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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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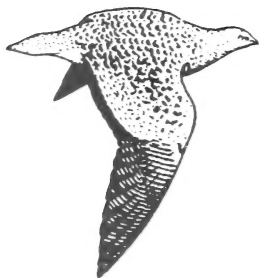
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EDITORIAL

The production of *Sandgrouse* 8 has been a much smoother exercise than that of *Sandgrouse* 7 and has allowed us to catch up on our normal timing schedule.

Sandgrouse evolved from the *Turkish Bird Reports* published by the Ornithological Society of Turkey which was the forerunner of OSME. It is a particular pleasure, therefore, to welcome the fifth Turkish Bird Report covering the years 1976-1981. The Editorial Committee hopes that the next report, covering the years 1982-1986, will not be long delayed and work on it has, in fact, already begun.

Ron Frumkin's review of the breeding raptors of Israel's deserts will be of interest to all who visit that country and all who are concerned with the conservation of birds of prey. We are particularly pleased to publish John Morgan's and John Palfery's monograph on the Black-crowned Finch Lark and would welcome other contributions of this nature. Simon Albrecht's painstaking review of the birds of Ereğli demonstrates the value of a careful and thorough study of the birds of an area over a number of years. We are indebted to Michael Gallagher and his friends for an update, including many records, on the birds of Oman and also on Abdim's Stork in Arabia. Our thanks go to Charles Pilcher for his review of the introduction and spread of the House Crow in the Arabian Gulf and finally to John Palfery for providing a significant clue to the whereabouts of our wintering Dotterel.

For the scientific names of birds we follow, as usual, the *List of Recent Holarctic Bird Species* by K. H. Voous, B.O.U., London, 1977 and for African species *A Complete Checklist of the Birds of the World* by R. Howard and A. Moore, London, 1980.

I have pleasure in recording my debt to all members of the Editorial Committee for their help and guidance, to Mike Everett for his cartographical contributions and to my wife, Joyce, for general assistance, advice and proof reading.

Donald Parr

TURKEY: BIRD REPORT 1976-1981

compiled by

Mark Beaman

INTRODUCTION

This Bird Report covers a six year period, from 1976-1981 inclusive. During this period the level of ornithological observations in Turkey varied markedly, being very high at the beginning but then tailing off rapidly as the extent of political violence escalated in Turkey. Following the formation of the military government and the return to comparative normality, observations rose again although not to the original level.

In spite of the increased effort by observers compared to that of the sixties and early seventies, exploration of ornithologically little known regions or systematic studies of wetlands, migrations, etc., have actually diminished. More than 80 per cent of all observations now come from the 'tourist circuit' that has built up, quite understandably, along an axis from the Bosphorus to Birecik in the southeast. In consequence relatively fewer ornithological discoveries of importance are now being made in Turkey compared with past years. This is to be regretted and it is very much to be hoped that some observers at least will want to explore 'new' areas. Large parts of southwest, west central, north central and eastern Turkey are still little known from an ornithological viewpoint and there are many interesting questions concerning the distribution of species in Turkey which could be resolved by more visits to these areas. Winter and mid-summer observations are inevitably poorly represented, especially the former. More observations at these seasons, especially in under-visited areas, are badly needed.

The present Bird Report deals largely with uncommon and/or local species or those where the status is still uncertain in Turkey. Records of the majority of more common and widespread species are not given (a list of these follows in this introduction) and those interested in their status should consult the Bird Reports for 1970-1973 (OST 1975) and 1974-1975 (OST 1978) in particular. For those species included in the present report all acceptable observations are listed. As usual records of rarities or other unusual records have only been included where adequate supporting details (and especially field notes) were supplied by the observer(s) concerned. The omission of any record from the Bird Report does not always necessarily imply that the observation was erroneous, but rather that sufficient supporting evidence was not forthcoming. (Observers are urged to submit full field notes for any unusual observations in Turkey.)

SPECIES NOT INCLUDED IN THE SYSTEMATIC LIST

Records were received for all of the following species:

<i>Tachybaptus ruficollis</i>	Little Grebe	<i>Ciconia ciconia</i>	White Stork
<i>Podiceps cristatus</i>	Great Crested Grebe	<i>Plegadis falcinellus</i>	Glossy Ibis
<i>Podiceps nigricollis</i>	Black-necked Grebe	<i>Platalea leucorodia</i>	Spoonbill
<i>Puffinus puffinus</i>	Manx Shearwater	<i>Phoenicopterus ruber</i>	Greater Flamingo
<i>Phalacrocorax carbo</i>	Cormorant	<i>Anser albifrons</i>	White-fronted Goose
<i>Phalacrocorax pygmeus</i>	Pygmy Cormorant	<i>Anser anser</i>	Greylag Goose
<i>Pelecanus onocrotalus</i>	White Pelican	<i>Tadorna ferruginea</i>	Ruddy Shelduck
<i>Ixobrychus minutus</i>	Little Bittern	<i>Tadorna tadorna</i>	Shelduck
<i>Nycticorax nycticorax</i>	Night Heron	<i>Anas penelope</i>	Wigeon
<i>Ardeola ralloides</i>	Squacco Heron	<i>Anas strepera</i>	Gadwall
<i>Egretta garzetta</i>	Little Egret	<i>Anas crecca</i>	Teal
<i>Egretta alba</i>	Great White Egret	<i>Anas platyrhynchos</i>	Mallard
<i>Ardea cinerea</i>	Grey Heron	<i>Anas acuta</i>	Pintail
<i>Ardea purpurea</i>	Purple Heron	<i>Anas querquedula</i>	Garganey
<i>Ciconia nigra</i>	Black Stork	<i>Anas clypeata</i>	Shoveler

BEAMAN, M. 1986. Turkey: Bird Report 1976-1981. *Sandgrouse* 8: 1-41.

<i>Marmaronetta angustirostris</i>	Marbled Teal	<i>Actitis hypoleucos</i>	Common Sandpiper
<i>Netta rufina</i>	Red-crested Pochard	<i>Larus melanocephalus</i>	Mediterranean Gull
<i>Aythya ferina</i>	Pochard	<i>Larus minutus</i>	Little Gull
<i>Aythya nyroca</i>	Ferruginous Duck	<i>Larus ridibundus</i>	Black-headed Gull
<i>Aythya fuligula</i>	Tufted Duck	<i>Larus genei</i>	Slender-billed Gull
<i>Pernis apivorus</i>	Honey Buzzard	<i>Larus fuscus</i>	Lesser Black-backed Gull
<i>Milvus migrans</i>	Black Kite	<i>Larus argentatus</i>	Herring Gull
<i>Gypaetus barbatus</i>	Lammergeyer	<i>Gelochelidon nilotica</i>	Gull-billed Tern
<i>Neophron percnopterus</i>	Egyptian Vulture	<i>Sterna caspia</i>	Caspian Tern
<i>Gyps fulvus</i>	Griffon Vulture	<i>Sterna sandvicensis</i>	Sandwich Tern
<i>Aegypus monachus</i>	Black Vulture	<i>Sterna hirundo</i>	Common Tern
<i>Circus gallicus</i>	Short-toed Eagle	<i>Sterna albifrons</i>	Little Tern
<i>Circus aeruginosus</i>	Marsh Harrier	<i>Chlidonias hybridus</i>	Whiskered Tern
<i>Circus cyaneus</i>	Hen Harrier	<i>Chlidonias niger</i>	Black Tern
<i>Circus macrourus</i>	Pallid Harrier	<i>Chlidonias leucopterus</i>	White-winged Black Tern
<i>Circus pygargus</i>	Montagu's Harrier	<i>Pterocles orientalis</i>	Black-bellied Sandgrouse
<i>Accipiter gentilis</i>	Goshawk	<i>Columba livia</i>	Rock Dove
<i>Accipiter nisus</i>	Sparrowhawk	<i>Columba palumbus</i>	Woodpigeon
<i>Buteo buteo</i>	Buzzard	<i>Streptopelia decaocto</i>	Collared Dove
<i>Buteo rufinus</i>	Long-legged Buzzard	<i>Streptopelia turtur</i>	Turtle Dove
<i>Aquila pomarina</i>	Lesser Spotted Eagle	<i>Streptopelia senegalensis</i>	Palm Dove
<i>Aquila clanga</i>	Spotted Eagle	<i>Clamator glandarius</i>	Great Spotted Cuckoo
<i>Aquila heliaca</i>	Imperial Eagle	<i>Cuculus canorus</i>	Cuckoo
<i>Aquila chrysaetos</i>	Golden Eagle	<i>Otus scops</i>	Scops Owl
<i>Hieraetus pennatus</i>	Booted Eagle	<i>Athene noctua</i>	Little Owl
<i>Pandion haliaetus</i>	Osprey	<i>Strix aluco</i>	Tawny Owl
<i>Falco naumanni</i>	Lesser Kestrel	<i>Caprimulgus europaeus</i>	Nightjar
<i>Falco tinnunculus</i>	Kestrel	<i>Apus apus</i>	Swift
<i>Falco vespertinus</i>	Red-footed Falcon	<i>Apus melba</i>	Alpine Swift
<i>Falco columbarius</i>	Merlin	<i>Alcedo atthis</i>	Kingfisher
<i>Falco subbuteo</i>	Hobby	<i>Merops apiaster</i>	Bee-eater
<i>Alectoris chukar</i>	Chukar	<i>Coracias garrulus</i>	Roller
<i>Coturnix coturnix</i>	Quail	<i>Upupa epops</i>	Hoopoe
<i>Rallus aquaticus</i>	Water Rail	<i>Jynx torquilla</i>	Wryneck
<i>Gallinula chloropus</i>	Moorhen	<i>Picus viridis</i>	Green Woodpecker
<i>Fulica atra</i>	Coot	<i>Dendrocopos major</i>	Great Spotted Woodpecker
<i>Grus grus</i>	Crane	<i>Dendrocopos syriacus</i>	Syrian Woodpecker
<i>Haematopus ostralegus</i>	Oystercatcher	<i>Dendrocopos medius</i>	Middle Spotted Woodpecker
<i>Himantopus himantopus</i>	Black-winged Stilt	<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker
<i>Recurvirostra avosetta</i>	Avocet	<i>Melanocorypha calandra</i>	Calandra Lark
<i>Barthuis oedincnemus</i>	Stone Curlew	<i>Melanocorypha bimaculata</i>	Bimaculated Lark
<i>Glareola pratincola</i>	Collared Pratincole	<i>Calandrella brachydactyla</i>	Short-toed Lark
<i>Charadrius dubius</i>	Little Ringed Plover	<i>Calandrella rufescens</i>	Lesser Short-toed Lark
<i>Charadrius hiaticula</i>	Ringed Plover	<i>Galerida cristata</i>	Crested Lark
<i>Charadrius alexandrinus</i>	Kentish Plover	<i>Lullula arborea</i>	Woodlark
<i>Pluvialis apricaria</i>	Golden Plover	<i>Alauda arvensis</i>	Skylark
<i>Pluvialis squatarola</i>	Grey Plover	<i>Eremophila alpestris</i>	Shore Lark
<i>Hoplopterus spinosus</i>	Spur-winged Plover	<i>Riparia ripana</i>	Sand Martin
<i>Vanellus vanellus</i>	Lapwing	<i>Ptyonoprogne rupestris</i>	Crag Martin
<i>Calidris alba</i>	Sanderling	<i>Hirundo rustica</i>	Swallow
<i>Calidris minuta</i>	Little Stint	<i>Hirundo daurica</i>	Red-rumped Swallow
<i>Calidris temminckii</i>	Temminck's Stint	<i>Delichon urbica</i>	House Martin
<i>Calidris ferruginea</i>	Curlew Sandpiper	<i>Anthus campestris</i>	Tawny Pipit
<i>Calidris alpina</i>	Dunlin	<i>Anthus trivialis</i>	Tree Pipit
<i>Philomachus pugnax</i>	Ruff	<i>Anthus pratensis</i>	Meadow Pipit
<i>Gallinago gallinago</i>	Snipe	<i>Anthus cervinus</i>	Red-throated Pipit
<i>Limosa limosa</i>	Black-tailed Godwit	<i>Anthus spinoletta</i>	Water or Rock Pipit
<i>Numenius arquata</i>	Curlew	<i>Motacilla flava</i>	Yellow Wagtail
<i>Tringa erythropus</i>	Spotted Redshank	<i>Motacilla cinerea</i>	Grey Wagtail
<i>Tringa totanus</i>	Redshank	<i>Motacilla alba</i>	Pied or White Wagtail
<i>Tringa stagnatilis</i>	Marsh Sandpiper	<i>Pycnonotus xanthopygus</i>	Yellow-vented Bulbul
<i>Tringa nebularia</i>	Greenshank	<i>Bombycilla garrulus</i>	Waxwing
<i>Tringa ochropus</i>	Green Sandpiper	<i>Cinclus cinclus</i>	Dipper
<i>Tringa glareola</i>	Wood Sandpiper	<i>Troglodytes troglodytes</i>	Wren

<i>Prunella modularis</i>	Dunnock	<i>Parus ater</i>	Coal Tit
<i>Prunella collaris</i>	Alpine Accentor	<i>Parus caeruleus</i>	Blue Tit
<i>Cercotrichas galactotes</i>	Rufous Bush Chat	<i>Parus major</i>	Great Tit
<i>Eithacus rubecula</i>	Robin	<i>Sitta krueperi</i>	Krüper's Nuthatch
<i>Luscinia megarhynchos</i>	Nightingale	<i>Sitta europaea</i>	Nuthatch
<i>Irania gutturalis</i>	White-throated Robin	<i>Sitta neumayer</i>	Rock Nuthatch
<i>Phoenicurus ochruros</i>	Black Redstart	<i>Certhia brachyactyla</i>	Short-toed Treecreeper
<i>Phoenicurus phoenicurus</i>	Redstart	<i>Remiz pendulinus</i>	Penduline Tit
<i>Saxicola rubetra</i>	Whinchat	<i>Oriolus oriolus</i>	Golden Oriole
<i>Saxicola torquata</i>	Stonechat	<i>Lanius collurio</i>	Red-backed Shrike
<i>Oenanthe isabellina</i>	Isabelline Wheatear	<i>Lanius minor</i>	Lesser Grey Shrike
<i>Oenanthe oenanthe</i>	Wheatear	<i>Lanius senator</i>	Woodchat Shrike
<i>Oenanthe hispanica</i>	Black-eared Wheatear	<i>Lanius nubicus</i>	Masked Shrike
<i>Oenanthe finschii</i>	Finsch's Wheatear	<i>Garrulus glandarius</i>	Jay
<i>Monticola saxatilis</i>	Rock Thrush	<i>Pica pica</i>	Magpie
<i>Monticola solitarius</i>	Blue Rock Thrush	<i>Pyrrhocorax graculus</i>	Alpine Chough
<i>Turdus torquatus</i>	Ring Ouzel	<i>Pyrrhocorax pyrrhocorax</i>	Chough
<i>Turdus merula</i>	Blackbird	<i>Corvus monedula</i>	Jackdaw
<i>Turdus pilaris</i>	Fieldfare	<i>Corvus frugilegus</i>	Rook
<i>Turdus philomelos</i>	Song Thrush	<i>Corvus corone</i>	Hooded or Carrion Crow
<i>Turdus iliacus</i>	Redwing	<i>Corvus corax</i>	Raven
<i>Turdus viscivorus</i>	Mistle Thrush	<i>Sturnus vulgaris</i>	Starling
<i>Cettia cetti</i>	Cetti's Warbler	<i>Passer domesticus</i>	House Sparrow
<i>Acrocephalus melanopogon</i>	Moustached Warbler	<i>Passer hispaniolensis</i>	Spanish Sparrow
<i>Acrocephalus schoenobaenus</i>	Sedge Warbler	<i>Passer montanus</i>	Tree Sparrow
<i>Acrocephalus scirpaceus</i>	Reed Warbler	<i>Petronia petronia</i>	Rock Sparrow
<i>Acrocephalus arundinaceus</i>	Great Reed Warbler	<i>Montifringilla nivalis</i>	Snowfinch
<i>Hippolais pallida</i>	Olivaceous Warbler	<i>Fringilla coelebs</i>	Chaffinch
<i>Sylvia cantillans</i>	Subalpine Warbler	<i>Serinus pusillus</i>	Red-fronted Serin
<i>Sylvia melanocephala</i>	Sardinian Warbler	<i>Serinus serinus</i>	Serin
<i>Sylvia rueppelli</i>	Rüppell's Warbler	<i>Carduelis chloris</i>	Greenfinch
<i>Sylvia hortensis</i>	Orphean Warbler	<i>Carduelis carduelis</i>	Goldfinch
<i>Sylvia curruca</i>	Lesser Whitethroat	<i>Carduelis cannabina</i>	Linnet
<i>Sylvia communis</i>	Whitethroat	<i>Loxia curvirostra</i>	Crossbill
<i>Sylvia borin</i>	Garden Warbler	<i>Rhodopechys sanguinea</i>	Crimson-winged Finch
<i>Sylvia atricapilla</i>	Blackcap	<i>Carpodacus erythrinus</i>	Scarlet Rosefinch
<i>Phylloscopus collybita</i>	Chiffchaff	<i>Emberiza cirius</i>	Cirl Bunting
<i>Phylloscopus trochilus</i>	Willow Warbler	<i>Emberiza cia</i>	Rock Bunting
<i>Regulus regulus</i>	Goldcrest	<i>Emberiza hortulana</i>	Ortolan Bunting
<i>Muscicapa striata</i>	Spotted Flycatcher	<i>Emberiza caesia</i>	Cretzschmar's Bunting
<i>Panurus biarmicus</i>	Bearded Tit	<i>Emberiza schoeniclus</i>	Reed Bunting
<i>Aegithalos caudatus</i>	Long-tailed Tit	<i>Emberiza melanocephala</i>	Black-headed Bunting
<i>Parus lugubris</i>	Sombre Tit	<i>Miliaria calandra</i>	Corn Bunting

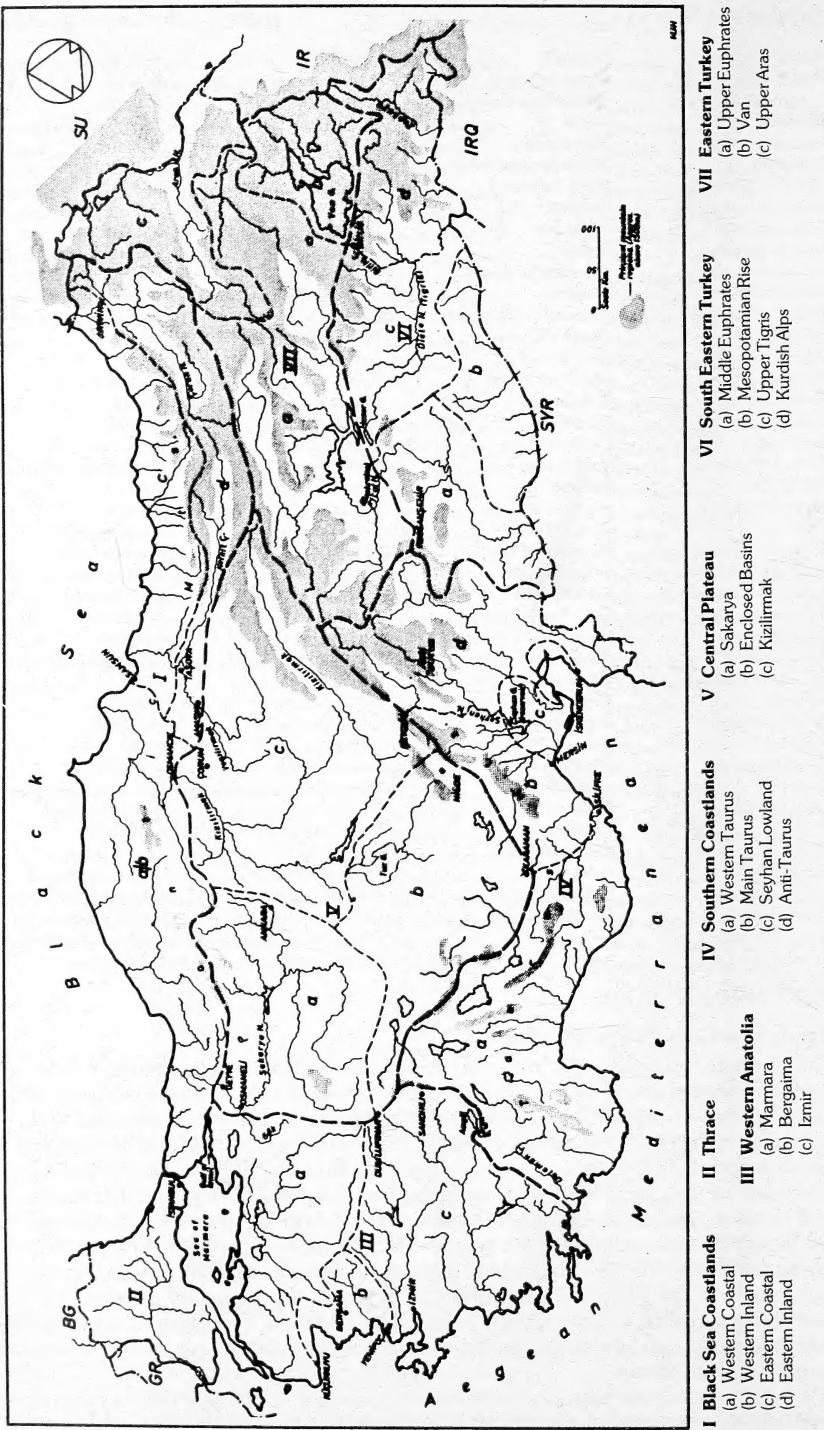
REGIONS (see Figure 1)

Black Sea Coastlands (Region I)

The southern boundary runs from the head of the Gulf of Izmit (just south of Izmit) along the southern watershed of several minor rivers, passes south of Sapanca Golu, crosses the Sakaraya Nehri north of Geyve, passes south of Mudurnu, Gerede, Cerkes and Tosya, crosses the Kizilirmak south of Osmancik, passes northeast of Corum, crosses the Yesilirmak south of Amasya and then follows the southern watersheds of the Kelkit Cayi and the Coruh Nehri eastwards to the USSR border, passing south of Susehri and Refahiye, northwest of Askale and Horasan, and west of Kars and Ardahan. The Adalar (Prince's Islands) near the mouth of the Bosphorus are included in this region. The two eastern and the two western sub-regions are separated by the Corum-Samsun highway and the eastern sub-regions by the northern watersheds of the Kelkit Cayi and the Coruh Nehri, the boundary crossing the Yesilirmak northeast of Tasova and the Coruh Nehri south of Artvin. The western sub-regions are not clearly separated and the distinction between the wetter coastal zone and the drier inland zone is best made on the spot.

N.B.—It is regretted that because of difficulties in typesetting Turkish text, various inflexions modifying certain place names have had to be omitted. We apologise for this, especially to our Turkish readers.—Ed.

Figure 1: Map of Turkey showing Regions and Sub-regions



Thrace (Region II)

The European part of Turkey, including Gokceada (the island west of the Dardanelles).

Western Anatolia (Region III)

The eastern boundary is defined by the boundary of the Black Sea Coastlands from the head of the Gulf of Izmit up to a point on the western watershed of the Sakaraya Nehri northwest of Geyve. From there the boundary mostly follows the western watershed of the Sakaraya Nehri (but the region does include most of the catchment area of the Gok Nehri – the boundary crossing the river west of Osmaniye), passing west of Bilecik, Pazaryeri, Koprucoren and Dumlupinar. It then follows the western watershed of the inland drainage, passing north and east of Sandikli, east of Dinar, south of Acigol and north of Calti Golu, Corak Golu, Salda Golu and Kizilhisar. It then follows the western watershed of the Dalaman Cay to the coast just east of Koycegiz Golu. The Marmara sub-region is the catchment area of all waters entering the sea north of Kadirga Burnu (south of Ayvacik). The Bergama sub-region is the catchment area of all waters entering the sea between Kadirga Burnu and Yenifoca. The remainder of the region forms the Izmir sub-region.

Southern Coastlands (Region IV)

The northern boundary is defined by the boundary of Western Anatolia from the coast just east of Koycegiz Golu to a point northeast of Sandikli. From here it runs north of Selevir Baraji and Karamik Golu, then along the summit watershed of the Sultan Daglari, passing between Aksehir and Orkenez. It then follows the eastern and northern watersheds of Beysehir Golu and Sugla Golu, passing east of Doganbey, before passing just northeast of Apa Baraji. From there the boundary runs southeastwards along an arbitrary line to a point just south of Karaman and thence northeastwards along a line a little south of the Karaman-Eregli-Ulukisla-Nigde highway. From a point just east of Nigde it follows the northern watershed of the Mediterranean drainage, passing east of Develi and Bunyan, north and east of Viransehir, south of Gurun, west of Doganşehir, north, west and south of Nurhak, just north and east of Golbasi, southeast of Narli and just west of Kilis until it reaches the Syrian border nearby. The Main Taurus (Toros) and West Taurus sub-regions are separated by the Karaman-Silifke highway (continuing this boundary to the coast just east of Silifke and the Goksu Delta). The Anti-Taurus sub-region is separated from the Main Taurus by the Seyhan Nehri, then the Yeniceirmak and finally the Develi-Bakirdagi road from the point where it crosses the Yeniceirmak. The Seyhan Lowlands sub-region comprises all the coastal plains east of Mersin, extending inland to the Seyhan Baraji and the vicinity of Kozan, Kadirli and Osmaniye, and extending southwards as a narrow strip along the eastern edge of the Gulf of Iskenderun. The precise distinction between plains and hills is best made on the spot.

Central Plateau (Region V)

The northern, western and southern boundaries are defined by the boundaries of the Black Sea Coastlands, Western Anatolia and the Southern Coastlands. The eastern boundary runs from a point on the boundary of the Black Sea Coastlands between Imranli and Refahiye southwestwards, passing north of Beypinari and Deliktas, to a point on the boundary of the Southern Coastlands south of Altinyayla. The Sakaraya sub-region is the catchment area of the river within the region. The boundary within the region runs from just south of Dumlupinar eastwards, passing south of Bayat, Celtik and Altunova before turning northwards to the vicinity of Yenice and Hamit, passing east of Ankara and just east of Cubuk. The Kizilirmak sub-region is the catchment area of that river within the region. The boundary within the region runs from a point northeast of Nigde to the east of Aksaray, passing west of Hirfanli Baraji and north of Tuz Golu and Kulu to the vicinity of Yenice. From here northwards the boundary is defined by that of the Sakaraya sub-region. The remainder of the region forms the Enclosed Basins sub-region.

South-East (Region VI)

The western boundary is defined by the boundary of the Southern Coastlands. The northern boundary runs eastwards from a point northwest of Doganşehir, on the boundary of the Southern Coastlands, along the watershed of several minor rivers, crossing the Firat Nehri (Euphrates) southeast of Kale. From there it passes north of Hazar Golu and along the northern watershed of the Dicle Nehri (Tigris), passing south of Mus, Tatvan and Van Golu, to reach the Iranian border just southwest of Kotur. The boundary of the Mesopotamian Rise sub-region runs from the Syrian border west of Mursitpınar along the eastern watershed of the Firat Nehri to Karacadag (the peak southeast of the town of the same name) and then along the western watershed of the Dicle Nehri to a point on the Syrian border south of Dicle. The boundary between the Mid-Euphrates sub-region and the Upper Tigris sub-region runs from a point west of Hazar Golu southeastwards to Karacadag. The Kurdish Alps sub-region is bounded on the west by the Bitlis Cay and then the Dicle Nehri below their confluence.

East (Region VII)

The boundaries are defined by the boundaries of the Black Sea Coastlands, the Central Plateau, the Southern Coastlands and the South-East. The boundary of the Upper Aras sub-region within the region is the watershed running from south of Tortum southwards to just east of Erzurum and the Bingöl Dağları, then northeastwards to the Tahir Pass before passing north of Ağrı and reaching the Iranian border south of Dogubayazıt. The boundary of the Van sub-region within the region runs from just west of Tatvan northwards along the watershed of Van Golu, then northwest and north of Erçis to Tendürek Dağı (not far from the Iranian frontier). From here to the Iranian border the boundary is defined by that of the Upper Aras sub-region. The remainder of the region forms the Upper Euphrates sub-region.

WETLANDS

Names used for many wetland localities in Turkey differ markedly from one map to another and from one publication to another. Many are not even marked on most available maps of the country. In order to facilitate the standardization of names of wetland localities and to prevent any difficulties in the interpretation of this and previous bird reports, a list of all the more important localities (with alternative names and geographical co-ordinates) is given below.

Black Sea Coastlands

Abant Golu (40.40N, 31.16E). Balık Golu, Kizilirmak Delta (this complex of wetlands includes Uzun Golu) (41.36N, 36.04E). Karabogaz Golu, Kizilirmak Delta (=Cemek Golu) (41.39N, 35.55E). Liman Golu, Kizilirmak Delta (41.38N, 35.57E). Sapanca Golu (40.45N, 30.16E). Tortum Golu (40.35N, 41.40E). Yenicaga Golu (40.50N, 32.05E).

Thrace

Buyukcekmece (=Buyuk Cekmece) (41.00N, 28.38E). Gala Golu, Meric Delta (40.47N, 27.50E). Kucukcekmece (=Kucuk Cekmece) (40.58N, 28.40E). Terkoz Golu (=Terkos Golu, Durusu Golu) (41.20N, 28.35E).

Western Anatolia

Acigol (37.52N, 29.54E). Adala Golu (38.35N, 28.16E). Apolyont Golu (=Uluabat Golu, Ulubat Golu) (40.12N, 28.40E). Arapçiftligi Golu (40.21N, 28.33E). Bafa Golu, Buyuk Menderes Delta (37.30N, 27.25E). Civril Golu (=Isikli Golu) (38.15N, 29.55E). Dalyan

Golu (40.21N, 28.29E). Demirkopru Baraji (38.41N, 28.29E). Gokceli Golu (38.05N, 30.15E). Gulluk Golu (37.12N, 27.35E). Iznik Golu (40.27N, 29.32E). Karine Golu, Buyuk Menderes Delta (37.36N, 27.11E). Kemer Baraji (37.30N, 28.40E). Koycegiz Golu (36.48N, 28.42E). Manyas Golu (=Kus Golu) (Kus Cenneti is situated on this lake) (40.10N, 28.00E). Marmara Golu (38.40N, 28.04E).

Southern Coastlands

Ak Golu, Goksu Delta (the more northerly of the two main lakes here)(36.18N, 34.00E). Akyatan Golu, Seyhan/Ceyhan Delta (36.39N, 35.17E). Akyayan Golu, Seyhan/Ceyhan Delta (36.40N, 35.35E). Alplasan Golu (38.15N, 30.27E). Amik Golu (now drained) (36.23N, 36.18E). Avlan Golu (36.35N, 29.58E). Aynaz Golu (=Aynas Golu, Aynaz swamp, Aynas swamp) (36.49N, 34.54E). Beysehir Golu (37.45N, 31.63E). Burdur Golu (37.45N, 30.13E). Calti Golu (37.46N, 20.44E). Corak Golu (=Bayindir Golu) (37.41N, 20.49E). Egridir Golu (38.05N, 30.53E). Emen Golu (36.40N, 36.30E). Gavur Golu (36.55N, 36.40E). Golhisar Golu (37.07N, 29.39E). Hoyran Golu (38.15N, 30.52E). Iskele lagoons, Seyhan/Ceyhan Delta (=Yumurtalik lagoons) (36.47N, 35.46E). Karagol (36.43N, 29.53E). Karamik Golu (38.28N, 30.53E). Karatas Golu (37.29N, 30.05E). Kestel Golu (37.27N, 30.29E). Kokarot Golu, Seyhan/Ceyhan Delta (36.36N, 35.30E). Kovada Golu (37.40N, 30.56E). Ova Golu (36.19N, 29.20E). Paradeniz Golu, Goksu Delta (the more southerly of two main lakes here) (36.18N, 34.00E). Salda Golu (37.33N, 29.44E). Selevir Baraji (38.30N, 30.44E). Seyhan Baraji (=Seyhan Golu) (37.05N, 35.20E). Sogut Golu (37.05N, 29.54E). Sugla Golu (37.20N, 32.05E). Tuzla Golu, Seyhan/Ceyhan Delta (36.44N, 35.04E). Yarisli Golu (37.35N, 30.00E).

Central Plateau

Aksehir Golu (38.32N, 31.28E). Balikdami marsh (39.20N, 31.40E). Bugur Golu (=Buluk Golu (38.33N, 32.58E). Cavuscu Golu (38.25N, 31.56E). Celtik Golu (38.59N, 31.52E). Cubuk I Baraji (40.03N, 33.00E). Cubuk II Baraji (40.20N, 33.04E). Eber Golu (38.40N, 31.12E). Emir Golu (39.55N, 33.03E). Eregli Golu (=Ak Golu) (37.35N, 33.58E). Gez Golu (=Cihanbeyli Golu, Teskan Golu) (38.37N, 33.08E). Gogenc Golu (=Guvenc Golu) (38.11N, 32.47E). Golbek Golu (=Kurak Golu) (39.23N, 32.55E). Hirfanli Baraji (39.10N, 33.35E). Hotamis Golu (=Bataklik Golu) (37.36N, 33.06E). Karagol (40.25N, 32.57E). Krater Golu (37.43N, 33.43E). Kulu Golu (=Kucuk Golu (39.07N, 33.09E). Mogan Golu (=Golbasi Golu) (39.45N, 32.50E). Palas Golu (=Tuzla Golu) (39.02N, 35.52E). Porsuk Baraji (39.30N, 30.16E). Sariyer Baraji (40.03N, 31.30E). Seyfe Golu (39.19N, 34.23E). Sultansazligi (this huge wetland complex includes Yay Golu, also known as Kurbagu Golu) (39.30N, 35.17E). Todurke Golu (39.55N, 37.40E). Tuz Golu (38.45N, 33.25E). Tuzla Golu (37.43N, 33.43E). Yarma marshes (=wetlands near Yarma, Sakyatan marshes, Konya Ovasi marshes) (37.55N, 32.50E).

South-East

Hazar Golu (38.30N, 39.38E).

East

Cildir Golu (41.02N, 43.16E). Ercek Golu (38.40N, 43.34E). Fahril Golu (41.11N, 42.58E). Hazapin Golu (41.11N, 43.16E). Keban Baraji (38.56N, 39.00E). Nazik Golu (38.50N, 42.20E). Van Golu (38.35N, 42.50E).

SYSTEMATIC LIST*

*Gavia stellata***Red-throated Diver**

Very rare winter visitor to the Black Sea, Marmara and Aegean coasts. Has occurred inland.

East: one at Ahlat (Van Golu) 14 Jun 77 (PSAA *et al.*), a surprising date.

*Gavia arctica***Black-throated Diver**

Widespread and common winter visitor to the eastern half of the Black Sea coast, less common in the western half and on the Marmara coast. Has been recorded on the Mediterranean coast and also inland.

Black Sea Coastlands: one at Suadiye (Istanbul) 25 Sep 77, one flying south at Camlica (Bosphorus) 26 Sep 77, at least 10 near Alacam 7 May 78, five at Sile 3 May 81, eight at Giresun 16 May 81 and three at Findikli 17 May 81.

Southern Coastlands: one at Tasucu (near the Goksu Delta) 16-19 Mar 76.

East: one at Bendimahi (Van Golu) 21 Jun 78, a surprising date.

*Podiceps grisegena***Red-necked Grebe**

Rather local and generally uncommon summer visitor to marshy wetlands on the Central Plateau and in the East, perhaps also in adjacent areas of the Southern Coastlands and elsewhere. More widespread across the country on passage (when it also occurs in coastal waters), but only occasionally recorded in winter.

Black Sea Coastlands: one at Arhavi 25 Aug 76, two at Unye 22 Oct 76, three at Trabson 24 Oct 76, two at Sinop 28 Aug 77 and up to four from 15 Sep-12 Oct 79, one on a lake between Kocaali and Akcakoca 1 Oct 77, five in the Bosphorus 18 Mar 78, two at Arhavi 13 Sep 79, one on 4 Sep 80 and one on 7 Sep 80, one at Pazar 12 Sep 80, six at Giresun 16 May 81 and one at Hopa 1-2 Sep 81.

Thrace: one at Buyukcekmece 5 Sep 76, two on 15 Sep 76, three on 10 Sep 78, one on 20 Sep 78, one on 10 Sep 79, one on 15 Sep 79 and one on 22 Sep 79. One at Kucukcekmece 26 Sep 77 and five on 1 Apr 78.

Western Anatolia: two at Apolyont Golu 11 Sep 76, one at Yalova 19 Sep 77, one at Manyas Golu 23 Sep 78, one near Bandirma 10 Sep 79 and one at Bandirma 21 Sep 80.

Southern Coastlands: two at the Goksu Delta 16 Sep 76, one on 13 Apr 78 and one on 11 Oct 80. An unusual concentration of 150 at Burdur Golu 1-3 Sep 80.

Central Plateau: one at Eregli Golu 8 Jul 77 and one on 7 Sep 80, three (plus some unfledged young) at Aksehir Golu 13 Jul 77 and two at Sultansazligi (near Yesilhisar) 6-7 Oct 80.

East: up to seven in the Van area 8-17 Jun 77, some on 14 Jun 78, five (including three juveniles) on 27 Jul 80 and one on 27 May 81. One at Ahlat (Van Golu) 14 Jun 77, 15 at Cildir Golu 18 May 81 and one at a marsh west of Gevas 26 May 81.

*Calonectris diomedea***Cory's Shearwater**

Fairly widespread and locally not uncommon summer visitor to the Mediterranean and Aegean coasts. Occasionally recorded from the Sea of Marmara and even from the Black Sea coast. May breed in Turkey.

Black Sea Coastlands: one on the crossing between Istanbul and Yalova 8 Sep 76 and 10 on 12 Sep 78. One in the Bosphorus 26 Sep 77.

*Initials are not generally given unless the record is thought to be particularly unusual.—Ed.

Western Anatolia: three between Marmaris and Rhodos 13 Mar 76, some off Marmaris 29 Aug 76, at least 30 off the coast north of Didim 22 Sep 76. One near Ayvalik 28 Jul 79 and one in the same area 31 Jul 79. Six flying north at Yenikoy (near Truva) 23 Aug 80.

Southern Coastlands: six off the Goksu Delta 21 Aug 76, four flying east near Antalya 9 Sep 77, one flying east near Antalya 11 Sep 77 and two east of Finike 25 Mar 78.

Phalacrocorax aristotelis

Shag

Fairly widespread and not uncommon resident along the eastern half of the Black Sea coast; much more local and less numerous in the western half and on the Marmara, Aegean and Mediterranean coasts. Appears to disperse somewhat in autumn and winter.

Black Sea Coastlands: widespread, generally in small or moderate numbers, along the coast from Samsun to Hopa throughout the year, with maximum count of 200 between Pazar and Samsun 12 Sep 80. Elsewhere: one on the crossing between Istanbul and Yalova 19 Sep 77 and three on 18 Sep 78, some at the mouth of the Bosphorus 17 Dec 77 and up to 20 at Sile 2-3 May 81.

Thrace: two off the Marmara coast near Istanbul 15 Sep 76, one at Buyukcekmece 15 Sep 79, one at Terkoz 26 Sep 79 and one off the Marmara coast west of Istanbul 28 Mar 80.

Western Anatolia: four at Erdek 6 Jun 77, three on the crossing from Yalova to Istanbul 25 Sep 78, one near Ayvalik in Sep 79, two at Yenikoy (near Truva) 23 Aug 80 and one at Bandirma 19 Jul 81.

Southern Coastlands: in the Tasucu area (near the Goksu Delta) two on 30 Jun 76, at least 10 on 9 May 77, two on 4 Jul 78, up to three on 14-15 May 79 and up to six from 20-22 May 81. About 20 at Gelidonya Burun (west of Finike) 9 May 78, two about 35 km. southwest of Silifke 9 Jun 78 and five at Aydincik 7 Jun 81.

Pelecanus crispus

Dalmatian Pelican

Very local resident or partial migrant, generally in small numbers, in extensive wetlands in the Black Sea Coastlands, Western Anatolia and on the Central Plateau. May breed outside these regions also. Otherwise occurs more widely across the country on passage, wintering in moderate numbers in the western two-thirds (especially in Western Anatolia). Seems to be declining in numbers.

Black Sea Coastlands: at the Kizilirmak Delta (a known breeding site) four on 9 Oct 77, about 25 on 11 Sep 79 and 20 on 5 Jun 81. At Camlica (Bosphorus) two flew east on 17 Sep 77 and one flew east on 18 Sep 77.

