğlu, A. (eds) *Environment '88: Proceedings of the 4th Environmental Science and Technology Conference*. Dokuz Eylül University, Izmir.
- AKÇAKAYA, H. R., BARIŞ, Y. S. & BILGIN, C. C. 1983. Sultansazlığı Koruma Projesi Sonuç Raporu [Sultan Marshes Conservation Project—Final Report]. Unpubl. 50 pp.
- AKÇAKAYA, R. & BILGIN, C. 1988b. Case study of Lake Kuş. Prepared for European Institute of Environmental Policy, unpubl.
- AKIN, A. & BILGIN, C. C. 1988. [An endangered species, the Purple Gallinule (*Porphyrio porphyrio caspius*), and the importance of Göksu Delta for its protection]. 3rd Symposium on Bird Paradises and Wetlands, Bandırma.
- ANON. 1985. Mezopotamya canlanıyor. *Nokta* 1 Sept. 1985: 44–7.
- ANON. 1987. Pelican colony robbed. *World Birdwatch* 9 (4): 8.
- BARAN, I. & KASPAREK, M. 1989. *Marine turtles—Turkey: status survey 1988 and recommendations for conservation and management*. Kasperek, Heidelberg.
- BARIŞ, S., AKÇAKAYA, H. R. & BILGIN, C. 1984. The birds of Kızılcahamam. *Birds of Turkey* 3. Kasperek, Heidelberg.
- BILGIN, C. 1983. Sultansazlığında avcılık üzerine bir araştırma [A study on hunting in the Sultan marshes]. *Av*. 14 (1): 6–9.
- GRIMMETT, R. F. A. & JONES, T. A. 1989. Important bird areas in Europe. *ICBP Tech. Publ.* 9. Cambridge.
- GRIMMETT, R. F. A., KASPAREK, M., KILIÇ, A. & ERTAN, A. 1989. Important bird areas in Turkey: unprotected and under threat. *Sandgrouse* 11: 57–66.
- IŞIK, K. 1987. Forests and national parks. In: Kence, A. (ed.) *Biological Diversity in Turkey*, 89–111. Environmental Problems Foundation, Ankara. (Also in Turkish edition, *Türkiye'nin Biyolojik Zenginlikleri*, 93–118.)
- KASPAREK, M. 1985. *Die Sultanssümpfe: Naturgeschichte eines Vogelparadieses in Anatolien*. Kasperek, Heidelberg.
- KILIÇ, A. & KASPAREK, M. 1989. The birds of the Köyceğiz–Dalyan area. *Birds of Turkey* 8. Kasperek, Heidelberg.
- KUMERLOEVE, H. 1989. Amik Gölü, south-east Turkey: a plea for national park status. *OSME Bull.* 23: 5–6.
- KURU, M. 1987. Freshwater fauna. In: Kence, A. (ed.) *Biological Diversity in Turkey*, 129–40. Environmental Problems Foundation, Ankara. (Also in Turkish edition, *Türkiye'nin Biyolojik Zenginlikleri*, 133–48.)
- MAGNIN, G. 1989. Falconry and hunting in Turkey during 1987. *ICBP Study Rep.* 34. Cambridge.

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# IMPORTANT BIRD AREAS IN TURKEY: UNPROTECTED AND UNDER THREAT\*

by

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In April 1989, the International Council for Bird Preservation and the International Waterfowl and Wetlands Research Bureau published an inventory of 2,444 'Important Bird Areas in Europe' (Grimmett & Jones 1989). For the purposes of the project, Europe was taken to include USSR east to the Ural mountains and western shore of the Caspian Sea, Greenland and all of Turkey. For the first time, individual sites for birds in each country were evaluated in a European context, and this paper highlights and updates the findings of the study as they concern Turkey.

## CRITERIA FOR SELECTION

Sites were included in the inventory because of their importance for at least one of the following categories of species:

1. Migratory species that congregate either when breeding, or on passage, or in winter.
2. Globally threatened species (Collar & Andrew 1988).
3. Species and subspecies that are threatened throughout all or large parts of their range in Europe, but not globally.
4. Species that have relatively small total world ranges with important populations in Europe.

Grimmett and Jones (1989) included a total of 79 sites in Turkey, covering an area of over 15,000 km<sup>2</sup> (excluding the Bosphorus, north-east Turkey and the Belen pass—large bottleneck sites for which boundaries have not been defined) (Table I and Figure 1). Of these 79 sites, three qualify for inclusion because they are bottleneck sites for migrating raptors, 44 meet the numerical criteria for selected waterfowl species which have been developed to identify wetlands of international importance in the context of the Ramsar Convention (Convention on Wetlands of International Importance Especially as Waterfowl Habitat), 50 are important for one or more globally threatened species (Dalmatian Pelican *Pelecanus crispus*, Bald Ibis *Geronticus eremita*, Marbled Teal *Marmaronetta angustirostris*, White-headed Duck *Oxyura leucocephala*, White-tailed Eagle *Haliaeetus albicilla*, Black Vulture *Aegypius monachus*, Imperial Eagle *Aquila heliaca*, Lesser Kestrel *Falco naumanni*, Great Bustard *Otis tarda* and Audouin's Gull *Larus audouinii*), and 57 are important for one or more species which are threatened throughout all or large parts of their range in Europe. In addition, some sites are included for other reasons: site number 4, despite the paucity of recent data, because of its former importance and the lack of recent surveys; numbers 26, 28 and 54 because each supports a very interesting variety of species; number 65 because of its breeding population of Armenian Herring Gull *Larus argentatus armenicus*; numbers 66 and 74 because of their breeding populations of Velvet Scoter *Melanitta fusca*, which are of considerable biogeographical interest. It must be stressed that there are certain to be many other sites in Turkey worthy of Important Bird Area status, and that only those sites known through surveys to be important are included. For more details of habitats, species and threats at the listed sites, see Grimmett and Jones (1989).

\* This paper is adapted from a talk given at the XVII ICBP European Continental Section Conference, Adana (Turkey), 15–20 May 1989.

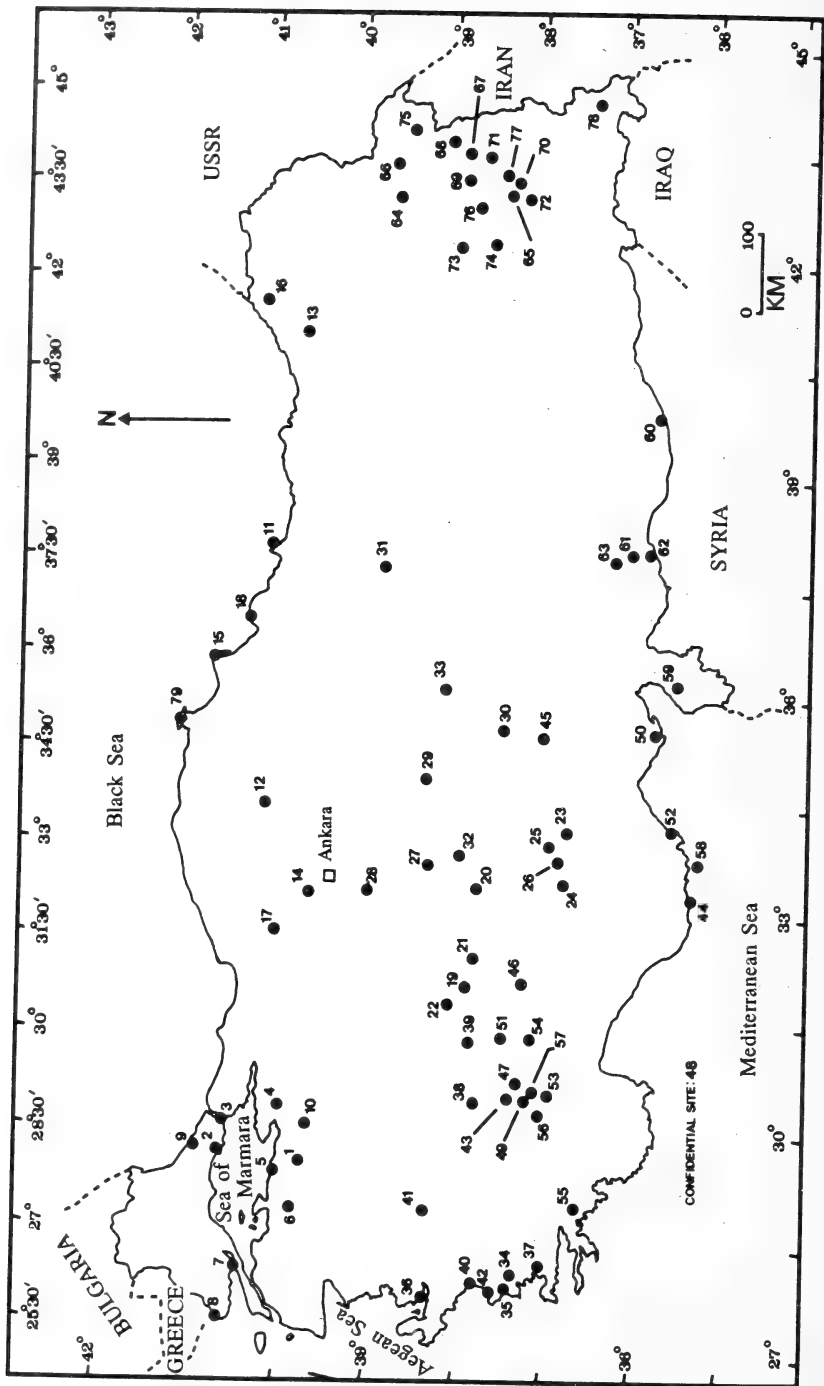


Figure 1. Location of Important Bird Areas in Turkey.



## PROBLEMS AND THREATS FACING IMPORTANT BIRD AREAS IN TURKEY

Of the 79 sites in Table I, 59 are recorded as facing specific problems or threats (for a general discussion, see Akçakaya 1989). The most widespread problem, affecting 27 of the sites, is hunting pressure (often involving the illegal killing of protected species). Other widespread problems include: agricultural intensification, including drainage and steppe cultivation (16 sites); tourism and recreation, including the building of facilities (12 sites); livestock grazing (12 sites); human disturbance (12 sites); pollution (10 sites); reed burning or cutting (8 sites); and industrial development (6 sites). Other problems include dam construction (3 sites), the collection of gulls' eggs (at Turkey's only breeding site for Audouin's Gull), reforestation (2 sites), deforestation (1 site), bird catching (1 site) and drought (3 sites).

## IMPORTANT BIRD AREAS COMPARED WITH THE PROTECTED AREA SYSTEM

Turkey's National Park Law, which was enacted in 1983, defined four main types of protected area: National Park (Milli Parkı), Nature Park (Tabiat Parkı), Natural Monument (Tabiat Anıtı) and Nature Reserve (Tabiatı Koruma Alanı). To a varying extent, these types of protected area provide a degree of habitat protection. Of the 79 Turkish Important Bird Areas, three are protected as National Parks and three are partly so protected (see Table I). These include Manyas Gölü (168 km<sup>2</sup>) where the Park covers only 64 ha and is one of the smallest in Europe. A further two sites (see Table I) are Nature Reserves and one partly a Mediterranean Specially Protected Area (see below). None of the Important Bird Areas has been designated as a Nature Park or Natural Monument, and thus of the 79 sites only nine receive any habitat protection. The Ministry of Agriculture, Forestry and Rural Affairs has an ambitious plan to establish around 60 additional Nature Reserves, so it is to be hoped that many more Important Bird Areas will receive this protection in the near future.

In addition to sites which are at least partly covered by the above-mentioned designations, a further 11 are protected from hunting, as Hunting Reserves—though several of these reserves are very small by comparison with the Important Bird Area of which they are a part (e.g. Kızılırmak and Çukurova deltas). Hunting Reserve status has to be renewed for every site each year, and four Important Bird Areas (Burdur Gölü, Eber Gölü, Göksu delta and Karamik marshes) have lost this status in recent years, though in the case of the Göksu delta the area was redesignated as a Hunting Reserve in 1989.

Turkey is party to the World Heritage Convention and the Barcelona Convention (and has ratified the protocol concerning Mediterranean Specially Protected Areas), two international measures which oblige Turkey to protect outstanding natural sites (Temple Lang 1989). By April 1988, Turkey had designated only a single natural World Heritage Site and three Mediterranean Specially Protected Areas, but only a single Important Bird Area (Köyceğiz Gölü, etc.) is protected this way. Unlike most European countries, Turkey is not a party to the Ramsar Convention, and therefore none of its Important Bird Areas are Ramsar Sites, despite the considerable wealth of wetlands in the country.

In conclusion, 59 sites are not protected in any way by the country's protected area system, including 34 which are internationally important wetlands and 37 which are important for globally threatened species.

## ACKNOWLEDGEMENTS

This analysis was based on site accounts compiled for the Important Bird Areas in Europe project (Grimmett & Jones 1989) by M. Kasperek, A. Kiliç and A. Ertan (the latter working on behalf of Doğal Hayatı Koruma Derneği). Their work was made possible by financial support from the World Wide Fund for Nature, Ornithological Society of the Middle East and Royal Society for the Protection of Birds. C. Bilgin, Sancar Bariş and Gernant Magnin provided useful comments on a draft of the Turkish inventory.

TABLE 1. IMPORTANT BIRD AREAS IN TURKEY.

Site (see Figure 1)	Area (km <sup>2</sup> )*	Description	Importance†	Protection status‡	Threats
1 Apolyont Gölü (Uluabat or Uluabat Gölü)	134	Large inland lake, surrounded by agriculture and marshes	2, 3, 4	UP	Pollution, hunting, intensification of agriculture
2 Büyük Çekmece Gölü	11	Saline coastal lagoon surrounded by agriculture, marshes and urban/industrial areas	2, 4	UP	Hunting
3 Bosphorus	—	Bottleneck for migratory birds, mainly city of Istanbul	1	UP	Air pollution, urbanisation
4 Iznik Gölü	308	Freshwater inland lake, surrounded mainly by agricultural land	See text	UP	Development of Iznik as recreational centre, pollution
5 Kocacıy (Kocasu or Nilüfer) delta	100	River delta with lagoons, considerable variety of habitats	2, 3, 4	Partly HR	Replacement of natural forests with <i>Populus</i> plantations, reed-burning, illegal hunting, tourism development, pollution
6 Manyas Gölü (Kuş Gölü) including Bandırma – Kuş National Park	168	Large lake, surrounded mainly by agricultural land	2, 3, 4	Partly NP, partly HR, partly ED	Use of water for irrigation, pollution, illegal hunting, moth larvae destroying nesting trees of waterbirds
7 Saros bay (Kavak delta)	3–10	Small delta, lagoon and marshes	2, 4	UP	Livestock grazing, hunting
8 Meriç delta	48	Large delta, extensive reedbeds, lagoons, and agricultural land	2, 3, 4	UP	Agricultural intensification (especially rice growing), hunting, eutrophication
9 Terkos Gölü (Durusu Gölü or Durugöl)	58	Large coastal lagoon, with large sand-dunes	4	UP	Hunting
10 Uludağ	114	Mountain with maquis, woodland and alpine pastures	4	NP	Tourism development, livestock grazing, deforestation
11 Çam Burnu	<1	Rocky cliff and offshore island	4	UP	—

12	Ilgaz Dağları	250+	Mountain ridge with coniferous forests, meadows and agricultural fields	3	Partly NP	Tourism development
13	Kaçkar Dağları	c. 800	Mountain ridge, coniferous forests and mountain pastures	3, 4	Partly HR	--
14	Kızılcahamam, including Soğuksu National Park	10+	Forested hills	3, 4	Partly NP	Road construction, tourism development
15	Kızılırmak delta	500	Large delta with lakes, now mainly agriculture	2,3,4	Partly HR	Tourism development, hunting, disturbance, cattle grazing
16	North-east Turkey	1000	Forested mountains and mountain pastures	1	UP	Shooting and trapping of raptors
17	Yeniçağa Gölü	18	Freshwater lake mainly surrounded by wet meadows	3, 4	UP	Cattle grazing, pollution
18	Yeşilirmak delta	600	River delta, now largely agricultural	4	Partly HR	Drainage
19	Akşehir Gölü	353	Freshwater lake surrounded by reedbeds	2, 3, 4	UP	Hunting, reed-cutting in breeding season, pollution
20	Bolluk (Bulak) Gölü	12	Inland saline lake	2, 3	UP	Industrial development
21	Çavuşçu Gölü	c. 10	Shallow freshwater lake with sparse lakeside vegetation	2, 3, 4	UP	Disturbance from quarry
22	Eber Gölü	52-176	Freshwater lake, overgrown with vegetation	2,3	UP	Pollution, hunting, reed-cutting
23	Ereğli marshes	59	Freshwater wetland with extensive marshes surrounded by steppe and agriculture	2, 3, 4	UP	Drainage, reed-burning, hunting
24	Hotamış marshes, including Bataklık Gölü	126	Extensive freshwater marsh	2, 3, 4	UP	Drought, changes in irrigation
25	Karapınar plain	c. 190	Steppe with salt lake	2, 3, 4	UP	--
26	Krater Gölü and Meketuzlası	c. 30	Volcanic lakes surrounded by ash	See text	UP	--

TABLE I (cont.)