Western Anatolia: at Manyas Golu (a regular breeding site) eight on 11 Aug 76, about 100 on 11 Sep 76, up to 4 from 15-28 Sep 76, eight on 7 Jun 77, 20 on 17 Jul 77, 18 on 16 Apr 78, a few on 12 May 78, three on 23 Sep 78, five on 6 May 79, at least 40 on 28 Mar 80, one adult and two chicks on a nest 22 Aug 80 and four on 16 Oct 80. At Apolyont Golu up to about 20 from 11 Aug-28 Sep 76, one on 11 May 78, up to at least 11 from 13-25 Sept 78, four on 6 May 79, up to 14 from 12-19 Sep 79, up to 15 from 10-19 Sep 80 and nine on 21 Sep 81. At the Buyuk Menderes Delta up to 23 on 14-15 Mar 76 and at least 50 on 25 Jan 78. At Bafa Golu three on 11 Sep 76, three on 28 May 79 and seven on 1 Aug 79. Up to 80 at Inciralti (near Izmir) from 17 Dec 76 to 10 Jan 77, 12 flying south over the Sea of Marmara west of Erdek 20 Sep 79, four at Iznik Golu 4 May 81 and two at the coast near Truva (southwest of Canakkale) 23 Aug 80.

Southern Coastlands: at the Goksu Delta 25 on 18 Mar 76, one on 8 Aug 76, four from 24-26 Aug 76, one on 18 Sep 76, 13 on 26 Oct 77 and seven on 24 Feb 78. One at Tasucu (near the Goksu Delta) 22 Oct 77.

Central Plateau: one at Aksehir Golu 13 Jul 77, three at Hotamis Golu 28 Feb 78 and one at Kulu Golu 9 May 79. At Eregli Golu (a known breeding site) 11 on 7 Sep 80 and three on 19 May 81.

East: three at Nazik Golu (northwest of Ahlat) 15 Jun 77, one flying west at Cildir 20 Sep 79, one flying west At Ardahan 21 Sep 79 and five at Cildir Golu 18 Apr 81.

Botaurus stellaris

Bittern

Very local resident in very small numbers in the Kizilirmak Delta (Black Sea Coastlands), perhaps elsewhere. Otherwise a scarce passage migrant and winter visitor, mostly in the western two-thirds of the country.

Thrace: one at Terkoz Golu 23 Apr 81.

Western Anatolia: one at Apolyont Golu 19 Sep 80.

Southern Coastlands: one at the Kopru river mouth (near Serik) 3 Apr 78 and one at the Goksu Delta 6 Jun 81.

Central Plateau: one at Hotamis Golu 6 Jan 76.

Bubulcus ibis

Cattle Egret

Status uncertain, but probably only an irregular visitor (sometimes in some numbers) to wetland areas in the Southern Coastlands and occasionally the Black Sea Coastlands, the Central Plateau and the East.

Black Sea Coastlands: two at the Kizilirmak Delta 7 May 78 and 10 near Rize 31 Aug 80.

Southern Coastlands: one at the Goksu Delta 9 May 77 and one on 19 Apr 78.

Central Plateau: one at Kulu Golu 18 May 79.

East: one at Ahlat (Van Golu) 14 Jun 77.

Geronticus eremita

Bald Ibis

Very rare summer visitor in small and declining numbers to the colony at Birecik in the South-East. The Turkish population (the only one known outside North Africa) is in imminent danger of extinction.

South-East: 25-30 at Birecik on 21-22 Mar 76, one on 4 Jul 76, 29 adults plus at least six chicks on 6 May 77, 12 adults plus 13 chicks on 12 May 79, 12 on 24 May 79, 14 on 8 Apr 80, up to about 20 on 23-24 May 81 and three adults plus seven chicks on 28 May 81. The warden of the colony and captive breeding programme reports a steady fall in the number of non-captive adults returning each year from 32 in 1978 to 27 in 1979, 22 in 1980 and only 16 in 1981. Breeding success is reported to have increased, with 10 young fledged in 1980, but the survival rate of immatures after fledging appears to be very poor – few return to the colony.

Cygnus olor

Mute Swan

Local resident in small numbers in several wetlands in the Southern Coastlands and on the Central Plateau. Also a fairly widespread winter visitor in small or moderate numbers across the country. Seems to be declining in numbers.

Southern Coastlands: 10 at the Goksu Delta on 17 Mar 76 and one there 25 May 79. Six at Yarisli Golu 25 Nov 77.

Central Plateau: a pair with about five cygnets at Eregli Golu 6 Jul 76 and two birds there 5 Jul 78.

*Cygnus cygnus***Whooper Swan**

Rare winter visitor, generally in small numbers, to wetlands in the western two-thirds of the country.

Central Plateau: two at Balıkdami 4 Jan 76 and five at Hotamis Golu 28 Feb 78.

*Marmaronetta angustirostris***Marbled Teal**

Local breeding species in moderate numbers in lowland wetlands in the Southern Coastlands and in small numbers in several wetlands on the Central Plateau, possibly elsewhere. Mainly a summer visitor, but overwinters in some years. Occasionally recorded elsewhere on passage.

Southern Coastlands: at the Goksu Delta five on 1 Jul 76, up to about 20 from 3-9 Aug 76, about 20 on 9 May 77, one on 3 Sep 77, up to at least 200 from 16-24 Oct 77, two on 7 Jun 78, up to 20 (including a pair with eight chicks) on 4-5 Jul 78, up to about 20 on 14-15 May 79, six on 25 May 80, 61 on 11 Oct 80, up to about 20 from 20-22 May 81 and up to five on 6-7 Jun 81. Two near Karatas 10 May 79 and two at Tuzla Golu 3 Jun 81.

Central Plateau: one at Eregli Golu 6 Jul 76 and one on 5 Jul 78.

East: one at Van marshes 7 Jun 77.

*Clangula hyemalis***Long-tailed Duck**

Vagrant.

East: two at Horkum (west of Gevas, Van Golu) 10 Jun 77 (PSAA *et al.*) and three between Tatvan and Ahlat (Van Golu) 10 Jun 77 (PSAA *et al.*). These are surprising records, especially at this time of year, but the species has occurred at Van Golu before.

*Melanitta nigra***Common Scoter**

Vagrant.

Black Sea Coastlands: two females off the mouth of the Guluc River at Eregli from 30 Nov-24 Dec 77 (JSMA).

*Melanitta fusca***Velvet Scoter**

A local summer visitor, sometimes in large numbers, in the East. Perhaps mostly a non-breeder, but the species is known to breed very locally on high altitude lakes. Otherwise a rather local winter visitor in small or moderate numbers along the Black Sea coast and occasionally in the Sea of Marmara. Has been recorded inland in winter in the Southern Coastlands and on the Central Plateau.

Black Sea Coastlands: six at Eregli 14 Dec 77, five at Filyos (near Sinop) 17 Dec 79, one at Arhavi 2 Jun 81 and one at Hopa 1-2 Sep 81.

East: at the crater lake at Nemrut Dagi (a known breeding site, near Tavan) 15 on 13 Jun 77, 39 on 7 Jun 78, and about 15 on 26 May 81. Two at Nazik Golu (northwest of Ahlat) 15 Jun 77.

*Bucephala clangula***Goldeneye**

Scarce winter visitor, generally in small numbers, to wetlands in the western two-thirds of the country. Has been recorded from the East.

Black Sea Coastlands: up to two at Eregli 7-23 Jan 77 and one from 16-19 Dec 77.

East: three at Horkum (west of Gevas, Van Golu) 10 Jun 77, a surprising date.

*Mergus abellus***Smew**

Rather local and generally scarce winter visitor to wetlands in the western two-thirds of the country. Occasionally recorded in considerable numbers.

Black Sea Coastlands: one female at Eregli 18 Dec 77 (JSMA). One male at Eregli 10 Jan 78 and a redhead there on 21 Jan 78 (JSMA).

*Mergus serrator***Red-breasted Merganser**

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

Black Sea Coastlands: 10 at Eregli 19 Mar 78 and five at Sinop 2 Nov 80.

Thrace: six along the Sea of Marmara coast west of Istanbul 28 Mar 80 and three at Terkoz 24 Apr 81.

Western Anatolia: up to eight at Inciralti (near Izmir) from 17 Dec 76 to 10 Jan 77.

Southern Coastlands: one at the Goksu Delta 27 Oct 77.

*Oxyura leucocephala***White-headed Duck**

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

Western Anatolia: eight at the Buyuk Menderes Delta 13 Aug 81 and two at Cigli (near Izmir) 6 Dec 81.

Southern Coastlands: at the Goksu Delta five on 3 Aug 76 and four on 26 Aug 76. Between 2,000 and 3,000 estimated on Burdur Golu 24 Nov 77 and at least 300 in the southeast part of Burdur Golu 16 Mar 78. 30 at Burdur Golu 5 Apr 78 and four there 2 Sep 80. At Yarisli Golu up to eight from 23-25 Nov 77 and at least 35 on 16 Mar 78.

Central Plateau: at Eregli Golu eight on 6 Jul 76 and nine on 19 May 81. At Kulu Golu one on 1 Oct 76, 12 on 3 May 77, many on 31 Aug 77 and up to about 50 from 9-18 May 79.

East: at Van marshes at least 30 on 8 Jun 76, up to 54 from 7-23 Jun 77, four on 14 Jun 78, 10 (four males and six females) plus 25 chicks on 27 Jul 80 and six on 27 May 81. At Gevas up to nine from 10-12 Jun 77 and 12 on 12 Jun 78, with 12 at a marsh west of Gevas 26 May 81. Two at Horkum (west of Gevas) 10 Jun 77 and three at Ahlat (Van Golu) 14 Jun 77. At Bendimaki (Van Golu) up to seven from 21-29 Jun 78 and three on 30 May 81. Two along the south side of Van Golu 30 Jun 78, 20 or over on Van Golu 16 Apr 81 and 50 at Van Golu 22 May 81. 25 at a lake southeast of Arpacay 19 May 81.

*Milvus milvus***Red Kite**

Rare passage migrant and winter visitor across the country, generally in very small numbers. Has been recorded in summer in the north and east, but there is no evidence of breeding in Turkey. Much confusion has often occurred between this species and pale, especially immature, Black Kite *M. migrans* and undoubtedly many published records from Turkey are erroneous.

Black Sea Coastlands: at the Bosphorus one on 10 Sep 76, one on 12 Sep 76, two on 15 Sep 76, one on 15 Sep 77, one on 1 Oct 77, one on 2 Oct 77, one on 6 Oct 77, one on 18 Sep 78 and two on 13 Sep 80.

Southern Coastlands: three near Antalya 1 Sep 77.

Central Plateau: one at Sariyar Baraji (near Cayirhan) 7 May 81.

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

Until recently a local resident in small numbers in wetland areas in Thrace, Western Anatolia, the Southern Coastlands, the Black Sea Coastlands and probably the Central Plateau and the East. Now seriously endangered as a breeding species with possibly only a few pairs remaining.

More widespread across the country outside the breeding season, when records suggest some immigration into the country.

Black Sea Coastlands: at the Bosphorus one immature flew east on 7 Sep 77 and one immature flew east on 2 Oct 77. One immature flew southwest at Arhavi 9 Oct 76. At Borcka one subadult flew south on 19 Sep 79 and one adult flew south on 24 Sep 79. One adult at Tortum Golu (north of Tortum) 26 Oct 77.

Western Anatolia: one at the Buyuk Menderes Delta 11 Aug 81.

Southern Coastlands: one at Tasucu (near the Goksu Delta) 17 Mar 76. One between Alanya and Anamur 3 May 77. One immature at the Goksu Delta 18-19 Oct 77, one immature on 24 Feb 78 and one adult from 9-11 Oct 80. Four immatures at Beysehir Golu 23 Apr 78.

Central Plateau: two adults at Eregli Golu 8 Jul 77.

East: one at Gildir Golu 18 Apr 81 and one in the same area 18 May 81.

Accipiter brevipes

Levant Sparrowhawk

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

Black Sea Coastlands: a pair and four juveniles were present at Camlica (Bosphorus) in mid August 1979 and seemed as if they might have bred locally. Otherwise numerous records from the Bosphorus from mid August to early October. Recorded from 16 Aug-7 Oct. Most in any one year was 6,516 from 11 Sep-1 Oct. Maximum count of about 6,000 on 18 Sep 78. 24 flying east near Izmit 8 Sep 76 and two in the same area 12 Sep 76. From 1976 onwards found to be a regular migrant in moderate numbers through the eastern part of the region in the Arhavi/Hopa/Borcka/Artvin area; recorded from 23 August to 1 October. Most in any one year was 290 from 23 Aug-26 Sep 76. One near Demirkent 27 Aug 81.

Thrace: one adult male north of Derekoy 27 Jul 76. One bird near Ipsala 3 Aug 78 and one bird between Edime and Istanbul 11 Jul 80 were in suitable breeding habitat. Autumn observations from the Bosphorus area are discussed under Black Sea Coastlands. Four at Buyukdere (Bosphorus) 4 Apr 76, one between Kilyos and Terkoz 6 Apr 78 and one near Corlu 22 Apr 81.

Western Anatolia: four at Iznik Golu 9 Sep 76 and one west of Yalova 10 Sep 76. On Uludag one on 10 Sep 76, two on 19 Sep 77 and one on 20 Sep 77. One male near Karacabey 30 Mar 78, at least 100 between Yalova and Iznik Golu 11 Sep 79, 70 at Iznik Golu 17 Sep 79 and 10 on Pasalimani island (in the Sea of Marmara) 20 Sep 79.

Southern Coastlands: up to two in the Alanya area 3-10 May 77 and two near Tarsus 11 Sep 80. In the Belen area 587 flew south from 7-16 Sep 81. Two flew south at the drained Amik Golu 9 Sep 81 and one flew south there 11 Sep 81.

Central Plateau: up to two at Kizilcahamam 14 Aug 76 and about 10 there 18 Sep 81.

East: one flying south at Cildir 20 Sep 79.

Buteo lagopus

Rough-legged Buzzard

Rare winter visitor in very small numbers to the Black Sea Coastlands, Thrace, Western Anatolia and the Central Plateau.

Black Sea Coastlands: one near Gerede 2 Apr 76 (JRT).

Central Plateau: one at Ankara 14 Jan 76 (JRT).

*Aquila nipalensis***Steppe Eagle**

Uncommon passage migrant in moderate numbers through the eastern third of the country; rare further west. Has been recorded in summer on the Central Plateau (but no evidence of breeding) and in winter on the Central Plateau and in Thrace.

Black Sea Coastlands: at the Bosphorus one juvenile flew east on 13 Oct 77 and one bird flew east on 10 Oct 81. From 1976 onwards found to be a regular migrant in considerable numbers through the eastern part of the region in the Arhavi/Hopa/Artvin area; recorded from 18 September to 25 October. Most in any one year was 434 between 11-25 Oct 77. Maximum counts of 122 flying south at Borcka on 28 Sep 76 and 264 flying south at Borcka on 19 Oct 77. One flying south over the Yalniczcam Daglari (east of Artvin) 7 Oct 76 and two near Savsat (east of Artvin) 17 May 81.*

Southern Coastlands: two juveniles flew east at the Goksu Delta 18 Oct 77.

South-East: one at Viransehir 9-10 Apr 81 and one at Yuksekova 12 Sep 81.

East: one flying south at Posof (north of Ardahan) 19 Sep 79, four flying south at Cildir 20 Sep 79 and three flying south there 22 Sep 79, one between Ardahan and Kars 21 Sep 79 and one at Ardahan 25 Sep 79.

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

Status uncertain, but probably only a rare and localized resident in very small numbers in Western Anatolia, the Southern Coastlands and the South-East. May occur elsewhere., Much confusion has occurred between this species and other birds of prey, especially immature Honey Buzzard *Pernis apivorus*. It now seems very probable that many published records of *H. fasciatus* from Turkey are erroneous.

Western Anatolia: one at Gumuldur 7 Oct 76 (EB), two over Samsun Dagi (near the Buyuk Menderes Delta) 28 May 79 (M. J. Inskip) and two near Harmancik (west of Tavsanli) 15 Jun 81 (UG, HH).

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

Known to breed locally on islands in the Sea of Marmara and off the southwest coast. Locally but regularly recorded along the west and south coast on passage or as a non-breeding visitor. Occasionally observed in the Bosphorus area, inland in Western Anatolia and even on the Central Plateau.

Black Sea Coastlands: one at Buyukada (Princes Islands) 16 Sep 77, three dark phase over the sea off Suadiye (Istanbul) 25 Sep 77 and one at the Princes Islands 25 Sep 78. At Camlica (Bosphorus) one on 18 Sep 77, up to three between 15-22 Aug 79 and two on 2-3 Oct 81.

Thrace: one at the Forest of Belgrade (near Istanbul) 6 Sep 76.

Western Anatolia: at Kusadasi one light phase on 8 May 78, one dark phase on 9 May 78, one dark phase on 11 May 78 and one light phase on 12 May 78. Five at the Buyuk Menderes Delta 28 May 79 and one at Samsun Dagi (near the Buyuk Menderes Delta) 22 Jul 81. Two dark phase at Mugla 2 June 79. A total of 112 flying along the same flight path over the course of two hours near Bodrum 4 Jun 81. (In addition three were seen flying towards Turkey at sea off the island of Rhodos 13 May 78.)

Southern Coastlands: one on an island west of Fethiye 12 May 78 and two light phase near Tasucu (near the Goksu Delta) 20 May 81.

NOTE: A dark phase bird of this species, or perhaps Sooty Falcon *Falco concolor* was observed near Birecik (South-East Region) 4 Jul 76.

*Readers are referred to O.S.T. April and December 1977, *Bulletins* 14 and 15 for a fuller account of the raptor flyway in N.E. Turkey.—Ed.

*Falco biarmicus***Lanner**

Status uncertain, but probably a rare resident in very small numbers in all regions except Thrace and the Black Sea Coastlands. Appears to be more widespread in winter. Chronic confusion between this species and other large falcons, especially Saker *F. cherrug* and light phase Eleonora's Falcon *F. eleonorae* has obscured the true status of this species. Undoubtedly many published records of *F. biarmicus* from Turkey are erroneous.

Western Anatolia: one immature at Manyas Golu 28 Mar 81 (PDG, D. Parr).

East: one hunting small birds at Dogubayazit 25 Jul 80 (KW, KVO).

*Falco cherrug***Saker**

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

Black Sea Coastlands: in the Bosphorus area one on 6 Sep 76, one on 14 Sep 76, one on 15 Sep 76, one on 13 Sep 77, one on 22 Sep 77, one on 2 Oct 77, one on 6 Oct 77, one on 11 Sep 78, one on 29 Aug 79, one on 15 Sep 79 and two on 19 Sep 81. From 1976 onwards found to be a regular migrant in small numbers through the eastern part of the region in the Arhavi/Hopa/Borcka/Artvin area; recorded from 12 Sep-25 Oct. Most in any one year was 12 from 12 Sep-4 Oct 76. One in the mountains between Rize and Ispir 17-18 Sep 76, one at Kdz-Eregli on 11 Mar 78, one juvenile at Merzifon 26 Jun 78 and one east of Demirkent 5 Sep 80.

Thrace: autumn observations in the Bosphorus area are discussed under Black Sea Coastlands. One flew west near Sariyer (Bosphorus) 23 Apr 76.

Central Plateau: one at Tuzla Golu (northwest of Eregli) 31 Jul 76, one at Kulu Golu 7 Aug 76 and one there 31 Aug 77, one east of Tuz Golu 9 Sep 76 and two there 9 May 79, one near Goreme 30 Sep 76, one between Karaman and Konya 5 Oct 79 and one at Eregli Golu 2 Aug 81.

Southern Coastlands: one about 10km. south of Ulukisla 10 Sep 76 and one near Burdur 16 Mar 78.

South-East: one northeast of Silvan 31 Jul 80, one between Diyarbakir and Urfa 31 Jul 80 and two at Nemrut Dagi (near Kahta) 7 Sep 81.

East: one at Akdamar (Van Golu) 9 Jun 78, one at Cildir 22 Sep 79, up to two at Ardahan 26 Sep-2 Oct 79 and one near Tutak 16 Apr 80.

*Falco peregrinus***Peregrine**

Status uncertain, but 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 the Black Sea Coastlands, Western Anatolia and the Southern Coastlands. Appears to disperse outside the breeding season. Also occurs on passage and presumably as a winter visitor.

Black Sea Coastlands: in the Bosphorus area: one on 8 Sep 76, two on 16 Sep 76, one on 6 Oct 76, two on 6 Sep 77, three on 11 Sep 78, one on 18 Aug 79, one on 26 Sep 79, three on 29 Sep 81, one on 5 Oct 81 and one on 8 Oct 81. From 1976 onwards recorded as a regular migrant in small numbers through the eastern part of the region in the Arhavi/Hopa/Borcka/Artvin area. Recorded from 23 Aug-20 Oct. Most in any one year was eight from 23 Aug-9 Oct 76. In addition some birds may have been resident in the Borcka area during the period of observations. Two at Yenicaga Golu (west of Gerede) 8 Sep 76, at least one over coastal cliffs near Eregli 29 Apr 78, one near Sinop 15 Sep 79, one west of Ardanuc 18 Sep

79, one between Samsun and Ordu 18 Jul 80, one at Rize 19 Jul 80 and one in the Kackar Dag (southwest of Artvin) 11 Sep 80.

Thrace: autumn observations in the Bosphorus area are discussed under Black Sea Coastlands.

Western Anatolia: on Uludag: one on 26 May 77, two on 13 May 78, up to three from 15-26 Sep 78, one on 2 Sep 79 and up to three from 14-16 Sep 79. One at Acigol 11 Jul 77, one at Mugla 2 Jun 79, one at Efes (near Kusadasi) 4 Jun 79, one at Pamukkale (near Denizli) 30 Aug 80 and one at Apolyont Golu 20 Sep 80. One at Manyas Golu 15 Jul 80 and one on 20 Sep 80.

Southern Coastlands: at the Goksu Delta: at least one on 16-17 Sep 76, one from 23-25 Oct 77 and one on 10-11 Oct 80. Two near Alanya 10 May 77, one over coastal cliffs between Gazipasa and Anamur 2 Sep 77, one at Burdur Golu 23 Nov 77, one at Alanya 16 May 79, one at Golhisar Golu 2 May 80, one in the Aladag (near Camardi) 6 Aug 81 and one at Belen 8 Sep 81.

Central Plateau: one north of Sereflikochisar 9 Sep 76 and one at Kizilcahaman 18 Sep 81.

South-East: one near Birecik 5 Jul 76.

Tetrao mlokosiewiczii

Caucasian Black Grouse

A rare and very localized resident at high altitudes in the eastern Black Sea Coastlands.

Black Sea Coastlands: one male in the Kackar Dag (southwest of Artvin) 10 Sep 80 (J. Berg *et al.*).

Tetraogallus caspius

Caspian Snowcock

Status uncertain, but probably a not uncommon resident in high, precipitous mountains (generally above 2,400 metres in summer) in the eastern third of the country, extending westwards to the Main Taurus.

Black Sea Coastlands: three in the mountains between Rize and Ispir 17-18 Sep 76. Two in the Kackar Dag (southwest of Artvin) 28 Jun 78 and up to eight there 10-11 Sep 80. Eight at 2,800 metres in mountains east of Demirkent 5 Sep 80.

Southern Coastlands: at least five at Demirkazik (near Camardi) 8 Jul 76 and at least five there 21 May 79. Two at Karanfil Dag (near Kamisli) 5 May 77.

South-East: one at 3,300 metres in the Cilo-Sat Dagi (near Hakkari) 18 Sep 81.

East: one at the summit of Nemrut Dagi (near Tatvan) 26 May 81.

Ammoperdix griseogularis

See-see Partridge

Rather local but not uncommon resident in the South-East. Found in arid, fairly rocky country not far from the Syrian border.

South-East: in the Birecik area: up to nine from 4-5 Jul 76, about 30 on 15 Sep 76, up to five from 2-3 Jul 77, six on 12 May 79 and four on 23 May 81.

Francolinus francolinus

Black Francolin

Local and uncommon resident in small numbers in the two major south coast deltas and their immediate surroundings.

Southern Coastlands: one heard at the Goksu Delta 1 Jul 76 (BC, PSH) and one male seen plus another heard there 21 May 81 (MASB *et al.*).

*Perdix perdix***Grey Partridge**

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

Black Sea Coastlands: about 15 east of Demirkent 5 Sep 80 and up to 50 there 26-28 Aug 81.

Western Anatolia: five at Gumuldur 6 Oct 76.

Southern Coastlands: two at Camardi 20 May 79.

Central Plateau: up to 12 at Balikdami 10-11 Jan 76, one with a juvenile near Mogan Golu 11 Jun 77, eight juveniles at Emir Golu 16 Jul 77, two at Aksehir Golu 8 Mar 78, two near Bogazliyan 25 Apr 80 and two near Bala 8 May 81.

East: one in the crater of Nemrut Dagi (near Tatvan) 7 Jun 78.

*Phasianus colchicus***Pheasant**

Status uncertain. Occasionally introduced into Thrace and the northern part of Western Anatolia. May occur naturally in the Black Sea Coastlands. Very rarely recorded.

Thrace: one near Sariyer (near Istanbul) 7 May 81 (PDG, D. Parr).

*Porzana porzana***Spotted Crane**

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

Southern Coastlands: one at the Goksu Delta 14 Apr 78 (SB).

East: one at Ardahan 26 Sep 79 (PJE).

*Porzana parva***Little Crane**

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

Western Anatolia: one between Bandirma and Erdek 31 Mar 78 (LJD, MFT) and three (one male, two females/immatures) at Apolyont Golu 11 Sep 79 (DMM).

Southern Coastlands: two females at a lake north of Antalya 5 Apr 78 (SC) and three (one male and two females) on 11 Apr 78 (SC). One female at Alanya 9-10 Apr 78 (SC). One male at the Goksu Delta 6-14 Apr 78 and one bird there on 4 Jul 78 (PSH *et al.*).

*Porzana pusilla***Baillon's Crane**

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

Western Anatolia: one at Manyas Golu 20 Sep 80 (C. Holzapfel).

Southern Coastlands: one at the Goksu Delta 17 Sep 76 (CRC).

*Crex crex***Corncrake**

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

Black Sea Coastlands: one at Camlica (Bosphorus) 11 Sep 78 (JCC, JK) and one at Trabzon 31 Aug 80 (J. Berg *et al.*).

Thrace: one at Buyukcekmece 20 Sep 78 (NJR, CM).

Porphyrion porphyrio

Purple Gallinule

Rare resident in small numbers at the Goksu Delta (Southern Coastlands). Has also been recorded occasionally from the Central Plateau, where status uncertain.

Southern Coastlands: at the Goksu Delta: four (two adults and two juveniles) on 20 Oct 77 (SB), one on 22 Oct 77 (CAC, MCR), up to four on 14-15 May 79 (MASB, JA) and up to six on 20-21 May 81 (MASB *et al.*).

Central Plateau: one at Aksehir Golu 12 Jul 77 (PLM, BD).

Anthropoides virgo

Demoiselle Crane

Rare and very local breeding summer visitor in very small numbers in the East, occurring in larger numbers in this region on passage. Occasionally recorded elsewhere on passage (westwards to the Marmara region).

Black Sea Coastlands: at the Bosphorus 38 flew south on 25 Sep 77 (SB).

East: one at Ardahan 26 Sep 79 (PJE). Two at Agri 17 Apr 81 (PDG, D. Parr) and two there 31 May 81 (MASB *et al.*). 21 near Tutak 20 Apr 81 (PDG, D. Parr).

Tetrax tetrax

Little Bustard

Status uncertain. May still survive as a very rare and localized resident or summer visitor on the Central Plateau and adjacent parts of the Southern Coastlands, but no recent records. Has been recorded in late autumn in the East and in early spring in the South-East (where it is reported to winter).

South-East: two males near Ceylanpinar 9 Apr 81 (PDG, D. Parr).

Otis tarda

Great Bustard*

Local resident and partial migrant in small numbers on the Central Plateau, adjacent parts of the Southern Coastlands, and in the East. The population seems to be steadily declining, especially in the western parts of the range. Has also been recorded between autumn and spring in Western Anatolia, on the south coast and in the South-East. It might breed in one or more of these areas. Considerable numbers winter in the South-East, suggesting immigration into the country. Found in extensive, dry, open wheatfields and grassy steppe.

Thrace: two at the Meric Delta 20 Apr 81.

Western Anatolia: 18 at Manyas Golu 28-29 Mar 81 and one near Sindirgi in early Dec 81.

Southern Coastlands: four near Karamik Golu 3 Apr 76, seven at Burdur Golu 21 Nov 77 and five (three males and two females) near the drained Sogut Golu 1 May 81.

Central Plateau: one at Balikdami 10 Jan 76, one at the south end of Tuz Golu 3 May 77, two at Kulu Golu 9 May 79, one near Ulukisla Sep 79, five (four males and one female) on the eastern side of Tuz Golu 27 Jul 80, one near Cifteler 31 Mar 81, one on the western side of Tuz Golu 2 Apr 81 and three near Yenipazar 26 Apr 81. One on the eastern side of Tuz Golu 28 Apr 81.

South-East: eight males near Viransehir and 45 birds (including eight males) near Ceylanpinar 9 Apr 81. Local people claimed that 400-1,000 birds winter in the Ceylanpinar area regularly.

*For a report on bustards in Turkey members are referred to: GORIUP, P. D. and PARR, D. 1983. Report on a Survey of Bustards in Turkey March 22 to May 10, 1981. I.C.B.P. Study Report No. 1., Cambridge.—Ed.

East: eight east of Ercek 29 Sep 80, six near Murat Nehri 8 Oct 80, 21 east of Ercek 10 Oct 80. A total of 22 (including two adult males, three immature males and 11 females) in the Mus area 21-22 Apr 81, 12 near Van 13 Apr 80 and 14 (one adult male and 13 females) north of Patnos 20 Apr 81. Eight on Tuma Golu 26 Sep 81.

Cursorius cursor

Cream-coloured Courser

Scarce summer visitor (perhaps all or mostly non-breeding) in small numbers to the South-East and adjacent parts of the Southern Coastlands. Has been recorded in the autumn in the East.

South-East: two near Birecik 4 Jul 76 and two near Akcakale 2 Jul 78.

Glareola nordmanni

Black-winged Pratincole

Generally uncommon and local on passage. Found most often in the eastern two-thirds of the country. Mainly in fairly small numbers, but occasionally considerable numbers are reported. Sometimes recorded in summer, but no evidence of breeding in Turkey.

Western Anatolia: 10 at Apolyont Golu 13 Sep 79 (GRB) and at least three there 19 Sep 79 (J. Berg *et al.*).

Southern Coastlands: one at the Goksu Delta in a party of *G. pratincola* 17 Sep 76 (AWC, RIT) and one there on 13 Apr 78 (SB).

Central Plateau: one at Hotamis Golu 10 Aug 76 (MASB *et al.*) and about 160 at Eregli Golu 7 Sep 80 (C. Holzapfel).

Charadrius leschenaultii

Greater Sand Plover

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

Southern Coastlands: 10 at Tasucu (near the Goksu Delta) 16 Mar 76, one at Karatas 11 Sep 76, one near Akyatan Golu (near Karatas) 4 Sep 77, up to six at the Goksu Delta from 6-13 Apr 78 and five at Samandag 11 Apr 78.

Central Plateau: 16 at marshes south of Konya 30 Jun 76. At Eregli Golu: one on 6 Jul 76 and two on 5 Jul 78. At Kulu Golu: about 15 on 7 Aug 76, two on 3 May 77 and two from 9-18 May 79. Five northwest of Ulukisla 4 May 77, five near Sultansazligi (near Yesilhisar) 16 May 79, several (including juveniles) at Hotamis Golu 5 Jul 79, one near Tuz Golu 3 Apr 80, four near Bor 4 Apr 81 and one south of Kayseri 25 Apr 81.

Charadrius morinellus

Dotterel

Found locally in considerable numbers on passage on the Central Plateau, occasionally in smaller numbers elsewhere in the country. Has occurred in summer on the Central Plateau, but no evidence of breeding, and in early winter on the Central Plateau and in the South-East.

Black Sea Coastlands: one at Borcka 22 Oct 77.

Western Anatolia: one on Pasalimani Adasi 20 Sep 79.

Southern Coastlands: two near Karatas 11 Sep 76.

Central Plateau: at least 20 at Sultansazligi (near Yesilhisar) 28 Oct 77, at least 800 on the west side of Tuz Golu 2 Apr 81 and at least 200 southwest of Tuz Golu 3 Apr 81.

Chettusia gregaria

Sociable Plover

Rare passage migrant in small numbers. Has been recorded in spring in the South-East and in autumn in the eastern Black Sea Coastlands and the East.

Black Sea Coastlands: one at Arhavi 13 Sep 79 (MASB *et al.*), 11 near Ardanuc 18 Sep 79 and one at Trabzon 2 Oct 80 (D. Parr *et al.*).

East: one at Ardahan 1 Oct 79 (MASB *et al.*).

*Chettusia leucura***White-tailed Plover**

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

Central Plateau: one at Hotamis Golu 10 May 77 (SJMGM *et al.*).

*Calidris canutus***Knot**

Vagrant.

Western Anatolia: one at the Kucuk Menderes Delta 23 Sep 79 (J. Berg *et al.*).

*Limicola falcinellus***Broad-billed Sandpiper**

Rare passage migrant in wetlands across the country, generally in small numbers. Mainly recorded on autumn passage.

Black Sea Coastlands: one at Hopa 2 Sep 81 (J. Berg *et al.*).

Thrace: one at Buyukcekmece 22 Sep 79 (DMM).

Southern Coastlands: one at the Goksu Delta 24 Aug 76 (AMM) and 17 on 4 Sep 77 (AP, JP).

East: one at a small lake southeast of Arpacay 19 May 81 (UG, HH).

*Lymnocyptes minimus***Jack Snipe**

Status uncertain. Rarely recorded passage migrant and winter visitor to wetlands and other moist habitats in the western two-thirds of the country. Recorded in very small numbers but probably more common than observations suggest.

Black Sea Coastlands: one at Eregli 29 Oct 76 and one on 3 Mar 77 (JSMA).

Central Plateau: one at Balikdami 10 Jan 76 (M. J. Ingram).

*Gallinago media***Great Snipe**

Status uncertain. Rarely recorded passage migrant in wetlands across the country. Recorded in very small numbers but probably more common than observations suggest. Has been recorded in winter on the Central Plateau and in the south.

Thrace: one near Saray 5 May 81 (PGD, D. Parr).

Western Anatolia: one at Apolyont Golu 11 May 78 (CEB).

Southern Coastlands: one at the Goksu Delta 16 Sep 76 (JND) and one there 2 Oct 79 (TDO *et al.*). One near Alanya 11 May 79 (AAKL, PKH).

East: three at Van marshes 8 Jun 77 (PSAA *et al.*), one at Fahril Golu (near Ardahan) 18 Sep 79 (MASB *et al.*), one at Ardahan 25 Sep 79 (PJE) and one at Bingol 23 Apr 81 (PDG, D. Parr).

*Scolopax rusticola***Woodcock**

Fairly widespread but uncommon passage migrant and winter visitor in coastal areas around the country. Scarce inland. Probably more common than records suggest, especially on the Black Sea coast.

Black Sea Coastlands: one at Camlica (Bosphorus) 29 Sep 77 and one on 2 Apr 78. One at Eregli 20 Oct 77 and one there on 11 Mar 78 and two on 12 Mar 78. (Also reported several

times in this area by local hunters in late 1977.) One at Borcka 22 Oct 77, one on 24 Oct 77 and one on 26 Sep 80. One near Sinop 1 Nov 79. (Also seen on sale in Sinop in late 1979.)

Western Anatolia: one at the Buyuk Menderes Delta 14 Mar 76.

Southern Coastlands: three at Burdur Golu 20 Nov 77.

Central Plateau: one at Ankara 26 Feb 76.

Limosa lapponica

Bar-tailed Godwit

Rare passage migrant in very small numbers across the country. Has been recorded in winter on the southwest coast.

Black Sea Coastlands: three near Hamurgan (west of Rize) 3 Oct 80 (VVDB *et al.*).

Thrace: at least 20 at Buyukcekmece 21 Apr 76 (JGB).

Southern Coastlands: two at Akyatan Golu 12 Sep 76 (SCM *et al.*). Nine at the Goksu Delta 18 Sep 76 (SCM *et al.*) and five there 9 Oct 80 (VVDB *et al.*).

Central Plateau: one at Kulu Golu 18 May 79 (M. J. Inskip).

Numenius phaeopus

Whimbrel

Scarce passage migrant in small numbers in wetlands and coastal areas across the country.

Black Sea Coastlands: one at Arhavi 28 Aug 76.

Thrace: one at Buyukcekmece 13 Sep 77 and one at Kilyos 19 Aug 79.

Southern Coastlands: at the Goksu Delta: two on 9 Aug 76, one on 26 Aug 76, up to three from 16-18 Sep 76, two on 4 Sep 77, up to three from 9-11 Oct 80 and one on 20-21 May 81. Two at Karatas 5 Sep 77 and one near there 10 Sep 80. Five in the Alanya area 10 May 79.

Numenius tenuirostris

Slender-billed Curlew

Now a very rare passage migrant in extremely small numbers across the country. Occasionally recorded in winter from Western Anatolia, the Southern Coastlands and the Central Plateau. This species appears to be heading for extinction.

Western Anatolia: one at the Kucuk Menderes Delta 23 Sep 79 (J. Berg *et al.*).

Xenus cinereus

Terek Sandpiper

Rare passage migrant in very small numbers in wetlands across the country.

Southern Coastlands: at the Goksu Delta: one on 8 Aug 76 (RB), one on 26 Aug 76 (AMM), one from 24-26 Oct 77 (CAC, MCR) and one on 3 Oct 79 (TDO *et al.*).

East: one at Ercek Golu 22 Jun 78 (PSAA *et al.*).

Arenaria interpres

Turnstone

Rather local and uncommon on passage across the country, generally in small numbers. Occasionally recorded in winter on the southwest coast.

Black Sea Coastlands: up to three at Arhavi 3-4 Sep 76, seven at Izmit 2 Sep 79, one at the Kizilirmak Delta 10 Sep 79 and two between Ordu and Trabzon 18 Jul 80.

Thrace: six at Terkoz 16 May 78 and two at Buyukcekmece 21 Sep 79.

Western Anatolia: five at Apolyont Golu 12 Sep 79.

Southern Coastlands: at the Goksu Delta: four on 9 Aug 76, up to about 12 from 24-26 Aug 76, one from 4-7 Sep 77, up to seven on 2-3 Oct 79, at least 10 on 9 Oct 80 and up to nine on 20-21 May 81. One at Karatas 11 Sep 76 and one there 2 Aug 80. One in the Alanya area 10 May 79.

Central Plateau: one at Kulu Golu 18 May 79.

East: one at Ercek Golu 31 Aug 80, one at a small lake southeast of Arpacay 19 May 81 and four at Van 22 May 81.

Phalaropus lobatus

Red-necked Phalarope

Scarce and local passage migrant in wetlands and coastal areas across the country. Generally recorded in small numbers, but sometimes in considerable numbers in the East.

Southern Coastlands: seven at the Goksu Delta 24 Aug 76.

Central Plateau: 14 at Kulu Golu 18 May 79 and 10 at Tuz Golu 28 Apr 81.

East: two at a small lake near Kangal 14 May 81, one at Cildir Golu 18 May 81, up to 27 at a small lake southeast of Arpacay 18-19 May 81 and 50 at Van 22 May 81.

Stercorarius pomarinus

Pomarine Skua

Vagrant (or perhaps very rare passage migrant and winter visitor). Has been recorded between autumn and spring from the Black Sea and Mediterranean coasts.

Southern Coastlands: one light phase at Antalya 6 Apr 78 (SC).

Stercorarius parasiticus

Arctic Skua

Scarce passage migrant in small numbers along the Black Sea coast and through the Bosphorus and Sea of Marmara. Has also been recorded from the Aegean and Mediterranean coasts and inland in the East.

Black Sea Coastlands: at Arhavi: up to four from 25 Aug-15 Sep 76, about 10 on 19 Sep 76 and one on 6 Oct 76. One on the crossing from Istanbul to Yalova 12 Sep 78 and one on the same crossing 21 Sep 78. Six in the Bosphorus 21 Sep 78.

Western Anatolia: one light phase off the coast north of Didim 22 Sep 76. One flew west on the crossing between Bandirma and Istanbul 10 Oct 77, one on the crossing from Yalova to Istanbul 18 Sep 78 and two near Erdek 20 Sep 79.

Southern Coastlands: two at the Goksu Delta 9 Aug 76 and one near Antalya 17 Mar 78.

East: Eight at Bendimahi 21 Jun 78.

Larus audouinii

Audouin's Gull

Scarce and local resident in small numbers on the Mediterranean and southern Aegean coast. Occasionally recorded north to the Sea of Marmara. Has bred on at least one site on the south coast.

Western Anatolia: one on the crossing between Yalova and Istanbul 8 Sep 77 and one on the same crossing 18 Sep 78. One at Marmaris 31 May 79 and one there 5 Jun 79.

Southern Coastlands: at Tasucu (near the Goksu Delta) two on 30 Jun 76, one on 4 Jul 78 and four on 20 May 81. At the Goksu Delta: one on 3 Aug 76, three on 16 Oct 77, five on 5 Apr 78, at least four on 3 Oct 79 and nine on 9 Oct 80. Eight on an islet west of Tasucu 9 May 77. Up to three at Alanya 2-7 May 77 and up to three there 10-17 May 79.