Site (see Figure 1)	Area (km <sup>2</sup> )	*Description	Importance†	Protection status‡	Threats
27 Kulu (Küçük or Dünden) Gölü	8	Vegetationless steppe lake surrounded by agriculture and marsh	2, 3, 4	UP	Hunting, cultivation of steppe
28 Mogan (Gölbaşı or Gökçe) Gölü	6	Freshwater lake surrounded by agriculture and marshes	See text	UP	Industrial and recreational development
29 Seyfe Gölü	15-70	Brackish steppe lake	2, 3, 4	UP	Hunting, proposed drainage
30 Sultan marshes	c. 1,000	Extensive freshwater marshes, brackish and saltwater lakes	2, 3, 4	Partly NR, partly HR	Drainage, grazing, disturbance, reed-cutting, illegal hunting
31 Tödürge (Demiryurt) Gölü	3	Freshwater lake, surrounded by marshes, meadows and agriculture	3, 4	UP	-
32 Tuz Gölü	2,000+	Huge saline lake, surrounded by salt steppe	2, 3, 4	UP	Hunting
33 Tuzla Gölü	23	Small saline steppe lake	4	UP	-
34 Bafa Gölü	70	Slightly saline lake (former bay of sea)	2, 3, 4	UP	Drying-out of marshes, road building, hunting
35 Büyük Menderes delta	c. 130	Delta and lagoons, coastal steppe and agricultural land	2, 3, 4	UP	Hunting, disturbance of breeding colonies, agricultural intensification
36 Çamaltı Tuzlası	80	Coastal marshes, lagoons and saltpans	2, 3, 4	HR	Expansion of saltpans, illegal hunting, disturbance of breeding colonies
37 Güllük marshes	c. 12	Delta and river with dense vegetation	4	UP	Drainage, reed-cutting and burning
38 Işıklı (Çivril) Gölü	c. 35	Freshwater lake, overgrown with vegetation	2, 3, 4	UP	Hunting, disturbance
39 Karamık marshes	41	Freshwater marsh, surrounded by wet meadows, arable land and rocky steppe	2, 3, 4	UP	Drainage, hunting, reed-cutting

40	Küçük Menderes delta	c. 15	Delta with marshes and lakes, but mainly agriculture	4	Partly HR	Drainage, development of tourism, illegal hunting, road construction
41	Marmara Gölü	34	Shallow lake surrounded by thick vegetation, wet meadows and reedbeds	2, 3, 4	UP	Hunting
42	Samsun Dağı (Dilek peninsula)	110	Mountain ridge, covered mainly in maquis and <i>Pinus</i> woodland	4	NP	Construction of forest roads, tourism
43	Acıgöl (Acıtuз, Tuz or Çardak Gölü) and Çalı Gölü	160	Saline lake, surrounded by steppe	2, 3, 4	Partly HR	Potential disturbance from airfield, drainage
44	Aksaz island	<1	Small rocky island	4	UP	–
45	Aladağlar (including Demirkazık Tepesi and Karanfil Dağı)	c. 850	Mountainous area with coniferous forests and alpine meadows	4	Partly HR	–
46	Beyşehir Gölü	656	Large freshwater lake	2, 3, 4	UP	–
47	Burdur Gölü	194	Saline lake	2, 3, 4	UP	Hunting, pollution
48	Büyük and Küçük islands	<1	Small rocky islands	3	UP	Collection of gulls' eggs
49	Çorak (Akgöl or Bayındır) Gölü	12	Shallow freshwater lake	2, 3	UP	Drought, diversion of inflowing stream
50	Çukurova, including Ceyhan, Seyhan and Tarsus deltas	625	Huge delta with lagoons, salt marshes, sand dune systems and agriculture	2, 3, 4	Partly HR	Agricultural intensification, pesticides and fertilisers, overgrazing, drainage, industrial and tourism development, hunting
51	Eğirdir Gölü and Hoyran Gölü	442–481	Large freshwater lake with extensive marshes	2, 3, 4	UP	–
52	Göksu delta, including Paradeniz Gölü and Akgöl	c. 130	Huge delta, with brackish lagoons surrounded by steppe and sand dunes	2, 3, 4	HR	Industrial and tourism development, proposed shrimp ponds, hunting, pollution
53	Karataş Gölü	8	Freshwater lake surrounded by arable land and marshes	2, 3, 4	UP	Agricultural intensification, disturbance

TABLE I (cont.)

Site (see Figure 1)	Area (km <sup>2</sup> )*	Description	Importance†	Protection status‡	Threats
54 Kovada Gölü	11	Lake mainly surrounded by forests	See text	NP, HR	—
55 Köyceğiz Gölü, including Dalıyan delta, Sülüngür Gölü, and Iztuzu Gölü	64	Rich variety of habitats, including freshwater and brackish marshes and lagoons	4	Partly MSPA	Tourism development
56 Salda (Yeşilova) Gölü	41	Deep saline lake	4	UP	—
57 Yanıtlı Gölü	15	Saline lake surrounded by meadows and arable land	2, 3	UP	Hunting
58 Yılanlı Island	<1	Rocky island	4	UP	—
59 Belen (Topboğazi) pass	—	Mountain chain	1	UP	—
60 Ceylanpınar	1,500+	Vast semi-desert/steppe plain, now largely cultivated	3, 4	UP	Cultivation of steppe, pesticides and fertilisers
61 Fırat (Euphrates) at Birecik	c. 15	River and riverine vegetation, barren limestone plateau	3	Partly HR	Dam construction up-river
62 Fırat (Euphrates) at Kargamiş	10	Riverine marshes and islands, <i>Tamarix</i> scrub	2, 3, 4	UP	Dam construction up-river
63 Fırat (Euphrates) at Runkale	20	River with cliffs, surrounded by hills and low scrub	4	UP	Dam construction up-river
64 Ağrı plain	c. 1,250	River plain with grassland and agriculture	4	UP	Agricultural intensification, disturbance
65 Ahtamar island	<1	Rocky island in Van Gölü	See text	UP	Disturbance
66 Balık Gölü	34	Lake surrounded by meadows, agriculture and mountain slopes	See text	UP	—
67 Bendimahi delta	2	Freshwater marsh and wet meadows	2, 3, 4	UP	Cattle grazing
68 Çaldıran marshes	c. 20	Complex of wet meadows along Bendimahi river	2, 3	UP	—

69	Çelebibağ marshes	3	Saltwater marshes on shores of Van Gölü	2, 3, 4	UP	Grazing, disturbance
70	Edremit marshes	<1	Shallow lake on shores of Van Gölü	2, 3	UP	Disturbance, construction of buildings
71	Erçek Gölü	98	Brackish lake with rocky shores	2, 3, 4	UP	-
72	Horkum Gölü (marshes between Balaban and Gevaş)	<1	Small lagoon of Van Gölü surrounded by marshes and meadows	2, 3	UP	Human disturbance, cattle grazing, hunting
73	Upper Murat valley near Yoncalı	c. 20	River valley and floodplain	2, 3, 4	UP	-
74	Nemrut Dağı	c. 250	Mountain and crater lake	See text	UP	Overgrazing
75	Saz Gölü (Doğubayazıt marshes)	c. 10	Lake covered with reeds	4	UP	-
76	Sodali Gölü (Ann Gölü)	11	Saline lake (lagoon of Van Gölü) surrounded by agriculture	2, 3, 4	UP	Cattle grazing
77	Van marshes (marshes near Van Kalesi or Van İskeleyi or Van lagoon)	<180	Complex of small lagoons, marshes and wet meadows on shores of Van Gölü	2, 3	UP	Cattle grazing, disturbance, reed-cutting
78	Yüksekova	280	Large plain with marshes and wet meadows	3, 4	UP	-
79	Sarikum Gölü	1	Coastal lake	2	NR	Afforestation

\* The area given for some wetland sites refers only to the lake; any protected area would need to be expanded to include surrounding habitat of ornithological importance.

† Site important for: 1 - migratory non-waterfowl species; 2 - waterfowl, internationally; 3 - globally threatened species; 4 - species threatened in all or large parts of their European range.

‡ UP - unprotected; NP - National Park; HR - Hunting Reserve; NR - Nature Reserve; ED - awarded European Diploma, on meeting certain criteria, by Council of Europe; MSPA - Mediterranean Specially Protected Area in context of Barcelona Convention.

REFERENCES

- AKÇAKAYA, H. R. 1989. An overview of bird conservation in Turkey. *Sandgrouse* 11: 52-6.
- COLLAR, N. J. & ANDREW, P. 1988. Birds to watch: the ICBP world checklist of threatened birds. *ICBP Tech. Publ.* 8. Cambridge.
- GRIMMETT, R. F. A. & JONES, T. A. 1989. Important bird areas in Europe. *ICBP Tech. Publ.* 9. Cambridge.
- TEMPLE LANG, J. 1989. International conservation treaties and Turkey's birdlife. *Sandgrouse* 11: 67-72.

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# INTERNATIONAL CONSERVATION TREATIES AND TURKEY'S BIRDLIFE\*

by

**John Temple Lang**

This paper summarizes the implications for Turkey's avifauna, and other wildlife, of some of the main international conservation treaties. Treaties, often called 'conventions', are essentially agreements between nation states which are binding under international law, and which therefore oblige states which become party to them to do, or not to do, whatever is specified by their terms. They are the principal way by which nations undertake commitments to one another, and create new rules of international law for purposes such as environmental protection and wildlife and habitat conservation.

## WHY STATES MAKE WILDLIFE CONSERVATION TREATIES

If a state wishes to protect an area of scientific interest within its territory, it does not need to make a treaty. It can do whatever is needed by a national measure. The only exception would concern an area of scientific interest lying across a frontier, in which case both states would need to take action if the area was to be conserved effectively. In present day conditions, therefore, states agree to be bound by wildlife conservation treaties for several reasons:

1. Because they see the need for international cooperation in wildlife conservation. Treaties help to ensure that conservation measures taken by one state are not undermined by the action or inaction of another state on the migration route, or elsewhere in the range, of the species to be conserved. They also ensure that the other state does not take advantage of conservation measures which the first state enacts, by increasing its rate of exploitation. Treaties protect common resources.
2. Treaties also facilitate international coordination of wildlife conservation measures along migration routes and throughout the ranges of the species involved.
3. Treaties are a means of putting pressure on states which have taken no, or inadequate, conservation measures. Once a treaty has been brought into force, states which have not yet agreed to be bound by it can be put under pressure to bring themselves up to the standards set by their neighbours.
4. States realize more and more that if they wish to be up-to-date, well-informed and environmentally responsible, they must be party to the main international wildlife conservation treaties. A state may therefore accept the same standards as its neighbours because it wishes to prove that it is modern and conservation-minded.
5. Treaties provide governments with reasons for taking measures which are necessary but unpopular.
6. They provide standards for judging exactly what actions are needed.

However, if a state bound by a treaty merely conserves one area (the minimum permitted by the Ramsar Convention on Wetlands of International Importance) or conserves only areas which are easily conserved or not threatened, these functions of treaties are not being carried out.

## WHAT TREATIES NEED FOR EFFECTIVE OPERATION

There are at least two essential requirements for the satisfactory working of any wildlife conservation treaty:

\* This paper is adapted from a talk given at the XVII ICBP European Continental Section Conference, Adana (Turkey), 15-20 May 1989.

*Sandgrouse* (1989) 11: 67-72.

1. The areas which are important enough for the habitat to need protection must be identified, so that effective conservation measures can be adopted. This means that some criteria must be adopted and, if necessary, fieldwork done.
2. There must be effective implementation and enforcement of the treaty obligations. A state's commitment to be bound by a treaty does not protect a single bird unless its obligations are carried out.

In practice, these two requirements are often met by supplementing the treaty with authoritative lists of areas in which habitat must be conserved (or at least criteria for identifying those areas) and with explanations clarifying the obligations imposed by the treaty, and by establishing a joint committee or other body independent of any one government to enquire into inadequate implementation of the treaty.

## SOME TREATIES RELEVANT TO TURKEY

The following sections briefly summarize two treaties, the Bern and Barcelona Conventions, by which Turkey has already agreed to be bound, and a third, the Ramsar Convention, which Turkey has not yet ratified but which is obviously relevant to it. Turkey is not a party to the Washington Convention on International Trade in Endangered Species (CITES) or to the Bonn Convention on the Conservation of Migratory Species of Wild Animals. The reasons why Turkey should ratify CITES are essentially the same as those relating to any other country which is important for endangered species, and do not need special discussion here. The Bonn Convention will be very important for Turkey as soon as the proposed supplementary or implementing agreement on migratory waders is available for ratification. Turkey is a party to the World Heritage Convention, but appears to have become so primarily in order to obtain recognition of the enormous importance of its historical and archaeological sites. It has applied to join the European Community, and, if and when it joins, would be bound (after a transitional period) by those conventions to which the Community is party and by the Community's own measures on wildlife and environmental conservation, including the directive and resolution on the conservation of wild birds (Temple Lang 1982, 1988) and the directive on habitats presently being discussed. However, it is now clear that Turkey will not join the Community in the next few years.

### **Bern Convention on the Conservation of European Wildlife and Natural Habitats**

This treaty, by which Turkey has agreed to be bound, was adopted by the Council of Europe in 1979. It imposes obligations to maintain the population of wild flora and fauna at levels which correspond to ecological, scientific and cultural requirements, and to promote national policies for conservation of wild flora and fauna and natural habitats, with particular attention to endangered habitats and species.

In relation to protection of habitats, the Bern Convention obliges states to take measures to ensure the conservation of the habitats of wild flora and fauna species, especially those listed in appendices to the Convention, and the conservation of endangered natural habitats. States in their physical planning and development policies must have regard to the conservation requirements of the areas so protected, in order to avoid or minimize any deterioration of those areas. Special attention is to be given to areas which have an important function as wintering, staging, feeding, breeding or moulting sites for a specified series of migratory species. It will be seen that some of these obligations are defined in general terms. The Convention describes habitat conservation obligations by reference to 'endangered natural habitats' which are not defined, and by reference to precise lists of species of birds and flora.

Progress under the Bern Convention has been disappointing (Batten 1987) due to lack of staff in the secretariat, reluctance of the standing committee to take decisions, and lack of either the legal force of a European Community measure or the political importance of a worldwide treaty such as the Ramsar Convention. However, in 1989 efforts were made to clarify and make more precise the obligations of parties under the Convention by adopting a series of official interpretations of its key words and phrases.

### **Barcelona Convention for the Protection of the Mediterranean Sea against Pollution**

The Barcelona Convention applies throughout the Mediterranean, in Turkey up to the southern limits of the Dardanelles. It imposes general obligations to protect the marine environment and in particular to prevent, reduce and combat pollution from land-based sources (e.g. sewage, industrial pollution) and from ships and oil exploration. The Convention is intended to work largely through supplementary measures: protocols (supplementary conventions), monitoring, scientific cooperation and regular reviews. Protocols have been adopted on pollution by ships and aircraft, and by oil.

For the purpose of this paper, the most important protocol is that on Mediterranean Specially Protected Areas. This requires states which have agreed to be bound by it to 'take all appropriate measures' to protect 'those marine areas which are important for the safeguard of natural resources and natural sites of the Mediterranean Sea area'. This includes territorial waters and marine waters inside national baselines, and wetlands and coastal areas. States are 'to the extent possible' to establish protected areas, and to protect and restore them as rapidly as possible. Such areas will safeguard in particular:

1. Sites of biological and ecological value.
2. The genetic diversity, breeding grounds and other habitats of species, as well as ensuring satisfactory population levels of species.
3. Representative types of ecosystems as well as ecological processes.

The parties to the Protocol are to adopt guidelines and criteria for selecting, setting up and managing protected areas. Buffer zones (less strictly protected areas surrounding areas of scientific importance) and jointly managed areas at frontiers are envisaged, and nations are obliged to adopt a variety of measures to protect the areas selected.

### **Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat**

The Ramsar Convention, adopted in 1971, was one of the first treaties to place emphasis on habitat conservation rather than on conservation of individual species, and it is now universally agreed that this emphasis is correct and necessary. The Ramsar Convention (Lyster 1985) obliges each state which ratifies it to designate at least one wetland 'of international importance', and this may now be with respect to botany or to ecology in general, as well as to waterfowl. Parties to the Convention are obliged to promote the conservation of the wetlands they have listed, and as far as possible to promote 'wise use' of wetlands generally. There are also obligations to promote conservation of wetlands and waterfowl by setting up nature reserves, to take steps to increase waterfowl populations and to encourage research.

The Ramsar Convention has been the main stimulus, together with the activities of the International Waterfowl and Wetland Research Bureau, for the drawing up of authoritative lists of internationally important wetlands, such as the Directory of Wetlands of International Importance in the Western Palearctic (Carp 1980) which covers Turkey. A feature of the Convention has been the progressive elaboration of criteria for determining which wetlands are 'of international importance', and the effect of these criteria has been to put pressure on states to conserve all areas fulfilling them. This work has also led to the adoption by the International Council for Bird Preservation of criteria for all bird species (not just waterfowl) which have been used in its recent extensive analysis of areas in Europe (including Turkey) which are important for birds (Grimmett & Jones 1989; Grimmett *et al.* 1989). The Convention has been successful because of the efforts of IWRB and the International Union for the Conservation of Nature and Natural Resources to promote it and to enlarge its scope, and because it was concerned largely with quarry (game) species, which have obvious economic importance in all countries.

The number of states which are party to the Convention, and the number and total area of wetlands designated under it, are increasing continuously. At present 24 European countries have ratified it and 278 European sites have been designated. Worldwide, 43 states are involved and 357 wetlands listed, totalling over 210,000 km<sup>2</sup> (Smart 1987).

### **Bonn Convention on the Conservation of Migratory Species of Wild Animals**

By this Convention, signed in 1979, states acknowledge the importance of conserving migratory species. Those whose territories form part of the range of any migratory species are obliged to take action to conserve them and their habitats, paying special attention to species which have an unfavourable conservation status. Party nations must endeavour to conclude Range State Agreements covering the whole range of migratory species to restore them to favourable conservation status. Guidelines are laid down for the terms of these agreements, providing for, among other things, periodic review of the conservation status of the species, identification of harmful influences, conservation of habitats and maintenance of a network of suitable habitats along the migration routes, coordinated conservation and management plans, exchange of information, and research. Much of the Bonn Convention itself is concerned with setting up the legal framework for these agreements, which are the real conservation treaties. States which have not ratified the whole Convention can become party to Range State Agreements drawn up in accordance with it.

The Convention came into force in 1983 and so far no Range State Agreements have been concluded, but a draft agreement for the conservation of the White Stork *Ciconia ciconia* has been drawn up, and another much larger and more complex agreement, for geese and ducks, covering the whole western Palearctic, is being worked out.

### **THE POSITION OF TURKEY**

It will be seen that, particularly in relation to habitat conservation, there is a certain amount of overlap between the treaties summarized above. An important wetland, for example, might be protected under the Bern and Ramsar Conventions and in due course under the Bonn Convention implementing agreement on migratory waterfowl. If it was a coastal wetland, it would also come under the Protocol on Mediterranean Specially Protected Areas. If and when Turkey joins the European Community, many areas which should already have been protected under the treaties to which Turkey is a party would also have to be protected under the Community's wildlife conservation measures. It would therefore be repetitive to summarize separately the implications for habitat conservation in Turkey of each of the above treaties. Instead, it is more convenient to look first at the way that Turkey has carried out its obligations under the Bern Convention and the Specially Protected Areas Protocol, and then to look at some of the implications of the treaties which Turkey has, unfortunately, not yet ratified.

It has to be said that, bearing in mind the enormous richness and international importance of the country's wildlife, and the threats to it, the measures taken so far by Turkey to fulfil its obligations are inadequate and disappointing in a number of respects.

#### **Habitat Protection**

This is the most important respect in which Turkey's measures fall short of what needs to be done. The number of areas in which the habitat is officially protected is too low, and the protection, even in areas where it officially exists, is inadequate or ineffective in various ways—and outside protected areas there seems to be very little effective physical planning for environmental conservation purposes.

There are now 21 national parks covering approximately 2,900 km<sup>2</sup> and nature protection areas covering about a further 2,000 km<sup>2</sup>. However, the ICBP list of important bird areas in Europe (Grimmett & Jones 1989) lists 79 sites for birds alone in Turkey, covering over 15,000 km<sup>2</sup>, and many more areas need to be conserved for other groups. Of the 79 ICBP-nominated sites, only six are partly or wholly in national parks, two receive some habitat protection as nature reserves and one as a Mediterranean Specially Protected Area, and 11 are protected (some only temporarily or in part) from hunting but without habitat protection; the remaining 59 are wholly unprotected. This situation is serious, since the ICBP list certainly does not include all areas important for birds in Turkey (it is known to be incomplete for steppe, mountain and forest sites); because groups other than birds are also inadequately protected by existing habitat conservation measures; and because some of the national parks are

conserved for recreational purposes or for historical or cultural reasons and are not important for wildlife. It is thus natural that Turkey is one of ICBP's highest priority countries in western Eurasia for conservation of important areas for birds.

Even in officially protected areas, habitat protection is often ineffective. In some places, the area protected is only part of the area which needs to be preserved (e.g. Manyas Gölü); some areas are unprotected from pollution originating outside the protected area (e.g. Manyas Gölü) or from drainage or water extraction (many areas). Shortage of water may become critical for the many immensely important Turkish wetlands if the Turkish climate becomes still drier as a result of the 'greenhouse effect' in times to come. Other areas are threatened by, and unprotected legally against, disturbance and undesirable development (e.g. Apolyont Gölü, Dalyan-Köyceğiz), intensive agriculture, overgrazing, reed-cutting, deforestation, reafforestation and unwise physical developments causing erosion (e.g. road building in the national park at Samsun Dağı). To sum up, the habitat conservation regimes even in national parks and nature protection areas are not yet adequate to cope with current threats. Further details in relation to specific areas are given by Grimmett and Jones (1989) and Grimmett *et al.* (1989).

So, as far as habitat conservation of areas of scientific importance is concerned, Turkish implementation of the Bern Convention is inadequate, and its countrywide habitat conservation measures likewise. The situation under the Protocol on Mediterranean Specially Protected Areas is also unsatisfactory. Only three areas have been listed: Dalyan-Köyceğiz, Olimpos-Beydağları National Park, and Gelibolu, a historically important park. The last two of these were set up before Turkey became a party to the Protocol, and only the first of the three is significantly important for birds.

Of ICBP's 79 important areas for birds in Turkey, no less than 62 are wetlands. A country so rich in wetlands obviously should be a party to the only worldwide treaty dealing specifically with them. Ratification by Turkey of the Ramsar Convention, provided that it was accompanied by measures to protect a substantial proportion of the major Turkish wetlands, would go far to conserve the many rare and endangered species which breed in the country (Bariş 1989) and would thus simultaneously fulfil the obligations of Turkey under the Bern Convention in respect of these species. It is not easy to think of any one measure that would do more to raise Turkey's standing in the eyes of conservationists everywhere.

### Species Protection

The position of species protection is unfortunately also unsatisfactory. Under the Bern Convention Turkey has made reservations concerning (i.e. has *not* promised to protect) a number of species whose protection the Convention would otherwise have been obliged to foster. Those so excluded from the obligations Turkey has otherwise accepted include such rare or endangered species as wolf *Canis lupus*, bears (Ursidae), ibex *Capra aegagrus*, Lesser White-fronted Goose *Anser erythropus* and White-headed Duck *Oxyura leucocephala* (both threatened worldwide), Ruddy Shelduck *Tadorna ferruginea*, Black-bellied Sandgrouse *Pterocles orientalis*, Pin-tailed Sandgrouse *P. alchata*, and several species of tortoise *Testudo* and frog *Rana*. These reservations are serious and regrettable, whether one looks at the situation of these species worldwide or only in the Council of Europe countries. For White-headed Duck Turkey is probably the most important country in the world. It is true that under the annual hunting Resolution some of these species are now protected, but only on a year-to-year basis. In the latest Resolution which I have been able to obtain (Anon. 1987) the list of species which may legally be hunted includes beech marten *Martes foina*, pine marten *M. martes*, marbled polecat *Vormela peregusna*, Lesser White-fronted Goose, See-see Partridge *Ammoperdix griseogularis*, and both sandgrouse already mentioned. For some years Turkey had no reservation for (and so was obliged by treaty to protect) several species which were in fact not legally protected against hunting, including leopard *Pantherus pardus* (not mentioned in the 1987 Resolution), lynx *Felis lynx* (which can be legally shot throughout the year) and See-see Partridge. All this is unsatisfactory, and difficult to explain.

Another problem, illustrated by Magnin (1989), is inadequate enforcement of existing hunting Resolutions. Illegal hunting is widespread and hardly controlled, and is serious

because of the resulting disturbance as well as because rare and endangered species are shot. The habitat conservation laws are inadequately enforced, and there seem to be too many authorities responsible, on paper, for enforcing them, none appearing to have a sufficient number of adequately trained officials.

#### COMMENTS AND CONCLUSIONS

Considering the great wealth and importance of Turkey's wildlife (not only its birds) and the threats to this wildlife and its habitats (notably wetlands), and bearing in mind the country's important geographical position in a region in which it is largely surrounded by deserts (Moreau 1972), Turkey's implementation of the only two wildlife conservation treaties to which it is a party is so far disappointing. It is not easy to avoid the conclusion that treaty obligations freely accepted have not been taken seriously enough or carried out with sufficient care.

The fact that so many areas of international importance for birds in Turkey are wetlands makes it especially disappointing that the country is one of the very few in Europe which have not ratified the Ramsar Convention. Any state which wishes to have an up-to-date attitude to bird conservation, or which wishes to be regarded as taking bird conservation seriously, should be a party to this, one of the oldest and most successful of all wildlife conservation treaties (Lyster 1985). It was said by an official speaker at the ICBP European Continental Section Conference in Adana, May 1989, that the Turkish authorities are considering ratification, and this, provided that Turkey then commits itself to conserving a substantial number of its major wetlands, would do much to make up for the inadequacy of its measures to implement the Bern and Barcelona Conventions.

#### REFERENCES

- ANON. 1987. *1987-1988 Av Mevsimi Merkez av Komisyonu Kararı*. Orman Genel Müdürlüğü Tarım Orman ve Köyisleri Bakanlığı. [*Resolution of the Central Hunting Committee for the 1987-1988 Hunting Season*. General Directorate of Forestry, Ministry of Agriculture, Forestry and Rural Affairs, Ankara.]
- BARIŞ, Y. S. 1989. Turkey's bird habitats and ornithological importance. *Sandgrouse* 11: 42-51.
- BATTEN, L. 1987. The effectiveness of European agreements for wader conservation. In: Davidson, N. C. & Pienkowski, M. W. (eds) *The conservation of international flyway populations of waders*. *Wader Study Group Bull.* 49 suppl./*IWRB Spec. Publ.* 7: 118-21.
- CARP, E. 1980. *A Directory of Western Palearctic Wetlands*. UN Environment Programme/IUCN, Gland.
- GRIMMETT, R. F. A. & JONES, T. A. 1989. Important bird areas in Europe. *ICBP Tech Publ.* 9. Cambridge.
- GRIMMETT, R. F. A., KASPAREK, M., KILIÇ, A. & ERTAN, A. 1989. Important bird areas in Turkey: unprotected and under threat. *Sandgrouse* 11: 57-66.
- LYSTER, S. 1985. *International Wildlife Law*. Grotius, Cambridge.
- MAGNIN, G. 1989. Falconry and hunting in Turkey during 1987. *ICBP Study Rep.* 34. Cambridge.
- MOREAU, R. E. 1972. *The Palearctic-African Bird Migration Systems*. Academic, London.
- SMART, M. 1987. International conventions. In: Davidson, N. C. & Pienkowski, M. W. (eds) *The conservation of international flyway populations of waders*. *Wader Study Group Bull.* 49 suppl./*IWRB Spec. Publ.* 7: 114-17.
- TEMPLE LANG, J. 1982. The European Community Directive on Bird Conservation. *Biol. Conservation* 22: 11-25.
- TEMPLE LANG, J. 1988. Implications of the European Community's environment policy for Turkey. *European Law Rev.* 13: 403-10.

# PROTECTION OF THE SULTAN MARSHES, TURKEY

by

Uygar Özesmi

Turkey has not yet signed the Ramsar Convention, although many of its wetlands fulfil the criteria for wetlands of international importance. The Sultan marshes, situated in the central Anatolian district of Kayseri, is one such site. It is a large complex of wetlands in the Develi closed basin at the foot of an extinct volcano, Erciyes (3,916 metres), which lies to the north-east. A brackish marsh, a saline lake and a freshwater marsh are the three types of wetland in the area, and all are directly connected to each other. Yay Gölü, the big saline lake at the centre of the complex is not more than 2 metres deep. Its area varies greatly with seasonal changes, though Gür *et al.* (1987) give the area as approximately 15 km<sup>2</sup>; the total area of the freshwater marsh to the north and the brackish marsh to the south of Yay Gölü is given as 20 km<sup>2</sup>. In the north-west of the area is a smaller saline lake, Çöl Gölü, and both these lakes and marshes are surrounded by huge areas of mudflats and steppes.