Larus canus

Common Gull

Rather local and generally uncommon winter visitor in small numbers to wetlands and coastal areas across the country (but mainly recorded from the west and north). Irregularly reported in much larger numbers.

Black Sea Coastlands: up to at least 35 at Eregli between 7 Jan-6 Mar 77 and up to 22 between 15 Nov-31 Dec 77. Up to 88 at Eregli in Jan 78 and an immature at Eregli on 12 Feb 78. One in the Bosphorus 19 Sep 79.

Thrace: one at Buyukcekmece 17 Aug 76 and one there 21 Sep 79. Three immatures at Istanbul 31 Aug 77.

Western Anatolia: up to two at Apolyont Golu 13-14 Sep 78.

Southern Coastlands: one immature at Tasucu (near the Goksu Delta) 19 Mar 76.

Pterocles alchata

Pin-tailed Sandgrouse

Status uncertain. Appears to be a not uncommon summer visitor, probably breeding, in the South-East. Sometimes recorded in considerable numbers. A recent spring record from the Central Plateau requires confirmation.

South-East: in the Birecik area: up to 37 from 3-5 Jul 76, 15 on 7 May 77, 150 on 2 Jul 78, 24 on 12 May 79 and six on 23 May 79. At least four between Urfa and Birecik 1 Jul 78, at least 10 at Urfa 2 Jul 78 and up to 20 south of Urfa 24-26 May 81.

Columba oenas

Stock Dove

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

Black Sea Coastlands: at the Bosphorus 118 flew east on 13 Oct 77, 101 flew east on 14 Oct 77 and three flew east on 27 Sep 79. One near Bolu 6 Aug 76, one between Alapli and Eregli 18 May 78, two in the Kackar Dag (southwest of Artvin) 28 Jun 78, two near Ardanuc 18 Sep 79, two southeast of Artvin 24 Sep 79, up to three east of Demirkent 4-6 Sep 80, 10 at Trabzon 2 Oct 80, six at Yenicaga Golu (west of Gerede) 17 May 81 and one near Demirkent 25 Aug 81. At Borcka: one on 26 Sep 76, two on 6 Oct 76, a total of 192 flew south from 19-24 Oct 77 and in addition up to four were present in the area, up to eight were present in the area from 15 Sep-1 Oct 79, 25 flew south on 6 Oct 79, seven flew south on 27 Sep 80, three were present in the area on 2 Jun 81 and up to four on 26-27 Sep 81.

Thrace: four near Buyukcekmece 8 May 78.

Southern Coastlands: about 40 at the Goksu Delta 27 Oct 77 and some there 9-11 Oct 80.

East: one near Erzincan 5 Oct 78 and about 40 west of Ardahan 18 Sep 79.

Tyto alba

Barn Owl

Status uncertain. Apparently a rare resident in very small numbers in Thrace, the extreme western Black Sea Coastlands, the eastern Southern Coastlands and the South-East close to the Syrian border. Seems to be absent from all or most of the rest of the country.

Thrace: one seen at the old bridge at Buyukcekmece 23 July 76 (PAP, HV). One heard and seen at the border post at Ipsala 9 Sep 78 (DM) and one heard there 24 Jul 80 (DM).

Southern Coastlands: up to three seen at an orange grove between Adana and Tuzla 1-4 Jun 81 (UG, HH).

South-East: one heard several times at Birecik 8 Aug 76 (PAP, HV).

Bubo bubo

Eagle Owl

Status uncertain. Probably a thinly distributed resident over most of the country, but possibly absent from Thrace.

Central Plateau: two heard and young heard at a nest site at Eregli Golu 30-31 Jul 81 (R. Volker *et al.*).

South-East: one found dead, nailed to a house wall, at Yuksekova 21-22 Jun 77 (PSAA *et al.*). One found dead, a traffic victim, west of Nizip 21 Feb 78 (LJD, MFT).

East: one seen and heard at a stony outcrop at Van Golu 14-15 Apr 81 (PDG, D. Parr). One seen at Pulumur Gecidi (southeast of Erzincan) 5 Sep 81 (J. Berg *et al.*).

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

Status uncertain. Apparently thinly distributed in small numbers across the western two-thirds of the country in winter. Has been recorded in the breeding season in woodland areas in every region, but only occasionally. The apparent increase in winter may be due both to immigration and to the less secretive behaviour of local birds at that season. Probably more widespread and numerous than records suggest.

Thrace: one heard at Saray 26 Mar 81.

Western Anatolia: one on Uludag 16 Sep 79.

Southern Coastlands: one juvenile at Termessos 8 Jun 81.

Central Plateau: one at Ankara 31 Mar-9 Apr 76, up to at least 17 there 16-22 Jul 76, eight on 30 Sep 76 and three from 6 Aug-23 Oct 77. One found dead, a traffic victim, near Hortu 6 Jul 76. One near Gulsehir 10 May 81.

South-East: six newly fledged juveniles in a eucalyptus plantation at Birecik 24 May 81.

East: one seen near Ardahan 17-18 Apr 81 and one in this area 17 May 81

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

Scarce passage migrant and winter visitor in small numbers, mainly in the western two-thirds of the country. Has bred on the Central Plateau.

Black Sea Coastlands: one at Ardesen 19 Sep 76 and one at Camlica (Bosphorus) 25 Sep 76. One on 23 Sep 80 and one on 28 Sep 81. One near Sinop 10 Oct 79.

Southern Coastlands: one at the Goksu Delta 27 Oct 77.

Central Plateau: one at Ankara 25 Feb-10 Mar 76.

*Apus pallidus***Pallid Swift**

Status uncertain. Apparently a regular summer visitor in small numbers to Uludag (Western Anatolia), where it apparently breeds. Only rarely recorded elsewhere, most often in the extreme eastern Southern Coastlands and adjacent parts of the South-East.

Black Sea Coastlands: one at Eregli 1 Oct 77. and one there 18 Oct 77. One at Camlica (Bosphorus) 1 Oct 78.

Western Anatolia: at Uludag up to three from 10-25 Sept 76, at least six on 26 May 77, up to five from 8-21 Sep 77, up to six from 15-25 Sept 78, about 25 on 7 May 79, two on 14-15 Sept 79 and 20 on 21 Sept 80.

Southern Coastlands: three at Iskenderun 22 May 81.

South-East: one at Birecik 6 May 77, and two near Kilis 29 May 81.

*Apus affinis***Little Swift**

A local and rather uncommon summer visitor in small numbers to the extreme eastern Southern Coastlands and adjacent parts of the South-East.

Southern Coastlands: at Sariseki (north of Iskenderun) six on 2 Jul 76, five on 8 May 77 and 10 on 22 May 81. Up to four at Belen 7-17 Sep 81.

*Halcyon smyrnensis***White-breasted Kingfisher**

Local and generally uncommon resident in coastal lowlands and along rivers in the southern part of Western Anatolia and in the Southern Coastlands.

Western Anatolia: one at the Buyuk Menderes Delta 14 Mar 76, and one near Dalyan (south of Koycegiz) 10 Jun 81.

Southern Coastlands: up to about five in an area of eucalyptus woodland near Tarus 1-2 Aug 76.

Ceryle rudis

Pied Kingfisher

Rather local but not uncommon resident in wetlands and along rivers in coastal lowlands in the southern part of Western Anatolia and in the Southern Coastlands, extending inland along major rivers. Also found along the major rivers in the South-East and adjacent parts of the East. Disperses somewhat outside the breeding season, becoming more widespread in these regions. Has occurred in northern Western Anatolia.

Western Anatolia: At the Buyuk Menderes Delta two on 12 Sep 76, one on 22 Sep 76 and two on 25 Jan 78. Three at Bafa Golu 11 Sep 76.

Southern Coastlands: in the Goksu Delta five on 3 Aug 76, at least 12 from 16-18 Sep 76, one on 9 May 77, up to four from 3-7 Sep 77, up to 13 from 16-28 Oct 77, up to at least five on 24-25 Feb 78, one on 19 Apr 78, up to 14 on 3-4 Oct 79, up to 15 from 9-11 Oct 80, up to three from 20-22 May 81 and two on 7 Jun 81.

South-East: in the Birecik area one on 4-5 Jul 76, five on 8 Aug 76, eight on 14 Sep 76, one on 7 May 77, two on 2 Jul 78, about five on 12 May 79, four on 24 May 79, five on 5 Sep 80 and one on 8 Apr 81. One near Bitlis 12 Apr 81, one at Kahta 4 Sep 80.

Merops superciliosus

Blue-cheeked Bee-eater

Local and generally uncommon summer visitor in fairly small numbers to dry, open country in the South-East and adjacent parts of the Southern Coastlands. A little more widespread on passage. An autumn record from the East requires confirmation.

Southern Coastlands: four at the Goksu Delta 22 Oct 77 and up to two at Belen 14-15 Sep 81.

South-East: In the Birecik area up to eight from 3-5 Jul 76, up to at least four on 7-8 Aug 76, up to two on 2-3 Jul 78, about 10 on 23 May 79 and up to about 15 on 23-24 May 81. Two at Harran (southeast of Urfa) 24 May 81 and two north of Akcakale 24 May 81.

Dryocopus martius

Black Woodpecker

A local and uncommon resident in small numbers in montane coniferous forests in the Black Sea Coastlands, the northern part of Western Anatolia and the extreme north of the Central Plateau.

Black Sea Coastlands: at Borcka up to two from 22 Sep-7 Oct 76, up to two from 15-25 Oct 77, up to four from 14 Sep-2 Oct 79, up to two from 24 Sep-3 Oct 80, three on 2 Jun 81 and up to two from 25-30 Sep 81. One at Ardesen 17 Aug 76, up to three at Arhavi 27 Aug-9 Oct 76, up to two near Goktas (southwest of Borcka) 2-6 Oct 76, one in the Kackar Dag (southwest of Artvin) 28 Jun 78 and one there on 8-9 Sep 80, one in the Yalnizcam Daglari (east of Artvin) 30 Sep 77, up to two at Hopa 1-3 Sep 80 and one between Hopa and Arhavi 1-2 Sep 81.

Western Anatolia: at Uludag two on 25 Sep 76, one on 8 Sep 77 and one on 22 Sep 77, two on 24 Sep 78, one on 18 Sep 79 and one on 18 Sep 80.

Central Plateau: two at Kizilcahnam 18 Sep 81.

Dendrocopos leucotos

White-Backed Woodpecker

Status uncertain. Apparently a rare and very local resident in very small numbers in the Black Sea Coastlands, Thrace, Western Anatolia and the southern Coastlands.

Black Sea Coastlands: at Borcka one on 22 Sep 76, at least one from 21 Sep-3 Oct 79, 5 on 2 Jun 81 and 3 on 28 Sep 81, one at Arhavi 21 Sep 76 and two near Goktas (southwest of Borcka) 6 Oct 76 (all MASB *et al.*).

Thrace: one north of Derekoy 27 Jul 76 (PHB).

*Motacilla citreola***Citrine Wagtail**

Vagrant (or perhaps very rare passage migrant). Has been recorded from the eastern Black Sea Coastlands and the East.

Black Sea Coastlands: one male near Karasu on 26 Mar 78 and at Kdy-Eregli on 24 Apr 78 (JSMA).

East: one near Patnos 16 Apr 81 and one in the same area 20 Apr 81 (PDG, D. Parr). One near Agri 20 Apr 81 (PDG, D. Parr). One at Bendimahi (Van Golu) 30 May 81 (MASB *et al.*) and one male at Fahril Golu (near Ardhan) 31 May 81 (MASB *et al.*).

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

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

Black Sea Coastlands: one at 2,100 metres in the Giresun Daglari (south of Giresun) 15 May 81.

Southern Coastlands: on Demirkazik (near Camardi): one on 7 Jul 76, one with a nest with three unfledged young on 8 Jul 76, and a pair feeding young in the nest on 21 May 79. 10 at 2,000-2,300 metres in the Aladag (near Camardi) 4-5 Aug 81 and one there at 1,950 metres on 29 Aug 81.

South-East: up to six between 2,500-2,900 metres in the Samdi Dagi (near Hakkari) 13-14 Sep 81 and five between 2,500-2,950 metres in the Cilo-Sat Dagi (near Hakkari) 17-18 Sep 81.

East: on Nemrut Dagi (near Tatvan) six on 13 Jun 77, five on 7 Jun 78 and five on 26 May 81. Two at a pass north of Cumacay (north of Agri) 16 Apr 81 and at least four at a pass west of Bingol 22 Apr 81.

*Luscinia luscinia***Thrush Nightingale**

Not uncommon autumn migrant in small numbers on the Black Sea Coast but generally scarce elsewhere in the country in autumn and rare everywhere in spring.

Black Sea Coastlands: one at Ardesen 18 Aug 76 and up to three at Arhavi 28 Aug-16 Sep 76. Several observed at Camlica (Bosphorus) in Sep 77, one there 2 Aug 78 and one on 11 Sep 78. One on the Kizilirmak Delta 11 Sep 79, one at Borcka 18-21 Sep 79, one near Demirkent 25-29 Aug 81 and one between Hopa and Arhavi 3 Sep 81.

Western Anatolia: four at Manyas Golu 11 Sep 76 and one there 14 Sep 78. One at Apolyont Golu 20 Sep 76, one on 13-14 Sep 78 and one on 10 Sep 80. One at Dalyan Golu (north of Karcabey) 21 Sep 81.

Southern Coastlands: one at Alanya 30 Apr 77 (JH, PJC).

*Luscinia svecica***Bluethroat**

Local and generally uncommon summer visitor to high uplands in the east. Uncommon on passage across the country. May well be more widespread and common than records suggest. Occasionally recorded in winter in coastal areas in the western two-thirds of the country.

Black Sea Coastlands: two at Borcka 4 Oct 79, one at Trabzon 2 Oct 80 and one in the Kackar Dag (southwest of Artvin) 11 Sep 80.

Southern Coastlands: one at the Goksu Delta 16 Oct 77, one on 4 Oct 79 and up to at least 16 on 10-11 Oct 80.

South-East: one at Birecik 21 Mar 76 and two males near Baskale 28 May 81.

East: five at Erzurum 27 Oct 77, up to at least 30 in the Ardahan area 18 Sep-2 Oct 79, one south of Muradiye 15 Apr 80, one near Horasan 20 Apr 80, one near Tutak 20 Apr 80, one at Erzurum 27 Aug 80 and one male north of Kars 31 May 81.

Oenanthe pleschanka

Pied Wheatear

Uncommon passage migrant in small numbers, mainly through the eastern two-thirds of the country. Has been reported as breeding in Turkey, but this requires confirmation in view of the regular confusion between this species and other *Oenanthe*, especially some Black-eared Wheatears *O. hispanica*.

Black Sea Coastlands: one male at Eregli 22 Apr 78 (JMSA), one male at the Kizilirmak Delta 10-11 Sep 79 (MASB *et al.*) and one male at Hopa 7 Sep 80 (J. Berg *et al.*).

Southern Coastlands: at the Goksu Delta up to 20 from 17-20 Mar 76 (DSF, NAGL). All were thought to be of the race *cyprica*. One male at the Goksu Delta 6 Apr 78 (SB) and one male there 14 Apr 78 (SB). One male at Samandag 11 Apr 78 (SB). Three south of Adana 5 Apr 81 (PDG, D. Parr).

Central Plateau: one at Eregli 29 Apr 81 (PDG, D. Parr).

East: one at Van Golu 15 Apr 81 (PDG, D. Parr).

Oenanthe xanthopyrna

Red-tailed Wheatear

Status uncertain. Apparently a rare and local summer visitor in small numbers to the East and South-East.

South-East: in the Hakkari area recorded at three different sites: one male 15 Jun 78 (PSAA *et al.*), one female on 16 Jun 78 (PSAA *et al.*) and seven (two males and five females) on 17 Jun 78 (PSAA *et al.*). One of the females seen on 17 Jun 78 was carrying food to a nest site. One in the Uludere area 25 May 81 (UG, HH). A pair feeding two newly fledged young and another pair carrying food into a rock crevice at about 2,000 metres at a pass about 60 km. east of Uludere 8 Aug 81 (AH), and six at about 2,200 metres near a pass about 15 km. east of Uludere 9 Aug 81 (AH).

Cisticola juncidis

Fan-tailed Warbler

Local and uncommon resident in lowland areas in the southern part of Western Anatolia and in the Southern Coastlands. May breed elsewhere. Has been recorded from every region at one time or another. Apparently subject to population fluctuations and has recently declined in numbers.

Western Anatolia: one at Apolyont Golu 19 Sep 77 (D. Parr) and one there 23 Sep 78 (D. Perry). Two at Iznik Golu 17 Sep 79 (J. Berg *et al.*) and two near Ayvalik 22 Sep 79 (J. Berg *et al.*). One at the Buyuk Menderes Delta 28 Aug 80 (C. Holzapfel) and one on 11 Jun 81 (UG, HH).

Southern Coastlands: 10 at Samandag 11 Apr 78 (SB) and one near there 9 Sep 81 (J. Berg *et al.*). Four at Karatas 6 Apr 81 (PDG, D. Parr) and two at Tuzla 3 Jun 81 (UG, HH).

Central Plateau: one in song flight at Eber Golu 14 Jul 77 (PLM, BD).

East: one at Van Golu 27 Jul 80 (KW, KVO).

*Prinia gracilis***Graceful Warbler**

Local resident in moderate numbers in several lowland areas in the Southern Coastlands and also very locally in the South-East. Generally found in areas of sedge, reeds or rushes, or in cotton fields. Some dispersal seems to occur outside the breeding season.

Southern Coastlands: at the Goksu Delta: 15 from 16-18 Mar 76, up to 10 on 30 Jun-1 Jul 76, up to 10 from 2-9 Aug 76, several from 16-18 Sep 76, about 15 on 9 May 77, three on 3 Sep 77, a few on 8 Sep 77, up to 10 from 23-28 Oct 77, some on 24 Feb 78, 15 on 25 May 78, at least 20 on 6 Jun 78, up to 12 from 4-5 Jul 78, up to 15 from 14-25 May 79, up to at least 22 from 9-11 Oct 80, up to 20 from 20-22 May 81 and six on 7 Jun 81. Some near Tarsus 1 Aug 76, some at the drained Amik Golu (south of Kirikhan) 6 Aug 76, about 15 in cotton fields south of Yemisli (near Karatas) 11 Sep 76, one carrying food into a nest in a clump of reeds near Karatas 11 Sep 76, one in cotton fields near Karatas 6 Sep 76, several at Akyatan Golu (near Karatas) 11-12 Sep 76 and five there 5 Sep 77, three between Adana and Tarsus in late May 78, about six near Karatas 10 May 79, up to at least 12 near Adana 5-6 Apr 80, two near Kadirli 7 Apr 80, about 30 near Karatas 9-10 Sep 80, and one between Adana and Tuzla 2 Jun 81, one at Tuzla Golu 3 Jun 81 and about 30 at Samandag 9 Sep 81. In the Alanya area at least 20 on 9 May 77, up to two on 7-10 Apr 78 and two pairs (one of which was feeding young) in May 78. An adult feeding two newly fledged young in an area of rushes at Antalya 1 Sep 77 (birds still present on 13 Sep 77). Up to 20 between Antalya and Manavgat 3-4 Apr 78 and one at Manavgat 6 Apr 78.

*Locustella fluviatilis***River Warbler**

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

Black Sea Coastlands: one at Arhavi 29 Aug 76 (MASB *et al.*) and one there 9 Sep 76 (MASB *et al.*).

Western Anatolia: one at Apolyont Golu 12 Sep 76 (SEC *et al.*).

*Locustella luscinioides***Savi's Warbler**

Status uncertain. Apparently a scarce and local summer visitor, mostly in small numbers, to wetlands in the Black Sea Coastlands, Western Anatolia, the Southern Coastlands, the Central Plateau, the East and possibly elsewhere. Otherwise an uncommon passage migrant in small numbers across the country. Probably more common than records suggest.

Black Sea Coastlands: up to three at Arhavi 1-4 Sep 76, one at Eregli 2-3 Oct 77, two at the Kizilirmak Delta 5 Jun 81 and one at Arhavi 2 Sep 81.

Western Anatolia: Several singing at Apolyont Golu 11 May 78. Two at Manyas Golu 20-21 Sep 80.

Southern Coastlands: at the Goksu Delta: one singing on 1 Jul 76 and one on 17 Sep 76. One at Alanya 30 Apr 77 and at least two at a lake north of Antalya 5-11 Apr 78.

Central Plateau: one at Aksehir Golu 26 Jul 76, one near Altinova 29 Apr 81 and one at Eregli Golu 31 Jul 81.

South-East: one at Birecik 14 Sep 76.

East: at least five singing at Van 7-23 Jun 77.

*Acrocephalus palustris***Marsh Warbler**

Status uncertain. Apparently a local and uncommon summer visitor to upland areas in the East and adjacent parts of the eastern Black Sea Coastlands and the South-East. Otherwise a scarce and local passage migrant in small numbers across the country.

Black Sea Coastlands: one at Ardesen 17 Aug 76, three singing at Bayburt 28 Jun 78, three at Borcka 2 Jun 81 and one in the mountains between Rize and Ispir 3 Jun 81.

Western Anatolia: about 10 at Apolyont Golu 20 Sep 76, one at the Buyuk Menderes Delta 11 May 78, two at Bursa 6 May 79, three at Bursa 1 Sep 79 and at least four at Manyas Golu 20-21 Sep. 80.

Southern Coastlands: several in the Alanya area 5-9 May 77 and one at Alanya 7 May 79.

South-East: one at Birecik 14 Sep 76, two singing prominently at Yuksekova 21-22 Jun 77, two near Baskale 2 Jun 81 and two at Hakkari 2 Jun 81.

East: one singing at Agri 28 Jun 78.

Hippolais caligata

Booted Warbler

Vagrant. This is apparently the first record for Turkey.

Black Sea Coastlands: one at Ardesen 9 Sep 76 (PDR).

Hippolais languida

Upcher's Warbler

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

Southern Coastlands: near Sakcagoz (east of Fevzipasa) four on 3 Jul 76, three on 8 Aug 76 and at least two on 3 Jul 78.

South-East: in the area west of Gaziantep at least five on 7 May 77, four on 13 May 79, about six on 24 May 79 and about eight on 23 May 81. Two east of Gaziantep 23 May 81. At least three in low scrub in the Zab River gorge near Hakkari 20 Jun 77, two there 16-19 Jun 78 and up to two there 28-29 May 81.

Hippolais olivetorum

Olive-tree Warbler

Rather local and generally uncommon summer visitor to Thrace, Western Anatolia and the Southern Coastlands. Has also been recorded from the western Black Sea Coastlands. Generally in orchards, dry and wet mixed or deciduous woodland, scrubland, olive groves, etc.

Black Sea Coastlands: three at Camlica (Bosphorus) 19 May 78 and one on 18-19 Sep 79.

Western Anatolia: one between Bafa Golu and Bodrum 4 Apr 76. At Manyas Golu: one on 11 Sep 76, one on 21 Sep 79 and a pair with fledged young 15 Jul 80. Several at Apolyont Golu 11 May 78 and one at Ayvalik 22 Sep 79.

Southern Coastlands: one at Anamur 9 Aug 76 and one in olive groves east of Iskenderun 13 Sep 76. Seven west of Tasucu (near the Goksu Delta) 9 May 77 and two in the same area 20 May 81. A few at Alanya 11 May 77 and one there 6 May 79. One at Belen 12 Sep 81.

Hippolais icterina

Icterine Warbler

Rare and local summer visitor in very small numbers to Thrace and the northern part of Western Anatolia. Otherwise a scarce passage migrant across the country.

Black Sea Coastlands: one at Camlica (Bosphorus) 12 Sep 76, one on 19 May 78 and one on 19 Sep 79. Two at the Kizilirmak Delta 11 Sep 79.

Thrace: two at Buyukcekmece 21 Sep 79.

Western Anatolia: one near the Buyuk Menderes Delta 10 Sep 76, one at Bafa Golu 11 Sep 76 and one at Apolyont Golu 13 Sep 79.

Southern Coastlands: two near Tekir (south of Pozanti) 10 Sep 76. Two at Alanya 7 May 79 and one on 17 May 79. Up to three at Belen 14/15 Sep 81.

Central Plateau: one south of Polatli 29 Apr 80 and one at Sariyar Baraji 7 May 81.

*Sylvia conspicillata***Spectacled Warbler**

Vagrant. Recorded only from the eastern Southern Coastlands in spring and autumn.

Southern Coastlands: one in the Belen area 10 Sep 81 (J. Berg *et al.*).

*Sylvia mystacea***Ménétries's Warbler**

Rather local and uncommon summer visitor in small numbers to the South-East and probably adjacent parts of the East. Has been recorded in spring on the Central Plateau and in the Southern Coastlands. Generally found in areas of scrub.

South-East: in the Birecik area up to five on 3-4 Jul 76, up to eight on 6-7 May 77, up to six on 2-3 Jul 78, about 10 on 12 May 79, at least 15 on 23 May 79 and about 10 on 24 May 81. One male west of Baykan 25 May 81.

*Sylvia nisoria***Barred Warbler**

Very local and uncommon summer visitor in small numbers to all regions. Otherwise an uncommon passage migrant in small numbers across the country. Generally found in areas of dense scrub.

Black Sea Coastlands: up to about 10 at Ardesen 17 Aug-10 Sep 76, up to about 10 at Arhavi 18-31 Aug 76 and one west of Izmit 8 Sep 76. At Eregli a pair on 20-24 May 77, one male on 3 Jun 77 and two adults giving alarm calls on 1 Jul 77. At Eregli seen in May and June 1978 frequently, including a male carrying material on 10 May and a pair 'alarming' on 22 Jun. One at the Kizilirmak Delta 10 Sep 79, one at Camlica (Bosphorus) 19 Sep 79 and one at Borcka 4 Oct 79.

Thrace: one male display flighting at Kilyos 16 May 81.

Western Anatolia: one at Manyas Golu 20 Sep 76.

Southern Coastlands: one near Sakcagoz (east of Fevzipasa) 3 Jul 76 was in suitable breeding habitat. One at Alanya 30 Apr 77, one in the Alanya area 9 May 77 and up to two in the area 5-16 May 79. One at Belen 13 Sep 81.

Central Plateau: One at Aksehir 19 Sep 76.

South-East: two near Birecik 6 May 77, two west of Birecik 7 May 77, three west of Gaziantep 13 May 79 and two east of Gaziantep 23 May 81.

*Phylloscopus nitidus***Green Warbler**

Local but not uncommon summer visitor in fairly small numbers to the montane forests of the eastern Black Sea Coastlands. Recently discovered to occur in the Duzce region (western Black Sea Coastlands) in small numbers. Has been recorded in the East on passage.

Black Sea Coastlands: up to about 10 at Arhavi 19 Aug-11 Sep 76, three north of the Zigana Gecidi 27 Jun 78, one singing close to sea-level east of Hopa 27 Jun 78, found to be widespread in the Kackar Dag (southwest of Artvin) in late Jun 78, and one at Borcka 23 Sep 79, one at Hopa 1-2 Sep 80, up to three at Borcka 21 Sep-3 Oct 80, three at Borcka 2 Jun 81 and about four in the mountains between Rize and Ispir 3 Jun 81. Far to the west at least four singing in the mountains south of Duzce 23 May 78 (JSMA) and at least two singing in the same area 13 Jun 78 (JSMA).

East: one at Susuz (north of Kars) 21 Sep 79 and up to five at Ardahan 25-27 Sep 79 were apparently on passage.

NOTE: In view of the fact that Green Warbler *P. nitidus* has been found to breed in western Turkey, and in view of the problems of taxonomy surrounding the various types of 'chiffchaff' found in Turkey, observers should exercise extreme caution when identifying difficult *Phylloscopus* warblers in Turkey. Although there have been claimed occurrences of Greenish Warbler *P. trochiloides* and Arctic Warbler *P. borealis* in Turkey in autumn during recent years few if any of these records stand up to critical examination.

Phylloscopus inornatus
Vagrant.

Yellow-browed Warbler

Black Sea Coastlands: one at Eregli 16 Dec 77 (JSMA). Yet another winter record.

Phylloscopus bonelli

Bonelli's Warbler

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

Black Sea Coastlands: one on Buyukada 11 Sep 76. One at Camlica (Bosphorus) 14 Sep 77, several there 7 May 78, one on 11 Sep 78, five on 9 Sep 79 and one on 19 Sep 80. One in the mountains above Alapli 9 Jun 78 was in suitable breeding habitat.

Thrace: one in the Forest of Belgrade (near Istanbul) 6 Sep 76 and one near Tekirdag 8 Sep 76. One at Istanbul 20 Sep 76 and one there 23 Sep 78.

Western Anatolia: one at Uludag 19 Sep 77 and one there 2 Sep 79. One at Iznik Golu 12 Sep 78 and one at Dalyan Golu (north of Karacabey) 21 Sep 81.

Southern Coastlands: one at Tasucu (near the Goksu Delta) 19 May 76 and one there 14 Apr 78. Two in the Egridir Golu area 29 Jul 76, one south of Gulnar 10 Aug 76, up to four singing in the Karanfil Dag area (near Kamisli) 4-7 May 77, eight singing at Termessos 15 May 79, one at Cubuk Bogazi 5 Aug 78, one near Karatas 6 Apr 81, three at Termessos 1 May 81 and one at Belen 12 Sep 81.

Central Plateau: one northeast of Tuz Golu 9 Sep 76, one at Sungurlu 29 Sep 76 and one at Kizilcahaman 18 Sep 79.

Phylloscopus sibilatrix

Wood Warbler

Status uncertain. May breed in northern Thrace. Otherwise a fairly widespread but uncommon passage migrant in small numbers across the country.

Black Sea Coastlands: at Camlica (Bosphorus) up to four from 15 Aug-25 Sep 76, one on 7 Sep 77, one on 18 Sep 77, one on 23 Sep 77, up to two from 11-22 Sep 78, up to five from 15 Aug-27 Sep 79 and some on 17 Sep 80. Up to four at Arhavi 25 Aug-18 Sep 76, one at Ardesen 9 Sep 76, three at the Kizilirmak Delta 11 Sep 79, two at Arhavi 13 Sep 79, one in the Kackar Dag (southwest of Artvin) 9 Sep 80 and one between Hopa and Arhavi 31 Aug 81.

Thrace: about five north of Derekoy 27 Jul 76 is suggestive of breeding in the area. Two near Tekirdag 8 Sep 76, two in the Forest of Belgrade 21 Sep 76, one at Istanbul 7 Apr 78, one at Kucukcekmece 3 Sep 79, one at Buyukcekmece 21 Sep 79, one at Terkoz Golu 26 Sep 79 and two near Istanbul 4 May 81.

Western Anatolia: one at Kusadasi 9 Sep 76 and one on 4 Apr 78. Two at Manyas Golu 11 Sep 76, one on 17 Apr 78, one on 14 Sep 78, five on 31 Aug 79 and one on 21 Sep 79. One at Iznik Golu 12 Sep 78. One at Uludag 16 Sep 78 and two there 7 May 79. Two at Apolyont Golu 6 May 79 and one there 31 Aug 79. One at the Kucuk Menderes Delta 23 Sep 79, one at Usak 4 May 81 and five at Dalyan Golu (north of Karacabey) 21 Sep 81.

Southern Coastlands: one west of Gazipasa 8 Apr 78, two north of Antalya 11 Apr 78, two at Egridir Golu 30 Apr 81, two at Termessos 1 May 81 and up to two at Belen 8-16 Sep 81.

Central Plateau: one at Ankara 20 Apr 76 and one on 3 May 76. Two north of Kadinhani 29 Apr 81, two (plus one dead, a traffic accident) at Seyfe Golu 9 May 81, two near Gulsehir 10 May 81, two near Eregli 19 May 81 and one at Kizilcahaman 18 Sep 81.

South-East: two near Birecik 7 May 77.

East: one at Ardahan 2 Oct 79.

*Phylloscopus sindianus***Mountain Chiffchaff**

The status of this species in Turkey is confused because it was formerly treated as a subspecies of Chiffchaff *P. collybita*. It appears that the form *P. sindianus lorenzii* occurs as a fairly common summer visitor (the winter quarters are uncertain and it is not known if any overwinter in or near the breeding grounds) in the mountains of the eastern Black Sea Coastlands and immediately adjacent parts of the East, but its westernmost extent is uncertain. The picture is clouded by the uncertain status of the 'chiffchaffs' breeding in the mountains of northwest Turkey. These have generally been classed as Chiffchaffs *P. collybita*, sometimes as a separate subspecies *brevirostris*. Recent field observations by the compiler and others suggest that this population shows affinities to the Mountain Chiffchaff *P. sindianus* and may be better placed in that species. Call, plumage characters and habitat appear to be virtually identical. More research is needed.

Black Sea Coastlands: at Borcka up to nine from 20 Sep-10 Oct 76 (MASB *et al.*), up to about 12 from 11-25 Oct 77 (MASB *et al.*), up to about 20 from 13 Sep-4 Oct 79 (MASB *et al.*), up to four in late Sep-early Oct 80 (D. Parr *et al.*), four on 2 Jun 81 (MASB *et al.*) and up to about four from 26 Sep-2 Oct 81 (MASB). Up to about 10 near Goktas (southwest of Borcka) 2-6 Oct 76 (MASB *et al.*) and five in the same area 1 Oct 81 (MASB). One near Ardanuc 7 Oct 76 (MASB *et al.*) five in the Zigana Gecidi area 27 Jun 78 (PSH *et al.*), at least 15 in the Maden area 28 Jun 78 (PSH *et al.*), two near Savsat (east of Artvin) 30 Sep 79 (MASB *et al.*) and three in the mountains between Rize and Ispir 3 Jun 81 (MASB *et al.*).

East: about 20 at Posof (north of Ardahan) 19 Sep 79 (MASB *et al.*), one at Ani (east of Kars) 21 Sep 79 (MASB *et al.*), two at Susuz (north of Kars) 21 Sep 79 (MASB *et al.*), two east of Ardahan 22 Sep 79 (MASB *et al.*), two at Ardahan 23 Sep 79 (MASB *et al.*) and one at Gaziler (northwest of Sarikamis) 20 May (UG, HH).

NOTE: Record of birds resembling 'mountain chiffchaff' from outside the eastern Pontic Mountains have not been included here, pending clarification of the taxonomic position of *brevirostris*.

*Regulus ignicapillus***Firecrest**

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

Black Sea Coastlands: at Camlica (Bosphorus) two on 9 Sep 76, about five on 14 Sep 76, two on 6 Sep 77, one on 4 Oct 77 and one on 27 Sep 79. Three at Buyukada on 8 Sep 76, at least three near Eregli 19 Dec 76. At Kdz-Eregli one on 21 Mar 77, two (in off sea) on 16 Nov and single birds frequently recorded between 24 Dec 77 and 26 Mar 78. One at Sinop 31 Oct 79 and up to two daily in the Kackar Dag (southwest of Artvin) in early Sep 80.

Western Anatolia: on Uludag (a presumed breeding locality) at least 10 on 6 Sep 76, two on 10 Sep 76, one on 22-23 Sep 77, several on 1 Apr 78, up to six from 16-25 Sep 78, up to at least 12 on 14-15 Sep 79, three on 14 Jun 81 and two on 20 Sep 81. Two near Yalova 8 Sep 76.

Southern Coastlands: one at Karanfil Dag (near Kamisli) 5 May 77, a potential breeding area. At least two near Salda Golu 16 Mar 78 and one near Xanthos (northwest of Kalkan) in late Nov 81.

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

Recently found to breed in the deciduous mountain forests of the Black Sea Coastlands. Otherwise a fairly widespread and locally common autumn passage migrant along the Black Sea coast. Generally uncommon or scarce elsewhere in the country in autumn. Rare on spring passage across the country.

Black Sea Coastlands: a pair seen carrying food into a bush south of Ereğli 9 Jun 78 (JSMA) and another pair feeding a newly fledged juvenile about 1 km. away on 12 Jun 78 (JSMA). One male singing apparently on territory in beech forest at Borcka 2 Jun 81 (MASB *et al.*). Three near Savsat (east of Artvin) 17 May 81 (UG, HH) may also have been in a suitable breeding area. At Camlica (Bosphorus) numerous records from 4 Sep to 11 Oct, maximum 25 on 17 Sep and about 25 on 9 Sep 79. In spring one on 8 May 78, two on 15 May 78 and one on 19 May 78. At Borcka one on 22-23 Sep 76, one from 1-4 Oct 76, up to eight from 15 Sep-3 Oct 79, up to seven from 20-26 Sep 80 and one on 27 Sep 81. One at Arhavi 26 Aug 76 and up to two from 16-22 Sep 76, 15 at Buyukada (Princes Islands) 11 Sep 76, two near Goktas (southwest of Borcka) 6 Oct 76 and one in the same area 1 Oct 81, two at Riva (west of Sile) 15 Sep 77, at least 200 at the Kizilimak Delta 9 Oct 77 (an exceptional concentration) and up to about 25 there 10-11 Sep 79, one between Merzifon and Samsun 10 Sep 79, five in the Sinop area 15 Sep 79 and at least 15 there 6 Oct 79, six at Buyukada (Princes Islands) 21 Sep 79, two at Hopa 7 Sep 80, at least six in the Kackar Dag (southwest of Artvin) 11 Sep 80 and two near Sile 3 May 81.

Thrace: one at Kilyos 6 Sep 76, one in the Forest of Belgrade (near Istanbul) 6 Sep 76, five at Terkoz Golu 15 Sep 76 and one near Luleburgaz 16 Sep 76. One at Istanbul 21 Sep 76 and two there on 3 Oct 80. One at Kucukcekmece 3 Sep 79. Two at Buyukcekmece 10 Sep 79 and two there 21 Sep 79.

Western Anatolia: some at Uludag 19 Sep 77 and one there 15 Sep 79.

Southern Coastlands: one at the Goksu Delta 11 Oct 80.

Central Plateau: one at Sariyar Baraji 6 May 81 and one near Ayas 7 May 81.

East: up to eight at Ardahan 23 Sep-2 Oct 79 and one there 18 Apr 80. Two near Cildir 26 Sep 79.

Ficedula semitorquata

Semi-collared Flycatcher

Status confused due to the fact that this form was previously considered a subspecies of the Collared Flycatcher *F. albicollis*. Apparently a local and scarce summer visitor in small numbers to the Black Sea Coastlands, northern Thrace, the East, the Central Plateau and the eastern Southern Coastlands. May be more widespread. May also occur on passage. Some records listed under *F. albicollis* are very likely to refer to this species.

Black Sea Coastlands: one male at Borcka 2 Jun 81 (MASB *et al.*).

Thrace: two (a male and a female) near Karacaoglan (north of Babaeski) 26 Jul 76 (PHB) and one north of Derekoç 27 Jul 76 (PHB) were in suitable breeding habitat.

Western Anatolia: one male on Uludag 14 Sep 79 (DMM).

South-East: up to 10 at Birecik 21-22 Mar 76 (DSF, NAGL).

Ficedula albicollis

Collared Flycatcher

Status confused (see comments under *F. semitorquata*). Apparently a rather uncommon passage migrant in small numbers across the country.

Black Sea Coastlands: one at Camlica (Bosphorus) 10 Sep 76, one on 14-16 Sep 76, one on 21 Sep 76, five on 11-12 Sep 77, one on 11 Sep 78, one on 20 Sep 78, two on 17 Aug 79, 10 on 21 Aug 79 and two on 9 Sep 79. One at Ereğli 30 Apr-3 May 77, one on 7 May 77 and one on 19 May 77. A male at Kdz-Ereğli on 29 Apr 78. One in Istanbul (Asian side) 3 Apr 76, one at Riva (west of Sile) 15 Sep 77 and one near Sinop 3 Sep 80.

Thrace: one at Buyukcekmece 10 Sep 78 and two there 21 Sep 79.

Western Anatolia: two on Uludag 10 Sep 76.

Southern Coastlands: one south of Ulukisla 10 Sep 76. At least two males at Kas 27 Mar 78. One near Isparta 30 May 81.

Central Plateau: one at Ankara 16 Apr 76 and two on 20 Apr 76. One north of Kadinhani 29 Apr 81.

*Ficedula hypoleuca***Pied Flycatcher**

Status partly confused due to problems separating this species from other 'pied' type flycatchers in autumn. Apparently an uncommon passage migrant in small numbers across the country.

Black Sea Coastlands: at Camlica (Bosphorus) one on 15 Aug 76, up to about 10 from 9-21 Sep 76, a few on 15 Sep 77, about 15 on 20 Apr 78, up to two from 16-19 Sep 78, up to about six from 26 Aug-9 Sep 79, one on 25 Sep 79 and two on 26 Sep 80. Two at the Kizilirmak Delta 11 Sep 79 and one at Demirkent 6 Sep 80. One in mountains south of Duzce on 23 May 78.

Thrace: several at Istanbul 21 Sep 76. One at Buyukcekmece 10 Sep 78 and 10 there 21 Sep 79.

Western Anatolia: two at Kusadasi 9 Sep and one at Bursa 31 Aug-1 Sep 79.

Southern Coastlands: two south of Ulukisla 10 Sep 76 and two at Mersin 5 Apr 81.

Central Plateau: two north of Kadinhani 29 Apr 81 and five at Gorne 12 Sep 80.