This wide variety of ecosystems, the complexity and harmony of the structure of these saline lakes, fresh and brackish marshes, mudflats and vast steppes, together with the area's position at the crossroads of two major migration routes, make the Sultan marshes an internationally important area. Kasperek (1985) has provided a major review of the region's geography and natural history.

## ORNITHOLOGICAL IMPORTANCE

250 bird species have so far been recorded in the Sultan marshes. Of these, 67 occur regularly in winter and on migration, while 46 are vagrant. Of the remaining 138 species, 69 are proved to breed in the area and the others may also breed though there is no direct evidence. These numbers, compared to other areas, show the richness of the marshes' avifauna. The following details of breeding, wintering and passage birds are taken mainly from Kasperek (1985), also Gürpınar (1978) and Özesmi (1987a).

The vast reedbeds (*Phragmites*, *Typha*, *Juncus*) in the south, pouring their water into Yay Gölü, are an ideal breeding area for many bird species. A big mixed colony in the well-protected and dense parts of the marsh contains about 200 pairs of Pygmy Cormorant *Phalacrocorax pygmeus*, about 50 pairs of Night Heron *Nycticorax nycticorax*, about 50 pairs of Squacco Heron *Ardeola ralloides*, about 200 pairs of Little Egret *Egretta garzetta*, about 150–200 pairs of Glossy Ibis *Plegadis falcinellus* and about 5–10 pairs of Spoonbill *Platalea leucorodia*. These birds usually go out to the floodplains for feeding, although the colony itself moved in 1988 due to disturbance by visitors, and the birds now nest in an inaccessible place in the south-east of the marsh. The marsh is 1.5–2 metres deep, but within it there are also small lakes about 5–6 metres deep, and around these breed Little Grebe *Tachybaptus ruficollis* and Red-necked Grebe *Podiceps grisegena*. The lakes contain floating reed islands which are blown by the wind from one corner to another, and on these islands breed about 20 pairs of White-headed Duck *Oxyura leucocephala* together with many other diving ducks. The most numerous breeding non-passerine species over most of the marsh is the Little Bittern *Ixobrychus minutus* (300 pairs); passerines such as Bearded Tit *Panurus biarmicus* and warblers also breed. On the floodplains and mudflats surrounding the marsh many waders breed, including Black-winged Stilt *Himantopus himantopus* (about 200–250 pairs), Avocet *Recurvirostra avosetta* (about 300 pairs), Stone Curlew *Burhinus oedicnemus* (about 10 pairs), Collared Pratincole *Glareola pratincola* and Spur-winged Plover *Hoplopterus spinosus* (about 20 pairs). Gulls and terns include about 5 pairs of Mediterranean Gull *Larus melanocephalus*, about 100 pairs of Slender-billed Gull *L. genei*, about 100 pairs of Gull-billed Tern

*Sandgrouse* (1989) 11: 73–5.

*Gelochelidon nilotica*, about 10 pairs of Common Tern *Sterna hirundo*, about 70 pairs of Little Tern *Sterna albifrons*, about 200 pairs of Whiskered Tern *Chlidonias hybridus*, about 100 pairs of Black Tern *C. niger* and about 15 pairs of White-winged Black Tern *C. leucopterus*.

In 1970 1,500–2,000 pairs of Greater Flamingo *Phoenicopterus ruber* bred in Yay Gölü, but breeding has not been recorded since. However, about 40,000 are present every autumn, while the maximum count is 60,000–80,000. Yay Gölü has a great attraction for wintering birds with its non-freezing water, and about 600,000 waterfowl are present on occasion. Peak counts include 3,280 White-fronted Geese *Anser albifrons*, 12,100 Greylag Geese *A. anser*, 11,000 Ruddy Shelduck *Tadorna ferruginea*, 9,000 Shoveler *Anas clypeata*, 2,000 Cranes *Grus grus* and 1,350 Spotted Redshank *Tringa erythropus*.

The marshes are not only important for their birds but also for the other flora and fauna which support them. No detailed research has yet been done in the area, but over 90 species of plankton, 60 species of insect, 19 species of mollusc, 10 species of reptile, 3 amphibians, 3 fish, 21 mammals and 122 plant species have been identified so far (Demirkuş & Sümbül 1982; Kasperek 1985; Özesmi & Önder 1988).

### THREATS AND PROTECTION

Unfortunately the Sultan marshes have had to face many threats—as does any wetland—and were in great danger of being totally drained in an irrigation project planned by the State Water Works in 1970. After the area proved to be of international importance, the General Directorate of National Parks and Hunting and the Turkish Association for the Conservation of Nature worked together to protect the area from this project. Eventually, in 1977, the State Water Works was persuaded to make changes in the plans so that the marsh would no longer be in danger of drying up totally. Canals surrounding the wetland now bring the drained water to a station where it is pumped to the Kızılırmak river through a tunnel 3.5 km long. The amount of water drained is limited to 1,071 metres altitude, a level which would not cause the marsh to dry out but may nevertheless have serious effects on the ecosystem. Water for the Sultan marshes comes from two dammed lakes, Kovalı and Ağacaşar, and there is also a proposed 12-km-long tunnel from the Zamantı river into the basin and the lake behind Ağacaşar dam. Since the demand for irrigation water changes from time to time the water level will rise and fall irregularly, perhaps destroying nests near the water's edge, and the flushing of Yay Gölü with irrigation water will destroy the salinity which is a natural feature of such a closed basin

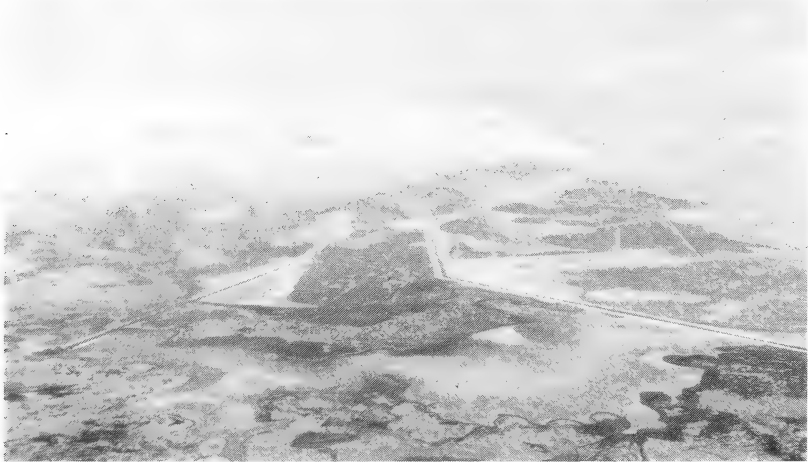


Plate 1. Sultan marshes: irrigation canals joining Yay Gölü and the southern brackish marsh. (Uygar Özesmi)



with a high evaporation rate. Canalization may also cause a drop in salinity, destroying the whole character of the lake together with much of its bird life, and will besides carry in pesticides, nutrients and other chemicals which will certainly damage the marsh's ecology and bird life. The fate of the area attracted attention from the news media, and after the visit of the Turkish President to the Sultan marshes in October 1988 the State Water Works was required, under the supervision of the General Directorate of Environment, to revise the project so as not to be harmful to the bird life—but no action has resulted from this (Akçakaya *et al.* 1983; Kasperek 1985; Özsmi 1987a).

Another problem is the extensive agriculture which, with the help of the irrigation projects, is extending further and further towards the marsh. Big herds of cattle, sheep and water-buffalo from the village communities graze at the water's edge and sometimes even in the marsh causing nest destruction in both these areas. Reed- and sedge-cutting by the villagers in spring (to obtain construction material for furniture and houses) continues although this is also to the detriment of the marsh and its birds. The collection of eggs for pastry shops, which was carried on extensively in the past, nowadays does not take place. Although strictly forbidden and controlled by guards, hunting still occurs, illegally, in the area. Hunters usually come by car and can escape easily since the four wardens have only two motorbikes and a tractor. Syrian falcon-trappers are especially common and this activity cannot be stopped since the fines are very low and the value of the falcons, when sold abroad, very high. If the number of guards is not increased, and while they have no fast vehicles, this problem will probably remain. Nevertheless, the area is well protected against hunting in comparison with other wetlands in Turkey (Akçakaya *et al.* 1983; Kasperek 1985). In 1971 the area was declared a waterfowl production and protection station, rather an unclear status, though in April 1988 it was designated by the General Directorate of Forestry as a nature reserve of 170 km<sup>2</sup>. There is now an observation tower, a visitors' house with a small museum of badly stuffed birds and three lodges for the wardens.

As one of the most important wetlands in the east Mediterranean region, it is fortunate that the Sultan marshes have been attracting more and more attention, and have recently been put under government protection. However, there are still management problems to be solved by the government agencies responsible, such as illegal hunting in spite of protection, uncontrolled burning and cutting of reeds, grazing, etc. We hope that all these problems may be resolved in as short a time as possible, and invite all naturalists and birdwatchers to the Sultan marshes.

#### REFERENCES

- AKÇAKAYA, H. R., BARIŞ, Y. S., BILGIN, C. C. 1983. *Sultansazlığı Koruma Projesi Sonuç Raporu* [Sultan Marshes Conservation Project Final Report]. Unpubl.
- DEMIRKUŞ, N. & SÜMBÜL, H. 1982. *Sultan Sazlığı Florası Üzerine Ön Çalışma*. Hacettepe Üniversitesi, Ankara.
- GÜR, M., DERGÖN, M. & GÜLNAR, I. 1987. *Sultan Sazlığı Su Kuşları Tabiatı Koruma Alanı Ön Etüd Raporu*. Orman Genel Müdürlüğü, Adana.
- GÜRPINAR, T. 1978. Sultan Sazlığı. *Turing, Türkiye Turing ve Otomobil Kurumu Bülteni*. 63: 342.
- KASPEREK, M. 1985. *Die Sultanssümpfe: Naturgeschichte eines Vogelparadieses in Anatolien*. Kasperek, Heidelberg.
- ÖZESMI, U. 1987a. Sultan Sazlığı Önemli ve Korunması. *Proc. 2nd Bandırma Kuşçenneti and Kuş Gölü Symp.*, 163–7. Bandırma.
- ÖZESMI, U. 1987b. The qualitative analysis and taxonomical study of planktonic species in Sultan Sazlığı. *Doğa TU-Bivol* 11 (3): 147–56.
- ÖZESMI, U. & ÖNDER, F. 1988. A faunistic study on the aquatic heteropterous and coleopterous species of Sultan marshes, Turkey. *9th Nat. Biol. Congr.* Sivas.

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# IMPORTANCE OF THE ÇUKUROVA DELTAS, SOUTHERN TURKEY, FOR MIGRATING WADERS AND OTHER WATERBIRDS IN SPRING\*

by

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The survival of migratory wetland birds depends greatly on the availability of suitable feeding and resting sites along their migration routes. This is especially the case for arctic and sub-arctic wader species, which are long-distance migrants and have notoriously complex migration routes (Davidson & Pienkowski 1987). The spring is a highly critical period for arctic and sub-arctic waders, because (1) considerable fat reserves have to be put on for a successful return migration and breeding and (2) the timing of departure to the breeding grounds needs to be very accurate.

The total area used by a wader population in moving between its breeding and wintering grounds is known as a wader flyway (Davidson & Pienkowski 1987). A recent review of the east Mediterranean and west Asian wader flyways, which meet over Turkey, showed a general lack of information on spring migration through the east Mediterranean and western Asia (Summers *et al.* 1987). To define and delimit accurately a wader flyway it is necessary to know which populations are involved, which stopover sites these populations use, and to know the timing of migration and turnover rates at these sites.

A pilot study in spring 1986 of the Çukurova deltas in southern Turkey revealed good numbers of migrant waders and waterfowl. A chain of wetlands consisting of beach plains, salt-marshes, lagoons, and lakes fringes some 100 km of coastline between Mersin and Yumurtalık (Figure 1) and, together with the floodplains of the rivers Berdan, Seyhan and Ceyhan they form the largest system of coastal wetlands in Turkey (625 km<sup>2</sup>, including dunes).

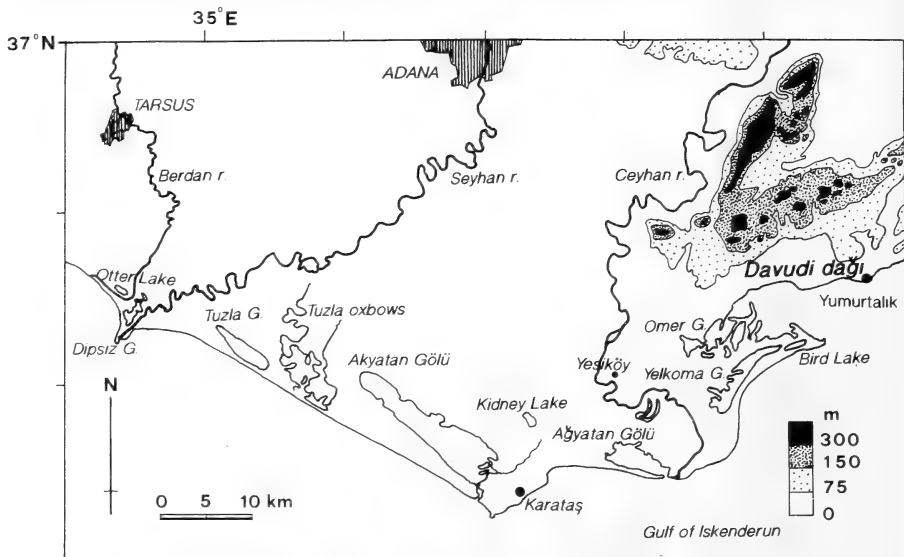


Figure 1. The Çukurova deltas, southern Turkey.

\* This paper is adapted from a talk given at the XVII ICBP European Continental Section Conference, Adana (Turkey), 15–20 May 1989.

This area proved to be suitable for intensive study, and a cooperative project was started by the Dutch Working Group for International Wader and Waterfowl Research (WIWO) and the Turkish Society for the Protection of Wildlife (DHKD) to study the importance of the Çukurova deltas for migrant waders and waterfowl in spring (van der Have & van den Berk 1988). The project was carried out from 20 March and 20 May 1987 with the following aims:

1. To study the spring migration of waders and waterfowl in the Çukurova deltas with respect to the species, populations and numbers of birds involved.
2. To estimate the importance of the Çukurova deltas for the east Mediterranean and east Atlantic wader flyways.
3. To collect data on migrant passerines and to carry out a general survey of local wildlife.

Details on the first topic can be found in Cronau (1988 a, b), Cronau and Langeveld (1988) and van der Have *et al.* (1988b), on the second topic in van der Have *et al.* (1988a), and on the third in Bosman and van den Berg (1988), van den Berk (1988), van den Berk and Kasperek (1988), van den Berk and Letschert (1988), van den Berk *et al.* (1988) and van Winden (1988). This report summarizes the results of the first two goals of the project and describes the implications for conservation.

## METHODS

Intensive studies were concentrated on a system of connected lagoons, Omer Gölü and Yapı Gölü, east of the Ceyhan river between Kaldırım and Deveciüşağı (Figure 2). Birds were counted, identified and checked for colour marks every three to four days. Trapping was done with single- and four-shelf Japanese mist-nets and with Ottenby cages, birds then being measured and marked with a colour tape around the metal (Radolfzell) ring and with plumage dyes—Dunlin\* with rhodamine B (red), Little Stint with picric acid (yellow). In addition, general surveys of all wetlands of the Çukurova deltas were carried out during four periods, 20–30 March, 4–15 April, 2–14 May and 15–22 May, and the maximum numbers derived from these counts are presented in Table I (the maximum numbers in the Omer Gölü lagoon system were derived from the intensive counts).



Plate 1. Dunes and salt-marsh at Omer Gölü near Çamlık Dalyanı, with Davudi Dağı in the background, 2 April 1987. (Arnoud B. van den Berg)

\* For scientific names of waterbird species, see Table I.

TABLE I. MAXIMUM NUMBERS OF WATERBIRDS IN THE ÇUKUROVA DELTAS, SPRING 1987

	Beach	Tuzla Gölü	Omer Gölü	Dipsiz Gölü	Akyatan Gölü	Agyatan Gölü	Bird Lake	Kidney Gölü	Tuzla oxbows	Rivers	Otter Lake
Little Grebe											
<i>Tachybaptus ruficollis</i>		2			1	5		2	1		
Great Crested Grebe											
<i>Podiceps cristatus</i>	4	3				1	1		1		
Black-necked Grebe											
<i>P. nigricollis</i>		33							2		
Pygmy Cormorant											
<i>Phalacrocorax pygmeus</i>										20	
White Pelican											
<i>Pelecanus onocrotalus</i>		6	14	1	3			2			
Little Bittern											
<i>Ixobrychus minutus</i>	3	15			1	2		1		16	10
Night Heron											
<i>Nycticorax nycticorax</i>		3	8		1					38	3
Squacco Heron											
<i>Ardeola ralloides</i>		1			4	4		2		7	
Little Egret											
<i>Egretta garzetta</i>	7	2	60	1	3	21	21	8	16	127	5
Great White Egret											
<i>E. alba</i>		7	50	5	9		3	2	5	35	1
Grey Heron											
<i>Ardea cinerea</i>		1	35	3	8		4	2	1	36	
Purple Heron											
<i>A. purpurea</i>	2	4	20		1	6	1	12		4	1
Black Stork											
<i>Ciconia nigra</i>			3		1		2			1	
White Stork											
<i>C. ciconia</i>		16	3		9	24			13	390	
Glossy Ibis											
<i>Plegadis falcinellus</i>		6	1	1	6	2				17	
Spoonbill											
<i>Platalea leucorodia</i>		4	100	30	10	7		40	3		
Greater Flamingo											
<i>Phoenicopterus ruber</i>	80	608	1,674		1,200		1,290	170	71		
White-fronted Goose											
<i>Anser albifrons</i>		19	26		616			370			
Ruddy Shelduck											
<i>Tadoma ferruginea</i>			2								
Shelduck											
<i>T. tadoma</i>		35	1,500		50		67				
Wigeon											
<i>Anas penelope</i>		34	550		74	1		1,840	19		
Gadwall											
<i>A. strepera</i>		2	23					4			
Teal											
<i>A. crecca</i>	30	150	1,853		220		40	50	17		
Mallard											
<i>A. platyrhynchos</i>		6	3	2	125	111		46		6	
Pintail											
<i>A. acuta</i>	3	50	157	1	53	4	95	200	6		
Garganey											
<i>A. querquedula</i>	5	250	276	500	12	22	3	15	150	8	9
Shoveler											
<i>A. clypeata</i>	4	65	406		90	11	20	450	4	2	
Marbled Teal											
<i>Marmaronetta angustirostris</i>		9		8		12			2	9	7
Red-crested Pochard											
<i>Netta rufina</i>		2				2		2			
Pochard											
<i>Aythya ferina</i>		192	96		96						
Ferruginous Duck											
<i>A. nyroca</i>						1					
Tufted Duck											
<i>A. fuligula</i>		3	13		283	1		2			
White-headed Duck											
<i>Oxyura leucocephala</i>										2	
Coot											
<i>Fulica atra</i>		225	288		174	20		310			1
Crane											
<i>Grus grus</i>			20								
Oystercatcher											
<i>Haematopus ostralegus</i>	23		4				10				
Black-winged Stilt											
<i>Himantopus himantopus</i>		10	46	71	8	136	4	149	12	21	

TABLE I (cont.)

	Beach	Tuzla Gölü	Omer Gölü	Dipsiz Gölü	Akyatan Gölü	Agyatan Gölü	Bird Lake	Kidney Gölü	Tuzla oxbows	Rivers	Otter Lake
Avocet											
<i>Recurvirostra avosetta</i>	65	44	1,707	5	113		95		13		
Stone Curlew											
<i>Burhinus oedicnemus</i>		5	5		5	12	8	11			
Collared Pratincole											
<i>Glareola pratincola</i>		5	59	120	70	70	10	86	4	126	
Black-winged Pratincole											
<i>G. nordmanni</i>			2								
Little Ringed Plover											
<i>Charadrius dubius</i>			5								
Ringed Plover											
<i>C. hiaticula</i>			21		47	45	25	89			
Kentish Plover											
<i>C. alexandrinus</i>	135	114	1,235	80	3,300	454	1,500	408	90	6	
Greater Sand Plover											
<i>C. leschenaultii</i>	43	1	21	6		2	1				
Grey Plover											
<i>Pluvialis squatarola</i>	21	23	157	10	248	30			30	2	
Spur-winged Plover											
<i>Hoplopterus spinosus</i>	2	12		31	18	50	8	48	3	33	
White-tailed Plover											
<i>Chettusia leucura</i>						2					
Lapwing											
<i>Vanellus vanellus</i>			18		9			70			
Knot											
<i>Calidris canutus</i>					1		2				
Sanderling											
<i>C. alba</i>	96	1			211		70		38		
Little Stint											
<i>C. minuta</i>	600	30	3,854	12	4,900	480	113	612	54	63	
Temminck's Stint											
<i>C. temminckii</i>			10			2		10			
Curlew Sandpiper											
<i>C. ferruginea</i>			1,500	10	1,270	102	14	32	27	34	
Dunlin											
<i>C. alpina</i>	900	4	3,179		2,200	3	4,500	16	7		
Broad-billed Sandpiper											
<i>Limicola falcinellus</i>		1	57		36		2				
Ruff											
<i>Philomachus pugnax</i>	88	1,040	10	1,100	139	106	335	5	48		
Snipe											
<i>Gallinago gallinago</i>		6	2		3	2	9				
Great Snipe											
<i>G. media</i>								2			
Black-tailed Godwit											
<i>Limosa limosa</i>	187	32	1,018			121	250	61	4		
Bar-tailed Godwit											
<i>L. lapponica</i>			4		1				5		
Whimbrel											
<i>Numenius phaeopus</i>	5			3	1				1		
Curlew											
<i>N. arquata</i>	6	1	7	7	1		5				
Spotted Redshank											
<i>Tringa erythropus</i>		20	140		5	2	7	8	30		
Redshank											
<i>T. totanus</i>	25	8	58	2	46	2	35	6	2	1	
Marsh Sandpiper											
<i>T. stagnatilis</i>			82			2	30	7	9		
Greenshank											
<i>T. nebularia</i>	17	10	55	2	6	2	15	2	8		
Green Sandpiper											
<i>T. ochropus</i>	1	30	6		3	1	2	1	1		
Wood Sandpiper											
<i>T. glareola</i>		2	22			81		14	1	30	14
Terek Sandpiper											
<i>Xenus cinereus</i>							1		2		2
Common Sandpiper											
<i>Actitis hypoleucos</i>	2		5				1			5	
Tumstone											
<i>Arenaria interpres</i>	4		7				150		24		
Red-necked Phalarope											
<i>Phalaropus lobatus</i>			84		1	9		4			
Arctic Skua											
<i>Stercorarius parasiticus</i>							3				

TABLE I (cont.)

	Beach	Tuzla Gölü	Omer Gölü	Dipsiz Gölü	Akyatan Gölü	Agyatan Gölü	Bird Lake	Kidney Gölü	Tuzla oxbows	Rivers	Otter Lake
Mediterranean Gull <i>Larus melanocephalus</i>	2		1	9	480		15			8	
Little Gull <i>L. minutus</i>	200	2	50	8	2		1		1	2	
Black-headed Gull <i>L. ridibundus</i>	50	4	42	1	8					825	
Slender-billed Gull <i>L. genei</i>	68	10	173	125	120	19	84		150	1	
Audouin's Gull <i>L. audouinii</i>									1		
Lesser Black-backed Gull <i>L. fuscus</i>	45	1	25	3			100		20		
Yellow-legged Gull <i>L. (a.) cachinnans</i>	45	22	26	30	5		410		12		
Armenian Gull <i>L. (a.) armenicus</i>	50		10				3		1		
Gull-billed Tern <i>Gelochelidon nilotica</i>	1		12	2							
Caspian Tern <i>Sterna caspia</i>			1								
Sandwich Tern <i>S. sandvicensis</i>	44	2					10		3		
Common Tern <i>S. hirundo</i>	218					2	3		6		
Little Tern <i>S. albitrons</i>	24	4	50	16	150	72	8	34	35	19	
Black Tern <i>C. niger</i>	1				1					1	
White-winged Black Tern <i>C. leucopterus</i>	8		23	1	6	42				28	
Total numbers of species	39	60	66	33	59	47	48	43	48	36	14

## HABITATS AND SITES

In this section short descriptions are given of the habitats studied, with notes on individual sites and the associated waterbird species. For more details, see Aukes *et al.* (1988).

### Beach

Sandy beaches and beach plains form approximately 100 km of coastline between Mersin and Yumurtalık. The beach is 30–100 metres wide and the difference between high and low tide is around 20 cm. Kentish Plovers are common breeders on the high beach, which is sparsely vegetated with *Cakile maritima*, *Ammophila arenaria*, *Eryngium maritimum*, and *Euphorbia paralias*. Spur-winged Plovers breed only on places where beach plains are wide and vegetated. Waders forage solitarily or in groups, mainly along the high-tide line, and gulls and terns roost near the river mouths.

### Lagoons

Lagoons are the most characteristic wetlands of the Çukurova deltas. Although they are directly or indirectly connected with the sea, their salinity varies widely and depends to a large extent on the fresh water inflow from the surrounding areas. Salinity is an important factor which characterizes a non-tidal wetland, and in the lagoons of the Çukurova deltas it is related to their geomorphological structure and location. Lagoons surrounded by dunes or close to hills are fed with fresh water by seepage or by small streams, and drainage channels also provide a major inflow of fresh water from agricultural land. The salinity of the lagoons is lower in early spring (after the winter rains) and increases during spring, while the mudflats dry out irregularly in the shallow western parts and are permanently dry during summer. This process occurs in Akyatan Gölü, Agyatan Gölü, Yelkoma Gölü and Omer Gölü (Figure 1). These shallow parts of the lagoons were greatly preferred by waders, especially when standing water had only just dried out.

Most lagoons are surrounded by salt-marshes vegetated with *Salicornia*, where Kentish



Plate 2. Omer Gölü near Çamlık Dalyanı during high water with strong onshore wind, 16 April 1987. (Arnoud B. van den Berg)

Plovers breed abundantly. Greater Flamingoes and diving ducks feed in the deeper parts of the lagoons, and large numbers of dabbling ducks were present early in spring though most had departed by early April. The Çukurova deltas are an important wintering area for Greater Flamingo, ducks and Coot (Dijksen & van der Wolf 1987). Marbled Teal were only found west of Kidney Lake (c. 32 pairs counted, 50–100 pairs estimated).

Tuzla Gölü (sometimes called Tuz Gölü, which means salt lake) has a salinity higher than sea water as no fresh water streams or channels flow into it and it has no open connection with the sea. Bird Lake is a small sandy, beach plain lake near Yelkoma Gölü and was unnamed on the available maps. Large numbers of *Calidris* waders were found there in early April when it was surveyed for the first time. These numbers were difficult to explain as local food



Plate 3. Omer Gölü near Çamlık Dalyanı fallen dry with strong offshore wind, 17 April 1987. (Arnoud B. van den Berg)

conditions looked highly unsuitable, but the birds were perhaps using the salt-marshes around Yelkoma Gölü as feeding areas.

### Freshwater Marshes

Freshwater marshes are very scarce in the Çukurova deltas, as most of them have been reclaimed, especially in the Tarsus area west of the Berdan (Regma marsh in 1939; Anyaz Gölü in 1969–73). Otter Lake, a small freshwater marsh, still remains in the Turan Emeksiz forestry, and, though it sometimes dries out in dry springs and summers, good numbers of herons, rails and ducks were found in 1987 (Aukes et al. 1988). Kidney Lake is a shallow, calcareous lake near Karataş with a plant community of *Scirpus maritimus*, Characeae, *Butomus*, *Zannichellia* and *Alisma*; it normally dries out in summer but is rich in waterbirds in spring.

### Rivers

The Berdan, Seyhan and Ceyhan rivers formed and shaped the Çukurova deltas. The floodplains do indeed flood annually, but are almost completely turned over to agriculture. Only oxbows and arms of the rivers still provide natural habitats. Birds of the river systems were only very incompletely counted, but the Berdan in particular holds good numbers of breeding *Smyrna* Kingfisher *Halcyon smymensis*.

### DISTRIBUTION OF BIRD SPECIES

A total of 93 waterbird species (migrants and breeders) was observed during the census of all the delta wetlands (Table I), with a maximum of 66 species at one site. It is evident from Table I that the larger lagoons harbour the most species, reflecting their greater diversity of habitats. Sites in Table I are arranged according to decreasing overall salinity.

The salt-marshes and higher mudflats of the Omer Gölü lagoon system gradually dried out during spring as shown in Figure 2. The part of Yapı Gölü near Kaldırım dried up at the

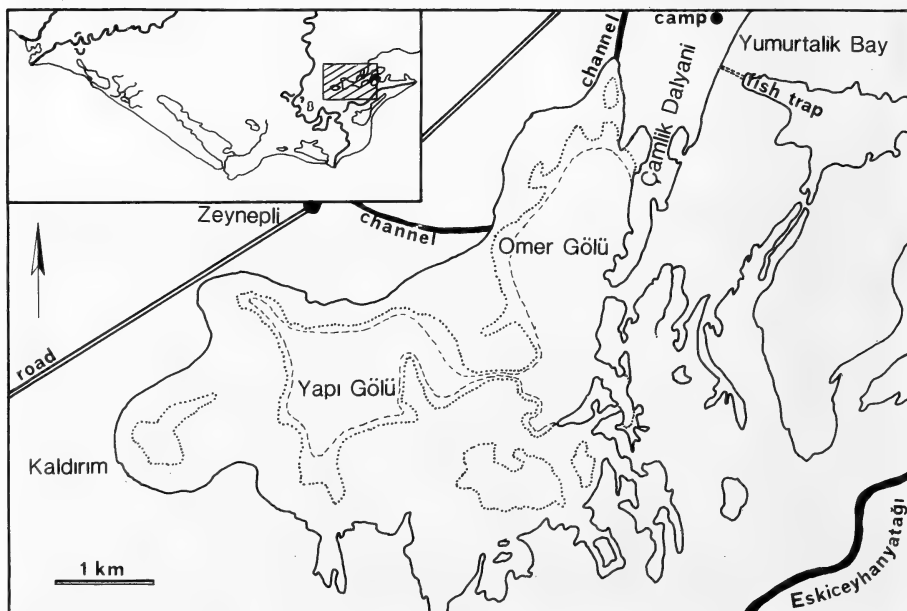


Figure 2. The study area in the Omer Gölü lagoon system, showing the 1987 shoreline in April (dotted line) and May (dashed line).



beginning of May in 1987, and shortly before this happened several thousand waders, mainly Kentish Plovers and Little Stints, foraged in the leg-deep water. This illustrates a characteristic feature of non-tidal wetlands: the dynamic process of fresh water inflow and evaporation provides local, temporary feeding opportunities which are, however, largely unpredictable both in the short and the long term.