South-East: two at Ceylanpinar 9 Apr 81 and one at Simak 11 Apr 81.

*Parus palustris***Marsh Tit**

Local and uncommon resident in deciduous or mixed woodland, often in hilly or mountainous areas, in the Black Sea Coastlands, Thrace and the northern part of Western Anatolia.

Black Sea Coastlands: at least one west of Bolu 20 Feb 77 (JSMA), a pair feeding young in the nest southwest of Alapli 1 May 78 (JSMA) and at least two south of Alapli 9 Jun 78 (JMSA). One in the Kackar Dag (southwest of Artvin) 11 Sep 80 (J. Berg *et al.*).

Thrace: five north of Derekoj 27 Jul 76 (PHB). At least five in the Forest of Belgrade (near Istanbul) 21 Sep 76 (PW, EW) and about 10 there 23 Sep 79 (DMM).

Western Anatolia: one at Manyas Golu 15 Sep 76 (PJR) and one there 14 Sep 78 (GRB). One on Uludag 16 Sep 78 (GRB) and two near Domanic 15 Jun 81 (UG, HH).

*Sitta tephronota***Great Rock Nuthatch**

Recently found to be a local and uncommon resident in small numbers in the South-East and East.

South-East: at least three pairs west of Gaziantep 7 May 77 (SCMG *et al.*). Five in the Zab River gorge near Hakkari 20 Jun 78 (PSAA *et al.*) and two there 16-19 Jun 78 (PSAA *et al.*). A pair in another part of the gorge 15 Jun 78 (PSAA *et al.*). One near Uludere 11 Apr 81 (PDG, D. Parr) and two near Siirt 12 Apr 81 (PDG, D. Parr). Two at Hakkari 28-29 May 81 and up to two northeast of Hakkari 28-29 May 81 (MASB *et al.*). Up to at least five between 1,600-2,100 metres in the Cilo/Sat Dagi (Near Hakkari) 17-18 Sep 81 (YW).

East: one at Dogubayazit 25 Jul 80 (KW, KVO).

*Tichodroma muraria***Wallcreeper**

Rather local and uncommon resident and partial migrant in the high mountains of the eastern Black Sea Coastlands, the Southern Coastlands, the South-East and the southern fringe of the Central Plateau. May well occur more widely and more commonly than records

suggest. Found in precipitous places at high altitudes in the breeding season. Disperses a little more widely in winter, occurring down to sea level.

Black Sea Coastlands: about 12 in the mountains between Rize and Ispir 17-18 Sep 76, one in the Yalmizcam Daglari (east of Artvin) 7 Oct 76 and three there 1 Oct 79, one flew south at Borcka 20 Oct 77 and one flew south there 21 Oct 77, one near Tortum 26 Oct 77, up to three in the Kackar Dag (southwest of Artvin) 9-11 Sep 80 and four in mountains near Goktas (southwest of Borcka) 1 Oct 81.

Southern Coastlands: one near Kas 26 Mar 78, one at Antalya on rocks at sea level 31 Mar-1 Apr 78, one on Demirkazik (near Camardi) 21 May 79 and two (one at 2,400 metres and one at 3,200 metres) in the Aladag (near Camardi) 27-29 Aug 81.

South-East: one at 2,400 metres in the Samdi Dagi (near Hakkari) 13 Sep 81 and one at 3,100 metres in the Cilo-Sat Dagi (near Hakkari) 18 Sep 81.

Certhia familiaris

Treecreeper

Rather local and uncommon resident in forest areas in the Black Sea Coastlands, northern Thrace, northern Western Anatolia and the northern fringe of the Central Plateau and East. Appears to overlap to some extent with Short-toed Treecreeper *C. brachydactyla*, but generally occurs at higher altitudes. Has been recorded from the Southern Coastlands in autumn, but this requires confirmation. Confusion between this species and *C. brachydactyla* appears to be commonplace amongst observers.

Black Sea Coastlands: at Borcka: one on 22 Sep 76, one on 6 Oct 76, one from 21-23 Sep 79 and one on 26-27 Sep 81. Up to three near Goktas (southwest of Borcka) 2-6 Oct 76 and one in the same area 1 Oct 81. Three near Gerede 4 Oct 79, up to five in the Kackar Dag (southwest of Artvin) 8-11 Sep 80, one in the mountains between Rize and Ispir 3 Jun 81 and one near Demirkent 29 Aug 81.

Thrace: two north of Derekoy 27 Jul 76.

Western Anatolia: on Uludag: one on 19 Sep 77, one on 22 Sep 78, one on 7 May 79 and one on 1 Sep 79.

East: one east of Ardahan 22 Sep 79.

Lanius excubitor

Great Grey Shrike

Rare winter visitor in small numbers across the country. Observers visiting Turkey frequently confuse immature Lesser Grey Shrikes *L. minor* with this species in autumn.

Black Sea Coastlands: one at Eregli 8 Jan 77 (JSMA) and one on 31 Dec 77 (JSMA).

Central Plateau: one at Emir Golu 29 Feb 76 (JRT).

East: one at Mus 20-21 Apr 80 (PDG, D. Parr).

Stumus roseus

Rose-coloured Starling

Status uncertain. A summer visitor and may breed quite widely, sometimes in considerable numbers, on the Central Plateau and in the South-East and the East, perhaps elsewhere. Proof of breeding for this nomadic species is not often forthcoming. Otherwise a widespread passage migrant in irregular numbers across the country.

Black Sea Coastlands: two juveniles at Ardesen 18 Aug 76, two juveniles at Arhavi 30 Aug 76, a pair at Eregli 1 Jun 77, one at Beykoz (Bosphorus) 24 May 79, 30 at Susehri 15 May 81, 20 near Savsat (east of Artvin) 17 May 81 and about 250 between Artvin and Tortum Golu 1 Jun 81.

Thrace: one at Istanbul 16 Sep 79.

Southern Coastlands: 27 at the Goksu Delta 21 May 81 and at least 20 north of Kirikhan 22 May 81.

Central Plateau: five near Mogan Golu 11 May 77, two at Beypazari 22 May 77, two at Karapinar 7 Jul 77, 300 (70 per cent juveniles) at Bogecik 8 Jul 77, two at Cayirozu (west of Develi) 16 May 79, several at Kulu 17 May 79, one between Eskisehir and Ankara 16 Jul 80, one north of Sereflikochisar 18 May 81 and 37 south of Taspinar (south of Aksaray) 19 May 81.

South-East: in the Birecik area: 50 on 6 May 77, about 250 on 7 May 77, 37 on 23 May 79, at least 400 on 23 May 81 and three on 24 May 81. Three at Hakkari 19 Jun 77, at least 400 adults feeding a number of juveniles west of Diyarbakir 1 Jul 78 (in an area that looked a suitable breeding site), about 40 east of Urfa 25 May 81, up to about 20 at Hakkari 28-29 May 81 and up to about 30 north-east of Hakkari 28-29 May 81.

East: at least one near Ahlat (Van Golu) 24 May 76, four between Kars and Horasan 31 May 76, one at Van 7 Jun 77 and 85 there 8 Jun 77, two at Horkum (Van Golu) 10 Jun 77, 35 at Gevas 12 Jun 77, at least 21 at Tatvan 12 Jun 77, 30 at Gevas 13 Jun 78, one near Ercis 23 Jun 78, about 20 west of Gevas 26 May 81, about 35 near Bendimahi (Van Golu) 30 May 81 and about 50 northeast of Horasan 31 May 81.

Passer moabiticus

Dead Sea Sparrow

Very local summer visitor in moderate numbers to areas of scrub along the Firat River (South-East region), also in much smaller numbers in similar habitat in the Goksu and Seyhan/Ceyhan Deltas (Southern Coastlands).

South-East: in the Birecik area several on 3 Jul 76, at least three on 8 Aug 76, about 20 on 6 May 77, at least 50 on 7 May 77, at least five on 3 Jul 78, about 15 on 12 May 79, recorded as abundant on 23 May 79 and up to about 20 on 23-24 May 81.

Petronia brachydactyla

Pale Rock Sparrow

Local and often rather uncommon summer visitor in fairly small numbers to parts of the South-East and the immediately adjacent parts of the Southern Coastlands and the East. Found both in open grassland and on partly scrub-covered, rocky slopes, or in vineyards and other crops. Arrives late and apparently in variable numbers.

South-East: four at Hakkari 19 Jun 77 (PSAA *et al.*), at least seven in the Zab River gorge (near Hakkari) 20 Jun 77 (PSAA *et al.*) and two between Hakkari and Yuksekova 21 Jun 77 (PSAA *et al.*). Two near Hakkari 17 Jun 78 (PSAA *et al.*) and one at Hakkari 19 Jun 78 (PSAA *et al.*). Three seen and several others heard west of Gaziantep 24 May 79 (M. J. Inskip), two west of Gaziantep 23 May 81 (MASB *et al.*), one east of Gaziantep 23 May 81 (MASB *et al.*), two west of Urfa 24 May 81 (MASB *et al.*), three between Simak and Cizre 26 May 81 (UG, HH) and two south of Gaziantep 28 May 81 (UG, HH).

East: at least four singing in mountains east of Balaban (between Tatvan and Gevas) 30 Jun 78 (PSH *et al.*).

Petronia xanthocollis

Yellow-throated Sparrow

Recently discovered to be a rare summer visitor in very small numbers to the Birecik area (South-East region).

South-East: a pair just north of Birecik 6 May 77 (JPG, GCS), one male north of Birecik 23 May 79 (M. J. Inskip), a pair at Birecik 24 May 81 (MASB *et al.*) and one bird amongst olive trees west of Birecik 28 May 81 (UG, HH).

Fringilla montifringilla

Brambling

Rather local and generally uncommon passage migrant in small numbers across the country, wintering in the western two-thirds. Irregularly in larger numbers.

Black Sea Coastlands: eight flew southwest at Arhavi 9 Oct 76 and two present in the area 10 Oct 76. In the Eregli area one on 6 Nov 76, at least 20 on 7 Nov 76, at least one on 19 Dec 76, one on 18-19 Feb 77, up to at least three on 2-3 Mar 77, up to seven on 5-6 Nov 77, at least 30 on 6 Dec 77 and one on 10 Dec 77. Two on 9 Jan 78. About 20 flew east at Camlica (Bosphorus) between 6-25 Oct 77 and nine seen there 18 Oct 80. At Borcka: one on 5 Oct 76, five flew south on 9 Oct 76, a total of at least 65 flew south between 13-25 Oct 77 and in addition up to 14 were present in the area, at least one present in the area on 26 Sep 80 and at least seven on 29 Sep 80.

Western Anatolia: described as common on Uludag 1 Apr 78.

Southern Coastlands: at least nine at Burdur Golu 24 Nov 77 and four on 26 Nov 77.

Central Plateau: up to 40 at Ankara 3 Jan-15 Mar 76 and one on 20 Nov 77. At Emir Golu 10 on 4 Jan 76, 500 on 10 Jan 76, one on 8 Feb 76, four on 28 Feb 76, 14 on 29 Feb 76, 70 on 7 Mar 76 and 400 on 14 Mar 76. One near Beynam (south of Ankara) 24 Jan 76 and one at Kizilcahamam 6 Nov 77.

East: one at Erzurum 27 Oct 77.

Carduelis spinus

Siskin

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

Black Sea Coastlands: two over spruce forest in the Kackar Dag (southwest of Artvin) 25 Jun 78 and one in the mountains between Rize and Ispir 3 Jun 81: both suitable breeding areas. Some at Istanbul (Asian side) 3 Apr 76, up to about 10 at Arhavi 12 Sep-10 Oct 76, one at Rize 19 Sep 76, up to 17 near Goktas (southwest of Borcka) 2-6 Oct 76, a few at Camlica (Bosphorus) 23 Sep 77 and one at the Kizilirmak Delta 9 Oct 77. At Borcka up to 14 from 27 Sep 6 to Oct 76, a total of 274 flew south from 12-25 Oct 77 and in addition up to at least 40 were present in the area. Three present in the area 16 Sep 79 and up to at least 20 from 22 Sep-1 Oct 80. At Eregli up to seven from 19-30 Oct 77, two on 14 Nov 77 and up to at least 12 from 3-31 Dec 77. Frequently seen (30+ on 16 Apr) up to 12+ in the Kdz-Eregli area between 9 Jan and 18 Apr 78 (one female on 20 May). 10 at Alapli 13 Nov 77 and two on 14 Jan 78 and at least 15 near Sinop 27 Oct 80.

Western Anatolia: two at Uludag 10 Sep 76 and up to about 100 from 15-24 Sep 78, up to about 100 at the Buyuk Menderes Delta 14-15 Mar 76, a small flock near Altinoluk 23 Jan 78, three at Izmir 4 Apr 78 and four near Efes (near Selcuk) 4 Apr 78.

Southern Coastlands: seven at Tasucu (near the Goksu Delta) 19 Mar 76, at least two at Burdur Golu 21 Nov 77, one west of Burdur Golu 26 Nov 77, some between Fethiye and Kaya 30 Jan 78, some at Salda Golu 16 Mar 78 and up to at least seven at Antalya 31 Mar-4 Apr 78.

Central Plateau: 200 at Ankara 7 Jan 76 and up to 180 there 14 Jan-16 Mar 76. One near Beynam (south of Ankara) 24 Jan 76.

Carduelis flavirostris

Twite

Fairly widespread but uncommon resident in small numbers in barren high altitude uplands in the eastern Black Sea Coastlands and in the East and South-East, perhaps breeding as far west as the fringe of the Central Plateau and the Southern Coastlands. Descends to lower altitudes in winter (when it extends across the Central Plateau).

Black Sea Coastlands: three at Kopdagi Gecidi 28 Jan 78, about 25 in the Yalnizcam Daglari (east of Artvin) 18 Sep 79, about 80 in the Kackar Dag (southwest of Artvin) 11 Sep 80 and four in the mountains between Rize and Ispir 3 Jun 81.

Southern Coastlands: at least five at 1,000 metres on Katran Dag (near Bucak) 2 Aug 81 and four at 1,750-2,400 metres in the Aladag (near Camardi) 27 Aug 81.

Central Plateau: about 10 near Eregli Golu 7 Sep 80.

South-East: five between Hakkari and Uludere 25 May 81.

East: six west of Erceis 15 Apr 81, at least 200 near Cumacay (north of Agri) 16 Apr 81, 10 near Agri 20 Apr 81 and about 10 near Guzelsu (west of Gurgupinar) 29 May 81.

Rhodospiza obsoleta

Desert Finch

Local resident in small numbers in arid country in the South-East and immediately adjacent parts of the Southern Coastlands. Generally found in olive groves, pistachio orchards or vineyards.

Southern Coastlands: two near Sakcagoz (east of Fevzipasa) 3 Jul 78.

South-East: two in olive trees east of Gaziantep 5 Jul 76. Seven near Nizip 7 May 77. In the area west of Gaziantep: two on 7 May 77, two on 24 May 79 and two on 23 May 81. In the Birecik area: two on 7 May 77, three on 2 Jul 78, eight on 3 Jul 78, three on 12 May 79 and two on 23 May 79. One male feeding at least three fledged juveniles at Akcakale 2 Jul 78. Two near Kilis 6 Aug 79 and one in the same area 29 May 81. Two near Urfa 8 Apr 81.

Bucanetes githagineus

Trumpeter Finch

Vagrant. This is apparently the first record for Turkey.

Southern Coastlands: two (a male and a female) between Alanya and Manavgat 10 May 79 (AAKL, PKH).

Pyrhula pyrrhula

Bullfinch

Rather local and uncommon resident or partial migrant in small numbers in montane coniferous forest in the Black Sea Coastlands and the northernmost part of Western Anatolia, probably also in the extreme northern part of the Central Plateau. Occasionally recorded more widely across the western two-thirds of the country in winter.

Black Sea Coastlands: a male in the mountains near Duzce on 2 May 78 and a pair in mixed woodland there on 23 May 78. Two in deciduous woodland near Alapli on 12 Jun 78. One male (at the edge of spruce forest) in the Kackar Dag (southwest of Artvin) 28 Jun 78 and four there 8 Sep 80. At Borcka up to at least three from 19 Sep-1 Oct 79, two from 27 Sep-2 Oct 80 and three on 27 Sep 81. One southeast of Artvin 24 Sep 79 and one near Demirkent 25 Aug 81.

Thrace: some at Bebek (Istanbul) 4 Apr 78.

Western Anatolia: at Uludag up to 10 from 6-25 Sep 76, up to 10 from 8-22 Sep 77, some on 1 Apr 78, one on 10 May 78, up to 12 from 15-18 Sep 79, four on 18 Sep 80, two on 4 Jun 81, one on 14 Jun 81 and two on 20 Sep 81.

Southern Coastlands: at least one west of Burdur Golu 25 Nov 77.

Coccothraustes coccothraustes

Hawfinch

Local and uncommon resident in small numbers in areas of deciduous woodland in Thrace and the northernmost part of Western Anatolia. Occurs more widely and in larger numbers as a passage migrant across the country and as a winter visitor across the western two-thirds of the country.

Black Sea Coastlands: at Eregli: one on 16 Jan 77, 10 on 27 Mar 77 and one on 26 Apr 77. Two on 26 Jan, one on 27 Jan, five on 16 Feb and singletons on 4 Mar, 16 Mar and 1 Apr 78 all at Kdz-Eregli. Three (one carrying nest material) in mountains south of Alapli on 9 Jun 78. At Camlica (Bosphorus) one on 4 Oct 77, four on 3 Apr 78, 49 (flying east) on 9 Oct 79

and one on 18 Oct 80. At Borcka a total of 312 flew south from 15-25 Oct 77 and in addition up to six were present in the area. One at Borcka 29 Sep 79.

Thrace: one between Kirklareli and Derekoy 26 Jul 76, one at Derekoy 27 Jul 76, one in Istanbul 22-23 Sep 76, at least 20 near Karacakoy 25 Mar 81 and one near Kemerburgaz 16 May 81.

Western Anatolia: on Uludag: some on 1 Apr 78, two on 1 Sep 79, two on 15 Sep 79 and about eight on 20 Sep 81.

Southern Coastlands: about eight at Kaya (near Fethiye) 30 Jan 78.

Central Plateau: one at Ankara 10-12 Feb 76 and about 10 at Kizilcahamam 18 Sep 81.

Emberiza leucocephalos

Pine Bunting

Vagrant. This is apparently the first record for Turkey.

Central Plateau: no records during 1976-81. Six (three males and three females) in the grounds of the Middle East Technical University near Ankara 13 Mar 74 (J. R. Taylor). This record has now been accepted following the discovery that the species winters regularly in small numbers in Israel.

Emberiza citrinella

Yellowhammer

Status uncertain. Has bred in the northwest and may be resident there in very small numbers. Otherwise a rather local and generally uncommon passage migrant across the country, wintering in the western two-thirds.

Black Sea Coastlands: at Borcka a total of 61 flew south from 15-24 Oct 77 and in addition up to about 20 were present in the area. One at Duzce on 9 Nov 77.

Thrace: about five near Eceabat 22 Jan 78.

Southern Coastlands: one near Tekir (south of Pozanti) 10 Sep 76. 12 west of Burdur Gol on 26 Nov 77.

Central Plateau: up to 30 at Ankara between 5 Jan-15 Mar 76. At Emir Golu at least 10 on 4 Jan 76, one on 10 Jan 76, 16 on 28 Feb 76, two on 7 Mar 76 and four on 14 Mar 76.

East: about five at Erzurum 27 Oct 77.

Emberiza cineracea

Cinereous Bunting

Very local and scarce summer visitor in very small numbers to scrub-covered slopes in uplands in Western Anatolia, the fringe of the Central Plateau, the South-East and East. Has occurred in spring on the south coast. May be more widespread than records suggest.

Southern Coastlands: one male at Antalya 1 Apr 78 (SC).

South-East: up to three (one male and two females or juveniles) near Erkenek 8-9 Aug 76 (PAP, HV). In the area west of Gaziantep: six (four males and two females) on 7 May 77 (SCMG *et al.*) and seven on 23 May 81 (MASB *et al.*). Four in the Zab River gorge (near Hakkari) 20 Jun 77 (PSAA *et al.*) and one male in the same area 19 Jun 78 (PSAA *et al.*). Three males in another part of the gorge 17 Jun 78 (PSAA *et al.*). One near Uzungecit (near Uludere) 25 May 81 (UG, HH).

East: Two in mountains east of Balaban (between Tatvan and Gevas) 30 Jun 78 (PSH *et al.*).

Emberiza buchanani

Grey-necked Bunting

Local and uncommon summer visitor in small numbers to the extreme East and South-East. Found in dry, high altitude areas with sparse vegetation.

South-East: at least two pairs near Hakkari 15 Jun 78, two near Uzungecit (near Uludere) 25 May 81, up to two at Hakkari 28-29 May 81 and at least 10 at 2,700-2,900 metres in the Cilo-Sat Dagi (near Hakkari) 17-18 Sep 81.

East Turkey: four near Van 27 May 76, one male at Gevas 9 Jun 77, 10 between Gevas and the boat pier opposite Akdamar (Van Golu) 10 Jun 77, about 10 on Nemrut Dagi (near Tatvan) 13 Jun 77, one male in mountains east of Balaban (between Tatvan and Gevas) 30 Jun 78, two near Guzelsu (east of Gurpinar) 23 May 81 and five east of Van 27 May 81.

LIST OF OBSERVERS

Thanks are due to the following who contributed records to this Bird Report:

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Records for future Bird Reports should be sent to the Ornithological Society of the Middle East, c/o The Lodge, Sandy, Bedfordshire SG19 2DL, ENGLAND, UK. Reports should be in systematic order (i.e. species by species, not day by day) and should be typed or written on one side of each page only. All records should consist of date, location (as precise as possible - give approximate distance from nearest town in the case of obscure localities), number of birds seen and any other interesting information. Records of rarities or other unusual records should be accompanied by supporting evidence, including detailed field notes.

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THE STATUS OF BREEDING RAPTORS IN THE ISRAELI DESERTS, 1980-1985

by

Ron Frumkin

INTRODUCTION

The twelve species of raptors which breed in Israel's desert face new changes to their natural environment. Following the signing of the peace agreement with Egypt in 1979, much of the Israeli army has been moved from Sinai and is deployed in the Negev and Judean Deserts (*Figure 1*) and has started to use most of the desert area for military training. Meanwhile, Egyptian bedouins with their herds were evacuated from the Negev back to Sinai, leaving only about fifty families in 12 per cent of the area formerly occupied. The size of the herds was reduced from 60,000 goats and sheep and hundreds of camels and donkeys to only 1,000 goats, 2,000 sheep and a few dozen camels and donkeys (A. Galily *pers. comm.*).

As human interference may affect raptors' numbers and distribution, and because of the important role played by raptors in ecological systems (Newton 1979), these changes increased the need for up-to-date information on the Israeli desert's raptors.

Preliminary raptor surveys were made by Sela (1975) during 1970-1975 while further raptor breeding surveys were made during 1980-1985 in the Negev and Judean Deserts.

This paper describes the status and distribution of each species, based on the 1980-1985 surveys. The effect of the changes mentioned above on the raptor populations is examined. I also consider the effect of the annual climatic regimes on certain raptors, and make some recommendations for management.

STUDY AREA

The study area embraced the Negev and the Judean Deserts (*Figure 1*) covering an area of about 9,000km.², ranging from the 'arid' zone in the north to the 'hyper-arid' zone in the south (UNESCO 1979).

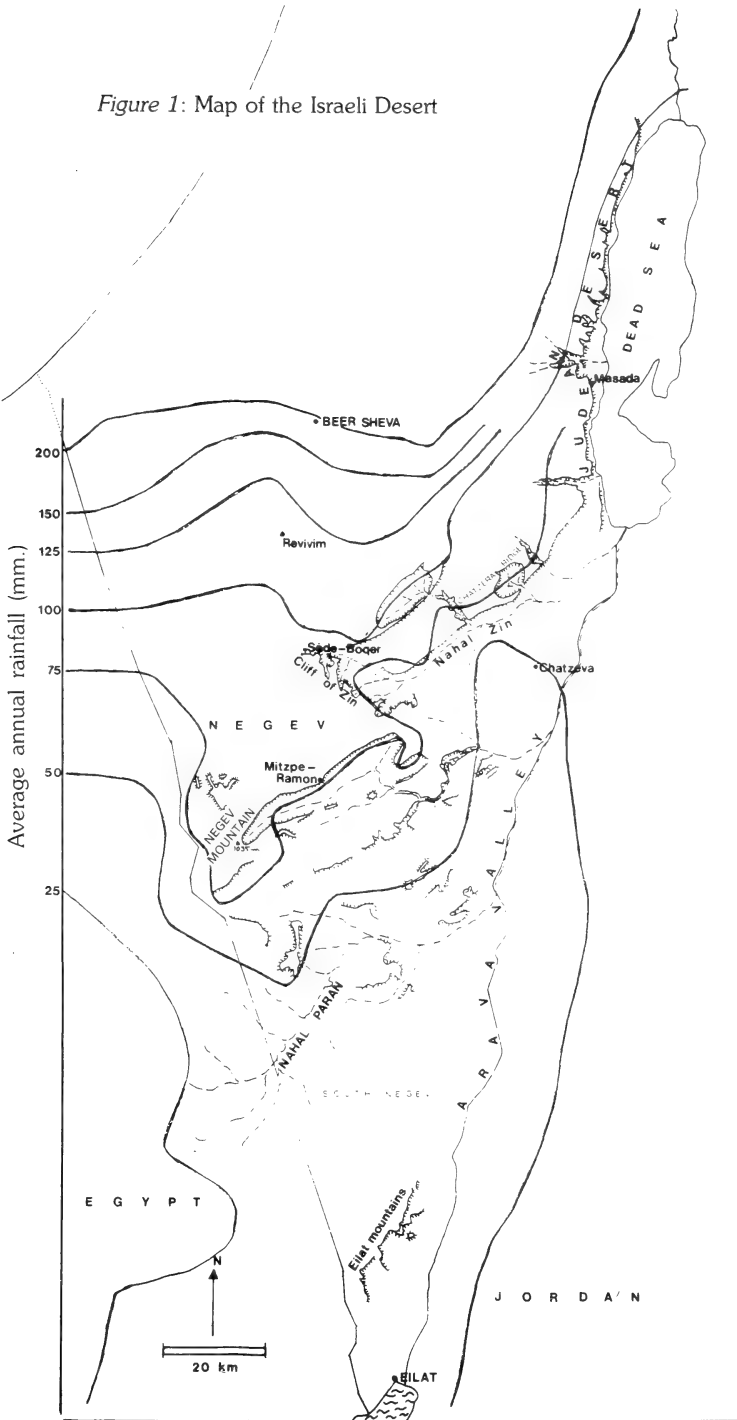
Rainfall occurs in winter, averaging from 26mm. in the south to 125mm. annually in the north-west of the study area (Meteorological Service of Israel 1977). There are large annual differences in the total rainfall and its temporal and spatial distribution (Evenari 1981).

The major pulse of plant growth occurs from about mid-January to mid-April. The timing and extent of germination are closely linked with rainfall and thus, vary substantially from year to year. Yearly fluctuations in primary production are especially pronounced among annual plants (Evenari 1981).

Israel's desert can be divided into three major biogeographical regions, as reflected by vegetation (Zohary 1970):

- (i) **The Irano-Turanian region** with cool winters and 80-150mm. of annual rainfall. This area is well characterized by the *Artemisietea* class, dominated mainly by *Artemisia herba-alba*, which covers large parts of the Judean Desert and the mountains of the central and northern Negev.
- (ii) **The Saharo-Arabian region** with the *Anabasiidetea* class, contains vegetation communities of extreme deserts. This occupies most of the desert area, extending from the Judean Desert through the Arava Valley to the southern Negev. Mean annual rainfall does not exceed 50mm. in most of the region. Vegetation is rare and patchy, being mainly limited to seasonal stream beds.

Figure 1: Map of the Israeli Desert



- (iii) **The Sudanian penetration area** is a dry desert with mild winters. This region is found along the Rift Valley from the Dead Sea southwards. Its plant communities are Sudano-Saharan and resemble in part those of the African Savannah.

METHODS

Most data for this paper were taken from unpublished reports, based on annual breeding surveys, organized and supported by the Israeli Raptor Information Centre (IRIC) and the Nature Reserves Authority (NRA), during 1976-1985. These surveys took place mainly in 3,500km.² of the Judean Desert and the northern and central Negev mountains, where most raptors occur. The survey of 1985, which was organized by the author, covered the northern and central Negev mountains only. Its aim was to check all the previous year's nest sites of the large raptors, trying to locate as many pairs and nests as possible.

The southern Negev has not been surveyed satisfactorily and the information was mainly obtained from occasional observations in which I took part. A considerable amount of the data was collected by the author, as well as during field studies in 1977-1985, in the northern and central Negev mountains. In addition, observations were provided by the IRIC and the NRA. These were made by guides from Field Study Centres of the Society for the Protection of Nature in Israel (SPNI), NRA personnel and many amateur birdwatchers.

A few species were studied intensively for some years, including the Bonelli's Eagle *Hieraetus fasciatus* (Leshem 1976), the Negev Lappet-faced Vulture *Torgos tracheliotus negevensis* (Ilani 1981; Leshem 1984; Naor in Frumkin & Man 1984), the Egyptian Vulture *Neophron percnopterus* (Merkman 1980) and the Sooty Falcon *Falco concolor* (Frumkin & Pinshow 1983; Frumkin 1984; Frumkin & Man 1984).

Estimates of population sizes (TABLE I), are based on nesting pairs and on non-breeding birds at recent nesting sites. These are minimal estimates, due to incomplete cover of all potential sites. The picture produced by the data on the large raptors vultures, eagles and buzzards) is probably more complete than that for the falcons, whose nests are not as easy to locate.

SPECIES LIST

1. *Gyps fulvus*

Griffon Vulture

The Griffon Vulture breeds in the desert and Mediterranean areas of Israel. Migrating Griffon Vultures also occur in the spring and autumn. They nest on cliffs, usually in small colonies, although one or two pairs occasionally nest separately. The single egg is laid in late January, being incubated for 48-59 days (Mendelssohn & Marder 1970). The chick stays at the nest 110-115 days before its first flight.

Outside the breeding season, the nesting cliffs are often used for roosting; fresh white droppings on dark rocks make such roosts obvious from a considerable distance.

Only 29 active nests were found in the desert in 1984 compared with 41 in 1983 (TABLE I). Extreme fluctuations in the number of breeding pairs in the south have been noted for many years, including at specific localities, such as the Judean Desert or the Cliff of Zin (Frumkin & Man 1984). However, the overall size of the desert population has remained relatively stable. The present estimate of 120-160 Griffon Vultures, including non-breeders, in 1984, is similar to that reported by Sela (1975) for 1970-1975.

Sela also reported 39-41 breeding pairs annually, with local differences in distribution. Since 1982, no nest has been found in the southern Negev and the Negev Mountain, where at least seven pairs bred in 1977, declining gradually to one pair in 1982. The number of breeding pairs in the Chatzera ridge decreased from 21 in 1983 to only 10 in 1984. Similarly, the number of pairs in the Judean Desert declined from 19 to 13. The only increase observed was along the Cliff of Zin, where 14 pairs bred in 1985, as compared with six in 1984, one in 1983, and none in the previous three years. Six pairs bred at the same sites during 1977 and 1978. These numbers are still fewer than the 15-25 pairs observed by Sela (1975). In addition to the

TABLE I: NUMBER OF KNOWN NESTS (A) AND ESTIMATE OF ADULT POPULATION SIZE (B) OF THE RAPTORS IN THE STUDY AREA 1980-1985

Species	1980		1981		1982		1983		1984		1985†	
	A	B	A	B	A	B	A	B	A	B	A	B
Griffon Vulture	21-23	104			12*	52-99	41	122-162	29	120-160	14	81
Egyptian Vulture	13	46-90	6	30-50	3	10-20	16	60-90	30-32	100-160	8-11	
Lappet-faced Vulture	5	8-10	3-4	8	2	6-8	1	6	2	4-6	1	
Lammergeyer	1	2	0		0	2-4	0	3-5	0	2-5	0	0
Golden Eagle	1	9-10	9-11	23-30	4	20-30	9-10	19-22	14-21	42-54	4	2-4
Bonelli's Eagle	4	12			5-6	14	5	14-16	5	14-21		
Short-toed Eagle	6	16-26	2-3	<8	2	12-22	4-5	20-32	7-11	24-38		
Long-legged Buzzard	3-5	16-26	4-6	<12	2-5	8-14	7-8	18-24	16-27	60-82	3-4	
Lanner Falcon	2	7-9	2-4	7-8	1*	4*		8*	3-7	18-34	2	
Barbary Falcon		22-24	2*	4	1*	4-6	7-12	32-52	9-23	49-85	2	
Kestrel	4*						36	<100	35-57	<160	10-21	
Sooty Falcon	1-8	22-26	5-20	52-63	8-24	62-82	12-24	63-102	5-19	116-168	*	

* - partial data † - data for Negev Mountain & Cliff of Zin only

breeders, about 55 non-breeding Griffons, including many adults, roosted on the same cliffs during most of the 1985 breeding season. The main reason for the presence of this is probably the nearby feeding station for raptors and carnivores (see later).

2. *Torgos tracheliotus negevensis* **Negev Lappet-faced Vulture**

This subspecies is endemic to the Negev Desert and is now endangered. The Negev Lappet-faced Vulture occurs only in the southern Negev and southern Arava Valley, where it breeds on top of *Acacia* trees. A single egg is laid around late December, being incubated for 52-56 days. The young fledge 90-125 days later, spending a further five months with the parents (Leshem 1984).

The bird nested in the northern Arava Valley up to 1976, and up to 1966 in the northern Negev (Mendelssohn & Leshem 1983). From a breeding population of 25-30 pairs in 1950 (Mendelssohn 1971), only one breeding pair was located in 1985. TABLE II shows the continuous decline in the breeding population and the reproductive success of the known pairs since 1973 (after Ilani 1981; Leshem 1984; and Naor in Frumkin & Man 1984).

TABLE II: BREEDING DATA OF THE LAPPET-FACED VULTURE *TORGOS TRACHELIOTUS NEGEVENSIS* IN THE SOUTHERN NEGEV AND THE ARAVA VALLEY, DURING 1973-1985

Year	Pairs	Nests	Eggs laid	Chicks hatched	Chicks fledged	Chicks taken to Tel-Aviv University	Eggs taken to Tel-Aviv University
1973	13	11	*	*	*		
1974	11	11	*	*	*		
1975	11	7	6	5	2	3	
1976	11	6	6	4-5	4-5		
1977	9	5	5	4-5	4-5		
1978	8	5	5	4-5	4-5		
1979	6	5	4	4	4		
1980	4-5	3-4	3-4	3-4	3-4		
1981	4	3	2	1	0	1	
1982	3-4	2	3	2	0	2	1
1983	3	1	1	0	0		1
1984	2-3	2	2	1	0		1
1985	2	1	2	0	0		1

* - No data

During the past eleven years, eggs and chicks collected in the wild have been brought to the Tel-Aviv University Wildlife Research Centre, to raise birds in captivity, for release to the wild in future (Mendelssohn 1984; Leshem 1984). There are presently nine birds in captivity, probably more than in the wild. A small population of Lappet-faced Vulture was recently found in Saudi Arabia and these birds are thought to be intermediate in form between the Israeli and the Nubian populations (Bruun 1981). The remaining one or two pairs in the southern Arava Valley are being fed regularly at a feeding station, run by the NRA. Over 2,000 pellets which were collected from the nest and roosting sites, contained mainly hair of cattle from the feeding station (Leshem 1984). They also contained hairs of Ibex *Capra ibex nubiana*, Dorcas Gazelle *Gazella dorcas*, foxes *Vulpes* spp., goats and camels, as well as remains of at least 45 Spiny-tailed Lizards *Uromastix aegyptius* and one wheatear *Oenanthe* spp.

3. *Gypaetus barbatus* **Lammergeyer**

Like the Griffon Vulture, the Lammergeyer nests in various habitats, including the desert. In Israel, nests were recorded over 120 years ago in Galilee, in the Mediterranean zone of the

country (Tristram 1865). Twenty years ago, breeding pairs were known only from the desert region: in the Judean Desert, the Negev and the Eilat mountains (Leshem 1980a). Several pairs were also found in the mountains of Sinai in Egypt (RF) and in the mountains of Edom in Jordan (Mountfort 1965). Out of six to eight pairs known to inhabit Israel's desert 30 years ago, only one or two pairs are left in the Judean Desert. No nest has been found since 1980.

4. *Neophron percnopterus* Egyptian Vulture

Egyptian Vultures are summer residents and breed in different regions of Israel. Many also pass through Israel during migration in spring and autumn. The nest is built of small branches in a deep hole on a high cliff, and is usually used every year. On rare occasions, the nest is found on a ledge of a cliff. The eggs (one to three, usually two) are laid in late March or early April.

Of all vultures, the Egyptian is the least endangered as 100-160 adults spent the summer of 1984 in the Negev and the Judean Desert. Thirty-two nests were found during that year, compared with an annual maximum of 16 during 1980-1983 (TABLE I). At least 100 immature birds were present in the area. The highest concentration of nests was along the Cliff of Zin, where 13 active nests were found, with a mean distance between nests of 1.95km. (range 0.8-4.3km. TABLE III). This concentration is much higher than on the Negev Mountain, where the mean distance between nests was 6.5km. (range 0.8-11.2km.). The main reason for the difference is probably the availability of food, since Egyptian Vultures from the Cliff of Zin were seen feeding regularly on the rubbish dumps and the feeding station near Sede-Boqer.

The impressive increase in the number of known nests in 1984 is probably due to the intensity of the survey carried out in that year. In the past, surveys of breeding raptors were usually done in March and early April, before most of the Egyptian Vultures had started nesting.

TABLE III: MINIMUM AND MEAN DISTANCE BETWEEN NEST SITES (KM.), AND MEAN AREA PER PAIR (KM.²)* OF SOME RAPTORS IN THE DESERTS OF ISRAEL. 1984

Species	Region	Distance	Mean Distance	S.D.	Area per pair	N
Egyptian Vulture	Zin's Cliff	0.8-4.3	1.95	1.16		13
	Negev Mountain	0.8-11.2	6.50	3.19		14
	All sites	0.8-13.0	5.02	3.70		35
Golden Eagle	Zin's Cliff and Negev Mountain	5.5-27.0	13.69	5.67	147.4	21
Bonelli's Eagle	Judean Desert	4.3-13.0	6.13		30-70†	6
	Zin's Cliff	8.7-26.4	20.50			3
	All sites	4.3-26.4	10.92			9
Long-legged Buzzard	Zin's Cliff and Negev Mountain	1.6-13.0	6.52	3.13	33.4	21

* - Calculated by dividing the study area size by the number of pairs present

† - Territory size, according to Leshem 1976

5. *Aquila chrysaetos* Golden Eagle

In Israel, the Golden Eagle is resident and nests in the desert and semi-desert. Usually, the nest is on a shelf or in a large hole in a high cliff, although nests were also found in a pine tree near Jerusalem, and on electricity pylons in the desert, where high cliffs are rare. The eggs (one to four) are laid during January.

Although Golden Eagles had been observed in the Judean Desert last century (Tristram 1865) the first nest was recorded in the Samaria Desert in 1972. Since then, nests have also been found in the Judean Desert, the Negev and the Eilat mountains. 1984 was the best year, with 21 pairs and 14 nests located. The total adult population is probably more than 50 birds, with most concentrated on the Negev Mountain and the Cliff of Zin. This is at least twice any previous estimate. Moreover, the breeding success of some pairs was extremely high: in eight nests, a total of 17 chicks fledged successfully, including four nests with three chicks in each. Usually, two eggs are laid and only one chick leaves the nest (Cramp & Simmons 1980).

1984 was the first year in which we could obtain adequate data on the distances between nest-sites of the Golden Eagle in the desert region (TABLE III). The mean distance between nest sites was 13.69km. (range 5.5-27.0km.), with a mean area per pair of 147.4km.².

The Golden Eagle in the Negev Mountain feeds mainly on Desert Brown Hares *Lepus capensis* and Chukar Partridges *Alectoris chukar*. In the southern Negev, it feeds on Syrian Hyrax *Procapra syriaca* and Spiny-tailed Lizards (Leshem 1980b).

Mendelssohn (1971) and Sela (1975) report that Imperial Eagles *Aquila heliaca* were breeding on the Negev Mountain and in the southern Negev (four pairs). Since then, no resident Imperial Eagle has been seen, and the same sites are today occupied by Golden Eagles. This leads one to the possibility of a mistaken identification of Golden Eagles as Imperial Eagles, probably due to an insufficient knowledge of the southern subspecies of the Golden Eagle.

6. *Hieraetus fasciatus*

Bonelli's Eagle

The Bonelli's Eagle was a common breeder all over Israel until the arrival of pesticides 30 years ago (Mendelssohn 1971). Since then, a steep decline in numbers occurred near cultivated land, but the desert population has remained stable. Bonelli's Eagles are resident in their territories throughout the year, usually feeding on Rock Doves *Columba livia* and Chukar Partridges. The nest is located in holes or on shelves in high cliffs, with one to three eggs. The laying starts in January, but it can be as late as March. Incubation takes 37-40 days and the chicks fledge after 60-65 days. They stay with their parents for about a further eight weeks (Leshem 1976).

Some nest sites are known to have been used continuously for the last 20 years. Most of the population at the study area (five or six pairs), is located in canyons in the Judean Desert. Two pairs are residents in the Chatzera ridge and the Cliff of Zin, and some have also been observed in other parts of the Negev, where nests were known in the past. In total, eight to eleven pairs can be found today in the desert region, which shows considerable stability over the last fifteen years.

The mean distance between the nest sites in the Judean Desert is 6.13km. (range 4.3-13.0km., TABLE III), while territory size is 30-70km.² (Leshem 1976).

From five nests observed, eight chicks fledged successfully in 1984, compared with four in 1983.

7. *Circaetus gallicus*

Short-toed Eagle

The Short-toed Eagle is a summer resident and breeds all over the country, especially in the Mediterranean region. Most birds arrive from Africa during March. The single egg is laid towards late April, in trees such as *Acacia radiana* and *Pistacia atlantica*, in the desert region. Because of their late breeding season, compared with most other raptors, and the fact that most previous surveys were carried out before the laying dates, we have an incomplete picture of their status.

In 1984, eleven pairs were found and seven nests were located, many more than in any previous year. Nevertheless, the actual number may be still higher and could reach twenty pairs or more.

Some nest sites tend to be occupied by Short-toed Eagles every year. Some trees have been used continuously for ten years.

8. *Buteo rufinus***Long-legged Buzzard**

Long-legged Buzzards pass through Israel on migration, but many pairs are resident and breed, mainly in the north and the centre of the country. The nests are found in holes on cliffs, with two to three eggs which are laid from late March. Incubation takes 32-34 days, nestling period takes 45-48 days and the post-fledging period is about seven weeks (Sela quoted by Newton 1979).

Until 1983, we knew of only 13 pairs in the desert region nesting on cliffs. At least 27 pairs, including 16 active nests, were found in 1984. Most (22 pairs), were found on the Negev Mountain and the Cliff of Zin. In that area, the mean distance between nest sites was found to be 6.52km. (range 1.6-13.0), which is equivalent to one pair per 33.4km.² (TABLE III).

Breeding success was usually good: 24 chicks were found in 10 nests which were observed (2.4 chicks per pair). In two nests, at least, one of the chicks died before fledging.

In contrast, only 12 pairs, including three nests, were found in 1985 in the same area, raising a total of six chicks. These nests were near settlements, where prey is relatively abundant.

The diet of the Long-legged Buzzard in the Negev Mountain contains mainly Chukars and Rough-tailed Agama *Agama stellio*. Remains of prey collected from three nests which were active in 1984 included 48 Chukars, one Roller *Coracias garulus*, one Little Owl *Athene noctua*, 26 Rough-tailed Agamas, two snakes and three Desert Brown Hares.

9. *Falco biarmicus tanypterus***Lanner Falcon**

Until the use of pesticides, such as thalium sulphate, became widespread in the 1950s, Lanner Falcons were breeding in the north of Israel and along the Jordan Valley (Mendelssohn 1971). Since then, the northern population (probably *F.b. feldeggi*), has disappeared. The desert population (*F.b. tanypterus*), was less affected and breeding pairs are still found in the Samaria Desert, the southern Jordan Valley, the Judean Desert, the Negev and the Eilat mountains. The eggs (three to four) are laid during March.

In the past, only a few pairs were known, probably due to difficulties in their identification and in locating the nests in the extreme desert environment. The effort invested in the survey of 1984 bore fruit, and at least nine pairs were found in the study-area, although only three nests were located. The fact that Lanner Falcons were seen in 16 more sites suggests that the actual population size may be much larger than previously estimated.

10. *Falco pelegrinoides pelegrinoides* **Barbary Falcon**

The Barbary Falcon in Israel is limited to the desert environment and reaches northwards up to the southern Jordan valley. Three eggs are usually laid in holes on high cliffs during March.

Until 1975 (Sela 1975), it was known to be a common breeder in the Judean Desert (nine pairs), and on rare occasions, in the mountains of the northern Negev (three pairs). It was seldom observed in the central and southern Negev.

Nowadays, 12-20 pairs are known in the Judean Desert, and a similar number on the Cliff of Zin and the Negev Mountain, where Barbary Falcons used to be considered as extremely rare. No change has been observed in the Eilat mountains (one to two pairs) and the northern Negev mountains (one to three pairs). In total, the population size in the study-area is probably more than 40 pairs.

I have no doubts that after further surveys many more pairs will be found in the southern Negev and the northern Arava Valley. As in the case of the Lanner Falcons, the large increase in the number of records of the Barbary Falcon is probably due to the greater experience of the birdwatchers rather than to recent population growth.

11. *Falco tinnunculus***Kestrel**

Kestrels are very common in Israel, including the desert, where they usually nest in small holes in cliffs and in deserted nests of Brown-necked Raven *Corvus ruficollis*. In places where suitable cliffs are rare, but prey is abundant, Kestrels are found using stick nests in trees. Although Kestrels are common, there are relatively few breeding reports.

During 1984, a total of 57 pairs was observed, including 35 active nests (TABLE I). Based on observations made in previous years, I estimate that the desert population contains at least 80 pairs, and probably over 100. Most pairs are found near oases and cultivated lands or settlements, breeding from late March.

An interesting phenomenon was recently observed near Kibbutz Revivim, which is located in the middle of a large sandy area where there are no cliffs. Because of the intensive agriculture, plenty of rodents, lizards and small birds occur there.

This probably explains why Kestrels favour this place; a small colony of about 20 pairs was established in a 200 x 200 metre Date Palm *Phoenix dactylifera* plantation, nesting in the trees. The same place, probably for the same reasons, was also chosen by Long-eared Owls *Asio otus*, of which up to 12 breeding pairs were found. Between the 1983 and 1984 breeding seasons, both populations decreased significantly: the Kestrels from 21 to 15 pairs, and the Long-eared Owls from 12 to 7 pairs.

A possible reason for this decline might be the change in the density of the rodents, which is related to the rainfall and the vegetation. As seen in TABLE IV, 1983 was very rainy (142mm. in Sede-Boqer, 18km. from Revivim), compared with 1984 (57mm.). There was hardly any germination of annual plants in 1984, and this caused a drastic decline in the rodents' density. S. Brand (*pers. comm.*) from the Desert Research Institute in Sede-Boqer, who has studied rodent populations 3km. from Revivim, found a significant decrease in the number of rodents in 1984, compared with 1983. Most females of the rodents caught in 1983 were pregnant, while hardly any of those caught in 1984 were.

12. *Falco concolor*

Sooty Falcon

Ten years ago, the Sooty Falcon was considered a very rare summer visitor and breeder in Israel. Only three to seven nests were known (Sela 1975), mainly along the south-western cliffs of the Dead Sea Valley. Since then, the picture has changed and today they are no longer considered rare. Every year, new pairs are found in sites which have not been previously surveyed (Frumkin & Pinshow 1983; Frumkin 1984), while other sites are known to be used annually during four to six years. The nests are located in small holes on high cliffs, with two to three eggs which are laid in late July or early August.

During the last six years, approximately 70 pairs have been found, and the whole desert population has been estimated at about 100 pairs. The main concentrations are in the eastern and southern Negev Mountain (20-30 pairs), along the Cliff of Zin (15-20 pairs) and in the northern Arava and the Chatzera ridge (15-20 pairs). The minimum distance between the nests may be as little as 300 metres. The breeding density can be quite high, with five nests in 7km.² along the Cliff of Zin, for example. This is possibly because the Sooty Falcon feeds mainly on migrant birds in autumn, and so perhaps defending a large hunting territory is not essential for its survival (Frumkin & Pinshow 1983).

Because of their late breeding season (late July to mid-October), they have been overlooked in previous surveys, which were carried out earlier in the year. Since the continuous study of several sites over the last six years showed a certain stability in the number of breeding pairs, it is suggested that the increase in observations over the last decade is correlated with an increase in the time and effort expended by birdwatchers rather than an actual increase in numbers.

HUMAN AND OTHER PRESSURES ON DESERT RAPTORS

The drastic decline in the breeding population size of the large vultures, and the contrasting increase in the numbers of Golden Eagles and Long-legged Buzzards, demand an explanation. Unfortunately, the greatest enemy of wild animals in most developed countries is man. This is why I have looked at man's activities in the desert area during recent years, to search for any association with the status of the raptors.

Vultures, Bedouins and the Military

The Lappet-faced Vulture and the Griffon Vulture are exclusively scavengers, feeding mainly on the carcasses of wild mammals, such as Dorcas Gazelles, Ibex, and on domestic stock, such as goats, sheep, camels and donkeys.

Although bedouins and soldiers used to hunt gazelles and ibex in the Negev and the Judean Desert during the 1940s and 1950s and caused their numbers to decrease, there were always plenty of dead domestic animals available for the vultures. During the 1950s, new regulations for the protection of wild animals were published, and the Nature Reserves Authority was established. Most of the illegal hunting has stopped, thus helping the few hundred gazelles and ibex to slowly recover.

Since 1977, as earlier described, the bedouins with their herds were evacuated from most of the Negev area.

One consequence of this was the continuing recovery of the gazelles and ibex; the number has now reached about 2,500, but this is still less than five per cent of the total of both wild and domestic animals previously known in that area. This was probably the main reason for the continuous decline in the breeding population of the Lappet-faced Vulture (TABLE II), and the disappearance of any breeding Griffon and Griffon Vultures and Lammergeyers from the southern and central Negev. The single pair of Lappet-faced Vultures which has survived is a regular visitor at the feeding station, where dead calves are supplied every week.

Unfortunately, future prospects are not good, since most of the area evacuated of bedouins is now being used by the army for training purposes. This reduces the habitat available to gazelles and may hinder their recovery. Their carcasses provide an alternative source of carrion for the vultures, but not enough to offset the loss of domestic stock.

The main concentrations of Griffon Vultures today are in the Judean Desert and on the Cliff of Zin. Bedouins and their herds are still to be found near both areas, and food is also available in both places at feeding stations.

The Army and the Raptors

The decline in the numbers of the vultures in the southern Negev is also an indirect consequence of the use of the desert lands by the army for training, as this was the main reason for the removal of the bedouins. This use as an intensive training area, particularly where used by the armoured units, prevents the recovery of the plants and wildlife. Another disturbance is by helicopters, which sometimes fly through canyons and along cliffs in nature reserves where raptors are roosting or breeding. Most of these disturbances could be avoided by adherence to the regulations. Nevertheless, a large part of the desert area is only used for a few months each year, while some other parts are closed to traffic and people throughout the year. These closed areas are ideal nature reserves, although they are not designated as such. As long as this situation continues, the raptor populations there might increase to new peaks.

The Impact of the Removal of the Bedouin and Weather on Golden Eagles and Long-legged Buzzards

The removal of the bedouins and their herds from most of the Negev area had other consequences. The vegetation, which had been intensively overgrazed by the goats and sheep, was able to recover. Two extremely rainy winters in 1979/80 and 1982/3 in the central Negev (TABLE IV: Sede-Boqer and Mitzpe-Ramon) accelerated the process. A direct result of this was an increase in the reproduction and number of wild herbivores. Annual surveys organized by the NRA show increasing trends in the numbers of gazelles and ibex, at least until recent years. A similar trend was observed in the number of Chukars after the rainy years mentioned above, particularly in the Negev Mountain and near the Cliff of Zin, where adults with up to 20 chicks were seen frequently during the spring and summer (P. Alkon *pers. comm.*).

TABLE IV: ANNUAL RAINFALL (MM.) IN SEVERAL SITES IN THE DESERTS OF ISRAEL, DURING WINTER 1979/80-WINTER 1983/4

Site	1979/80	1980/1	1981/2	1982/3	1983/4
Masada	75	86	41	31	8
Metzad-Boqek	99	109	25	38	3
Chatzeva	62	109	33	53	4
Sede-Boqer	168	131	67	142	57
Mitzpe-Ramon	160	82	82	116	32

In contrast, after dry winters, such as that of 1983/4, very few Chukars were seen with chicks, even near cultivated land. Flocks of 10-20 adults were seen all through spring and summer, this indicating that they were not breeding. One might reasonably assume that other herbivores, such as the Desert Brown Hare, small rodents and Syrian Hyrax, were affected similarly.

The fluctuations mentioned above should have had an impact on certain raptors, such as Golden Eagle and Long-legged Buzzard, because of their diet: hares, Chukars, hyrax and Spiny-tailed Lizards, all of which are herbivorous.

It was therefore desirable to examine the association between the weather patterns, as represented by the rainfall, and the breeding success of the Golden Eagles and Long-legged Buzzards.

The rain in the Israeli desert, as previously described, is not evenly spread throughout the winter. There are extreme fluctuations in the amount of rainfall when it occurs. A small fall has no effect on the vegetation or wildlife, while heavy rain (over 10-15 mm. per hour) turns into runoff and then into floods. Therefore, I have considered the number of days with 0.9 mm. or more rain each year as a useful index of each winter's weather.

Clutch-size and breeding success are usually affected by the availability of prey during the weeks before laying, and during the rearing period of the chicks (Newton 1979). Golden Eagles lay in January, and Long-legged Buzzards in March. Therefore, they must depend on the quantity of food available from the previous year, because the numbers of Chukars and hares reach their peak only toward mid-summer.

Since most of their populations are found in the Negev Mountain, I concentrated on the changes in that area during 1980-85, examining the number of nests in one year in relation to the number of rainy days (with 0.9 mm. or more) in the previous year (*Figures 2 and 3*). Using the Spearman correlation test, the results show a significant and positive correlation: $r=0.971$ for Golden Eagle ($p<0.002$), and $r=0.898$ for Long-legged Buzzard ($p<0.02$).

Not only the number of nests seemed to be affected by the previous year's rain, but also their success: in 1981 and 1984, both of which came one year after an extremely wet winter, six Golden Eagle nests were found with three eggs in each. In 1984, all these clutches (four nests) hatched and all the chicks fledged. No clutch of three was recorded in any of the other years.

Non-breeding pairs of Golden Eagles and Long-legged Buzzards were often observed near traditional nest sites in poor breeding years. This suggests that the number of pairs of birds remains static and only the proportion of birds that breeds increases in good breeding years.

The breeding density of the Golden Eagle and the Long-legged Buzzard decreases from the mountains of the central Negev, southwards. A similar trend exists in the average annual rainfall (*Figure 1*). Since, as formerly described, the amount of rain affects the abundance of prey, this may explain the present density and distribution of these species. Although the Golden Eagle breeds as far south as the Eilat mountains, the Long-legged Buzzard has never been found breeding further south than Nahal Paran. This might be explained by the composition of its prey, since Chukars are relatively rare in the southern Negev, and the Rough-tailed Agama, which is common in the central Negev, is absent from the southern Negev.

Figure 2: Number of nests of Long-legged Buzzard (■), Golden Eagle (▨), and the number of rainy days (≥ 0.9 mm) in the previous year.

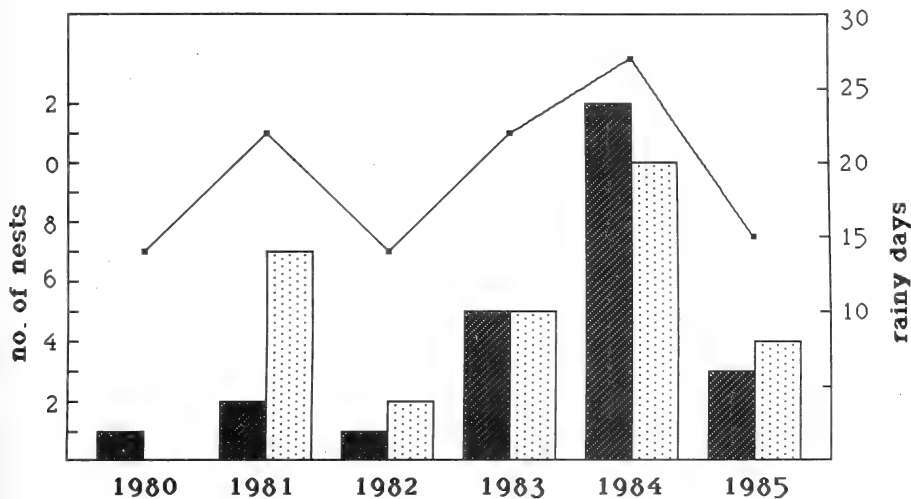
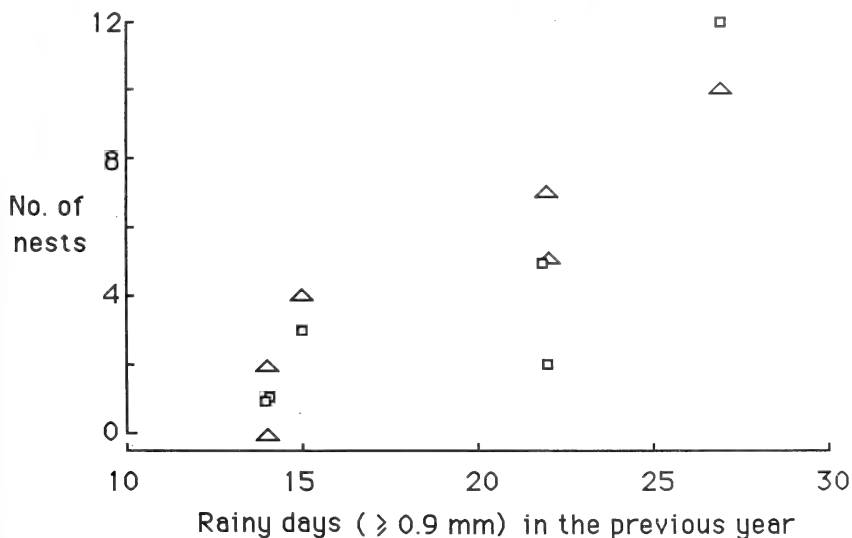


Figure 3: Correlations between the number of nests of Long-legged Buzzard (□) and the Golden Eagle (△) against the number of raindays (≥ 0.9 mm) in the previous year.



□ Long-legged Buzzard
 △ Golden Eagle

Spearman correlation
 F = 9.03 p < 0.05
 F = 25.45 p < 0.01

Golden Eagles in the southern Negev feed mainly on large prey, such as hyrax, hares and Spiny-tailed Lizards (up to 80 cm.). 125 tails of this huge agamid were found under one nest in the Eilat mountains (Leshem 1980b). This type of prey species might be too heavy for the Long-legged Buzzard, which is smaller than the Golden Eagle.

Feeding Stations

During the 1970s, five feeding stations for carnivores and raptors were established in the desert, of which four are included in the study area: Ein-Gedi (since 1973), Sede-Boqer (1973), Chatzeva (1976) and the Eilat mountains (1979). These are in the care of the rangers from the NRA who supply food and water every week. The food consists mainly of carcasses of calves (one or two per week), with sometimes large mammals found dead on the roads (G. Ilani *pers. comm.*).

The feeding stations were established in order to:

- (a) reduce the numbers of animals dying from poisoned food in the cultivated lands nearby;
- (b) keep the animals away from the settlements and the main roads where they might get hurt by cars;
- (c) improve the reproductive success of the animals by supplying food rich in proteins and water especially during the breeding season.

Since the feeding stations are not specifically for raptors, the vultures get only a small fraction of the food provided. All the feeding stations, with the exception of Sede-Boqer, are found in low and flat areas which are easily accessible to carnivores, but it is difficult for the large vultures to take off from such areas after a good meal. Moreover, Striped Hyaenas *Hyaena hyaena* often carry the carcasses away during the night to their caves or to some narrow wadi nearby, leaving nothing for the vultures.

The most common vulture at every feeding station is the Egyptian Vulture. Griffon Vultures are less common except in Sede-Boqer where 60-70 can be seen at one time. This might be due to the location of the station at the top of a high cliff, very close to a traditional roosting and breeding colony, and where food is brought at frequent intervals, and without the extreme fluctuations which occur in some of the other stations.

Lappet-faced Vultures regularly visit the feeding station in the Eilat mountains (Leshem 1984). From time to time, Lappet-faced Vultures are also seen for a short while in the feeding stations of Chatzeva and Sede-Boqer, 100-150km. from their present breeding area.

Lammergeyers have been observed in the past, in Sede-Boqer, but now they are only rarely seen in the Ein-Gedi station.

The feeding stations are also visited by migratory eagles, buzzards and Black Kites *Milvus migrans* and by local Brown-necked Ravens.

The disappearance of the bedouin herds from most of the desert area, together with the new settlements and the rubbish they create, endangers the future of the vultures more than ever. Their dependence on the feeding stations is increasing all the time, and removing the stations might cause irreparable damage to the vulture population, unless the gazelles and ibex increase substantially. Possibly, in time, the numbers of the wild game (ibex, gazelles and wild donkeys) will increase and take the place of the domestic stock. Meanwhile, as long as there is insufficient alternative food, the location of the stations should be reconsidered in order to make them more accessible to the large vultures.

Specific feeding stations for vultures should be located in high sites, near roosting and breeding cliffs. The carcasses should be fastened to the ground to prevent carnivores pulling them away and the station area should be fenced to keep carnivores and people out.

Mountaineering, Rambling and Research

The increasing interest of the public in mountaineering and rambling may have a negative effect on some species, since the best cliffs for climbing are usually also ideal for raptors. The

interference is not serious when people just pass along the cliffs without stopping. For example, one pair of Bonelli's Eagles in the Judean Desert is known to have been nesting for the last 10 years on a cliff which is five metres below a hikers' path, where hundreds of people pass every week. In other cases, when people were climbing on cliffs close to breeding pairs, nests were abandoned and these pairs had no other nest for that year.

Other disturbances might be caused by archaeological and geographical studies, such as surveys of caves in the cliffs. Such studies should not be carried out during the breeding season if raptors are using these cliffs.

Use of Pesticides

Although many kinds of pesticides are prohibited, their use is still difficult to control. Even where permitted, the quantities which are used are usually far more than actually needed.

Green fields in the desert are like large oases which attract many animals, including raptors, and therefore expose them to danger. The danger is most serious when the bulk of the population of any one species is concentrated nearby (e.g. 70-80 Griffon Vultures and about 100 Egyptian Vultures are found near the fields of Kibbutz Sede-Boqer. At least fifty pairs of nine species are known to breed within a distance of 10km. from that place). Such places are quite isolated in the desert and therefore they should be ideal for organic agriculture, where damaging animals can be controlled by their natural enemies: the carnivores and the raptors. This may solve many ecological problems and further improve the recovery of wildlife.

ACKNOWLEDGEMENTS

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I wish to thank all of them for their generous help.

SUMMARY

Changes in the status and distribution of twelve diurnal raptors in the Israeli desert during 1980-1985 are examined in relation to the effect of diversification in land use by man and, on certain species, the changes in annual rainfall.

The evacuation of bedouins with their herds from most of the desert area in 1977, resulted in a continuous decline in the number of Negev Lappet-faced Vultures, Griffon Vultures and probably also Lammergeyers. These vultures feed mainly on carrion of large mammals, most of which are domestic stock. No nest of Lammergeyer has been found since 1980 and only one pair of Negev Lappet-faced Vulture was nesting in 1985. Griffons are still numerous, but they are restricted to fewer colonies, mainly near human settlements, bedouin camps and feeding stations.

On the other hand, evidence shows an increase in the population of the Golden Eagle and the Long-legged Buzzard in these evacuated areas. The number of breeding pairs of both species each year is found to be positively correlated with the number of rainy days in the previous year. They feed mainly on Chukars, hares and agamas, which increased due to absence of goats, sheep and camels. A rainy winter leads to increased vegetation, and thus to more game for the eagles and buzzards, resulting in more breeding in the following year; conversely, a dry winter has the opposite effect.

No significant change was found in the population size of the Bonelli's and Short-toed Eagles, the Egyptian Vulture and the falcons. Increasing numbers recorded of some of these species are probably due to the greater experience of the birdwatchers and better timing of the surveys rather than to recent population growth.

Breeding densities of Griffon Vultures, Egyptian Vultures, Long-legged Buzzards and Kestrels are highest near settlements and cultivated areas, probably due to abundant food.

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Plate 1
The Ramon Crater in the Negev Mountain.

Photograph R. Frumkin



Plate 2
*Remains of prey found under a nest of Long-legged Buzzard *Buteo rufinus*, the Negev Mountain, May 1985: legs and wings of 22 Chuckars, one Little Owl, legs of one Desert Brown Hare, tails and legs of 16 Rough-tailed Agamas and one snake. It also includes a dead nestling of the buzzard.*

Photograph R. Frumkin



Plate 3
View from a nest of Long-legged Buzzard in the Negev Mountain, April 1985.

Photograph R. Frumkin



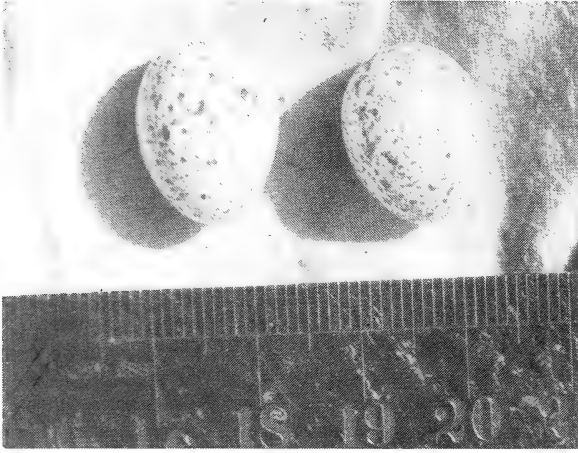


Plate 4
*Eggs of the Black-crowned Finch Lark
Eremopterix nigriceps Dhahran, May
1981.*

Photograph J. H. Morgan

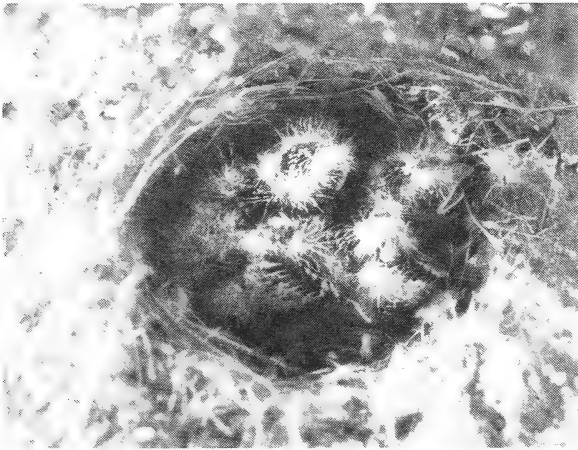


Plate 5
*Nestling Black-Crowned Finch Larks
Eremopterix nigriceps, Dhahran, May
1981.*

Photograph J. H. Morgan

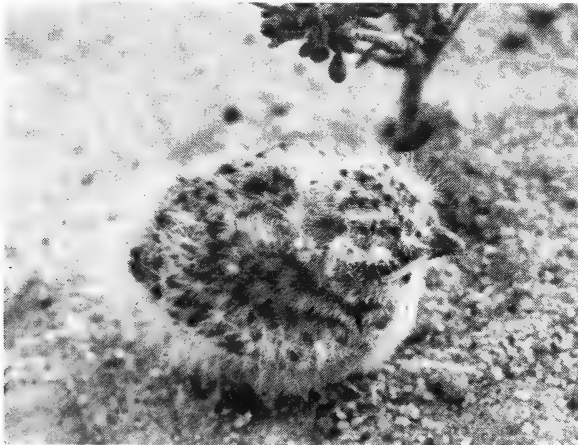


Plate 6
*Black-crowned Finch Lark Eremop-
terix nigriceps chick at about 11 days
old, Dhahran, May 1981.*

Photograph J. H. Morgan



Plate 7

Female Black-crowned Finch Lark
Eremopterix nigriceps at the nest,
Dhahran, May 1982.

Photograph J. H. Morgan



Plate 8

Male Black-crowned Finch Lark
Eremopterix nigriceps at the nest,
Dhahran, May 1982.

Photograph J. H. Morgan



Plate 9

Female Black-crowned Finch Lark
Eremopterix nigriceps trapped at
Abqaiq, May 1981.

Photograph J. H. Morgan



Plates 10 and 11
*Immature Abdim's Storks Ciconia
abdimii sunbathing and preening,
Salalah, Oman, October 1983.*
Photograph A. Jones



Plate 12
*Long-billed Dowitcher Limnodromus
scolopaceus near Salalah, Oman,
December 1985*
Photograph C. Greaves

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SOME NOTES ON THE BLACK-CROWNED FINCH LARK

by

J. H. Morgan and J. Palfery

INTRODUCTION

The studies described in this paper began in response to a request for information by the editors of the *Handbook of the Birds of the Western Palearctic*. Several Middle-Eastern species were listed in the request and one caught our attention immediately: the Black-crowned Finch Lark *Eremopterix nigriceps*. Throughout, we refer to this species by one of our first discoveries, the invaluable acronym, BCFL!

We had already noted a regular occurrence of this species during the summer months in locations adjacent to our place of work and domicile at Dhahran in the Eastern Province of Saudi Arabia. We decided that we were well placed to make a useful contribution, for it seemed that only a sketchy knowledge of this species existed at that time.

Because many aspects of BCFL biology could be studied only incompletely by us in the time we had available (one day per week, plus afternoons), these notes are somewhat patchy. Some sections pose more questions than they actually answer and it will be clear to the intending observer of BCFLs that much more remains to be discovered than has been revealed by our studies. Nevertheless, we believe that our observations show the general details of this species' life history.

Our observations were made mainly in 1981 and 1982 between late April and early July. Some incidental observations by ourselves and others were made at various times both before and after these dates.

SYSTEMATICS

The Old World genus *Eremopterix* contains seven species. Of these, only two occur in the Palearctic, *E. grisea* and *E. nigriceps*. The remaining five are wholly Ethiopian in their range.

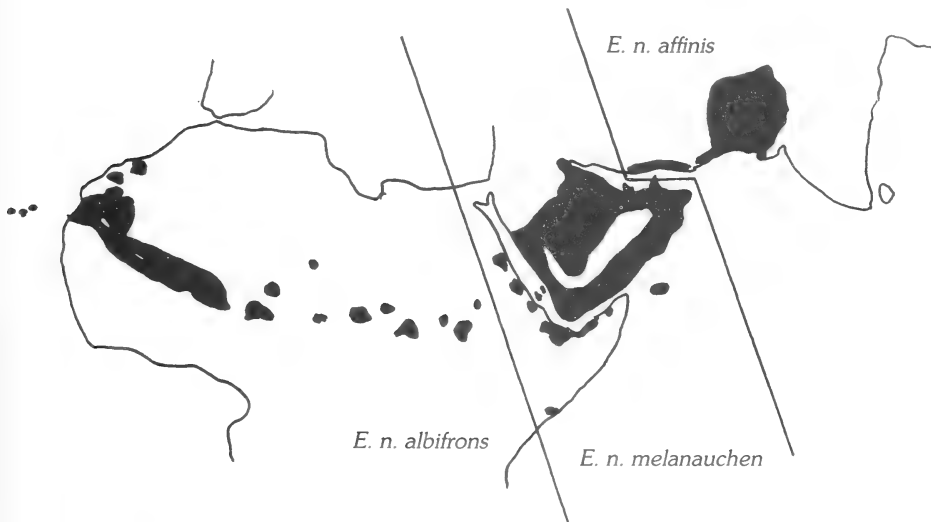
Judged on the simple criterion of plumage similarity, these two are apparently very closely related. It would be instructive to study them within the limited zone of sympatry that lies across Baluchistan, Sind and N.W. India. It seems likely that *E. grisea* is a previous isolate of a *grisea/nigriceps* proto-species. This would have reached the Indian sub-continent from an Ethiopian base at some past time when conditions in Arabia favoured its spread. At present the distribution of *E. nigriceps* subspecies does suggest that a similar expansion may have occurred once again, the population in the east of the species' range being assigned to a different subspecies from that found in Arabia and eastern Africa (see below).

This paper is concerned with the form *E.n. melanauchen*, which breeds throughout Arabia from Iraq south to Socotra Island. To the east of the Gulf it is replaced by *E.n. affinis*; west of the Nile Valley, the subspecies is *E.n. albifrons* (syn. *nigriceps*) with birds from E. Sudan, Eritrea and Ethiopia placed in *E.n. melanauchen*. The precise boundaries to the range of each subspecies seem to need further definition. See *Figure 1*.

FORM

Descriptions for adult plumages of *E.n. affinis* are given in the *Handbook of the Birds of India and Pakistan* (Ali & Ripley 1972); for *E.n. albifrons* and *E.n. melanauchen* in the *Birds of North Africa* (Etchecopar & Hüe 1967) and again for *E.n. melanauchen* in *Les Oiseaux du Proche et du Moyen Orient* (Hüe & Etchecopar 1970). These are somewhat rudimentary and we have taken this opportunity to give a longer description.

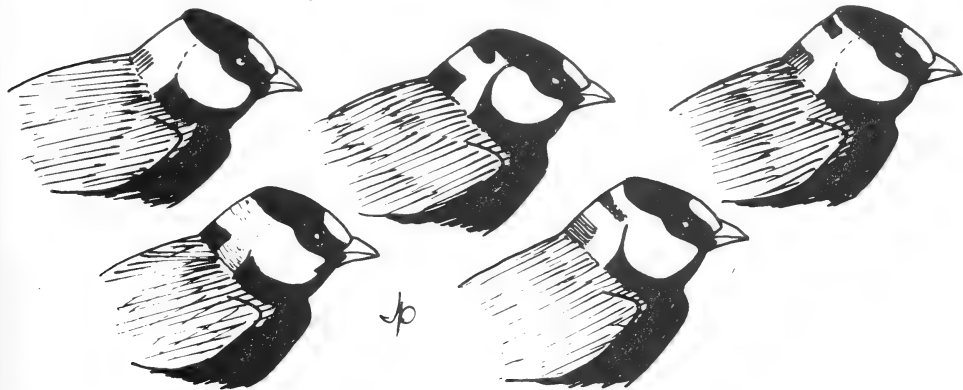
MORGAN, J. H. & PALFERY, J. Some Notes on the Black-crowned Finch Lark. *Sandgrouse* 8: 58-73.

Figure 1: Distribution of subspecies of *Eremopterix nigriceps*(i) **Adult**

BCFLs are small, stocky larks with heavy, finch-like bills. They have a flat-crowned, rather square-headed appearance, and there is a slight crest, but this is only raised when they are excited. The body often looks somewhat flattened and this shape is emphasized by their habit of holding the wings away from the body at the shoulder.

The adult male is very distinctive with his black and white head pattern and black underparts. The head is black, except for a white forehead and a large, rounded, white patch on the ear which joins with a white nape and hind-neck. The pattern of black and white on the nape varies between individuals (Figure 2), and this feature could have field application. There is a thin, pale, brownish eye-ring. Occasionally atypical males were seen with dark brown, not black, on the head. The rest of the upperparts are a pale sandy grey which can look almost silvery in bright light, especially in worn plumage. There are paler edgings to the feathers but these are only visible at close range. The tail is dark brown with a paler, greyer centre and whitish outer edges; when folded it often looks blackish.

Figure 2: Variations in head patterns of male Black-crowned Finch Larks



The wing coverts are pale, sandy brown, similar to the rest of the upperparts, but the flight feathers are darker and greyer. The lesser coverts form the palest area of the wing and in flight they can sometimes appear silvery. The median coverts have dark centres and these usually show as a row of dark spots across the folded wing. The greater coverts also have dark centres but they are obscured by broad, pale feather edgings and are not obvious. The remiges all have dark greyish feather centres and broad, pale buff edgings.

The underparts and underwing coverts are black. The thighs are white.

The female is much less obvious and could be confused with some races of Lesser Short-toed Lark *Calandrella rufescens*. Its most striking feature is the extreme paleness of the upperparts. These are sandy grey, paler and usually colder in tone than those of the male. They are not completely uniform, for there are pale fringes to the feathers which produce a slight mottling. The forehead and crown are sandy with fine, dark streaking; the hind neck is also streaked but the streaks are paler. The face is very pale, sandy buff with darker, greyer lores, but in worn plumage it fades almost to white except for the sandy buff ear coverts. The neck, including the hind neck, is also whitish in such plumage. Some females show a suggestion of the male head pattern: pale forehead, face and cheeks which contrast with dark brown crown and nape. The tail is dark brown with sandy buff centre and outer edges; it can appear blackish when closed.

The wings are darker and greyer than the rest of the upperparts and, as in the male, the dark centres of the median coverts often stand out on the closed wing. The remiges are darker.

The underparts are generally a pale buff. The chin and throat are greyish white and the breast and belly buff-white. There is sometimes grey streaking across the breast but this is a very variable feature; while it is quite extensive on some birds, on others it can be virtually absent.

The underwing coverts are black.

The colours of the bare parts are the same in both sexes. The iris is black. The bill colour varies from pale horn to greyish white with a pinkish tip. The legs are pale horn to greyish.

(ii) Juvenile

We were unable to study either well-developed or fully fledged juveniles at Dhahran, but at nearby Abqaiq some birds were seen in June and early July wearing juvenile plumage. Here we were also able to see both moulting adults and juveniles during July and August of 1984. Additionally, there are some juvenile BCFLs in the collection of skins at the British Museum (Bird Room), Tring.

In general juveniles are very similar to adult females, but the sandy brown contour feathers of the upperparts, together with the remiges and the rectrices, are bordered and tipped to a greater or lesser extent with very pale buffish-white.

The progress of BCFL moult at Abqaiq could only be effectively observed for juvenile males. Here the change to the black underparts and characteristic face pattern of the mature bird allowed us to some extent to estimate the timing. We saw nothing to suggest that BCFLs are any different from many other passerines, seemingly taking around forty days to complete their moult, during which, incidentally, we noted wing feather replacement in undoubted juveniles as well as in adults.

Following completion of the moult, a number of males had the feathers of the underparts tipped or partially fringed whitish. The age of these birds in some cases was established by seeing residual juvenile plumage on the head, this being the last tract to moult. On these immature males, the white areas of the head appear sandy grey, and the black areas are mottled by the sandy feather tips. The mantle seems sandier than in the adult male. A few birds in the British Museum collection show these pale fringes to the black areas of the plumage, but it appears likely that feather abrasion may remove the tips by the following spring. We once noted a bird at Dhahran with less than fully developed plumage, but all other spring males which we have seen at sufficiently close range seem indistinguishable one from another, except for minor variations in the head pattern (see above).

SIZE

Measurements are given in both of the Etchecopar and Hüe volumes and in Ali and Ripley. A female BCFL caught while netting for migrant passerines at Abqaiq on 8 May had wing 80mm., bill (to feathers) 10.6mm., and tarsus 17.5mm.

POSTURE

On the ground, BCFLs have a slightly more upright stance than many lark species. The mode of feeding is typical of larks, however: running a few steps, then pausing before running on again, and so on. The wings are characteristically almost always held away from the body. It seems likely that this, together with the black underwing coverts, could help the bird to lose heat.

The flight is bobbing rather than undulating; this is due to a wing action of four or five beats followed by a brief closure. In hot weather they fly with dangling legs.

CALLS

Three calls were noted by us. The commonest of these is a repeated "**jip**" or "**djip**", uttered by male and female, both in flight and on the ground. It serves as a contact call usually, but is also used as an alarm. Once the young have hatched a "**zree**" alarm call is often heard (see Ethology (iii) g) Distraction). Again it is given by both sexes, although less frequently by the female. Both this call and the "**jip**" call are often uttered together. The third call is a short, subdued "**brup**" which we heard on only a few occasions and never during the breeding season. On each occasion it was heard from small flocks in flight and it appears to be a contact call. This seems to be the call noted by Bourne (1955) and Mackworth-Praed and Grant (1955).

Chicks do not call from the nest but once they have left it and entered the nidifugous stage of development they call frequently, a repeated "**cheop**". It has a strong directional quality and we were often able to locate chicks by this call.

DEVELOPMENT

(i) Eggs

Fifteen clutches of eggs were examined by us during the course of the study. Although Etchecopar and Hüe and Ali and Ripley both give the clutch size as two eggs, we found only six nests (40%) holding this number. For reasons which we hope will become apparent, we like to refer to clutches of three in this species as having an 'extra egg' (see Ethology (iii) Parental Behaviour). A further four clutches were deduced by examination of broods found newly hatched. The proportion of C/3 for nineteen nests was 58 per cent.

BCFL eggs are sub-elliptical and have a white to off-white ground colour, often slightly tinged blue. (See *Plate 4*.) Small red-brown and grey-violet spots cover the egg especially at the blunt end. Measurements of two C/2 and one C/3 were taken as follows (all in mm.)

(18.2 × 14.3, 18.3 × 14.6, 18.8 × 14.7)

(17.9 × 14.0, 18.5 × 14.3)

(18.7 × 13.9, 18.4 × 13.8)

It seems that eggs of *E.n. melanauchen* are shorter and perhaps a little fatter than those of *E.n. affinis* measured by Baker and quoted in Ali and Ripley. Our measurements are in accord with those for two *E.n. melanauchen* eggs quoted by Etchecopar and Hüe, who give 18.5 × 13 and 18.5 × 13.5.