The regular counts of the Omer Gölü lagoon system showed a succession of migrant wader species during the study period. Of the main migrant species, the numbers of Avocet, Dunlin, Ruff and Black-tailed Godwit peaked earliest in spring (Figure 3), and these species (except Ruff) showed an easterly bias in their distribution in the Çukurova deltas (Figure 4), whereas the later-migrating Little Stint and Curlew Sandpiper were more evenly distributed. This might be related to a greater influence of sea water in the Omer Gölü lagoon system and the salt-marshes near Bird Lake and Yelkoma Gölü, providing better feeding opportunities for Avocet, Black-tailed Godwit and Dunlin. Ruff, on the other hand, were more dependent on fresh or slightly brackish water and were more evenly distributed as a result.

### EAST MEDITERRANEAN WADER FLYWAY

Three aspects of the east Mediterranean flyway were considered: the timing of migration of several wader species; links between the east Atlantic and east Mediterranean flyways; and differences in wetland types and feeding conditions between these two flyways.

#### Timing of Migration

Counts at the Omer Gölü area showed that the timing of spring migration of waders was related to the mid-latitude of the breeding range (van der Have *et al.* 1988). High-arctic breeders (Little Stint, Curlew Sandpiper) move through when most sub-arctic and boreal species (e.g. Dunlin) have departed and this timing is clearly related to the onset of spring on the breeding grounds. The sub-arctic breeding Broad-billed Sandpiper and Red-necked Phalarope seem to be exceptions: their numbers peak relatively late, in mid-May, so their migration may be constrained by other factors, perhaps linked to the fact that both winter in or around the Arabian Sea (Cramp & Simmons 1983; Summers *et al.* 1987).

The turnover rate of Little Stints in the Omer Gölü system was estimated by marking and counting using the method described by Kersten and Smit (1984). The average duration of stay decreased from 4.3 days in April to 3.2 days in May (Cronau 1988a). These estimates are lower than the figures found for Dunlin, Redshank and Ringed Plover in a Moroccan stopover site by Kersten and Smit (1984). The faster apparent turnover in May was perhaps related to the increasingly unfavourable feeding conditions in the Omer Gölü area, while the conditions in the much larger Akyatan Gölü remained good throughout spring. In fact, two Little Stints marked in Omer Gölü were seen subsequently in Akyatan Gölü.

#### Links Between Flyways

The second goal of this study was to explore the exchange between the east Atlantic and the east Mediterranean flyways for a better understanding of West African wetlands, but due to the low numbers of captured waders no conclusions could be drawn. Future studies of departure and arrival dates in West Africa, Tunisia (Gulf of Gabès) and Egypt (Nile delta) might reveal some links. Ringing recoveries of Ruff, however, suggest that a significant proportion of birds migrating through western Europe in autumn and wintering in West Africa do migrate in spring through the east Mediterranean (Euring Data Bank, R. Wassenaar *in litt.*; Il'ichev *et al.* 1985; OAG Munster 1989). Little Stints, Ruff and Curlew Sandpipers wintering in southern and East Africa, on the other hand, migrate in part through the Arabian Gulf (Wilson *et al.* 1980; Tree 1985; Pearson 1987; Nikolaus *et al.* 1989).

A Dunlin ringed on 29 March 1987 in the Omer Gölü lagoon system was retrapped on its southward migration four months later on 4 August near Gdansk in Poland. This recapture helps to confirm the migration pattern of eastern Dunlin populations, which migrate through the Baltic in autumn, winter in the east Mediterranean and stop over on the Black Sea coast

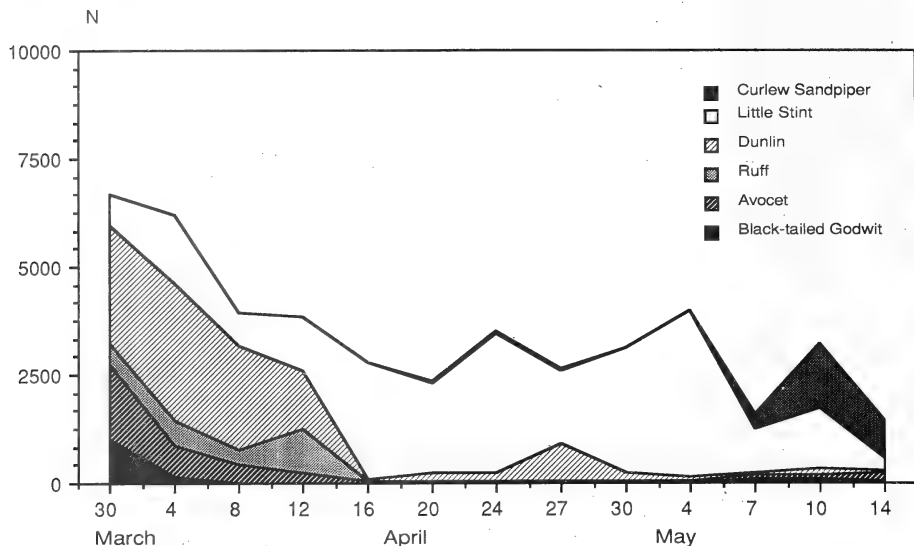


Figure 3. The numbers of six wader species in the Omer Gölü lagoon system in 1987.

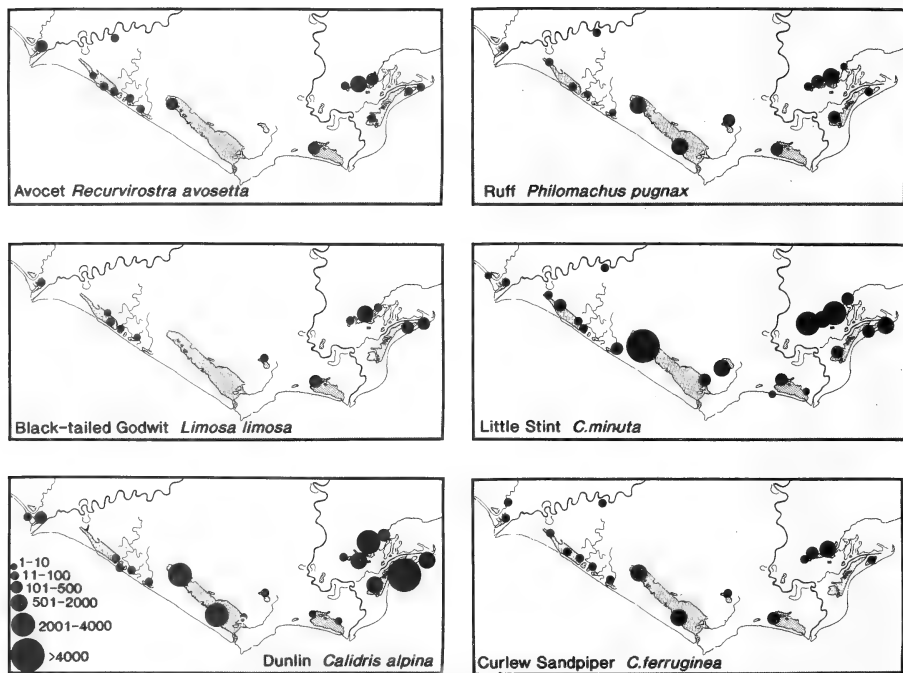


Figure 4. The distribution of six wader species in the Çukurova deltas in spring 1987 as shown by peak counts at each site.

in spring on their northward migration (Gromadzka 1989). These Dunlin perhaps originate from central Siberia as was also apparent from the measurements of Dunlin trapped in this study (Cronau & Langeveld 1988).

### Wetlands of the Two Flyways

There are some marked differences between the major wetlands of the east Atlantic and the east Mediterranean flyways. The coastal mudflats are mainly tidal in the first and non-tidal in the latter. The macrobenthic fauna of tidal areas is much more diverse and has a higher biomass than that of non-tidal wetlands, resulting in more predictable feeding conditions. The condition of wetlands along the east Mediterranean flyway relies to a large degree on the amount of rainfall and spring meltwater, producing unpredictable feeding conditions. The low density of macrobenthic fauna (especially bivalves; see Cronau 1988b) probably accounts for the very low densities of larger wader species which rely on relatively large macrobenthic prey items, e.g. Oystercatcher, Curlew, Knot (a bivalve specialist) and Bar-tailed Godwit (van der Have *et al.* 1988). The extensive river floodplains might act as alternative feeding areas in dry years if preferred areas in the lagoons are unsuitable.

Opportunistic feeding is probably the best strategy under these circumstances, so it is not surprising that no synchronous arrival and departure and no simultaneous increase in weight was found in Little Stints (Cronau & Langeveld 1988). Birds arrived continuously and departed without large fat reserves, resulting in a high turnover, the highest found so far in waders (e.g. Kersten & Smit 1984), indicating that at least during this part of their northward journey, Little Stints are migrating in short stages ('hopping' *sensu* Piersma 1988)—a strategy which seems especially appropriate for a wader which winters in and migrates through many wetlands very much like the Çukurova deltas: e.g. the Nile delta (Meininger & Mullié 1981), Tunisian wetlands (sebkhet, van Dijk *et al.* 1986) and the Sudd (Nikolaus in Summers *et al.* 1987), as well as many other inland African wetlands, which are all part of the east Mediterranean flyway.

### CONCLUSIONS

The Çukurova deltas form an important system of wetlands for migrating waders and waterfowl in spring, and in the 1987 season at least 42,000 waders used the area—the true figure being perhaps two to five times as high if the turnover of birds could be fully accounted for. Other recent systematic spring counts of Turkish wetlands in central Anatolia (Eber Gölü, Tuzla Gölü near Kayseri, Kulu Gölü and Sultan marshes) give figures for the total numbers of waders which do not exceed 10,000 (van Winden *et al.* 1989; van Roomen *et al.* in prep.) In addition to the wader species 1,300 herons and storks, 5,100 Greater Flamingoes, 15,000 ducks, 4,300 gulls and 900 terns were present. The one per cent criterion for passage birds in the east Mediterranean and Black Sea region (one per cent of the total known breeding or migrating population: Grimmett & Jones 1989) is exceeded for five species: Great White Egret, Spoonbill, Greater Flamingo, Shelduck and Avocet. The local breeding population of Marbled Teal (a globally threatened species: Collar & Andrew 1988) was estimated to be 50–100 pairs, and the deltas are one of the most important breeding sites in the Mediterranean for Kentish Plover with about 3,000 pairs; the population of Smyrna Kingfisher (45–50 pairs) is also important (van den Berk & Kasperek 1988), and other breeding species include White-headed Duck (another globally threatened species), Black Francolin *Francolinus francolinus* (van den Berk 1988) and Dead Sea Sparrow *Passer moabiticus*. These data, together with the fact that the 625 km<sup>2</sup> of the Çukurova deltas form the largest system of coastal wetlands in Turkey (including the largest continuous dune areas, which were largely outside the scope of our study), make it clear that the Çukurova is of unique value on a national scale.

It is hoped that the Turkish government will take more measures to protect the area, which is under heavy pressure from hunting, agriculture, planned aquaculture, tourism and increasing industrial activity. The relatively easy access and large numbers of wintering waterbirds make the Çukurova deltas a popular hunting ground, illustrated by the estimated 80,000 hunter man-days per year for the Akyatan Gölü region. The wader populations are

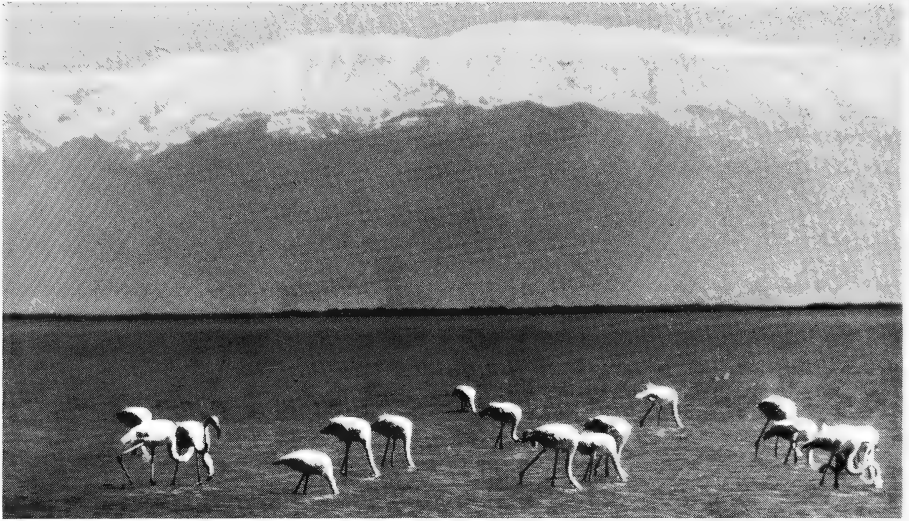


Plate 4. Greater Flamingoes *Phoenicopterus ruber* in Omer Gölü, looking towards the Taurus mountains, 27 March 1987. (Arnoud B. van den Berg)

much less threatened than are the wildfowl by hunting activity, as most waders arrive when hunting is much decreased. Only Akyatan Gölü is to be designated a nature reserve, and a hunting ban is in effect on the eastern lagoons near Yumurtalık. Current threats and pressure from agriculture consist of widespread drainage of the lower parts of the delta in winter and irrigation during summer. This causes widespread salinization of reclaimed areas in particular, now affecting 27 villages and 5,000 ha (DSI officer pers. comm.). Furthermore, pesticides and herbicides are widely used, but no data are available on the effects to the natural environment. The planned construction of shrimp farms, which can cause the breakdown of whole lagoon systems, is a potential threat, and Tuzla and Karataş are rapidly developing as holiday resorts; in particular, the lagoons near Tuzla are threatened by building activities of summer houses and refuse dumping. A serious potential threat is formed by the oil trans-shipment points and the oil industry in general in the Gulf of Iskenderun: an oil spill would have a disastrous effect on the beaches, lagoons and salt-marshes, especially east of Karataş, because of the sheltered position and absence of current in the Gulf of Iskenderun.

With respect to international wader migration one can conclude that every wetland in the east Mediterranean flyway is of importance, even though feeding conditions might look rather unsuitable locally, or though weight increases in migrants might not be apparent. This conclusion also holds on a smaller scale for the Çukurova deltas: the whole system of coastal lagoons is of importance for migrating waders in spring, especially for opportunistic, short-stage migrants like Little Stints. The loss of every wetland, both on a small and a large scale within the east Mediterranean flyway will eventually have an impact on international wader populations, apart from the devastating effect on the local bird fauna.