(ii) Young

After hatching, BCFL chicks develop very rapidly and could perhaps be described as semi-precocial. In eight days, sufficient growth occurs to allow young BCFLs to become nidifugous. At this stage of development, the resemblance to the downy young of Charadriidae,

Laridae, and Phasianidae is remarkable, although the plumage development is typically passerine.

The major tracts of feathers begin to emerge around days five to six with the remiges and the upperparts developing most rapidly. On day nine, pale sandy down still covers the head, while that on the back is well admixed with brown flecked orange-sandy juvenile feathers. On day eleven, the back and the top of the head have well-developed feathers and the wings are nearly half grown. The underparts from the throat to the belly and the underwing coverts show virtually no development at this stage. Two chicks in the British Museum collection from Socotra Island on 20 February 1899 seem about this well developed. The taking of a couple does suggest removal from a nest, but these two should have been well into the nidifugous phase (*q.v.*). Much more interesting than this, though, is the date! (See 'Breeding Season'.) In these two examples, the intensity of colour at the centres of the juvenile feathers varies in intensity from the crown (dark brown) to the back (pale purplish-brown). That this was not noted by us in the field is hardly surprising. Our main objective was a study of parental care, and we limited ourselves to cursory inspections that would not attract interest from the parent birds.

At thirteen days the wings were considered to be about half-grown, although the rectrices had only just broken from pin. The upperparts were now well covered by sandy-buff feathers, those of the scapulars appearing with a slight greyish tinge. The cheeks were feathered, but above and below the eye, around the lores and for an area just above the cheek, dark grey skin still showed.

From this point in the development, only sketchy observations were possible. The chicks take to the wing about the fourteenth or fifteenth day. One just airborne was from a nest that had not been seen to hatch, but it was estimated from the chick's state of development, when first seen, to be fourteen days old. Its wings seemed scarcely half grown, and the flight reminded us of the first attempts of young gamebirds to take to the wing. A chick that could have been around twenty-two days, if our supposition concerning its nest origin was correct, had fully grown wings, but the tail seemed almost non-existent.

Overall, the speed of development would seem typical for passerines of this size.

DISTRIBUTION

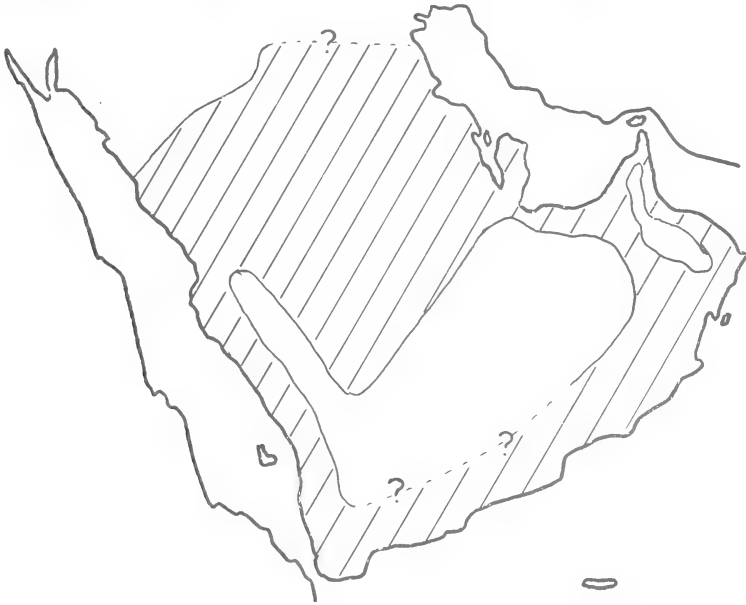
The genus *Eremopterix*, as already noted, has a largely Ethiopian distribution, with only one species, *E. grisea*, not occurring in Africa. The world breeding range for the three subspecies of *E. nigriceps* is shown in *Figure 1*. It should be regarded with considerable caution as only limited concrete information is available. Distribution of the BCFL in the Eastern Province is better known (G. Bundy, *pers. comm.*). Within the range shown in *Figure 3* (which is based on information provided by the organiser and contributors to *The Atlas of the Breeding Birds of Arabia*) the occupation of suitable habitat by breeding BCFLs seems to be annual. It has been suggested (Jennings 1980) that in some parts of Saudi Arabia this bird is a nomadic or a fugitive species.

MIGRATION

At Dhahran, the population of BCFLs studied by us seemed to be almost entirely migratory. From October through to March, only occasional individuals were noted at Abqaiq and further north. However, at Haradh (latitude 23° 45'N, and some 200km. south of Dhahran), BCFLs have been observed throughout the winter in some years. A migrant flock of some 30-35 birds, equally divided between the sexes, was seen very near here on 23 February. At this location the BCFL has been observed breeding (*q.v.*) considerably earlier than at Dhahran. It is possible that the wintering and breeding individuals were one and the same, but as evidence for a resident population it is best treated with some circumspection.

In general, arrival in the Dhahran area was between 24 and 28 April. Breeding (*q.v.*) commenced almost immediately.

During the study years most departures from the Dhahran site had taken place by the end

Figure 3: Hatched area = Distribution of *E. n. melanauchen* in Arabia

of June. Nevertheless, BCFLs probably do not depart from the general area of Eastern Province to their winter quarters until September. Males have been observed song flighting at Abu Ali in mid-June (G. Bundy *pers. comm.*), and a female was feeding a flightless chick at Qurrayah, 1°S of Dhahran. on 30 July 1982 (W. Ross *pers. comm.*). In late July, August and early September, parties of moulting BCFLs were seen in localities close to surface water such as at Abqaiq. The numbers observed declined quickly after the moult was complete.

Migrant flocks were encountered less frequently and by and large had fewer birds in them than have been recorded elsewhere in Arabia (Walker 1981a & b). This was hardly surprising as East Province is toward the northern limit of this species' distribution.

ENVIRONMENT, HABITAT AND RESOURCES

The climate in Dhahran during the observed breeding season of the BCFL is hot and rainless. Air temperatures in mid-afternoon were often quoted up to 48°C, but these might be suspect for the reason that secondary radiation from surroundings is very intense during the summer months.

During the period that BCFLs occupied the study site, maximum temperatures were mainly in the range 32°C to 45°C with minima between 20°C and 30°C. Average daily maxima rose from 34.7 ± 0.5°C at the start of the breeding season in late April, to 36.6 ± 0.6°C in mid-May when many BCFL nests at the study site were hatching, and to a steady 41.1 ± 0.5°C throughout June when most juveniles would have been fledging. There was no precipitation of any kind during the period of the study, although occasional 100% relative humidity can occur at this time of year. The relative humidity minima averaged approximately 30% in May, falling to around 20% in June. Surface water was found within 3-4kms., possibly closer, where underground flows reached the surface. Because of effluent disposal, more surface water is present throughout the year in the East Province than could have been there traditionally. Occasionally a tanker would empty liquid waste at the study site, which was used casually as a rubbish dump.

The study site comprised a total area of approximately 75ha. containing two observably distinct habitats. Roughly 30ha. consisted of flat firm sand, the surface of which was loosely cemented into a very friable concretion by, presumably, calcium and magnesium salts percolating up from subsurface water. The vegetation on this part of the site, the part most favoured by BCFLs, was dominated by two low-growing shrubs: *Anabasis articulata* and *Heliotropium crispum*. Plants were well-spaced, there even being two to four metres between them where the vegetation was at its most dense. As well as these spatially dominant shrubs, there were several grasses, most notably *Pennisetum divisum*.

The other distinct habitat within the study area consisted of loose sand, raised slightly into low dunes and hummocks, and overall a few metres higher in elevation than the first. Here the spatial dominance by shrubs was maintained, but *H. crispum* seemed more in evidence.

Our observations of nest density clearly indicated a preference by BCFLs for the first habitat described, at least for use as breeding territory. Our information allowed us to make very crude estimates of 0.3 pair/ha. for the prime area and 0.1 pair/ha. for the other. Feeding took place in both areas, but we made no attempt at even a subjective assessment of relative usage.

The presence of breeding Hoopoe Larks *Alaemon alaudipes* and Crested Larks *Galerida cristata* in the study area, as well as at locations where no BCFLs could be found, did suggest some habitat specificity in the latter. It seemed probable from our observations that BCFLs depend greatly on a supply of insect food for the young. In such a case an area of vigorously growing vegetation would be of benefit. Following winter rain and with the apparent presence of subsurface water, as in some other parts of the Eastern Province where BCFLs are regularly noted, the shrubs on the study site were not aestivating during the breeding season. In addition, annual and biennial/perennial herbs were flowering abundantly during the breeding season (see Feeding and general habits).

It would seem that important aspects of the BCFL's breeding season niche are the vegetation mentioned above and a relatively firm ground surface needed for nest building (*q.v.*).

BREEDING SEASON

A perusal of the literature, taken together with personal communications from several observers in Arabia, leads us to believe that the breeding season of the BCFL is not as simple as it appears from our observations.

In winter, breeding certainly occurs on Socotra Island during January and February. Two chicks from there in the British Museum collection, dated 20 February 1899, seem to be between six and eight days old. Trott (1947) notes pairing in December at Jiddah, although he gives the breeding season as commencing in February. More recently, BCFLs have been found nesting in January in North Yemen (Ash 1976). At the other end of the year, BCFLs have been found with chicks in October in Oman (G. Bundy *pers.comm.*) and in the U.A.E. (Bundy & Warr 1980). In Eastern Province, the earliest start noted has been at Haradh, where a 10-14 day old chick was seen on 9 April 1982. Here the species may be a partial resident, although the number seen varies from one winter to the next.

At our Dhahran study site, breeding had commenced within four to six days of first arrival, and we cannot rule out the possibility of birds arriving already paired. The average first egg date for the two years 1981 and 1982 was 8 May. This figure comes from a fairly even spread of dates, the earliest 29 April to the latest 15 May in 1981 and 30 April to 14 May in 1982. Because of the high loss rate (see below: Population Dynamics), it seemed to us that the later starts were more likely to be repeat clutches.

No evidence of a second brood was ever obtained at our study site. This and the fact that no clutches were begun later than 15 May would agree with our diagnosis of the BCFL niche above, for it is clear that the growing season ceases in June and shrubs begin to aestivate. However, in areas where there is an extended growing period, the BCFL may extend its breeding season. In particular, we suspect that the environment at Haradh may encourage birds to try for a second brood. The irrigation of the cultivated areas could allow the BCFL to expand its niche there because of the longer growing season.

At least one intriguing problem remains. Do BCFLs which breed early in the year, as at Socotra Island, breed again at the more northerly sites? The question arises from the very low breeding success that was noted at the Dhahran site (see below Population Dynamics). Within the general area of this location in the Eastern Province, there have been observations of BCFLs both breeding and showing breeding behaviour in June and July. Presumably, other sites have a more protracted season than ours. It seems not unreasonable to extrapolate this discrepancy, and to expect that temporal separation will allow for successive broods at widely separate locations. Otherwise it is difficult to see how the population we studied could maintain itself.

POPULATION DYNAMICS

The success of BCFL nests at the study site in Dhahran was low. Using data recorded for twenty-one nests, it is possible to produce a rough figure for losses at both the egg and nestling stages, but impossible to even guess at losses of nidifugous young. From eight nests found at the building stage, one failed to lay and four others lost clutches during incubation. By computing back using the incubation period a further clutch was found to have been completed on the day of its discovery. Including this one in the calculation gives four clutches hatched out of eight laid, a rough survival rate of 50 per cent. Assuming all pairs try one repeat clutch with the same degree of success, it seems some 70-80 per cent of BCFL pairs will achieve hatching nests.

Observations were made on ten nests containing nidicolous young which had been seen to hatch. In reckoning the survival of these nests, we took the time to reach the nidifugous stage as eight days. Within this lapse of time a total of four nests lost young. As all these losses took place after 15 May, our observation was that this would preclude any further replacement. Thus only some 25-45 per cent of BCFL pairs might have broods reared to this point in their development.

Further losses seem inevitable before the chicks reach independence. Although some pairs might lose both young, isolating each chick of the brood must confer an advantage. Perhaps as many as 70 per cent could survive to fledging, equivalent to an additional 15 per cent of pairs losing their broods. This gives an overall 20-40 per cent estimate for the number of BCFL pairs fledging a brood.

In assessing an average brood size, we note, first, that in no case were three chicks observed leaving a nest. It seems unlikely they could be cared for satisfactorily if they did (see below: Ethology (iii) Parental behaviour).

Secondly, for ten nests observed over the whole of the nidicolous period, two reached the free running stage with only single chicks remaining. This gives an average brood size of 1.8 per pair.

Finally, a recruitment of 0.18 to 0.36 follows by combining our high and low estimates for successful pairs with this average brood size.

It would be surprising if the composite juvenile and adult mortality for the BCFL were as low as even the more optimistic of these two figures, as required for a stable population. We believe that the BCFLs breeding at Dhahran may be nesting elsewhere earlier in the year.

PREDATION

Loss of nests, nestlings or of free running chicks was not observed during the study. Indeed, it seems probable that most of the predation took place at night. A number of potential predators were known to inhabit the site and of these the following were considered likely to cause BCFL losses:

Lizards

Agama blanfordii
Varanus griseus

Snakes

Cerastes cerastes
Lytorynchus diadema
Malpolon moilensis
Psammophis schokari

Mammals

Paraechinus aethiopicus (a hedgehog)
Vulpes vulpes (Red Fox)
Felis spp. (Cats, feral and possibly others)

Birds

Corvus ruficollis
Lanius spp. (on migration)
 Falconiformes (on migration)

ETHOLOGY

(i) Feeding and general habits

At the study site, birds preferred to feed in the areas of flat firm sand and of low, sparse vegetation rather than in places where the sand was less stable or the vegetation higher than about 0.5 metres.

The principal food of adult BCFLs appears to be seeds, but insects are also taken. They take food both from the ground and directly from vegetation. Most food plants are low, but, when feeding from grasses, birds repeatedly flutter up to 0.3 metres from the ground to snatch seeds. Sometimes flying insects are chased; one bird was noted persistently flycatching. Caterpillars are also taken.

Feeding activity is most intensive in the four to five hours immediately after dawn and again in the last two to three hours before sunset. During the middle of the day, BCFLs seek the shade of bushes and rocks where they flop on their bellies and, with fluttering wings, work a small hollow down in the sand. In this they lie with spread wings, often panting. Other behavioural characteristics, which likewise suggest a need for regulation of the body temperature, are the habits of holding the wings away from the body while on the ground and of dangling the legs in flight (see Posture). In the Oman, parties of migrants have been seen taking advantage of sea breezes by sitting, with wings partly open, on fences or in trees (Walker 1981a & b).

Although there was surface water not far from the study site, there was none on the site itself. Nevertheless, drinking was recorded once, when a male was seen at some temporary puddles of dumped effluent. In the late summer at Abqaiq and elsewhere, parties frequently come to pools to drink.

In the breeding season, BCFLs at Dhahran generally fed singly or in pairs, but in the late afternoon, particularly as the breeding season drew to a close in late May and in June, small groups were sometimes found feeding together.

From late June until mid-September, flocks of up to 50 can occur at sites with surface water. It appeared to us that BCFLs did not flock with other species (however, see Bourne 1955 and Jennings 1980), although they were seen intermingling with *Calandrella* spp. at drinking sites. The flocks appear to loaf some distance from the water during periods in the middle of the day when they are not actively drinking.

Flock size seems optimum at around 50, but there had been observations of much larger assemblages in passage birds. For example, up to 400 have been recorded together in the Eastern Province (G. Bundy *pers. comm.*).

(ii) Social and sexual displays**a) Social**

At the Dhahran study site, males established territories and began song flights on arrival. The average size of these territories is estimated elsewhere in the text (see Environment, etc.). Both birds of a pair were seen to defend this territory; females were noted chasing after intruding males once broods had hatched. However, from around the end of May or beginning of June, the situation became more fluid with only the immediate area of the nest being defended. At this time, birds sometimes collected food from locations well outside their own territory.

Disputes with other bird species were noted on several occasions. Both males and females were seen to chase or attempt to chase Crested Larks out of their territory. Once a female BCFL rushed a Hoopoe Lark which attempted to land near a chick. On another occasion, a

female House Sparrow *Passer domesticus* landed and started to feed near a nest which the BCFL chicks had only recently vacated. The male BCFL arrived, very agitated, and flew at the House Sparrow. Both birds rose about 30cm. in the air during a short squabble, which ended with the protagonists on the ground facing one another. The male BCFL gave an aggressive display in which he raised his wings above his back to reveal the black underwing coverts and fluttered in this position. After a few seconds the House Sparrow flew off. We also observed a pair of BCFLs mob a shrike, *Lanius* sp. (possibly a Red-backed × Isabelline) which had perched on a bush near their nest.

On two occasions we saw agonistic behaviour towards reptiles. One morning, several BCFLs together with Crested Larks and a House Sparrow mobbed two Horned Vipers *C. cerastes* which moved through the area in close proximity to two BCFL chicks. On another occasion, a male BCFL chased a small lizard (probably *Acanthodactylus schmidtii*) which approached close to where a chick was believed to be crouching.

b) Sexual

Pairing seemed to take place after arrival at Dhahran, where it appeared that males arrived ahead of females by a few days. Certainly many males were song fighting in established territories on some days in late April when precious few females could be located. Unaccompanied females were frequently chased by males when they flew through the latter's territories, and such pursuit would sometimes continue across the territory of an adjacent male. In one such instance, a male pursued a presumed unmated female in his territory. Each time she alighted he dropped down near her and displayed either with a 'Charge' or with a 'Horizontal' display (*q.v.*). Short song flights were made immediately above her. Eventually, she flew right out of the area, pursued by the same male across several adjoining territories, until he gave up the chase. Other males flew to meet her, and up to three at a time could be seen in pursuit.

BCFL breeding displays are conveniently divided into aerial and ground displays. Song fighting is generally regarded as a predominantly male display but on two occasions female-plumaged BCFLs were seen and heard singing. Although males have been heard briefly singing in early February at Abqaiq, the main song period at Dhahran was from late April throughout May, tailing off at the end of the latter month. Song was not infrequent in June and has been noted elsewhere in the Eastern Province throughout the summer and autumn, until as late as mid-November.

On commencing a song flight, the male rises from the ground, singing and climbing fairly steeply with rapidly beating wings. Typical song flights have a ceiling of six to ten metres but we noted birds occasionally as high as 18 metres. On reaching their ceiling, males continue to sing for a duration that seldom exceeds a minute. Once, however, a male sang for at least twelve minutes, with one brief halt of a few seconds on the ground when another male entered his territory. During this prolonged song flight, the male concerned moved several hundred metres across the area.

The major part of the display is undertaken in level flight, albeit somewhat undulating: a rapid, stiff-winged fluttering interspersed with short dips, when for a moment the wings are partly folded. The legs are frequently carried with the tarsi and feet dangling. The flight path is usually roughly circular, covering only a small area, although sometimes birds follow a more or less straight line.

At the end of a flight, the bird descends in a series of swooping glides with the wings held stiffly spread and slightly above the horizontal. Each downward movement is begun by the bird either dipping its head and swooping down or closing its wings briefly to initiate the glide; and ends with the bird rising slightly before diving down again. An immediate landing can follow each song flight; or the bird may fly some distance in normal flight, a metre or less above the ground.

Song flights sometimes begin and/or end with the males perched atop small shrubs or low mounds, from which vantage point they have occasionally been heard to sing. Once a male was observed singing from the top of a pole.

Song flights commence at dawn, and the majority of males in our study area were displaying within ten minutes of the first bird rising. Following a period of much reduced singing in the middle of the day, song flights start up again in the late afternoon. They are most frequent in the 60 to 90 minutes before sunset, stopping as the sun goes down, even though Crested Larks in the study area continue to sing during dusk.

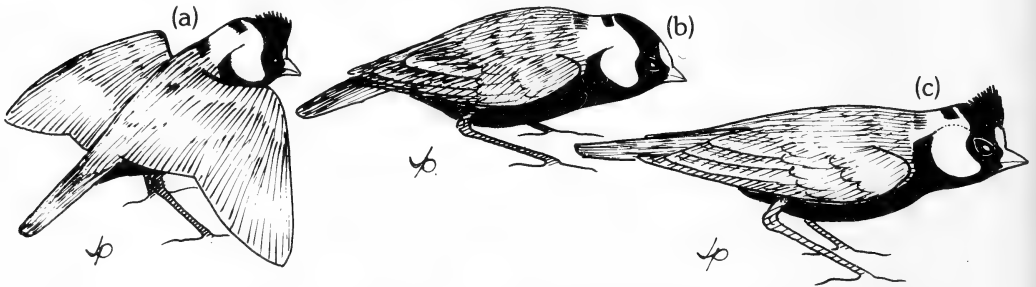
The song is fairly simple; two linked utterances in a single phrase delivered every four to five seconds of the song flight. These utterances were variously transcribed by us as "whit-teeuur" and "pit chee-eir", the first one short, the second drawn out and falling in pitch. Individual variation between males in the study area seemed quite marked to us, once we had attuned our ears to the basic song. Often the second utterance of the phrase was altered, extended or duplicated.

As already noted, females may sing, and on two occasions at the study site we observed song flights given by females with eggs in the nest.

An aerial courtship chase is also carried out by displaying BCFLs. A pair will suddenly rise from the ground and the male chase the female in a rapid, switchback flight low over the ground. Usually they are not more than a meter above the ground, but sometimes during the chase, the pair will rise vertically a metre or more, facing each other. The duration of this display is short: some 10 to 15 seconds. The pair usually land close to each other and the male may initiate a 'Charge' display (*q.v.*). Once, however, a male was seen to song flight repeatedly above a crouching female he had just been chasing. He rose some five metres in the air singing, and then immediately pitched near her, continuing in this manner for several minutes. On another occasion, a male dived at his mate just after she had landed.

The most commonly seen ground display is the 'Charge'. From a distance of about a metre or less, the male runs swiftly and directly at the female; his head is angled down so presenting her with his crown, feathers raised. The wings are held folded but a little away from the body; sometimes they are half spread. (Figure 4). On reaching her, he often gives an excited call before immediately turning away and leaping back to the start position.

Figure 4: (a) Charge display, (b) Sidling approach and (c) Horizontal rigid posture



In response to this display, females mostly stand their ground, usually in a seemingly submissive crouch, but occasionally they were seen to make a short dash towards the approaching male, causing him to retreat immediately.

The 'Charge' display is performed up to six times sequentially by a displaying male. In a variation of the display, the bird runs back rather than jumping back to the starting position. Males were also seen to fly towards a female on the ground, land and perform the display in one continuous movement. A further variation involved the male briefly standing over the female he had just charged and 'cloaking' her with spread wings.

The 'Charge' display is seen commonly at the start of the breeding season and frequently follows a courtship chase. It was observed in established pairs up until hatching, although with much reduced fervour during the incubation. Its greatest incidence was noted in a pair that appeared to be prospecting for a nest site. It was observed once in autumn, at Abqaiq in early September.

On just two occasions we have observed a tail-cocking display by the males of pairs with nests. On each occasion the male was facing away from the female with drooping, slightly quivering wings and with the tail cocked to show off the black undertail coverts.

When accompanying females, males sometimes adopted a horizontal, rigid posture. They held themselves with the back parallel to the ground, the head and bill pointing forward and crest raised. This would seem to be a less intense form of the 'Sidling Approach' display. In this a male approaching or accompanying unmated females in his territory would adopt the posture just described. He would approach her obliquely, presenting first one and then the other side of his body. On getting close to her he would crouch low, almost prostrate, with the crown feathers now flattened and the wings held slightly away from the body.

(iii) Parental behaviour

a) Nest building

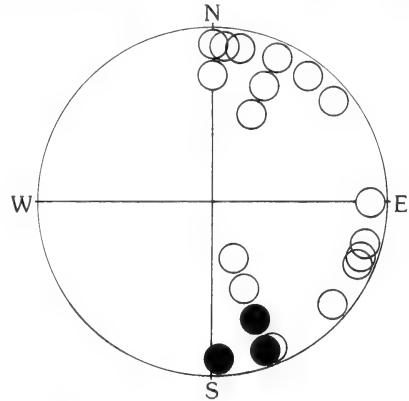
BCFL nests are built on the ground beneath overhanging vegetation. The preferred plant on the study site was *Anabasis articulata* and twelve nests were found below this shrub. Three nests were built underneath the less erect and rather straggling shrub *Heliotropium crispum* and three more in the lee of *Pennisetum divisum* tussocks. One unusual nest was built below a concrete block (see below) and a nest was found at Haradh in 1984 at the base of *Astragalus sieberi*.

Figure 5 shows the direction in which each nest faced. *P. divisum* grows in dense clumps up to one metre high and these are invariably bowed towards the south by prevailing winds. Although all three nests found beneath this plant faced south, they were nevertheless well protected from the sun.

Figure 5: Nest directions

- nest beneath *Pennisetum divisum*
- all other nests

N.B. includes 1984 Haradh nest



At least some stage of nest building was observed at seven different nests during the study period. From these observations a sequence of steps can be deduced. In the late afternoon of the first day of construction, the female, normally accompanied by the male, commences nest building at a site selected earlier. Pre-construction searching by the pair was only seen twice however, once the same day and once the previous day to the start of building.

All the construction is by the female alone. In sand she forms the nest depression by pressing down with the breast and turning all the while with spread wings. On harder substrates a natural hollow is utilised. Small pebbles are placed around the rim of the cup. At the Dhahran study site they were of the very light and friable sand/calcite or gypsum concretion found commonly on the site. Sometimes the pebbles, which may serve to trap wind-drifted sand particles, were missing from the hard substrate nests.

Next a few twigs of up to 12 or 15cm. are added. At this stage building ceases until the next morning.

From dawn on the second day, the remainder of the structure is fairly rapidly completed by the addition of further twigs, mostly in the range of 2-4cm. in length. Large twigs (10-15cm.)

only numbered 20 in one nest we examined, and six in another. Lining material is mainly grass bents and other pieces of vegetable detritus, especially the glumes and lemmas of grass flowers. Also included were plastic string, shreds of polythene, cotton wool and paper. This is impressed into the structure by the female using the pressure of her breast. Nests were always completed before. In 1981 a nest begun late in the season was placed about one metre above the ground, within a cavity beneath a block of discarded concrete lying amongst other rubble. Virtually no lining was placed in the nest, which comprised a few pebbles and twigs around a slight depression.

b) *Egg frequency*

Usually the first egg is not laid until dawn two days after the nest is complete, some 40 hours or more later. One nest acquired its first egg three days after the nest was apparently completed.

For two nests, however, one in 1981 and one in 1982, the first egg appeared on the day after the nest was completed. Both were late into the season (14 and 21 May) and may have been repeat clutches. The 1981 nest was highly atypical both in site and construction (see above: a) *Nest building*).

As far as we were able to judge, the second and any subsequent egg appeared at intervals of 24 hrs. This was deduced from direct observation and, in part, from sequential hatching (q.v.).

c) *Incubation*

Observation was too sporadic for a precise statement to be made about the onset of incubation. While it certainly commences before the last egg is laid in clutches of three, we can only speculate that it begins with the second egg. This is judged from the differential development seen in three-chick broods where one always appeared smaller than its two size-matched siblings.

At this point the male begins to take an active parental role. In order to assess the extent to which the sexes shared the incubation duties, a hide watch was made on a 1982 nest already seven days into incubation. During six hrs. 25 min. of observation commencing at 0445 hrs., the male was seen to take five spells totalling 59 min. The female sat for 212 min., divided among twelve periods and for the remaining 114 min. the eggs were unattended. Part of this latter was certainly disturbance by the observers. The division noted above, roughly 1:3, accords with the proportion of each sex seen when flushed from the nest during routine inspection; of such records five were of males and 19 of females.

In the case of the only three nests we were able to observe from laying through to hatching, incubation took eleven days.

d) *Hatching*

Hatching is certainly asynchronous in three-egg clutches, providing firm evidence that incubation commences before the third egg. Typical information yielded by one nest was as follows: evening 24 May, three eggs; evening 25 May, two chicks and one egg; morning of 26 May, two chicks and one egg; evening 26 May, three chicks.

Chicks in a nest that hatched from 15 May to 17 May showed a marked size discrepancy between two of the chicks and their sibling: the first hatched sometime during the night of 14 May or the morning of 15 May, the second by the morning of 16 May, and the last sometime before the evening of 17 May. By the time it hatched, the last chick was perforce much the smallest. The day after hatching, it was found outside the nest and was returned thereto in the hope that useful information might be obtained about broods of three chicks. The next evening it was again in the same place outside the nest but this time it was dead. The corpse disappeared overnight, though the nest nearby survived. It seemed to us that such a disparity in size could hardly come about without the time lag in hatching the brood; egg sizes in C/3s are all closely similar (q.v.).

Direct observation gave minimum intervals of 12, 18 and 20 hours and maximum intervals of 37, 47 and 67 hours delay between the hatching of 1st and 3rd chicks. The rather wide discrepancy between the minimum and maximum intervals is wholly due to our lack of personal availability for site visits. The norm is perhaps between 20 and 35 hours. Of the three

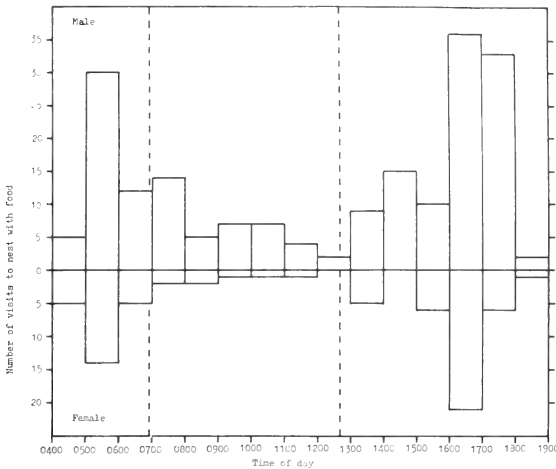
C/2s seen throughout hatching, one was observed at the stage of one chick/one egg (subsequently two chicks), but we thought it likely that these clutches hatched over the space of a very few hours indeed. A reasonable hypothesis is that incubation always commences with the second egg.

e) Feeding and nest sanitation

To obtain data on parental care of chicks during the nidicolous stage of development, a number of hide watches were carried out. The major one was from 0430 until 1830 hrs. on 21 May 1981; the rest provided supplementary information to this one.

Observations of feeding, faecal sac removal, brooding and shading of the chicks are summarised in the graph (Figure 6). The male took the major part in feeding the brood while the female spent more time in covering them, especially between 0700 and 1230 hrs., when the sun shone directly on the nest cup. In the evening there was an even more marked preponderance of visits by the male than in the morning, though day-to-day variation seemed quite large as judged from additional, scattered observations.

Figure 6: Parental feeding visits on 21 May 1981. The dotted lines enclose the period during which the chicks were brooded/shaded by one or other of the adults.



We were unable to make much progress in determining the nature of the food brought to nestling BCFLs. Obvious material included caterpillars and a few winged insects, including one moth, but for most feeding visits the items were well hidden inside the adult's beak. Watching food-gathering adults led us to the opinion that very many small insects formed the bulk of the nestling diet. It is possible that on occasions when the adults flew in with no visible food they were regurgitating, for they sometimes held their bills, barely open, deep in the nestling gape for several seconds.

Removal of faecal sacs from the nest was by both parents. They usually flew off with the sacs, but were occasionally seen to eat them at the nest. After vacation, successful nests often contained droppings; presumably collection of faecal sacs ceased during the last few hours of occupation.

f) Nidifugous phase

From the sixth day after hatching chicks begin to spend short periods outside the nest. On the eighth day they abandon it completely, although fledging is still some six or seven days away. Actual departure from the nest was never observed, probably occurring in the early morning. However, observations were made over some 40 hrs. on a brood of two chicks that had just vacated the nest.

The chicks spent their first 24 hrs. away from the nest in the shade of a discarded truck tyre. Food was brought in by both parents during the afternoon, and they spent the night underneath a flap of rubber. The next morning they remained together until three hours after dawn, when the female led one away.

Once separated, each parent fed one chick exclusively, and no contact ever took place again between the two halves of the brood. Each parent and chick wandered over a considerable area, which probably extended beyond the boundaries of the original territory. When the parent was absent the chick normally remained beside a bush or grass tussock, often led there by the adult, and usually in the shade.

Nidifugous chicks called persistently (see Calls), sometimes even throughout the hottest period of the day, when they were only fed occasionally. Sometimes a chick wandered from the spot where it had been left, and in dusty and windy weather adults returning with food were seen to have difficulty locating a chick. In both these cases, calling by the chicks would seem to have some purpose in helping the adults to locate them.

Chicks out of the nest were often seen to be fed much as nestlings would be, the adults returning after foraging to feed the chick at the same location, time after time. On other occasions the chick accompanied the adult as it foraged; both moved off together, with the adult pausing every so often to feed the chick. The latter mostly followed the adult, but at times the chick was seen to make its own course with the adult following. Feeding took place both ways during the same feeding period.

The chicks spent the night beneath small bushes of the low-growing shrubs found on the study site. They were, variously, either led in by the adult or found their own roosting spots.

The male was seen to repeatedly lead his chick away from the vehicle being used as a hide, which he clearly perceived as a threat. If it was close to the chick when he returned with food, he would land some five metres away and call the chick to him; attempting to follow resulted in them both moving away from the vehicle, the adult flying several metres ahead and waiting for the chick to catch up. Chicks approached on foot, froze and allowed themselves to be picked up.

A few sundry observations were made on these same two, and on some other young BCFLs, prior to fledging. On first leaving the nest the chicks cannot run well. By the fifth day they are moving strongly, although still totally dependent on the adults for food. Chicks were seen pecking occasionally at vegetation from the fourth day out, but feeding by the parent birds seemed to continue even after fledging.

g) *Distraction*

Breeding BCFLs displayed a variety of behaviour in response to real or perceived threats. Incubating nests elicited the least response when approached, the sitting bird usually leaving well in advance of the intruder's arrival. Occasionally we noted a call from a departing male, probably due to the individual concerned being startled by our sudden appearance. In each case, the transcriptions of the calls were quite different one from another, and it seems very unlikely that there is a specific utterance involved here.

Towards the end of one particular incubation, a more marked response to our presence was given by the male. This individual not only gave the chick alarm call (see below) but also performed a distraction display near the nest two days prior to hatching.

Once the eggs had hatched, adults invariably gave a distinct call which we eventually agreed to transcribe as "**zree**". The purpose of this call was discovered during hide watches on unfledged young, which were seen to flatten themselves to the ground and remain motionless whenever it was given.

As already indicated we sometimes noted adult behaviour more marked than the usual distress calls and agitated attendance. On four occasions we observed distraction displays, usually by the male but once by both birds of a pair. These displays contained both the classic elements of 'injury feigning' and 'rodent-run' that are well documented for arctic breeding waders. This reinforces our belief that ground predators are an exceedingly important component of the BCFL's breeding niche.

VALEDICTION

The study of any single species probably ends when a costly investment of time is not rewarded by a significant increase in knowledge. We have not yet reached such a stage with the BCFL. In particular we would highlight the following questions. Do certain individual, or even all, BCFLs nest in more than one location within the breeding season? Are there ever second broods? Could a third chick be raised beyond the start of the nidifugous phase of development? Furthermore, our information on the nidifugous stage of development is scant, and knowledge of the post-fledging period is virtually non-existent. We feel there is still plenty left to discover about the Black-crowned Finch Lark, and hope that some of our unanswered questions will attract both the time and attention of ornithologists who encounter this fascinating passerine.

ACKNOWLEDGEMENTS

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SUMMARY

Some features of the breeding biology of the Black-crowned Finch Lark *Eremopterix nigriceps* are discussed, largely resulting from a somewhat fragmented, two-year study of this species at a site in the Eastern Province of Saudi Arabia. Information is presented on nest site, eggs and development, population dynamics and parental behaviour. Some general observations on plumage, non-breeding behaviour, moult and migration are also included.

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NOTES ON THE BIRDS OF EREĞLI. BLACK SEA COASTLANDS, TURKEY 1976-1978

by

J. S. M. Albrecht

INTRODUCTION

The aim of this paper is fivefold. First, to place on record the birds seen in a relatively unknown part of the Black Sea Coast. Second, to describe the habitats important for birds in order to assess their relative importance and conservation needs. Third, to give the breeding status of all birds seen in the breeding season. Fourth, to document the arrival and departure dates and the numbers of winter visitors. Fifth, to compare the spring and autumn migration at Ereğli both with each other and with observations in other parts of Turkey and to discuss what this reveals about the strategies of migrants through Turkey.

LIMITS OF THE AREA AND TOPOGRAPHY

The location of Ereğli in Turkey is shown in *Figure 1* and the limits of the area and its topography are shown in *Figure 2*. The limits of the area were decided in advance as part of the grid for a proposed Atlas of Breeding Birds in Turkey (Porter & Beaman 1977). Where a few observations made outside the area are included, this has been made clear in the text or tables.

Most of the area consists of limestone conglomerate dating from the Cretaceous period (Brinkman 1976) and the soil is thin except in the river valleys and to the west of Akcakoca where the limestone gives way to shale.

CLIMATE

The climate of the area is essentially Mediterranean with hot dry summers and cool wet winters. In the period under review most of the rain fell from December to April. Both the 1976-77 and 1977-78 winters were relatively mild with snow cover only on three and four days respectively. However, some winters can be very cold with deep snow lying for two weeks or more (e.g. Ogilvie 1954). The effect of these cold winters on local bird populations and distribution can only be guessed at.

VEGETATION

The original climax vegetation has long been cleared from the valleys and hills near the sea. Where drainage is good the valleys are given over to cereal production. The damper areas are used for grazing. The hills typically have a patchwork of fields and hedges on the lower slopes, maquis scrub on the steeper parts and deciduous woods on the summits. The mountain forest from about 500 metres upwards was still largely intact but how much longer it will be so is in doubt because of heavy exploitation for forestry.

ECONOMY

The traditional economy of the area included subsistence fishing, forestry and agriculture with a small amount of tourism around Akcakoca. The area was famous for its strawberries. However, since the 1950s Ereğli has become increasingly industrialised with the establishment

of a steel factory using local coal to extract iron from imported ore. As a result the population of Ereğli has increased dramatically, the air is often heavy with smoke and the bathing beach has been moved some 5km. because of discharge from the factory. The impact of all this on the environment has yet to be assessed.

METHODS OF OBSERVATION

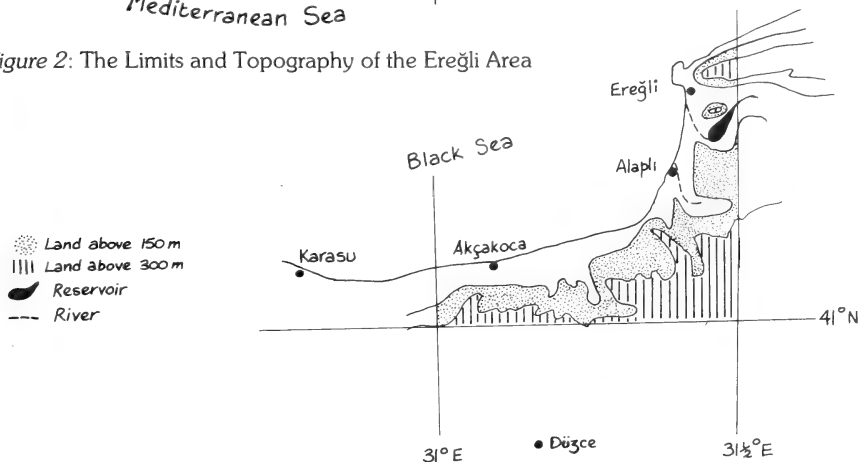
From the outset the object was to record as systematically as possible the birds of Ereğli, given that birdwatching was only possible as a spare time activity. For the first year, sites could be visited only by public transport or by walking but from September 1977 possession of a car allowed easy access to the best areas and daily observations at sunrise by the sea.

Observations were made on a total of 325 days from 15 October 1976 to 26 June 1978. There were observations on 154 days in autumn and winter and 171 days in spring and summer. There was roughly an equal number of days in the spring and summer of each year but over twice the number in the second autumn and winter than in the first. There were virtually no observations in July, August or September of either year. Brief visits were made to the area in late June 1979 and mid-July 1983 but mention of these is only made where relevant.

Figure 1: Map of Turkey to show the position of Ereğli and other towns mentioned in the text



Figure 2: The Limits and Topography of the Ereğli Area



BIRDS

The status and habitats of all birds seen in or near the Ereğli area from 1976 to 1978 are given in TABLE I.

TABLE I: THE STATUS OF THE BIRDS SEEN IN OR NEAR THE EREĞLI AREA AND THE HABITATS IN WHICH THEY OCCURRED

Species		Breeding					Main Habitat
		Status	Spring	Summer	Autumn	Winter	
Diver	<i>Gavia sp.</i>	—	—	—	—	a	S
Little Grebe	<i>Tachybaptus ruficollis</i>	1*	c	b*	d	c	S/Re
Great Crested Grebe	<i>Podiceps cristatus</i>	—	e	—	c	f	S
*Red-necked Grebe	<i>P. grisegena</i>	—	—	—	a	—	Ri
Black-necked Grebe	<i>P. nigricollis</i>	—	d	—	d	d	S
Manx Shearwater	<i>Puffinus puffinus</i>	—	—	—	—	d	S
Cormorant	<i>Phalacrocorax carbo</i>	—	c	—	d	d	S
Little Bittern	<i>Ixobrychus minutus</i>	—	c	—	—	—	Ri/V
Night Heron	<i>Nycticorax nycticorax</i>	—	c	—	—	—	Ri
Squacco Heron	<i>Ardeola ralloides</i>	—	d	—	—	—	Ri
Little Egret	<i>Egretta garzetta</i>	—	d	—	b	—	Ri
Great White Egret	<i>E. alba</i>	—	b	—	—	b	Ri
Grey Heron	<i>Ardea cinerea</i>	1	d	b	d	d	A/Ri/Re
Purple Heron	<i>A. purpurea</i>	—	d	—	—	—	A/Ri/H
Black Stork	<i>Ciconia nigra</i>	—	b	b	—	—	A
White Stork	<i>C. ciconia</i>	—	d	d	b	—	A
Glossy Ibis	<i>Plegadis falcinellus</i>	—	b	—	—	—	Ri
Swan	<i>Cygnus sp.</i>	—	—	—	—	b	S
White-fronted Goose	<i>Anser albifrons</i>	—	—	—	a	—	A
Shelduck	<i>Tadoma tadoma</i>	—	a	—	—	a	S
Teal	<i>Anas crecca</i>	—	—	—	b	c	Re
Mallard	<i>A. platyrhynchos</i>	1	b	—	c	d	S/Ri
Garganey	<i>A. querquedula</i>	1	d	—	—	—	Ri/Re
Red-crested Pochard	<i>Netta rufina</i>	—	—	—	—	d	S
Pochard	<i>Aythya ferina</i>	—	b	—	—	d	S
Ferruginous Duck	<i>A. nyroca</i>	—	—	d	d	—	S
Tufted Duck	<i>A. fuligula</i>	—	d	—	—	d	S
Common Scoter	<i>Melanitta nigra</i>	—	—	—	—	a	S
Velvet Scoter	<i>M. fusca</i>	—	—	—	—	b	S
Goldeneye	<i>Bucephala clangula</i>	—	—	—	—	b	S
Smew	<i>Mergus albellus</i>	—	—	—	—	b	S
Red-breasted Merganser	<i>M. serrator</i>	—	c	—	—	—	S
Honey Buzzard	<i>Pemis apivorus</i>	2	d	d	—	—	A/M
Black Kite	<i>Milvus migrans</i>	—	c	—	—	—	A
Egyptian Vulture	<i>Neophron percnopterus</i>	1	b	b	—	—	C/H
Short-toed Eagle	<i>Circaetus gallicus</i>	—	b	b	—	—	A
Marsh Harrier	<i>Circus aeruginosus</i>	—	a	—	—	—	A
Hen Harrier	<i>C. cyaneus</i>	—	—	—	—	a	A
Harrier	<i>Circus sp.</i>	—	a	—	—	—	A
Sparrowhawk	<i>Accipiter nisus</i>	1	c	—	c	c	A/H
Levant Sparrowhawk	<i>A. brevipes</i>	—	c	—	—	—	A
Unidentified sparrowhawk	<i>Accipiter sp.</i>	1	c	c	—	—	A
Buzzard	<i>Buteo buteo</i>	3	d	d	d	d	A/H/M
Lesser Spotted Eagle	<i>Aquila pomarina</i>	—	b	—	—	—	A
Booted Eagle	<i>Hieraetus pennatus</i>	—	a	—	—	—	A
*Osprey	<i>Pandion haliaetus</i>	—	a	—	a	—	A
Lesser Kestrel	<i>Falco naumanni</i>	—	b	—	—	—	A
Kestrel	<i>F. tinnunculus</i>	—	b	—	b	—	A
Unidentified kestrel	<i>F. naumanni/tinnunculus</i>	—	b	—	—	—	A
Red-footed Falcon	<i>F. vespertinus</i>	—	b	—	b	—	A/H
Merlin	<i>F. columbarius</i>	—	—	—	—	a	V
Hobby	<i>F. subbuteo</i>	1	c	b	—	—	A
Saker	<i>F. cherrug</i>	—	a	—	—	—	A
Peregrine	<i>F. peregrinus</i>	1	b	?b	?b	?b	C

Chukar	<i>Alectoris chukar</i>	1	c	c	c	c	H
Quail	<i>Coturnix coturnix</i>	2	c	d	c	—	V
Water Rail	<i>Rallus aquaticus</i>	—	b	—	—	b	V
Moorhen	<i>Gallinula chloropus</i>	1	d	b	—	—	Ri/Re/V
Coot	<i>Fulica atra</i>	—	b	—	—	d	S
Crane	<i>Grus grus</i>	—	b	—	—	—	A/V
Oystercatcher	<i>Haematopus ostralegus</i>	—	a	—	—	—	Ri
Black-winged Stilt	<i>Himantopus himantopus</i>	—	b	—	—	—	Ri
Stone Curlew	<i>Burhinus oedicephalus</i>	—	—	a	—	—	Ri
Little Ringed Plover	<i>Charadrius dubius</i>	1	c	b	—	—	Ri
Lapwing	<i>Vanellus vanellus</i>	—	b	—	c	d	A
Sanderling	<i>Calidris alba</i>	—	a	—	—	—	Ri
Little Stint	<i>C. minuta</i>	—	c	—	—	—	Ri
Curlew Sandpiper	<i>C. ferruginea</i>	—	c	—	—	—	Ri
Ruff	<i>Philomachus pugnax</i>	—	d	—	—	—	Ri
Jack Snipe	<i>Limnocyptes minimus</i>	—	a	—	a	—	H/V
Common Snipe	<i>Gallinago gallinago</i>	—	b	—	b	b	Ri/V
Woodcock	<i>Scolopax rusticola</i>	—	b	—	b	—	H
Black-tailed Godwit	<i>Limosa limosa</i>	—	b	—	—	—	Ri
Redshank	<i>Tringa totanus</i>	—	b	—	b	—	Ri
Greenshank	<i>T. nebularia</i>	—	b	—	—	—	Ri
Green Sandpiper	<i>T. ochropus</i>	—	c	—	—	b	Ri/Re
Wood Sandpiper	<i>T. glareola</i>	—	c	b	—	—	Ri
Common Sandpiper	<i>Actitis hypoleucos</i>	—	c	—	b	—	Ri
Mediterranean Gull	<i>Larus melanocephalus</i>	—	e	b	b	c	S
Little Gull	<i>L. minutus</i>	—	c	—	d	c	S
Black-headed Gull	<i>L. ridibundus</i>	—	e	—	d	f	S
Slender-billed Gull	<i>L. genei</i>	—	b	—	e	d	S
Common Gull	<i>L. canus</i>	—	b	—	b	d	S
Lesser Black-backed Gull	<i>L. fuscus</i>	—	e	—	d	c	S
Herring Gull	<i>L. argentatus</i>	1	f	f	f	f	S
Gull-billed Tern	<i>Gelochelidon nilotica</i>	—	a	—	—	—	Ri
Sandwich Tern	<i>Sterna sandwicensis</i>	—	c	—	c	d	A/S
Common Tern	<i>S. hirundo</i>	—	c	—	c	—	A/S
Whiskered Tern	<i>Chlidonias hybridus</i>	—	a	—	—	—	Ri
White-winged Black Tern	<i>C. leucopterus</i>	—	a	—	—	—	Ri
Feral Pigeon	<i>Columba livia</i>	3	d	d	d	d	T
Stock Dove	<i>C. oenas</i>	—	a	—	—	—	A
Woodpigeon	<i>C. palumbus</i>	2	b	b	b	b	H
Turtle Dove	<i>Streptopelia turtur</i>	2	d	d	—	—	H
Cuckoo	<i>Cuculus canorus</i>	2	c	c	—	—	H
Little Owl	<i>Athene noctua</i>	3	c	c	c	c	T
Tawny Owl	<i>Strix aluco</i>	—	a	—	—	—	H
Nightjar	<i>Caprimulgus europaeus</i>	1	b	b	—	—	H
Swift	<i>Apus apus</i>	—	b	b	—	—	A
Alpine Swift	<i>A. melba</i>	3	d	d	b	—	A/C
Kingfisher	<i>Alcedo atthis</i>	2	c	b	d	c	S/Ri/Re
Bee-eater	<i>Merops apiaster</i>	—	d	b	b	—	A
Hoopoe	<i>Upupa epops</i>	—	c	—	—	—	H
Wryneck	<i>Jynx torquilla</i>	2	c	b	—	—	H
Green Woodpecker	<i>Picus viridis</i>	—	—	a	—	—	V
Syrian Woodpecker	<i>Dendrocopos syriacus</i>	1	b	—	—	—	H
Woodpecker (probably Syrian)	<i>Dendrocopos sp.</i>	1	b	b	b	b	H
Lesser Spotted Woodpecker	<i>D. minor</i>	2	b	—	—	—	H
Crested Lark	<i>Galerida cristata</i>	—	—	—	—	a	V
Wood Lark	<i>Lullula arborea</i>	3	d	d	b	c	H
Skylark	<i>Alauda arvensis</i>	—	c	—	c	c	V
Sand Martin	<i>Riparia riparia</i>	—	e	b	—	—	A
Crag Martin	<i>Ptyonoprogne rupestris</i>	3	c	c	b	—	C/M
Swallow	<i>Hirundo rustica</i>	3	f	b	d	a	A/T
Red-rumped Swallow	<i>H. daurica</i>	1	d	b	—	—	A/Re/M
House Martin	<i>Delichon urbica</i>	3	e	e	—	—	A/T
Tree Pipit	<i>Anthus trivialis</i>	—	c	—	c	—	V
Meadow Pipit	<i>A. pratensis</i>	—	d	—	d	d	V

Water Pipit	<i>A. spinoletta</i>	—	c	—	—	c	Ri/V
Yellow Wagtail	<i>Motacilla flava</i>	—	e	b	c	—	V
Blue-headed Wagtail	<i>M. f. flava</i>	—	d	?	?	—	V
Black-headed Wagtail	<i>M. f. feldegg</i>	—	d	?	?	—	V
Ashy-headed Wagtail	<i>M. f. cinereocapilla</i>	—	c	?	?	—	V
Grey-headed Wagtail	<i>M. f. thunbergi</i>	—	b	?	?	—	V
Citrine Wagtail	<i>M. citreola</i>	—	a	—	—	—	V
Grey Wagtail	<i>M. cinerea</i>	3	d	c	d	d	V/M
White Wagtail	<i>M. alba</i>	3	e	d	d	c	T/V/M
Waxwing	<i>Bombycilla garrulus</i>	—	a	—	—	—	T
Dipper	<i>Cinclus cinclus</i>	3	c	c	?	?	M
Wren	<i>Troglodytes troglodytes</i>	3	d	d	d	d	H/M
Duncock	<i>Prunella modularis</i>	1	d	?	d	d	V/H
Robin	<i>Erithacus rubecula</i>	3	d	c	d	d	V/H/M
Nightingale	<i>Luscinia megarhynchos</i>	3	d	d	—	—	H
Black Redstart	<i>Phoenicurus ochruros</i>	—	c	—	d	c	H
Redstart	<i>P. phoenicurus</i>	—	b	—	d	—	H
Whinchat	<i>Saxicola rubetra</i>	—	c	—	c	—	V
Stonechat	<i>S. torquata</i>	3	c	c	c	c	H
Wheatear	<i>Oenanthe oenanthe</i>	3	d	c	c	—	T/H
Pied Wheatear	<i>O. pleschanka</i>	—	a	—	—	—	H
Blackbird	<i>Turdus merula</i>	3	d	c	d	d	H/M
Song Thrush	<i>T. philomelos</i>	3	d	c	d	d	H/M
Redwing	<i>T. iliacus</i>	—	d	—	—	d	H
Savi's Warbler	<i>Locustella luscinioides</i>	—	—	—	a	—	V
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	—	b	—	—	—	Ri/V
Reed Warbler	<i>A. scirpaceus</i>	1	c	—	—	—	Ri/V
Great Reed Warbler	<i>A. arundinaceus</i>	—	b	—	—	—	Ri
Olivaceous Warbler	<i>Hippolais pallida</i>	2	d	d	—	—	T
Sardinian Warbler	<i>Sylvia melanocephala</i>	2	d	d	d	—	H
Barred Warbler	<i>S. nisoria</i>	2	c	c	—	—	H
Lesser Whitethroat	<i>S. curruca</i>	1	b	b	c	—	V/H
Whitethroat	<i>S. communis</i>	3	d	d	c	—	V/H/M
Garden Warbler	<i>S. borin</i>	1	—	b	—	—	H
Blackcap	<i>S. atricapilla</i>	3	d	d	b	—	H/M
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	—	—	—	—	a	T
Bonelli's Warbler	<i>P. bonelli</i>	1	—	a	—	—	M
Chiffchaff	<i>P. collybita</i>	3	d	c	d	c	V/H/M
Willow Warbler	<i>P. trochilus</i>	—	d	—	c	—	V/H
Goldcrest	<i>Regulus regulus</i>	—	b	—	—	b	H
Firecrest	<i>R. ignicapillus</i>	—	b	—	b	b	S/H
Spotted Flycatcher	<i>Muscicapa striata</i>	2	d	b	c	—	V/H/M
Red-breasted Flycatcher	<i>Ficedula parva</i>	3	—	b	—	—	M
Collared Flycatcher	<i>F. albicollis</i>	—	b	—	—	—	H
Bearded Tit	<i>Panurus biarmicus</i>	—	—	—	c	—	V
Long-tailed Tit	<i>Aegithalos caudatus</i>	2	c	c	c	c	H
Marsh Tit	<i>Parus palustris</i>	3	b	b	?b	?b	H/M
Coal Tit	<i>P. ater</i>	3	b	b	b	b	H/M
Blue Tit	<i>P. caeruleus</i>	3	d	d	d	d	H/M
Great Tit	<i>P. major</i>	3	d	d	d	d	H/M
Nuthatch	<i>Sitta europea</i>	1	b	b	?b	?b	M
Rock Nuthatch	<i>S. neumayer</i>	—	a	—	—	—	Re
Unidentified Treecreeper	<i>Certhia sp.</i>	—	a	—	—	—	H
Golden Oriole	<i>Oriolus oriolus</i>	1	c	b	—	—	H
Red-backed Shrike	<i>Lanius collurio</i>	3	d	d	c	—	V/H
Lesser Grey Shrike	<i>L. minor</i>	—	d	—	—	—	V
Great Grey Shrike	<i>L. excubitor</i>	—	—	—	—	b	H
Masked Shrike	<i>L. nubicus</i>	—	a	—	—	—	V
Jay	<i>Garrulus glandarius</i>	1	d	d	d	d	H/M
Magpie	<i>Pica pica</i>	1	b	—	—	—	H
Jackdaw	<i>Corvus monedula</i>	2	d	d	d	d	T
Rook	<i>C. frugilegus</i>	—	f	—	f	f	T/V/H
Hooded Crow	<i>C. corone comix</i>	3	d	d	d	d	T/H
Raven	<i>C. corax</i>	3	c	c	c	c	C/H

Starling	<i>Sturnus vulgaris</i>	3	d	c	d	d	A/T/V
Rose-coloured Starling	<i>S. roseus</i>	—	—	a	—	—	H
House Sparrow	<i>Passer domesticus</i>	3	d	d	d	d	T/V
Spanish Sparrow	<i>P. hispaniolensis</i>	—	e	b	—	—	Ri/V
Tree Sparrow	<i>P. montanus</i>	1	a	a	—	—	V
Chaffinch	<i>Fringilla coelebs</i>	3	d	d	f	d	V/H/M
Brambling	<i>F. montifringilla</i>	—	b	—	c	c	V/H
Red-fronted Serin	<i>Serinus pusillus</i>	—	—	—	—	b	H
Greenfinch	<i>Carduelis chloris</i>	3	d	d	c	c	T/H
Goldfinch	<i>C. carduelis</i>	2	c	c	c	d	H
Siskin	<i>C. spinus</i>	—	d	—	d	d	H
Linnet	<i>C. cannabina</i>	1	d	b	b	b	V/H
Common Rosefinch	<i>Carpodacus erythrinus</i>	2	d	d	—	—	H/M
Bullfinch	<i>Pyrrhula pyrrhula</i>	1	?	b	?	?b	M
Hawfinch	<i>Coccothraustes coccothraustes</i>	2	c	c	?	c	H/M
Cirl Bunting	<i>Emberiza cirulus</i>	3	c	c	—	c	H
Rock Bunting	<i>E. cia</i>	—	—	—	—	b	H
Ortolan Bunting	<i>E. hortulana</i>	3	d	d	—	—	H
Reed Bunting	<i>E. schoeniclus</i>	—	d	—	c	c	Ri/V/H
Black-headed Bunting	<i>E. melanocephala</i>	2	b	b	—	—	H
Com Bunting	<i>Miliaria calandra</i>	2	d	d	—	b	V/H
		—	—	—	—	—	—
Totals 199 species + subspecies		82	170	88	89	86	
		==	==	==	==	==	

Breeding status: 1=29
2=19
3=34

Total 82
==

Key:

Breeding status: 1=Present in the breeding season in possible breeding habitat

2=Breeding probable

3=Breeding proved

General status: a=Rare: Fewer than five records in total in 1976-1978

b=Uncommon: Usually fewer than five birds occurring in total in any one season; occurring or probably occurring annually

c=Scarce: Usually from five to 25 birds occurring in any one season; occurring or probably occurring annually

d=Common: From 26 to 250 birds occurring in any one season; occurring or probably occurring annually

e=Very Common: Over 250 birds occurring in any one season

f=Abundant: Over 250 birds occurring in any one day

Habitat: A=Air M=Mountain Forests S=Sea
C=Cliffs Re=Reservoir T=Towns
H=Hills Ri=Rivers V=Valleys

Other: *=These birds were seen just outside the Ereğli area.
?=Birds probably present in this season but no sightings. Sometimes with suspected resident species a status letter is given next to ?

Note:

1. Spring=1 March-31 May. Summer=1 June-31 August. Autumn=1 September-30 November. Winter=1 December-28 February.
2. The species total includes the four subspecies of Yellow Wagtail and unidentified species *except* harrier, sparrowhawk, kestrel and woodpecker.
3. The spring total includes: Osprey, the four subspecies of Yellow Wagtail and unidentified harrier and treecreeper.
4. The summer and breeding status totals include Little Grebe and unidentified sparrowhawk and woodpecker.
5. The autumn total includes Red-necked Grebe, Osprey and unidentified woodpecker.
6. The winter total includes unidentified diver, swan and woodpecker.
7. ? Question marks are left out of all totals.

TABLE II: THE HABITATS OF EREĞLI AND THE NUMBER OF BIRD SPECIES SEEN IN EACH

Habitat	Brief description	No. of species
H Hills	Undulating land up to mountain forest at about 300 to 500 metres	73
M Mountain Forests	Forested land generally over 500 metres	27
V Valleys	Lowland with at least one metre of soil and a water course	42
Ri Rivers	Mud and shingle banks in rivers especially at river mouths	37
S Sea	Coastal sea waters and the air above the sea up to three metres	30
A Air	The air space above three metres	34
T Towns	The built-up areas of Ereğli, Alaplı and Akçakoca	15
C Cliffs	Precipitous rock faces usually but not exclusively near the sea	5
Re Reservoir	Man-made lake on River Guluç, periodically emptied	9

THE HABITATS AND THEIR BIRDS

The main habitats and the number of species using each are given above (TABLE II).

It is clear from the large number of species seen on the hills that the mosaic of vegetation brought about by farming and other activities has produced a very attractive bird habitat. Clearly the pattern of traditional agriculture at Ereğli has been of general benefit to wildlife. The mountain forests are the only relatively natural land habitat in the area and, in spite of only four visits, 27 species were found of which five were seen only in this habitat. While few of the birds seen in the hills and valleys are rare in Turkey as a whole, a relatively high proportion of the mountain forest birds are uncommon in Turkey. This is doubtless partially due to the scarcity of mountain forest in the country together with its remoteness.

Large scale timber extraction from the mountain forests probably began during the last 30 years and by 1978 some large tracts of forest in northern Turkey had been cleared with little sign of replanting. Action needs to be taken if this practice is not to result in the disappearance of mature forest left and the extinction of some bird species in Turkey. The main threat to the hills and valleys comes potentially from two sources. First, as the towns expand, and most particularly the steel town of Ereğli, there is increasing pressure for building land, which completely destroys the habitat and degrades the surrounding area by increased human disturbance. Second, changes in agricultural practice may lead to the enlargement of fields and the loss of much hedgerow and woodland together with their birds. Also, any increase in the use of agricultural chemicals could eliminate some plants and insects and thus reduce the available food for some species. While town expansion and changes in agriculture seem unlikely to lead to the extinction of any bird in the Ereğli area in the foreseeable future, destruction of mountain forests is a real threat to some species. It follows that the status of mountain forests in Turkey and their importance to birds is in urgent need of further assessment followed by careful management to promote their conservation. Agricultural chemicals appear to have been a major cause of the near extinction of the Bald Ibis *Geronticus eremita* in Turkey (Collar & Stuart 1985) so clearly agricultural developments and their impacts on birds also need to be carefully monitored and appropriate action taken.

Although 35 species were seen on the rivers, mainly during migration, the area and numbers of each species were small. This habitat, while of interest, is not of great importance to birds. No sea bird was proved to breed near Ereğli but in winter the sea held large numbers of grebes, ducks and gulls. The Black Sea is clearly important for wintering birds and it is thus important that pollution is controlled and fish stocks conserved. The effect of the pollution from the steel factory on the marine life of the area is unknown.

BIRD DISTRIBUTION

A general indication of the distribution of birds in Turkey is given in the Turkey Bird Reports (OST 1969, 1972, 1975, 1978); in Harrison (1982); in Cramp and Simmons (1977, 1980,

1983) and Cramp (1985). Since these references deal with distribution over a wide area it is of no surprise that they have inaccuracies about areas which are little visited. This section deals first with the birds found in summer and then those in winter in the Ereğli area. Migrants are discussed elsewhere and vagrants are beyond the scope of this paper.

Summer birds

The breeding status of all species is given in TABLE I and the arrival dates of summer migrants for both 1977 and 1978 are given in TABLE III.

In deciding the breeding status of each bird the guidelines given in Sharrock (1976) were followed. Thus obvious migrants were not given a status. The probability of a bird with Status 1 (present in the breeding season) actually having bred varies markedly depending on the biology of the particular species. Therefore, it is unlikely that Grey Heron or Reed Warbler bred but quite likely that Red-rumped Swallow and Jay did breed. It is easier to be certain that Status 2 (probable breeding) birds bred because some evidence (e.g. song or display) was obtained, but again the probability varies from species to species. There is no doubting Status 3 (definite breeding) birds because either nests or recently fledged young were seen. Fuller details of the method used are given in Sharrock (*op. cit.*).

Of the birds that bred at Ereğli 11 species deserve comment because they are either rare or unproven breeders in Turkey or else their occurrence at Ereğli was not expected from previously published information.

Honey Buzzard

Cramp and Simmons (1980) and Harrison (1982) suggest that the Honey Buzzard breeds in a few isolated areas of Turkey. However, since suitable habitat tends to be restricted to the remoter mountainous regions of Turkey, which are little visited, and since Honey Buzzards are often unobtrusive in the breeding season, they have doubtless been overlooked and are probably more widespread in Turkey than the literature suggests. At Ereğli a pair was seen in display flight on 24 June 1978 in the mountains south of Alaplı.

Egyptian Vulture

The Egyptian Vulture is apparently absent from the Black Sea Coast as a breeder (Harrison 1982). However, up to two together were seen sufficiently often in May and June to suggest local breeding.

Peregrine

The status of the Peregrine in Turkey is uncertain (OST 1978) but there is no suggestion in Harrison (1982) or Cramp and Simmons (1983) that it breeds near Ereğli. Its presence was suspected around sea cliffs in a certain area for some time and one was positively identified on 29 April and, probably again on 13 May 1978.

Chukar

According to the Turkey Bird Reports (OST 1975, 1978) and Cramp and Simmons (1983), the Chukar is absent from the western Black Sea Coastlands. This is incorrect. A bird was shot locally and died in captivity in February 1977. There were eight near Akçakoca on 1 October 1977 and at least ten between Ereğli and Alaplı on 25 October in that year and one was seen by the Ereğli reservoir on 7 June 1978. It is clearly a scarce resident at Ereğli. According to local hunters it was more numerous up to the mid-1960s and has since become scarce because of hunting.

Alpine Swift

According to Cramp (1985) the Alpine Swift is absent from the Black Sea Coastlands away from the Bosphorus area. However, the species was seen entering holes in a cliff face, chasing, screaming and showing every sign of breeding in 1978. There were at least 26 on 18 April, 18 on 8 May and at least 12 on 14 June.

Wryneck

The Wryneck has often been suspected of breeding in northern Turkey but breeding has apparently only once been proved (Cramp 1985). A bird was seen investigating a potential nest hole on 16 April and two were heard calling in the same area on 14 June 1978. Breeding was suspected but not proved.

Red-rumped Swallow

There has been no previous suggestion that the Red-rumped Swallow nests in the Black Sea Coastlands (e.g. Harrison 1982) and indeed it is apparently rare on migration (e.g. OST 1978). Nevertheless the species was seen in June both in 1978 and 1979 and was strongly suspected of breeding. Breeding was proved in the area south of Ereğli with nests found in the hills south of Düzce.

Barred Warbler

The Barred Warbler, like the Wryneck, has been suspected of nesting in Turkey (OST 1978). At Ereğli a pair was giving alarm calls suggesting the proximity of a nest or fledged young on 1 July 1977. In 1978 a male was seen carrying nest material on 10 May and alarm calls suggesting nest or young were heard on 22 June. Breeding was not proved but was probable.

Red-breasted Flycatcher

There is no suggestion in Harrison (1982) nor in the Turkey Bird Reports that the Red-breasted Flycatcher nests in Turkey. It was therefore of some surprise to find two pairs feeding young in the mountains south of Alaplı on 12 June 1978 (see Albrecht 1981).

Raven

Harrison (1982) shows the Raven absent from most of the Black Sea Coast. A pair nested at the Ereğli reservoir and there was probably another pair in the area. The Turkey Bird Report (OST 1978) confirms nesting along the Black Sea Coast.

Common Rosefinch

According to Harrison (1982) the Common Rosefinch nests only in north-east Turkey. In fact the species is widespread in suitable habitat at least as far west as Uludağ Mountain in Western Anatolia (OST 1975, 1978). At Ereğli song was heard from nearly every piece of woodland from 14 May and was heard as late as 17 July 1983. What appeared to be courtship chasing was seen on 9 June 1978. While breeding was very probable it was not proved.

Four species deserve comment because they were much rarer at Ereğli than expected:

Tawny Owl

According to Cramp (1985) the Tawny Owl occurs along the length of the Black Sea Coast; while it is not numerous (OST 1978) there was plenty of apparently suitable habitat in the Ereğli area. It is surprising that the species was not heard throughout the period in spite of its being listened for. Only one, a possible migrant, was seen on 30 March 1978.

Swift

According to Cramp (1985) and the Turkey Bird Report (OST 1975) the Swift breeds throughout Turkey. However there was no evidence that it bred near Ereğli. Up to three were seen on three occasions from late April to late June 1977 and in 1978 singles were seen twice. There is no obvious reason for this absence.

Swallow

The Swallow, abundant on migration, is virtually absent as a breeder. Only one nest was found in the two summers nor were any other birds seen in the breeding season. This virtual absence seemed to be general along the Black Sea coastal strip.

Magpie

The Magpie is very common over most of Turkey but it is surprisingly very scarce on the Black Sea coastal strip (OST 1978) in spite of plenty of apparently suitable habitat. The only records were of two, possibly paired, at Akçakoca on 12 and 19 March and at Ereğli on 14 and 29 April 1978. The Ereğli birds could not be found in May.

A comparison of Harrison (1982) with TABLE I reveals that many other potential breeders were not found at Ereğli. There are few obvious reasons why many of these species should be absent and there is clearly scope for further studies to determine the factors limiting distribution in the area.

Winter birds

86 species were seen in winter (TABLE I) and of these about 36 were resident. The earliest arrival and latest departure date of the 33 migrant species are given in TABLE IV. Most species had first appeared by the end of October but some did not appear till December or even January. Numbers of certain species built up dramatically in late December. Up to 500 Great Crested Grebes were present round Ereğli from January to March. Similarly, Cormorants, whose winter distribution in the Black and eastern Mediterranean Seas appears uncertain (Cramp & Simmons 1977), showed big movements in late December with up to 56 in the weeks either side of New Year. The usual number was about eight. These movements may reflect migration between the Black and Mediterranean Seas. Large winter numbers have been reported in the Bosphorus (OST 1975) and a large flock of about 2,000 flew north up the Bosphorus on 6 January 1977 (*pers. obs.*). Nine species of duck arrived in December; most moved on but some stayed for the winter.

Of the 16 wintering passerines in TABLE IV, Porter (1983) saw all but Reed Bunting at the Bosphorus in 1966. The arrival time at Ereğli corresponds with the peak passage at the Bosphorus, except for Redwing and Brambling which may have been overlooked at Ereğli. Since both Redwing and Song Thrush were seen throughout the winter, it is surprising that neither Fieldfare *Turdus pilaris* nor Mistle Thrush *T. viscivorus* was recorded.

MIGRATION

There have been a number of studies on the autumn migration in Turkey (e.g. Porter & Willis 1968; Sutherland & Brooks 1981a & b; Porter 1983) but very little has been reported on the late autumn/early winter or the spring migrations.

Autumn/early winter

There is insufficient detail to tabulate observations for 1976 but an account of this period has already been published (Albrecht 1977). The number of individuals and the dates of migrant species for the autumn of 1977 are given in TABLE IV. The end of the autumn migration is a matter of some conjecture for those species which also winter in the area. However, the date given was usually marked by a decrease in the numbers or in a change of location where the species was seen (e.g. no longer by the shore but in the hills). The start of migration is unknown in those species marked with ? but it was probably before any date given.

Ferruginous Duck

This species was not positively identified from 1976 to 1978 but 70 dark duck showing a lot of white and flying low over the sea on 16 October 1977 were almost certainly Ferruginous Duck. It was positively identified on 17 July 1983 when 20 flew south and 50 north during the afternoon. According to local fishermen it is common offshore from July to October.

TABLE III: THE 1977 AND 1978 BREEDING STATUS, TOTAL NUMBER AND MIGRATION DATES FOR SPRING MIGRANTS IN 1977 AND 1978

Breeding status: - Did not breed. 1 Possibly bred. 2 Probably bred. 3 Definitely bred.

SPECIES	1977 MIGRATION			1978 MIGRATION			Peak Migration
	Breeding Status	Total Number	From To	From To	Total Number	From To	
Little Bittern	-	12	1/5 22/5	18/4 30/5	11	18/4 30/5	
Night Heron	-	1	8/5	12/3 18/5	14	12/3 18/5	
Squacco Heron	-	1	8/5	6/4 30/5	38	6/4 30/5	(16/5)
Little Egret	-	8	26/3 8/5	3/4 22/5	75	3/4 22/5	(18/4-25/4)
Grey Heron	-	5	19/4 7/5	13/3 30/5	177	13/3 30/5	(1/4-30/4)
Purple Heron	-	6	20/5 1/6	21/5 14/5	63	6/4 14/5	
Black Stork	-	134	26/3 29/3 & 4/6	21/5 22/3 & 20/5	1	21/5 22/3 & 20/5	
White Stork†	-	6	30/4	11/4 20/5	351	1/3 20/5	
Garganey	1	230	20/5 4/6	7/3 22/4	77	7/3 22/4	
Honey Buzzard	2	6	9/4 23/5	4/5 25/5	195	4/5 25/5	
Black Kite	1	5	21/5	15/4 30/5	23	15/4 30/5	
Egyptian Vulture	1	2		7/6	4	7/6	
Levant Sparrowhawk	3	5	6/5	18/4	77	18/4	
Buzzard	1	2	29/4 21/5	11/4 1/5	77	11/4 1/5	
Hobby	2	11	14/5 7/5	24/4 21/5	18	24/4 21/5	
Quail	1	11	3/3	24/4	99	24/4	
Moorhen	1	3		11/3 30/5	19	11/3 30/5	(8/4-17/4)
Little Ringed Plover	-	3		6/4 18/5	11	6/4 18/5	
Little Stint	-	1		17/5 20/5	187	17/5 20/5	
Ruff	-	3		10/3 22/5	28	10/3 22/5	(6/4-13/4)
Green Sandpiper	-	1		5/3 12/4	16	5/3 12/4	
Wood Sandpiper	-	332	8/5 4/5	6/4 25/5	13	6/4 25/5	
Common Sandpiper	-	429	4/3 24/5	7/4 17/5	176	7/4 17/5	(9/4)
Mediterranean Gull	-	2	2/3 8/5	1/3 18/4	547	1/3 18/4	(9/4-30/4)
Lesser Black-backed Gull	2	1		6/3 13/5	24/4	6/3 13/5	
Turtle Dove	2	1		16/4 14/5	16/4 14/5	16/4 14/5	
Cuckoo	1	76	29/4 4/6	6/4	52	6/4	(6/4-18/4)
Nighthjar	3	4	19/5 16/4	13/5 14/5	15	13/5 14/5	
Alpine Swift	1	2	24/3 7/5	31/3 17/5	25	31/3 17/5	
Bee-eater	2	130	9/4 2/6	8/4 31/5	500	8/4 31/5	(17/5)
Hoopoe	1	2,150	5/5 4/6	15/4 2/6	23,000	15/4 2/6	(29/4)
Wynneck	3	1		12/5	49	12/5	
Sand Martin	3	1		(12/5)	23,000	12/5	
Crag Martin	3	1		4/6	49	4/6	
Swallow*	1	1	7/4	27/3	27/3	27/3	
Red-rumped Swallow	1	1		2/6 11/4	2/6 11/4	2/6 11/4	

House Martin	3	495	22/3	15/5	693	2/3	15/5
Tree Pipit	—	4	24/4	15/5	10	23/4	4/5
Yellow Wagtail (all)	—	72	12/4	1/6	299	25/3	14/5
Blue-headed Wagtail	—	20	30/4	23/5	65	6/4	1/5
Black-headed Wagtail	—	4	12/4	1/5	39	25/3	24/4
Ashy-headed Wagtail	—	1	4/5	—	7	8/4	27/4
Grey-headed Wagtail	—	3	28/4	22/5	2	8/4	15/4
Grey Wagtail	3	12	6/3	24/3	54	22/2	6/4
White Wagtail	3	140	3/3	10/5	425	17/3	30/4
Robin	3	7	20/3	14/4	32	14/3	4/4
Nightingale	3	—	6/4	—	8/4	—	—
Whinchat	3	25	18/4	14/5	27	18/4	16/5
Stonechat	3	—	27/2	—	7/3	—	—
Wheatear	3	22	29/3	30/4	70	2/4	30/4
Song Thrush	3	53	3/3	3/5	99	2/3	29/4
Reed Warbler	1	—	—	—	—	14/5	—
Olivaceous Warbler	2	18/5	—	—	21/5	21/5	—
Sardinian Warbler	2	27/2	—	—	16/4	16/4	—
Barred Warbler	2	21/5	—	—	4/5	4/5	—
Lesser Whitethroat	1	21/5	—	—	25/6	25/6	—
Whitethroat	3	9/4	—	—	16/4	16/4	—
Garden Warbler	1	1/6	—	—	25/6	25/6	—
Blackcap	3	8/4	—	—	30/3	30/3	—
Bonelli's Warbler	1	—	—	—	9/6	9/6	—
Chiffchaff	3	54	6/3	30/4	113	1/3	30/4
Willow Warbler*	3	64	26/4	17/5	20	24/4	14/5
Spotted Flycatcher	2	4	8/5	24/5	38	4/5	21/5
Red-breasted Flycatcher	3	—	—	—	9/6	9/6	—
Collared Flycatcher	3	6	30/4	19/5	2	16/4	29/4
Golden Oriole	1	—	24/5	—	1/5	1/5	—
Red-backed Shrike	3	96	3/5	21/5	50	29/4	30/5
Lesser Grey Shrike	3	22	4/5	1/6	42	2/5	30/5
Spanish Sparrow	—	6	8/5	—	485	18/4	10/5
Tree Sparrow	1†	—	—	—	30/5	30/5	—
Siskin§	—	—	—	—	47	15/4	18/4
Linnet	1	26	3/3	6/3	67	2/3	7/4
Common Rosefinch	2	—	14/5	—	14/5	14/5	—
Ortolan Bunting	3	—	8/5	—	8/5	8/5	—
Reed Bunting	—	—	—	—	120	7/3	24/4
Black-headed Bunting	2	—	8/5	—	16/5	16/5	—
Corn Bunting	2	26/3	—	—	17/3	17/3	—

Notes: * There were early birds as follows:

Swallow on 28/2/77 and 2/3/78,
Willow Warbler on 9/4/77 and 11/4/78.

§ There was a late Siskin on 20/5/78.

† White Stork migration was bimodal — see text.

‡ This refers to one Tree Sparrow mating with a House Sparrow — see Albrecht 1983.

TABLE IV: 1977 AUTUMN MIGRATION DATES AND NUMBERS AND EARLIEST ARRIVAL AND LATEST DEPARTURE DATES OF WINTER VISITORS FOR 1976-77 AND 1977-78 COMBINED

Species	1977 Autumn migration			1976-77 & 1977-78 Winters	
	From	To	Number	Earliest Autumn Arrival	Latest Spring Departure
Diver sp.	-	-	-	21/12	13/1
Little Grebe	19/10	4/12	75	19/10	24/3
Great Crested Grebe	-	-	-	19/10	25/4
Black-necked Grebe	-	-	-	15/10	18/4
Manx Shearwater	-	-	-	18/12	21/1
Comorant	-	-	-	17/10	24/3
Great White Egret	-	-	-	15/1	7/5
Grey Heron	?30/9	11/12	38	30/9	10/5
Mallard	-	-	-	30/11	13/3
Red-crested Pochard	-	-	-	15/12	18/12
Pochard	-	-	-	12/12	3/3
Tufted Duck	-	-	-	2/12	15/3
Quail	?16/10	5/11	8	-	-
Coot	-	-	-	18/12	17/3
Little Gull	?	18/10	26	-	-
Black-headed Gull	-	-	-	28/9	16/5
Slender-billed Gull	20/10	4/12	1,500	-	-
Lesser Black-backed Gull	?	17/10	50	by 28/9	24/5
Sandwich Tern	-	-	-	1/10	14/3
Kingfisher*	?	29/12	60	-	-
Swallow	?	22/10	130	-	-
Meadow Pipit	-	-	-	5/11	19/3†
Grey Wagtail	-	-	-	6/10	6/4
White Wagtail	?	27/10	40	by 28/9	10/5†
Dunnock	-	-	-	21/10	13/4
Robin	16/10	21/12	161	16/10	11/4†
Black Redstart	23/10	16/11	31	23/10	6/4
Redstart	?	24/10	85	-	-
Whinchat	?	22/10	10	-	-
Stonechat	16/10	22/10	7	-	-
Wheatear	?	21/10	16	-	-
Song Thrush	18/10	13/11	20	18/10	29/4
Redwing	-	-	-	18/10	29/4
Chiffchaff	?	31/10	99	Present all winter	-
Spotted Flycatcher	?	1/11	17	-	-
Bearded Tit	19/10	5/11	8	-	-
Red-backed Shrike	?	25/10	13	-	-
Rook	-	-	-	6/10	9/5
Starling	-	-	-	18/10	11/4
Chaffinch	-	-	-	22/10	20/3†
Brambling	-	-	-	5/11	3/3
Goldfinch	-	-	-	20/10	29/3†
Siskin	-	-	-	19/10	18/4
Reed Bunting	18/10	17/11	15	18/10	24/4

* Kingfisher migration peaked from 20/10 to 18/11

† Exact departure date confused by resident birds or similar species (Meadow/Tree Pipits)

? Start of migration prior to 28/9

Quail

A total of eight Quail from 16 October to 5 November was clearly the tail end of the migrants since the peak migration is September (Zuckerbrot *et al.* 1980). All were seen shortly after dawn by the sea with one actually flying in from the sea. Clearly arrivals from the Soviet Union continued into November so it is possible that the three seen in the Kızılırmak Delta on 18 November 1970 (OST 1975) were migrants rather than wintering birds. Ogilvie (1954) also had "a lot" of Quail in November 1947 at Çatalağzı near Zonguldak. It is unlikely that these birds have sufficient fat reserves to migrate to Africa (Zuckerbrot *et al.* 1980) so they may form a major part of the small wintering population in Turkey.

Kingfisher

The Kingfisher appears to have a very long migration period on the Black Sea Coast. It starts in early August (OST 1975) and in 1977 continued till late December with a peak from mid-October to mid-November. While early birds may represent dispersal of Turkish breeders, those from October onwards probably represent arrival from the Soviet Union.