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## REFERENCES

- AUKES, P., VAN DEN BERK, V. M., CRONAU, J. P., VAN DORP, D., ÖZESMI, U. & VAN WINDEN, A. C. J. 1988. The Çukurova deltas: geomorphology, hydrology, climate, biotopes and human impact. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 13–31. Zeist.
- BOSMAN, C. A. W. & VAN DEN BERG, A. B. 1988. The Egyptian Mongoose, *Herpestes ichneumon*, in southern Turkey. *Zool. Middle East* 2: 5–7.
- COLLAR, N. J. & ANDREW, P. 1988. Birds to watch: the ICBP world checklist of threatened birds. *ICBP Tech. Publ.* 8. Cambridge.
- CRAMP, S. & SIMMONS, K. E. L. (eds) 1983. *The Birds of the Western Palearctic* Vol. 3. Oxford University Press.
- CRONAU, J. P. 1988a. Migration and turnover rates of Dunlin and Little Stint in the Çukurova deltas. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 81–8. Zeist.
- CRONAU, J. P. 1988b. Food and foraging of waders in the Omer Gölü region. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 110–18. Zeist.
- CRONAU, J. P. & LANGEVELD, M. J. 1988. Weight variation, moult and geographical origin of waders in the Çukurova deltas. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 89–109. Zeist.
- DAVIDSON, N. C. & PIENKOWSKI, M. W. (eds) 1987. The conservation of international flyway populations of waders. *Wader Study Group Bull.* 49 suppl./*IWRB Spec. Publ.* 7.
- DIJKSEN, L. J. & VAN DER WOLF, P. 1987. Mid-winter waterfowl census, Turkey January 1987. *WIWO Rep.* 18. Zeist.
- GRIMMETT, R. F. A. & JONES, T. A. 1989. Important bird areas in Europe. *ICBP Tech. Publ.* 9. Cambridge.
- GROMADZKA, J. 1989. Breeding and wintering areas of Dunlin migrating through southern Baltic. *Ornis Scand.* 20: 132–44.
- IL'ICHEV, V. D., VIKSNE, Y. A. & MIKHEL'SON, K. A. 1985. *Migrations of Birds of Eastern Europe and Northern Asia: Gruiformes Charadriiformes*. Mauka, Moscow.
- KERSTEN, M. & SMIT, C. 1984. The Atlantic coast of Morocco. In: Evans, P. R., Goss-Custard, J. D. & Hale, W. G. (eds) *Coastal Waders and Waterfowl in Winter*, 276–91. Cambridge University Press.
- MEININGER, P. L. & MULLIÉ, W. C. 1981. Egyptian wetlands as threatened wintering areas for waterbirds. *Sandgrouse* 3: 62–77.
- NIKOLAUS, G., ASH, J. S., BACKHURST, G. C. & PEARSON, D. J. 1989. Wader recoveries from East Africa. *Wader Study Group Bull.* 55: 32–7.
- OAG MUNSTER 1989. Beobachtungen zur Heimzugstrategie des Kampfläufers *Philomachus pugnax*. *J. Orn.* 130: 175–82.
- PEARSON, D. J. 1987. The status, migrations and seasonality of the Little Stint in Kenya. *Ring. Migr.* 8: 91–108.
- PIERSMA, T. 1988. Hop, skip or jump? Constraints on migration of arctic waders by feeding, fattening, and flight speed. *Wader Study Group Bull.* 53: 6–8.
- SUMMERS, R. W., UNDERHILL, L. G., PEARSON, D. J. & SCOTT, D. A. 1987. Wader migration systems in southern and east Africa and western Asia. In: Davidson, N. C. & Pienkowski, M. W. (eds) The conservation of international flyway populations of waders. *Wader Study Group Bull.* 49 suppl./*IWRB Spec. Publ.* 7: 15–34.
- TREE, A. J. 1985. Analysis of ringing recoveries of Ruff involving southern Africa. *Safring News* 14: 75–9.

- VAN DEN BERK, V. M. 1988. The Black Francolin in Turkey. *Sandgrouse* 10: 51–7.
- VAN DEN BERK, V. M. & KASPAREK, M. 1988. The White-breasted Kingfisher (*Halcyon smymensis*) in Turkey: on the occurrence of an endangered species. *Zool. Middle East* 2: 19–25.
- VAN DEN BERK, V. M. & LETSCHERT, J. P. W. 1988. Bird observations in the Çukurova deltas, spring 1987. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 129–63. Zeist.
- VAN DEN BERK, V. M., LANGEVELD, M. J. & SARIGÜL, G. 1988. Observations of Cheloniidae and Trionychidae along the Çukurova coast, southern Turkey, spring 1986 and 1987. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 167–72. Zeist.
- VAN DER HAVE, T. M. & VAN DEN BERK, V. M. 1988. Waders and waterfowl in southern Turkey, spring 1987. *OSME Bull.* 20: 2–3.
- VAN DER HAVE, T. M., VAN DEN BERK, V. M. & CRONAU, J. P. 1988a. The importance of the Çukurova deltas for migrant birds. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 119–24. Zeist.
- VAN DER HAVE, T. M., VAN DEN BERK, V. M. & LANGEVELD, M. J. 1988b. Numbers, distribution and migration of waders and waterfowl in the Çukurova deltas. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 33–80. Zeist.
- VAN DIJK, A. J., VAN DIJK, K., DIJKSEN, L. J., VAN SPANJE, T. M. & WYMENGA, E. 1986. Wintering waders and waterfowl in the Gulf of Gabès, Tunisia, January–March 1984. *WIWO Rep.* 11. Zeist.
- VAN WINDEN, A. C. J. 1988. The jackal (*Canis aureus*) in the Çukurova deltas. In: van der Have, T. M., van den Berk, V. M., Cronau, J. P. & Langeveld, M. J. (eds) South Turkey project. *WIWO Rep.* 22, 165–6. Zeist.
- VAN WINDEN, A. C. J., MOSTERT, K., RUITERS, P., SIKI, M. & DE WAARD, H. 1989. Waders and waterfowl in spring 1988 at Eber Gölü. *WIWO Rep.* 28. Zeist.
- WILSON, J. R., CZAJKOWSKI, M. A. & PIENKOWSKI, M. W. 1980. The migration through Europe and wintering in West Africa of Curlew Sandpipers. *Wildfowl* 31: 107–22.

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# BREEDING DISTRIBUTION OF THE ROOK *CORVUS FRUGILEGUS* IN TURKEY

by

**Max Kasparek**

Although the Rook *Corvus frugilegus* has been known as a breeding bird in Turkey since 1839 (Dickson & Ross 1839), it was not until 1957 that breeding was confirmed at a second site (Hellmich 1960). It has subsequently become clear that Rooks breed commonly in the east of Turkey and also nest in central Anatolia and Thrace, but published breeding sites are still few and descriptions of the breeding range are based mainly on observations of birds away from colonies during the breeding season. For this reason, the localities of the known rookeries in Turkey, most of which are otherwise unpublished, are listed here and shown in Figure 1.

## BREEDING SITES

The breeding sites are arranged by the provinces of Turkey. Both the provinces and the sites within the provinces are listed alphabetically. Place names follow those on road maps published by the Turkish government. Unpublished records are shown with observers' initials (see Acknowledgements).

### Afyon

Afyon (38°45'N 30°32'E): 2 colonies in the town, 23 Mar 1986 (GRO); again 2 colonies with c. 15 and 80 nests, 1 Apr 1987 (AK, MK).

Between Bolvadin and Çobanlar (38°42'N 30°54'E): colony with less than 25 pairs between 1970 and 1973 (Beaman *et al.* 1975).

Bulanık (38°48'N 30°48'E): colony, 7 May 1981 (NK); see also Karamık marshes.

Cumhuriyet (38°35'N 30°58'E): c. 30 pairs between Çay and Karamık marshes, 19 May 1985 (Rj) (this is apparently Cumhuriyet Köyü).

Değirmendere (38°38'N 30°47'E): c. 100 occupied nests, 26 Apr 1987 (RK).

Devederesi (38°29'N 30°49'E): colony with c. 150 nests, 13 May 1981 (NK); see also Karamık marshes.

Eber Gölü between Çay and Bolvadin (38°40'N 31°03'E): c. 300 nests, 8 May 1984 (KH); colony with 245 nests, 25 May 1986 (MK).

Gözü (39°04'N 31°05'E): colony with c. 75 nests, 1 Apr 1987 (AK, MK).

Karamık marshes (Karamık Sazlığı) (38°25'N 30°50'E): some tens of pairs, 14 May 1983 (EK); 2 colonies on north-west side of marshes, 28 May and 2 Jun 1985 (GS). These colonies seem to be identical with those listed under Bulanık and Devederesi.

Ömerkaplıca, west of Afyon (38°50'N 30°21'E): 2 colonies, 1 May 1981 (NK).

### Ağrı

Ağrı (39°43'N 43°02'E): hundreds (perhaps over 1,000) pairs, 1965 (Kumerloeve 1967); 25–30 nests, 19–21 Aug 1987 (Vieliard 1968); several colonies at Ağrı and nests in 'almost every tree' in some villages east of this, Apr 1969 (Vittery & Squire 1972); colony, 14 Jun 1987 (CB); colony at Ağrı and another with over 100 pairs in small village immediately north of town, 29 May 1988 (EB).

Between Ağrı and Doğubayazıt (39°35'N 43°30'E): large colony, 1 Jun 1983 (EB); colony, 29 Jun 1988 (GS).

Eleşkirt (39°48'N 42°41'E): colony with 250 pairs, 15 Jun 1973 (Beaman *et al.* 1975).

Omuzbaşı, near Diyadin (39°35'N 43°35'E): colony near Omuzbaşı, 29 Jul 1987 (MK).

Patnos (39°14'N 42°52'E): colony, 14 Jun 1987 (CB) and 26 Jun 1988 (GS).

Taşteker, east of Taşlıçay (39°37'N 43°31'E): colony, 29 May 1988 (EB); see also colony between

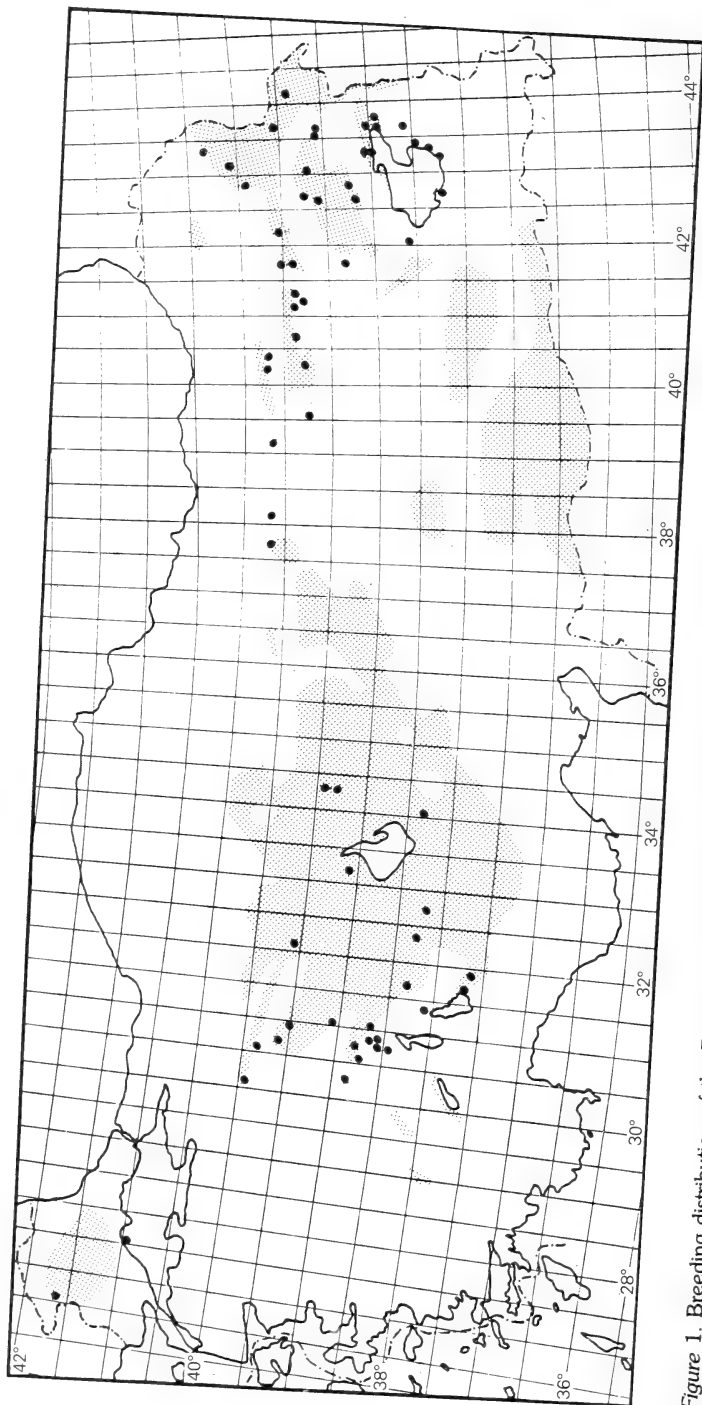


Figure 1. Breeding distribution of the Rook *Corvus frugilegus* in Turkey. Each dot represents a breeding colony. The shaded area shows regions originally covered by steppe (after Louis 1939).



Doğubayazıt and Ağrı (above).

Tutak (39°33'N 42°46'E): colony with at least 100 nests, 2 Jun 1976 (PSAA); nesting proved, 18 May 1985 (DJW); colony, 8 and 12 Jun 1986 (TM) and 14 Jun 1987 (CB).

### Ankara

Polatlı (39°35'N 32°06'E): bird carrying nest-material, 1 Apr 1987 (AK, MK).

### Bilecik

Bozüyük (39°55'N 30°02'E): large colony, 15 Apr 1987 (RC).

### Bitlis

Kuzgunkıran Geçidi, west of Gevaş (38°23'N 42°45'E): colony in valley, 30 May 1983 (EB).

Tar, between Tatvan and Muş (38°35'N 42°00'E): colony, 26 Jun 1984 (NK).

### Edirne

Edirne (41°40'N 26°34'E): 2 colonies, 12 Apr 1962 (Eggers & Lemke 1964); 17 nests, 6 and 20 May 1962 (Roer 1962); colony of 10–15 nests, 14 and 31 May 1967 (Em 1968); at least 25 nests, 25 May 1970 (Beaman *et al.* 1975), colony of c. 20 pairs, 24–25 May 1972 (LB); colony, 21 Apr 1980 (LJD).

### Elazığ

Elazığ (38°41'N 39°14'E): 23 nests in the city, 9 Apr 1986 (MK).

### Erzincan

Erzincan (39°45'N 39°30'E): colony with 125 birds, Apr 1969 (Vittery & Squire 1972); large colony, 15 May 1977 (NK).

Tercan (39°47'N 40°23'E): colonies with 40 and 25 birds west of Tercan, Apr 1969 (Vittery & Squire 1972).

### Erzurum

Aşkale (39°55'N 40°42'E): colony, apparently 1965 (Kumerloeve 1967); colony with at least 200 birds in Apr 1969 (Vittery & Squire 1972); 300 pairs, 24 May 1975 (Beaman 1978), but only 23 nests on 15 Jun 1975 (RFP *et al.*); empty nests west of Aşkale, 14 Jul 1986 (RK).

Erzurum (39°54'N 41°17'E): breeding confirmed as early as 1839 (Dickson & Ross 1839); adults feeding noisy young in Erzurum plain at beginning of Jul about 1902 (Witherby & Woosnam 1907); breeding confirmed, 30 Mar 1910 (McGregor 1917); colonies with 200 and 100 birds near Erzurum, Apr 1969 (Vittery & Squire 1972); colony, 5 Jun 1979 (NK); 500 pairs west of Erzurum, 24 May 1975 (Beaman 1978); colony at Erzurum, 4 Jun 1983 (EB).

Between Erzurum and Çat (39°48'N 41°10'E): nesting, 17 May 1985 (DJW).

Gümüşzerre, west of Erzurum: colony, apparently 1965 (Kumerloeve 1967). This village could not be identified, and the name is probably misspelt.

Horasan (40°03'N 42°10'E): 100 nests in 2 colonies, Apr 1969 (Vittery & Squire 1972).

İlica (39°57'N 41°06'E): colony, apparently 1965 (Kumerloeve 1967).

Müceldi Köyü, near Pasinler (40°01'N 41°41'E): c. 100 nests, 1969 (Vittery & Squire 1972).

Pasinler (39°59'N 41°41'E): colony near Pasinler, 19 Aug 1962 (BL *et al.*); large colony, Apr 1969 (Vittery & Squire 1972); 600 pairs, 24 May 1975 (Beaman 1978); colony near tower close to Pasinler, 2 Jun 1983 (EB).

Yolüstü, near Hınıs (39°19'N 41°45'E): 300 pairs, 19 May 1975 (Beaman 1978).

### Eskişehir

Eskişehir (39°47'N 30°31'E): some small colonies in and at fringes of the town, 22 Apr and 11 May 1964 (Warncke 1964); c. 100 nests near Eskişehir, 1965 or 1967 (Lehmann in Kumerloeve 1970); in 1967, 11 nests under construction, 20 Mar (Warncke 1968), and 55 nests, 15 May (Porter *et al.* 1969); colony, 15 Apr 1980 (LJD).

Mahmudiye (39°30'N 30°59'E): medium-sized colony, 11 May 1964 (Warncke 1964); c. 50 pairs, 20 Mar 1967 (Warncke 1968); c. 150 nests, 1965 or 1967 (Lehmann in Kumerloeve 1970).

Yeniköy, north of Seyitgazi (39°34'N 30°44'E): 2 nests north of Yeniköy along main road, 20 Mar 1967 (Warncke 1968).

### Gümüşhane

Bayburt (40°16'N 40°14'E): large colony between 1970 and 1973 (Beaman *et al.* 1975); many nests, 15 Jun 1975 (RFP).

Maden (40°11'N 40°24'E): 5 nests, 15 Jun 1975 (RFP).

Şiran (40°12'N 39°08'E): large colony, and nesting on outskirts of town, 15–17 Jun 1975 (RFP).

### Isparta

Şarkıkaraağaç (38°03'N 31°27'E): c. 50 occupied nests south-east of town, 26 Apr 1987 (RK).

### Kars

Arpaçay (40°51'N 43°20'E): large colony, 1965 (Kumerloeve 1967); 175 nests, 16 May 1970 (Beaman *et al.* 1975); large colony, 8 Jun 1979 (NK).

İğdir (39°55'N 44°02'E): colony, 2 Jun 1983 (EB); nests in centre of town, 11–16 Jun 1986 (TM, RJ), 16 Jun 1987 (CB) and 30 May (EB) and 27 Jun 1988 (GS).

Kars (40°37'N 43°05'E): c. 30 nests, 28 May 1976 (PSAA).

Between Kars and Sankamış (40°27'N 42°50'E): breeding 1965 (Kumerloeve 1967).

Tuzluca (40°02'N 43°40'E): colony 6 km east of town, 31 May 1988 (EB).

### Kırşehir

Öküzkale (39°25'N 34°23'E) and Yenidoğanlı (39°18'N 34°21'E): c. 50–60 nests at each, 14 Apr 1981 (MK; Husband & Kasperek 1984).

### Konya

Argıthanı near İlgın (38°18'N 31°43'E): c. 50 nests, 1965 or 1967 (Lehmann in Kumerloeve 1970).

Beyşehir (37°41'N 31°45'E): 2 colonies totalling c. 15 pairs, May 1964 (Vauk 1973); c. 150 nests, 1965 or 1967 (Lehmann in Kumerloeve 1970); 2 colonies, late Apr 1968 (Vittery & Squire 1972).

Beyşehir Gölü (37°45'N 31°30'E): colony with 7 nests on Tekeli island, May 1964 (Vauk 1973).

Çukurkent (37°53'N 31°34'E) north of Beyşehir: c. 50 nests at road crossing (HJM).

Kulu Gölü (39°03'N 33°09'E): one carrying food, 10 May 1985 (Kasperek 1987).

Sarayönü (38°16'N 32°25'E): 55 nests, 10 May 1964 (Warncke 1964).

Yazibelen (38°10'N 32°45'E): large colony near Yazibeien, 6 Apr 1986 (CH).

### Muş

Malazgirt (Kale) (39°09'N 42°32'E): large colony, 1957 (Hellmich 1960); 250 pairs, 19 May 1975 (Beaman 1978).

### Niğde

Aksaray (38°22'N 34°01'E): colony of 20 pairs, 21 May 1970 (Beaman *et al.* 1975); nests, 6 May 1984 (KH).

### Sivas

Suşehirli (40°10'N 38°06'E): colony 19 km east of town, 1969 (Vittery & Squire 1972).

Şerefiye (40°07'N 37°45'E): colony with 10 nests, 17 Jun 1975 (RFP).

### Tekirdağ

Tekirdağ (40°59'N 27°33'E): c. 200 nests (but no birds present) east of town, 29 Mar 1967 (Warncke 1968).

### Van

Bendimahı (38°56'N 43°41'E): colony, 10 Jun 1981 (NK *et al.*) and 9 Jun 1986 (RJ).

Çelebibağ (38°59'N 43°19'E): apparently a colony, 22 Jul 1987 (MK).

Edremit (38°26'N 43°13'E): c. 50 nests, May 1966 (Kumerloeve 1967; Porter *et al.* 1969); 70 nests, apparently 1969 (Vittery & Squire 1972).

Erciş (39°02'N 43°21'E): 25 pairs, apparently 1969 (Vittery & Squire 1972); colony of 400 pairs, 19

- May 1975 (Beaman 1978); small numbers in colony, 7 Jun 1977 (PSAA *et al.*); apparently a colony, 1 Jun 1983 (EB); colony, Jun/Jul 1985 (CH); c. 300 nests, 26 Apr 1986 (MG, NG); colony, 16 Jun (CB) and 22 Jul 1987 (MK); small colony, 23 May 1988 (EB).
- Erçek (38°39'N 43°39'E): c. 50 birds seen and nesting confirmed, 14 Apr 1981 (PG, DP; Kasperek & van der Ven 1983); nesting confirmed, 19 May (DJW) and 24 Jun 1985 (CH); large colony, 10 Jun 1986 (RJ); breeding confirmed, 18 Jun 1987 (CB); at least 100 pairs, 25 Jul 1987 (MK).
- Gevaş (38°18'N 43°06'E): c. 15 nests in surroundings of town, 31 May 1968 (Kumerloeve 1969); at least 30 pairs between Gevaş and Edremit, 19 Jul 1987 (MK).
- Muradiye (38°59'N 43°46'E): 25 pairs, apparently 1969 (Vittery & Squire 1972); small colony, 27 May 1988 (EB).
- Van (38°30'N 43°23'E): 2 colonies with over 30 pairs each, 29 May 1983 (EB); colony, Jun/Jul 1985 (CH); large colony near castle, 8 Jun 1986 (RJ); breeding confirmed, 18 Jun 1987 (CB).
- Yalındüz (39°02'N 43°43'E): colony, 10 Jun 1984 (GS) and Jun/Jul 1985 (CH).

## DISCUSSION

So far, 60–65 breeding sites of the Rook have been identified in Turkey, in three more-or-less isolated areas: eastern Anatolia, central Anatolia and Thrace. Figure 1 shows these areas with greater precision and more detail than previously possible and allows interpretation of the distribution pattern.

As only the known breeding sites have been considered here, and not other observations during the breeding season, Figure 1 has to be seen as a minimum statement of the breeding range. Breeding season sightings are available from almost all regions of Turkey, including the Black Sea coastland and the Aegean and Mediterranean regions. In eastern Anatolia in particular, the detail of the map would have been much finer if observers and authors had paid more attention to the recording of breeding sites. Unfortunately, many potentially valuable observations are concealed behind more or less useless general descriptions of the occurrence.

The distribution pattern is more or less identical with the natural occurrence of steppe in Turkey, of which there are four principal areas—central Thrace, central Anatolia, eastern Anatolia and south-east Anatolia (Louis 1939; Walter 1956)—though Rook breeding records are available from only three of these. The Rook seems to be absent in south-east Turkey, i.e. on the Syrian plateau; although there are several breeding season records available, e.g. from the Birecik–Nizip area, breeding has never been proved and if it occurs it must be confined to only a few localities.

Figure 1 shows that 60% of all rookeries are situated within areas where steppe is the natural vegetation, 28% are less than 25 km away from these areas and the remainder up to 50 km away. Given the considerable inaccuracies in mapping the natural steppe areas, the link is noteworthy.

The absence of breeding Rooks in south-east Turkey is striking, though the climate of that part of the country is quite different from the other areas which were originally covered by steppe (Harita Genel Müdürlüğü 1977):

1. The annual mean temperature (over 16°C) is higher than in the other areas.
2. Although the winter temperature is similar to central Anatolia, the spring temperatures are higher. The mean May temperature, for example, is over 20°C and thus similar to the Mediterranean coast.
3. The summer drought starts as early as June.

The period favourable for nesting and rearing of young might thus be too short for the Rook, and its physiological unsuitability for dry conditions might be another reason for its failure to penetrate the arid south-east which borders on the semi-desert.

Steppe is apparently the Rook's original habitat, but in Turkey this vegetation type is now confined to rather few and relatively small areas, almost all of it having been converted into agricultural land. In fact, most rookeries are situated in agricultural areas where nothing remains of the original vegetation. The Rook thus appears bound not to steppe as such, but rather, given the availability of suitable open grassy areas, to the climatic conditions which

produce it. This allows the Rook to occur also in (e.g.) western Europe where steppe does not exist.

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#### SUMMARY

The 60–65 known breeding sites of the Rook in Turkey are detailed. The sites are arranged in three areas more or less isolated from each other: eastern Anatolia, central Anatolia and Thrace. Steppe vegetation is the original habitat in those areas. The Rook is not known to breed in the other steppe region, south-east Anatolia, probably due to the area's greater aridity and extremely hot summers which give too short a period for breeding. The distribution is confined to areas which were originally steppe, even though they have largely been converted to agriculture.

#### REFERENCES

- BEAMAN, M. (ed.) 1978. *Bird Report 1974–1975*. Ornithological Society of Turkey, Sandy.
- BEAMAN, M., PORTER, R. F. & VITTERY, A. (eds) 1975. *Bird Report 1970–1973*. Ornithological Society of Turkey, Sandy.
- DICKSON, E. D. & ROSS, H. J. 1839. [On a collection from Erzerum]. *Proc. Zool. Soc. Lond.* 7: 130–5.
- EGGERS, J. & LEMKE, W. 1964. Ornithologische Beobachtungen in der Türkei. *Orn. Mitt.* 16: 185–8.
- ERN, H. 1968. Avifaunistische Beobachtungen in der nordwestlichen Türkei. *Vogelwelt Beiheft* 2: 23–5.
- HARITA GENEL MÜDÜRLÜĞÜ. 1977. *Büyük Türkiye Atlası*. Ankara.
- HELLMICH, W. 1960. Vulkane und Seen in Ostanatolien. *Kosmos* 56: 205–11.
- HUSBAND, C. & KASPAREK, M. 1984. The birds of Lake Seyfe. *Birds of Turkey* 2. Kasperek, Heidelberg.
- KASPAREK, M. 1987. The birds of Lake Kulu. *Birds of Turkey* 5. Kasperek, Heidelberg.
- KASPAREK, M. & VAN DER VEN, J. A. 1983. The birds of Lake Erçek. *Birds of Turkey* 1. Kasperek, Heidelberg.
- KUMERLOEVE, H. 1967. Neue Beiträge zur Kenntnis der Avifauna von Nordost- und Ost-Kleinasien. *Istanbul Üniv. Fen Fakültesi Mecmuası* (B) 32: 79–213.
- KUMERLOEVE, H. 1969. Zur Avifauna des Van Gölü- und Hakkari-Gebietes (E/SE-Kleinasien). *Istanbul Üniv. Fen Fakültesi Mecmuası* (B) 34: 245–312.
- KUMERLOEVE, H. 1970. Zur Kenntnis der Avifauna Kleinasiens und der europäischen Türkei. *Istanbul Üniv. Fen Fakültesi Mecmuası* (B) 35: 85–160.
- LOUIS, H. 1939. Das natürliche Pflanzenkleid Anatoliens geographisch gesehen. *Geogr. Abh.* (3) 12: 1–131.
- MCGREGOR, P. J. C. 1917. Notes on birds observed at Erzerum. *Ibis* (10) 5: 1–30.
- PORTER, R. F., SQUIRE, J. E. & VITTERY, A. (eds) 1969. *Bird Report 1966–1967*. Ornithological Society of Turkey, Sandy.
- ROER, H. 1962. Saatkrähe (*Corvus frugilegus*) Brutvogel in der europäischen Türkei. *J. Orn.* 103: 494.
- VAUK, G. 1973. Ergebnisse einer ornithologischen Arbeitsreise an den Beyşehir-Gözü (SW-Anatolien) im April/Mai 1964. *Beitr. Vogelkunde* 19: 225–60.

- VIELLIARD, J. 1968. Résultats ornithologiques d'une mission à travers la Turquie. *Istanbul Üniv. Fen Fakültesi Mecmuası* (B) 33: 67–170.
- VITTEY, A. & SQUIRE, J. E. 1972. *Bird Report 1968–1969*. Ornithological Society of Turkey, Sandy.
- WALTER, H. 1956. Das Problem des Zentralanatolischen Steppe. *Naturwissenschaften* 43: 97–102.
- WARNCKE, K. 1964. Beitrag zur Vogelwelt der Türkei. *Vogelwelt* 85: 161–74.
- WARNCKE, K. 1968. Nachwinterliche Beobachtungen an türkischen Brutvögeln. *Vogelwelt Beiheft* 2: 89–102.
- WITHERBY, H. F. & WOOSNAM, R. B. 1907. On a collection of birds from western Persia and Armenia. *Ibis* (9) 1: 74–111.

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### CORRECTIONS

#### Sandgrouse 9, 1987

- Page 17. 'Al Ru'ays' should be 'Ar Ru'ays'. '04 At Turbah' should be '104 At Turbah'. Add coordinates for Hataban island: 15°36'N 43°30'E. Add: — Huth 16°14'N 43°58'E.
- Page 34. Lines 8–9 to read '6 south of Al Khawkhah on 29 Aug and 1 on 8 Sep (MIE).'
- Page 44. Lines 22–3 to read 'also in the interior desert (Philby 1939).'
- Page 75. Line 6 to read 'Jabal Bura' (680 metres).'

## NOTES TO CONTRIBUTORS

The Editorial Committee of *Sandgrouse* will consider for publication original papers which contribute to the body of knowledge on the birds of the Middle East—their distribution, breeding biology, behaviour, identification, conservation, etc. The Middle East for this purpose includes Turkey and Libya in the west to Afghanistan and the Palearctic fringe of Pakistan in the east, the southern shores of the Black and Caspian Seas in the north, and the Arabian peninsula and the Palearctic limits in Sudan and Ethiopia in the south. Submissions are considered on the understanding that the work has not been previously published and is not being offered for publication elsewhere.

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