Wagtails

The peak passage of Yellow Wagtails was missed but both Grey and White Wagtail migration peak at the Bosphorus in October (Porter 1983). It is therefore surprising that only 40 White Wagtails (a tenth of their spring 1978 number) and no Grey Wagtails were seen on autumn migration at Ereğli. Although Ogilvie (1954) reported White Wagtails moving east in August 1947 it seems more likely that they normally move south-east into Anatolia from the Bosphorus as reported by Nisbet and Smout (1957).

Robin

Robin migration was noted from mid-October with up to 20 till early November. Up to four non-territorial birds by the sea in the early morning suggested continued arrival until at least mid-December.

Redstart

Redstart numbers fell from a maximum of 21 at the end of September which corresponds with the pattern seen at the Bosphorus (Porter 1983).

Firecrest

Two Firecrests flew in off the sea on 16 November 1977. This seems to be the first definite evidence of immigration into Turkey (OST 1978; Beaman 1986).

Bearded Tit

A total of eight Bearded Tits were clearly migrants being in small patches of *Phragmites* reed close to the sea in the early morning. These appear to be only the second record for the Black Sea Coastlands and strongly suggest immigration from the Soviet Union.

Starling

Starlings were seen each winter from mid-October onwards. They all passed straight through the area and none remained as wintering birds. Flock size varied from one to 220 but 79 per cent of flocks had less than 50 and 45 per cent less than 10 birds. The total number each month for the two winters, with the number of flocks in each month in brackets, are:

	<i>October</i>	<i>November</i>	<i>December</i>	<i>January</i>	<i>February</i>	<i>March</i>	<i>April</i>
1976-77	223 (2)	70 (2)	20 (1)	84 (3)	36 (2)	88 (5)	0
1977-78	87 (3)	200 (6)	68 (4)	0	21 (2)	110 (8)	186 (7)

Finches

At the Bosphorus there is a marked October passage of Chaffinch, Greenfinch, Goldfinch, Siskin and Linnet (Porter 1983 & *pers. obs.*). This passage was not seen at Ereğli. Chaffinch

numbers built up in October but there was no evidence of the massive movements sometimes seen in Istanbul. Similarly Goldfinch and Siskin numbers built up in October but in contrast Greenfinch and Linnet were virtually absent in autumn.

Spring

Turning now to the spring migration the numbers and dates for 1977 and 1978 are given in TABLE III. The peak migration dates are given in brackets. There is some conjecture as to the start and the end of migration for those species which either wintered and/or summered in the area. However, as with the autumn migration, the dates were fairly clear for most species.

Little Bittern

The Little Bittern is a reluctant flyer and when in open pools on migration makes an easy and conspicuous target for children with stones. At least two were killed in this way and others were seen wounded and being attacked.

Hérons and Egrets

Ogilvie (1954) reported flocks of up to 12 Purple Herons on migration at Catalağzı near Zonguldak flying north straight out to sea in April and early May. Few flying herons were seen near Ereğli and there was no marked direction. However, since few are seen at the Bosphorus (e.g. OST 1975) they probably migrate direct across the Black Sea.

Storks

Clearly the main stork route to the Bosphorus passes south of Ereğli. Both in 1977 and 1978 the White Stork spring migration had a bimodal pattern. In 1977 there were 38 in March and 82 between 31 May and 4 June. In 1978 there were four in March, 78 in mid-April and 269 in May. This pattern has been seen elsewhere. Roberts (1979), observing spring migration at Burgas in Bulgaria, reported 15,500 White Storks from early March to mid-April and about 5,000 in May. Similarly, migration at the Bosphorus occurs from mid-March to at least early June (OST 1975 and Selim Somçağ *in litt.*).

In contrast to the above observations, the main migration of breeding White Storks in Europe ends in mid-April (Cramp & Simmons 1977) and in Turkey breeding White Storks have eggs in early April and in Europe by the end of April. Thus migrating Storks in May and June are non-breeders. Since White Storks do not normally breed till their fourth year (Cramp & Simmons *op. cit.*), these late migrating flocks are probably prospecting immatures en route for Europe. Similarly the breeding cycle in Europe does not end until late July with migration commencing in mid-August. Therefore it seems likely that the 3,413 White Storks observed from 23 July to 5 August 1966 at the Bosphorus (Porter & Willis 1968) were returning immature non-breeders. It appears that no one has previously commented on the possible significance of migrating White Storks in late spring and early autumn.

Honey Buzzard

In addition to the 230 Honey Buzzards in 1977, 165 unidentified buzzards were probably of this species. Brief studies on flight direction suggest that half the Honey Buzzards on migration at Ereğli may fly direct across the sea to Bulgaria, missing the Bosphorus. Of 71 on 22 and 60 on 23 May 1977, 41 and 39 respectively flew straight out to sea on a course which, if continued in a straight line, would bring them to land in Bulgaria. Unfortunately further studies on migration direction were impossible but it is well known that Honey Buzzards will cross wide stretches of sea because they are regularly seen on migration in Cyprus (Flint & Stewart 1983) and Corsica (Thibault 1983). The fact that some Honey Buzzards make long sea crossings points to the danger of drawing too many conclusions from numbers counted at migration concentration points like the Bosphorus.

Buzzard

Little Buzzard migration was seen in 1977. On 18 April 1978, 49 Buzzards flew west. These may have flown out to sea towards Bulgaria.

Moorhen

The records doubtless represent migration to the Soviet Union. The Moorhens were shy and difficult to see compared to those resident in Britain so some may have been overlooked. Nevertheless it is surprising that none was seen in autumn.

Hirundines

Both Sand Martin and Swallow flew low following the coast towards Europe which meant at Ereğli that they flew south, making no attempt to cross the Black Sea.

Ogilvie (1954) observed the same phenomenon at Çatalağzı with huge numbers of Swallows flying west from early April to early June. The 1978 Ereğli total includes an estimated 20,000 Swallows on 29 April when a Swallow was seen every two seconds throughout the day. It is likely that at least 30,000 Swallows pass Ereğli each spring. Red-rumped Swallows have been rarely seen at the Bosphorus or along the Black Sea Coast (OST 1975, 1978). It seems that they have previously been overlooked, especially in spring. House Martin migration was confused by the large number of breeders that arrived in late March and early April. Nevertheless the number of migrant House Martins is strikingly less than that of Swallows. This difference is a well-documented feature of the Mediterranean region and reflects the totally different migration strategies of the two species (Moreau 1972).

Wagtails

Relatively fewer Yellow Wagtails were subspecifically identified later in the spring suggesting that the males migrate before the females. The Yellow Wagtails were usually seen feeding in wet areas but both Grey and White Wagtails were often seen migrating, sometimes accompanied by pipits, in loose flocks.

Redstart

In contrast to the autumn the Redstart was rare in spring with only three being seen in each year.

Warblers

There was little suitable habitat for *Acrocephalus* warblers at Ereğli which explains why few were seen. There was no obvious passage of *Hippolais* warblers. Several *Sylvia* warblers were common in autumn at the Bosphorus (Porter 1983) but there was no obvious spring migration at Ereğli. The only obvious migrant warblers were Chiffchaff and Willow Warbler (*Phylloscopus*). Chiffchaff migration, in late March/early April, hardly overlapped with that of Willow Warbler in late April. The peak Willow Warbler migration at the end of April is in contrast to the situation at Mallorca, one of the Balearic Islands in the western Mediterranean Sea, where Willow Warbler migration peaks by early April (Roger Buisson *in litt.*), and at Beachy Head in southern England where it peaks from mid-April (Shrubbs 1979). It seems that the Willow Warbler populations that nest in western Europe, which warms up earlier in the spring, have evolved to migrate some three weeks earlier than the more easterly populations whose breeding grounds warm up later.

Finches

As in the autumn, and in contrast to migration at the Bosphorus both in autumn (Porter 1983) and in spring (Collman & Croxall 1967), there was no dramatic movement of finches in spring. Chaffinch flocks had dispersed by late March. Greenfinches suddenly appeared in early March and began displaying. Linnets passed through in March and Siskins in mid-April.

DISCUSSION OF MIGRATION

Concerning the autumn migration it is possible to compare the pattern at Ereğli in October with that reported by Porter (1983) for the Bosphorus.

Birds seen in large numbers at the Bosphorus but absent or very rare at Ereğli in October were: Stock Dove; Woodpigeon; Ring Ouzel *Turdus torquatus*; Mistle Thrush; Goldcrest; Serin *Serinus serinus*; Greenfinch and Crossbill *Loxia curvirostra*.

Birds common at the Bosphorus but in reduced numbers at Ereğli in October were: Grey and White Wagtails; Skylark; Blackbird; Song Thrush; Chaffinch; Goldfinch; Siskin and Linnet.

Birds equally common at the Bosphorus and at Ereğli were: Robin; Black Redstart; Redstart; Chiffchaff and Starling.

Birds not seen at the Bosphorus but seen at Ereğli were: Stonechat; Bearded Tit and Reed Bunting.

All the Bosphorus birds not seen at Ereğli were day migrants except for Ring Ouzel, Goldcrest and Crossbill. Similarly the Bosphorus birds with reduced numbers at Ereğli were day migrants, except Blackbird. It seems that the Bosphorus concentrates these birds as suggested by Nisbet and Smout (1957). It is probable that some of the night migrants in reduced numbers were overlooked at Ereğli but they too may be concentrated at the Bosphorus. Birds seen at Ereğli but not at the Bosphorus probably reflects the lack of suitable habitat at the Bosphorus rather than their true migratory behaviour.

It appears that in autumn many passerine migrants are concentrated at the Bosphorus land bridge whence they spread out south-eastwards to their winter quarters in Turkey or beyond. This is particularly true of day migrants but possibly also of some night migrants. Other passerines, particularly night migrants like Robins and Redstarts, are not concentrated at the Bosphorus and are as likely to make landfall at any point on the Black Sea Coast.

In respect of the spring migration (TABLE III), the observations of Collman and Croxall (1967) at the Bosphorus from 23 March to 6 April 1965 permit some comparison with Ereğli. Their report of large numbers of Honey Buzzards in March/April is clearly an error (c.f. OST 1975 & TABLE III). They reported seeing no warblers and only one Whitethroat. However TABLE III suggests that they had left Turkey before the bulk of warblers would be expected. But they did report the migration of pipits, wagtails and finches when low cloud and mist forced these species close to the ground. This is consistent with a heavy passage of pipits and wagtails on 26 March 1978 near Karasu to the west of the Ereğli area. Flocks of up to 50 White Wagtails with smaller numbers of Grey Wagtails, Meadow and Water Pipits were moving steadily westwards along the coast in heavy rain. In spring birds tend to cross at the northern end of the Bosphorus suggesting that they use the Black Sea Coast as a guide.

One of the most noticeable features of the spring migration was the way that the pipits, wagtails and swallows migrated along the coast rather than crossing the sea even though there was a headland at Ereğli. The result was that the birds flew **south** in spring in order to avoid flying over the sea. It seems probable that these birds move north or north-west from wintering grounds in the Middle East or beyond till they reach the Black Sea where they are channelled west into Europe via the Bosphorus.

Presumably there is a migratory divide so that the birds in the east move round the eastern side of the Black Sea. In contrast to the pipits and wagtails it seems that swallows also follow the Black Sea Coast in autumn. Ogilvie (1954) reported a huge movement west in spring and a return movement east in autumn (11 August-5 October 1947). There certainly seems to be a migratory divide in autumn because while the Swallows at Catalağzı fly east in autumn those to the east of Samsun fly west. On 18 September 1979 hirundines (mainly swallows) flew west at over 100 per hour between Samsun and Ordu, from Ordu to Trabzon at about 500 per hour and at Trabzon in mid-afternoon at over 10,000 per hour (Roger Buisson *in litt.*).

Porter (1983) commented on the relative absence of Wryneck, Icterine, Barred and Garden Warblers and Lesser Grey Shrike at the Bosphorus in autumn. These warblers were also absent on spring migration at Ereğli but the Wryneck and Lesser Grey Shrike were relatively common. The Lesser Grey Shrike is a so-called 'ring' migrant, leaving Europe through Greece in autumn and returning through the Middle East and Turkey in spring (Curry-Lindahl 1981). Moreau (1972) has discussed some of the problems that face migrants which breed to the north and north-east of Turkey and the possible strategies used to ensure their successful migration. In addition to crossing the deserts of Africa and Arabia and crossing or circumnavigating the Mediterranean Sea, these birds are faced with the Black Sea which is about as wide as the eastern Mediterranean Sea. East of the Black Sea is the high (and cold) Caucasus mountain range and beyond them the Caspian Sea and semi-deserts. Turkey is thus an important staging

post. not only for birds that breed in western Europe, but also for those that breed in the Soviet Union and Scandinavia. In spring, it potentially serves as an important holding and refuelling area before birds continue their migration into the cold north and east of Europe. In autumn, its wetlands are the last major refuelling areas before migrants heading for Africa cross the Sahara.

The Black Sea is clearly an important obstacle to migratory birds. The observations reported here support Moreau's (1972) suggestion that night migrants cross the Black Sea on a broad front. In autumn these birds tend to be seen all along the north Turkey coast. But in spring these same birds (e.g. warblers and chats) are relatively scarce, having departed north from further south. However, on the south coast of the Soviet Union in spring, after a southerly wind, bushes are crowded with warblers and chats (A. I. Ivanov quoted by Moreau 1972). In contrast, day migrants (e.g. raptors, pipits, wagtails and finches) tend not to cross the Black Sea but to follow the coast round the edge. In autumn these birds are uncommon on the north Turkey Coast having moved south into Anatolia after crossing the Bosphorus. But in spring some of these day migrants are very common because they use the Black Sea coast as a migratory guide.

Clearly there is much scope for further migration studies in Turkey. It would be interesting to know the nature of any spring migratory divide on the Black Sea Coast and whether there is any similar heavy movement along the Mediterranean coast. There has been little bird ringing in Turkey (see Kumerloeve 1975 for a summary) but clearly an intensive ringing programme similar to those carried out in Africa (e.g. Pearson *et al.* 1979) would show to what extent Turkey is used as a refuelling station both in spring and autumn. This in turn would reveal much about the strategies of birds migrating between Africa and the Palaearctic.

SUMMARY

1. The results of birdwatching observations on 325 days from 15 October 1976 to 26 June 1978 in the area of Ereğli on the Black Sea Coast are presented (TABLE I).
2. 199 species and sub-species of bird were seen. Of these, 170 were in spring (1 March to 31 May), 88 in summer (1 June to 31 August), 89 in autumn (1 September to 30 November) and 86 in winter (1 December to 28 February). Of the 82 potentially breeding birds: 34 were proved to breed, 19 probably bred and 29 possibly bred.
3. The Ereğli area has been divided into nine habitats (TABLE II) of which the most important are hills, with a mosaic of vegetation types, mountain forests with uncommon breeding birds and the sea with large numbers of wintering birds. Conservation of these habitats is discussed.
4. The breeding and winter status of birds are presented and discussed (TABLES III & IV).
5. Migration observations are presented (TABLES III & IV), compared with observations at the Bosphorus and discussed.

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ADDITIONAL NOTES ON THE BIRDS OF OMAN, EASTERN ARABIA, 1980-86

by

M. D. Gallagher

INTRODUCTION

The following notes summarise the major changes in occurrence, breeding and taxonomy since *The Birds of Oman* (Gallagher & Woodcock 1980), and its re-drafted, up-dated and freely translated companion in Arabic, *Tüyür Oman* (Gallagher & Woodcock 1985), and in subsequent events up to 30 September 1986. Descriptions, notes on changes in status and distribution within Oman, and comments on extra-limital distribution, are generally omitted, being beyond the scope of this paper; further detail is included in an annotated checklist of the birds of Oman, prepared separately on disk.

The names of those observers who are indicated only by their initials are given in the Acknowledgements. As all records were in *pers. comm.* or *in litt.*, these terms are omitted. Those events already noted in *Tüyür Oman* are marked *; subsequent records are marked **. References are given of those events previously published in English.

During the compilation of *The Birds of Oman* (1980) and *Tüyür Oman* (1985) I was advised on the acceptance of rare species by members of a committee, although as author I accept responsibility for what was published. Since early 1986 all such decisions are those of the Oman Bird Records Committee (PO Box 246, Muscat). Where reported dates of events conflict, those received direct from the observers have been preferred.

COMMENT

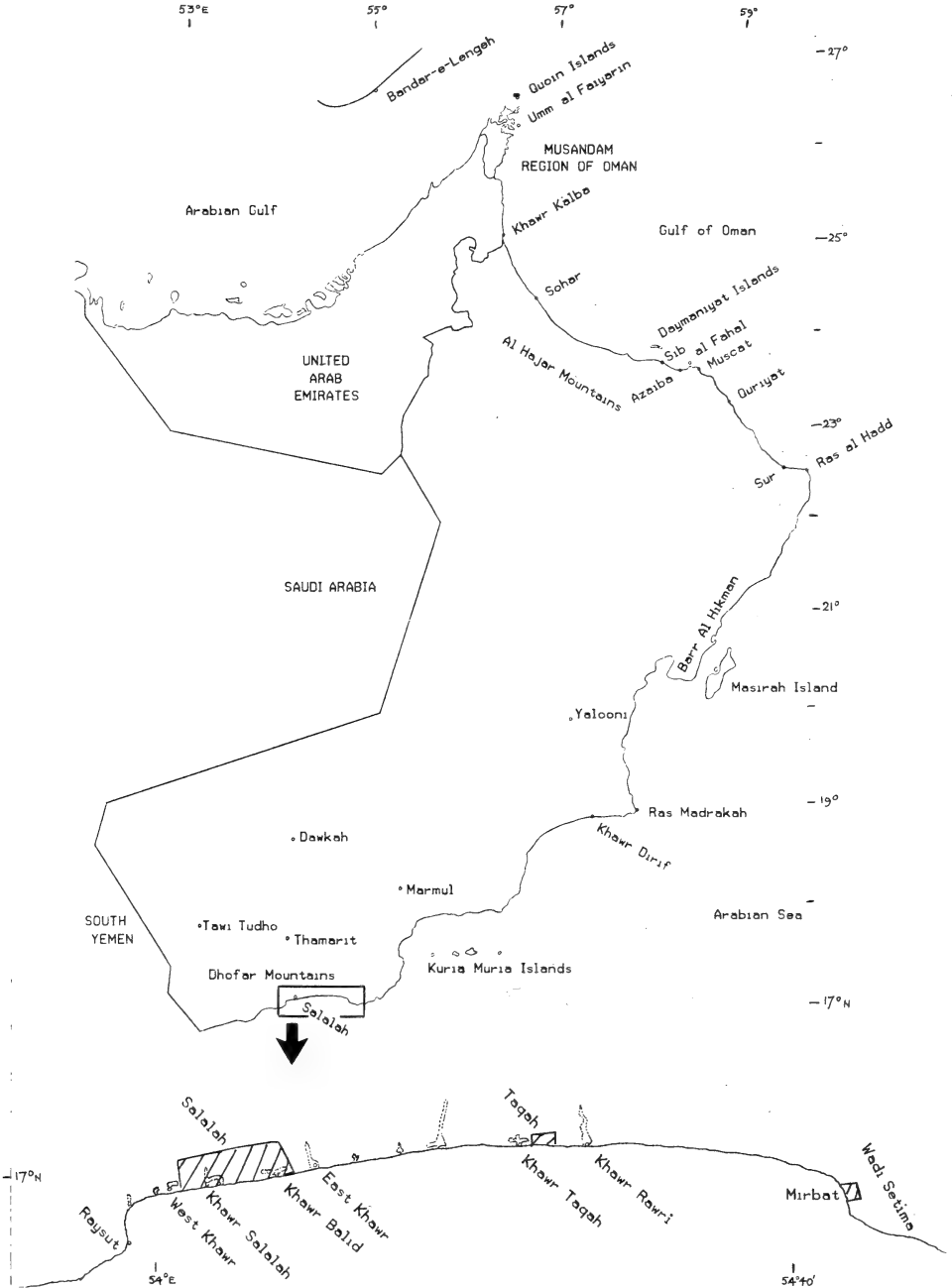
There is a strong Afrotropical zoogeographical influence upon the avifauna of Dhofar, the southern province of Oman (Map *Figure 1*), in contrast to northern Oman's more predominantly Indomalayan fauna; but the largest proportion of migrants through Oman as a whole are of Palaearctic origin (Gallagher & Rogers 1980; Gallagher & Woodcock 1980). In addition, there are the seabirds of the oceans. Oman is well placed in the mixing zone of these four regions to receive vagrants from each. This mix is demonstrated in TABLE I, which indicates the probable origin of the first report of each species new to the Oman Bird List and which are detailed in the Systematic List which follows.

TABLE I: SUMMARY OF FIRST REPORTS OF SPECIES NEW TO THE OMAN BIRD LIST

Main zoogeographical region of origin	North and				Totals
	Musandam	Central Oman	Islands	Dhofar	
Palaearctic	2	1	2	9	14
Afrotropical				7	7
Indomalayan	1			1	2
Oceans		2		2	4
Nearctic				1	1
Uncertain				2	2
<i>Totals</i>	3	3	2	22	30

GALLAGHER, M. D. 1986. Additional Notes on the Birds of Oman, Eastern Arabia, 1980-1986. *Sandgrouse* 8: 93-101.

Figure 1: The Sultanate of Oman, with places mentioned in the text, and an enlargement of the coastal region near Salalah showing the principal khawrs (creeks)



Particularly noteworthy is the number of new records from Dhofar. Although this includes four species found in the desert interior, most (18) were found in the remarkable bird habitats around Salalah, the provincial capital. Here are wooded hillsides and valleys, seasonal grassland and acres of cultivated fodder crops, semi freshwater creeks, and rocky promontories on a coastline experiencing biologically productive cold upwelling during the south-west monsoon of summer.

The small number of observers living in Dhofar are to be congratulated on their discoveries. This report is dedicated to them and to all observers who have made their records and photographs available to the Oman Bird Records Committee for entry in the Record.

SYSTEMATIC LIST

*Calonectris diomedea***

Cory's Shearwater

Six reported close to Mirbat, 60km. east of Salalah at 16° 59'N, 54° 42'E, between 29 June and 6 July 1984; and five between 14 June and 19 July 1985 (Bundy 1986). First records for Arabia, but reported at Eilat (H.Shirihai).

*Puffinus griseus**

Sooty Shearwater

The remains of one was found on the beach at Azaiba, Batinah coast of northern Oman, on 23 June 1982 (Colston & Gallagher 1983). First record for Arabia.

*Puffinus lherminieri persicus**

Audubon's Shearwater

Decaying chicks found in October 1982 below a cliff on Al Hallaniyah, Kuria Muria islands, proved nesting that summer, the first breeding record for subspecies *persicus* (Gallagher 1983; Gallagher *et al.* 1984; Gallagher 1985).

Phaethon aethereus indicus

Red-billed Tropicbird

Breeding on the Kuria Muria islands was proved in 1981 and 1983 (Gallagher 1983; Gallagher *et al.* 1984; Gallagher 1985).

*Sula sula**

Red-footed Booby

An immature came aboard ship at 0900 hrs. on 27 August 1979 in position 23° 08'N 59° 39'E (37 nm. ENE Ra's al Hadd, Oman). On 28 August it was fishing from the forecandle, and was last seen at dusk at 1800 hrs. that day in position 26° 21'N 54° 43'E (15 nm. SW Bandar-e-Lengeh, Iran, Arabian Gulf). (Captain P. W. G. Chilman, M.N.). First record for Arabia.

*Fregata ariel***

Lesser Frigatebird

An immature frigatebird, watched east of Mirbat on 9 August 1986 and identified as this species (CMG), was found dead on 17 August 1986 (ST). It was passed to MDG and to G. S. Cowles, British Museum (Natural History), Tring. Though the head and tail were lacking, the wing-length and other measurements confirmed the identification. First record for Arabia.

Fregata sp.**

Frigatebird species

There are three other reports of frigatebirds in Oman, but observers of the birds could not agree as to species, despite photos of two of them. One immature was seen around and perching briefly on Jazirat al Fahal, near Muscat, 11-19 June 1982 (R. V. Woodiwiss; J. Th. Bakker, MDG). Another immature was at Raysut, near Salalah, 25 March to 20 April 1983 (RH, CMG, GB and others). An earlier report of two frigatebirds on one of the Quoin islands, Musandam Region, on 29 May 1972 (D. H. Butcher, K. & G. Stobbs; *The Birds of Oman* 1980 Appendix 3) has now been accepted.

*Ixobrychus minutus*****Little Bittern**

A three-quarters-grown juvenile bird, with primaries only sufficiently developed to permit flight of a few feet at a time, was captured by hand at Khawr Balid, Salalah, on 30 August 1975. An agitated adult female Little Bittern, presumed to be the parent, was in the immediate vicinity (T. D. Rogers, S. Moul). First evidence of breeding in Oman. Juveniles at Salalah in late June 1984 have also been reported (G. Bundy per F. E. Warr).

*Egretta intermedia*****Intermediate Egret**

Two were at East Khawr (Khawr Dahariz), Salalah, from 28 November 1984 to 3 May 1985 (CMG, ST, GB); the identity of one was confirmed by J. Hancock (29 July 1986) from a photo taken by CMG on 21 January 1985. One was there from 25 November 1985 to 21 April 1986 (CMG, DJGF, GB, ST), photographed by CMG, and the identity was confirmed by J. Hancock (9 January 1986) and R. F. Porter (3 March 1986). (Earlier sightings, on Masirah and in Dhofar, are also suspected, so it could be more common than present records suggest.) First records for the Arabian Peninsula. One was seen in Jordan on 23 April 1963 (Wallace 1984).

*Platalea alba*****African Spoonbill**

One was seen at Khawr Rawri, 30 km. east of Salalah at 17° 04'N 54° 26'E, on 23-24 March 1986 (CMG, ST); then at Khawr Taqah (Khawr Hassan) on 27 March (DR), and also on 7 April 1986 (DJGF, CMG) when it was photographed in company with two Spoonbills *P. leucorodia*. It was still present on 30 September 1986 (CMG). First record for Oman.

*Phoenicopterus minor*****Lesser Flamingo**

One, with nine Greater Flamingos *P. ruber*, at Sur creek at 22° 34'N 58° 32'E, on 19 September 1986 (R. A. Richardson). First certain record for Oman.

*Cygnus olor****Mute Swan**

One adult was seen and photographed at close range at Dawkah, southern interior at 18° 40'N 54° 04'E, on 17 December 1984 (Mrs M. P. Hughes, MDG); and one adult with four immatures was on a creek at Daghmar, near Quryat, south-east of Muscat, from 4 February to 15 March 1985 (R. V. Salm, DJGF, MDG, A. Rollo). First records for Oman. Mute Swans are reported to be held in captivity in some Gulf States, but the Oman birds did not appear to be escapes.

*Haliaeetus leucoryphus****Pallas's Fish Eagle**

One immature was first seen near Wadi Setima, nearly 10km. south-east of Mirbat, at 16° 57'N 54° 45'E on 12 October 1984 (RM, RH). One, probably the same individual, was frequently at carrion on a Salalah farm between 28 November 1984 and 8 March 1985 (ST, GB, CMG, RH, DJGF, MDG); descriptions and photographs "confirm beyond all doubt" (R. F. Porter, 8 May 1985). Another, with "quite different plumage", was at Khawr Rawri on 11 January 1985 (ST, GB). The last report was of one (probably one of these two) in coconut palms near Khawr Salalah on 22 March 1985 (DR). First certain records for Oman.

*Torgos tracheliotus****Lappet-faced Vulture**

A dark subspecies is now known to be resident in northern Oman, though breeding in small numbers and possibly under threat. Two birds are often observed in the Dhofar mountains, where breeding is probable (Gallagher 1982). First confirmation of occurrence and breeding in Oman.

*Aegyptus monachus****Black Vulture**

A scarce and irregular winter visitor (Gallagher 1982). The record of breeding (in Gallagher & Woodcock 1980) was erroneous being based on mis-identified Lappet-faced Vultures.

*Aquila pomarina***Lesser Spotted Eagle**

Included in Gallagher and Woodcock (1980) on the evidence of one at West Khawr (Khawr Awqad), Salalah, 28 October 1977 to 13 March 1978 (S. M. Brogan, M. W. Woodcock, MDG). Subsequent records: one at West Khawr and nearby, 11-25 December 1978 (Walker 1981; S. M. Brogan); photographs of one at Salalah on 15 December 1984 confirmed (R. F. Porter, 3 March 1986); up to three individuals present until March 1985 (CMG). A scarce winter visitor.

*Aquila chrysaetos****Golden Eagle**

Now known to be a scarce resident breeder in the interior desert and semi-desert of Oman (Gallagher & Brown 1982), with at least nine active nests. First breeding record in Oman and the first in Arabia since 1948.

*Falco columbarius*****Merlin**

A small immature male was seen near Khawr Dirif, west of Ra's Madrakah at 18° 56'N 57° 21'E, on 6 April 1985 (M. StC. Baddeley). First certain record for Oman.

*Coturnix delegorguei****Harlequin Quail**

One male was photographed while calling loudly at the edge of cultivation at Salalah on 27 June 1983 (CMG). Presumably a vagrant from south-west Arabia or from Africa. First record for Oman.

*Tumix sylvatica*****Little Button Quail**

One seen and flushed four times amongst scrub on Salalah plain on 27 March 1984 (CMG). Known in south-west Arabia. First record for Oman.

*Porphyrylla alleni****Allen's Gallinule**

One adult at East Khawr, Salalah, on 16 July 1984, increased to two on 31 August, then to three from 1 to 3 September 1984. One immature was there from 9 to 23 August 1985 (CMG, ST). Another there on 31 August 1986 (CMG). A vagrant from Africa. First records from Arabia.

*Porphyrio porphyrio****Purple Gallinule**

One was seen at East Khawr, Salalah, from 28 March to 12 April 1983 (RH, CMG, ST and others). Another, alive but weak, was photographed at Marmul, southern interior at 18° 09'N 55° 17'E, in mid-December 1983, and was found dead a few days later but not preserved (*per* D. Harvey). A third, an immature, was seen on Masirah island from 22 October to 1 November 1985 (A. Brown, J. Bryan, CMG and others). First records for Oman.

*Fulica atra****Coot**

Seen with chicks between April and late August in East Khawr, Salalah, from at least 1984 (CMG, ST, DJGF, GB). First breeding records in Oman.

*Hydrophasianus chirurgus*****Pheasant-tailed Jacana**

An adult was observed with four very small chicks on floating vegetation at Khawr Taqah (Khawr Hassan), 23km. east of Salalah, on 30 May 1986; the chicks were "black, fluffy balls, with enormous feet which were longer than the body, the back of the head was slightly lighter" (R. L. Ware). First breeding record in Arabia.

*Rostratula benghalensis****Painted Snipe**

One was seen at Khawr Salalah on 12 October 1983 (R. Braund). First record for Oman. One was seen at Abyan, north-east of Aden, South Yemen, on 26 June and 17 July 1960 (MDG, unpublished).

*Burhinus capensis****Spotted Thick-knee**

One pair bred at Yalooni, Jiddat al Harasis, central Oman at 19° 57'N 57° 07'E, in June 1983 and April 1984 (Gallagher & Stanley Price *in prep.*). First breeding records in Oman. Calling at night at Qarhat Mu'ammar, Wahiba Sands, at 21° 38'N 59° 18'E, from 23 February 1986, and a pair seen frequently under trees there 13-28 March 1986 (MDG, I. Linn), (but apparently absent in June and July 1986) are the most northerly records of breeding behaviour. Apparently a local breeding resident.

*Calidris tenuirostris****Great Knot**

A total of three was seen near Salalah on 23 September 1982 (King & Gallagher 1982). One at Sib Khawr, Batinah, on 26 August 1986 (DJGF, F. E. Lowry). First records for Arabia.

*Calidris canutus*****Knot**

One in summer plumage was seen at East Khawr, Salalah, on 30-31 August 1984 (CMG, RH). One, in winter plumage, was there on 23 April 1986 (ST), and on Khawr Taqah on 6 May 1986 (CMG). First certain records for Oman.

*Limnodromus scolopaceus*****Long-billed Dowitcher**

One was seen at Khawr Taqah from the end of November 1985 to 9 May 1986 (CMG, DJGF, DR, ST), and was well photographed by CMG. Its identity was confirmed by R. F. Porter (3 March 1986), and by the British Birds Rarities Committee as a juvenile almost fully moulted into first-winter plumage (M. J. Rogers 28 March 1986; Foster & Greaves 1986). First record for Arabia.

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

One was seen at Khawr Taqah on 15 August 1986 (ST, RH, RM) and was reported still there on 21 August (CMG, DGJF). (Hedley *et al.* 1986.) First record for Arabia.

*Rissa tridactyla***Kittiwake**

One was seen with other gulls on Taqah beach, east of Salalah, on 18 April 1985 (Bundy 1986).

*Sterna fuscata****Sooty Tern**

Breeding was proved when about 10 pairs were seen with eggs on Jazirat Umm al Faiyarin, Musandam Region, on 16 June 1981 (Gallagher *et al.* 1984). A pair amongst thousands of Bridled Tern *S. anaethetus* on Jazirat al Kharaba, Daymaniyat islands, on 15 June 1981 and 7 June 1985, appeared to be about to nest (MDG). (Sooty Tern occasionally occurs on and near Oman's coast, but previous reports of nesting in the region were unconvincing because of insufficient data and probable confusion with Bridled Tern (Gallagher *et al.* 1984: 429).) First confirmation of breeding in Oman.

*Clamator glandarius****Great Spotted Cuckoo**

One was seen on Masirah island on 5 April 1979 (CMG), the first accepted record for Oman. (Two reports, of single birds on the Batinah plain in September 1963 and September 1965, were not accepted because of the lack of a description and possible confusion with female Koel *Eudynamis scolopacea*).

*Otus senegalensis****African Scops Owl**

The subspecies *pamelae*, which is resident in the wooded parts of the Dhofar mountains, is now placed in *O. senegalensis*, instead of *O. sunia*, by Gallagher and Woodcock (1985), on the grounds of geographical probabilities, and on the similarity of the calls (which were recorded by Ben King, whilst with MDG watching these owls by torchlight at night near Salalah on 24 September 1982). Treated as a race of *O. scops* by Meinertzhagen (1954), and of *O. brucei* in Cramp (1985); but despite Meinertzhagen's remarks, the calls of *pamelae* are

consistently different from both those species, and are described in Gallagher and Rogers (1980: 370).

*Halcyon chloris***

White-collared Kingfisher

The subspecies resident in Khawr Kalba, on the northern boundary of the Batinah coast of Oman, is *kalbaensis* (Cowles 1980).

*Calandrella brachydactyla**

Short-toed Lark

Regarded as a casual breeder after at least two birds were watched in prolonged song-flights over partly cultivated and fallow fields near Sohar, Batinah, in May 1982 and presumed to be nesting; recent rains had made conditions unusually favourable (MDG, A. De Young). First evidence of breeding in Oman. Song-flight was reported on Bahrain in July (Gallagher & Rogers 1978: 11).

*Anthus similis***

Long-billed Pipit

Clancey (1986) considers the subspecies in Oman and United Arab Emirates to be *A.s. decapatus*, and not *arabicus* as presently understood.

*Tmetothylacus tenellus**

Golden Pipit

One at Salalah 17 to 24 June 1984 (RH, CMG). It was identified from CMG's photos as "the first record of this East African pipit outside the Continent" (P. R. Colston 15 August 1983).

*Pycnonotus leucogenys**

White-cheeked Bulbul

A pair was seen feeding a fledgling at Tibat, Musandam Region, on 13 April 1983; the fledgling appeared too young to have flown from the United Arab Emirates 4km. to the south (MDG). The first confirmed record of the species in the wild in Oman. (The report in Meinertzhagen (1954) of a pair seen at Muscat in January 1914 was discounted because either these were escapes or an error had been made (Mrs F. E. Warr, who also points out that on this date Colonel Meinertzhagen was believed to have been in Iraq).)

*Cercotrichas galactotes***

Rufous Bush Chat

Previously recorded only as a migrant, but breeding has long been suspected, *e.g.* several in full song in a date garden at Khasab, Musandam Region, on 20 June 1981 (MDG). Nesting was assumed when birds were in full song, carrying food, giving alarm calls and having large brood-patches, in woodland at Qarhat Mu'ammarr, 3-4 July 1986 (R. S. Hughes, MDG).

*Erithacus rubecula**

Robin

One was observed for about 15 minutes by the roadside near Khasab, Musandam Region, on 14 November 1982 (P. R. Sichel). First record for Oman.

*Saxicola caprata bicolor**

Pied Stonechat

One male was found in worn plumage at Khasab, Musandam Region, on 10 April 1983 (Colston & Gallagher 1984). First record for Arabia.

*Sylvia leucomelaena**

Arabian Warbler (Blanford's Warbler)

Previously classified as a breeding visitor or resident, but now reported in every month in or near the Dhofar mountains and considered to be a breeding resident.

*Sylvia minula**

Desert Lesser Whitethroat

This bird is given full specific status (Gallagher & Woodcock 1985) on account of its habits, dates of occurrence and distinctive call in Oman, as well as the morphological differences from Lesser Whitethroat *S. curruca*.

*Phylloscopus borealis*****Arctic Warbler**

One was present at Thamarit, on the desert edge north of Salalah and the Dhofar mountains at 17° 41' N 54° 03' E, from 24 August to 6 September (ST, CMG, GB and others). From photos it was unanimously agreed to be this species by the British Birds Rarities Committee (M. J. Rogers). First record for Arabia.

*Muscicapa cyanomelaena****Blue and White Flycatcher**

One on Masirah island 3-8 January 1982 (S. A. Webb, CMG) was identified from photographs as a first-year bird (P. R. Colston, 24 May 1982). First record for Oman. Another bird had been seen in Ra's al Khaimah, United Arab Emirates, in November 1980. (Gallagher *et al.* 1984).

*Anthreptes metallicus****Nile Valley Sunbird**

First found in Oman and breeding assumed from the observation of three juveniles together at Tawi Tudho, Wadi 'Aydim, north-west Dhofar at 17° 44' N 53° 03' E, and of two males in breeding plumage nearby, one of which was in part song, all on 13 May 1982 (MDG).

Since then, they have appeared as winter visitors at Salalah and Thamarit as follows:—

- 1982/83 One female at Salalah, 26 November 1982, numbers increasing to 10-25 by 31 December (CMG, GB). Several males coming into breeding plumage at Salalah in January but all disappeared after rain (CMG, DJGF). Two at Thamarit on 4 February 1983 (RH).
- 1983/84 One at Salalah on 23 November 1983, numbers increasing to about 10 by December, and remaining until February 1984 (CMG).
- 1984/85 Three at Salalah on 23 November and 7 December 1984 (ST). Ten to 15 wintered here until mid-February 1985 (CMG).
- 1985/86 No records for autumn 1985. One at Thamarit on 11 January 1986 (ST), and two at Salalah on 5 February 1986 (DJGF).

*Lanius schach****Long-tailed Shrike**

One was observed at Salalah from 10 to 24 February 1983 (CMG), and identified from sketches and photos as this species, "probably subspecies *erythronotus*" (P. R. Colston, 29 March 1983). Another individual was there from 7 February 1984 "and for two weeks after" (CMG, DJGF). First records for Oman. (Different single individuals, thought to be this species, but with "quite different markings" were reported at Salalah on 27 January 1984 (RH), 9-16 March and another on Jabal Qara on 16 March 1984 (CMG).)

*Carduelis spinus****Siskin**

Three were seen at Marmul, southern interior, at 18° 09' N 55° 17' E, on 3 December, 1981, one female was found dead next day (V. B. Swamy) and later preserved as a skin for the British Museum (Natural History), Tring (MDG). First record for Oman.

ACKNOWLEDGEMENTS

I thank all observers who have kindly made their reports available for the Oman Bird Record, particularly those named in this account and those indicated by their initials: D. J. G. Foster, C. M. Greaves, R. Hedley, R. Midgley, S. Tibbett, D. Rafferty, and G. Bundy — who have done much to advance the knowledge of ornithology in Oman.

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I also thank HRH Sayyid Faisal bin Ali Al-Said, Minister for National Heritage and Culture, for his support in this and kindred studies.

SUMMARY

The major changes in occurrence, breeding and taxonomy since the publication of *The Birds of Oman* (1980) are given in an annotated systematic list of 49 species. Thirty species are reported as new to the Oman Bird List, 24 of them previously unpublished in English; at least 11 of this total are apparently the first to be reported from the Arabian Peninsula. Twelve new breeding records are given (two of these of the 'new' species, and two new to Arabia); eight of the total were previously unpublished. Taxonomic and other notes are given for nine species. Those events which are noted in Arabic in *Tüyūr Oman* (1985) are indicated.

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A BREEDING RECORD OF THE HOUSE CROW IN KUWAIT WITH COMMENTS ON THE SPECIES' STATUS IN THE ARABIAN GULF

by

C. W. T. Pilcher

INTRODUCTION

The House Crow *Corvus splendens* is an Oriental species having a wide distribution across the Oriental Region. Its natural range extends from coastal southern Iran eastwards throughout Pakistan, India, Bangladesh, Burma and Thailand but elsewhere the House Crow has been introduced into a number of areas as distant as South Africa and Australia. The spread of this species has been the subject of a recent review (Meininger *et al.* 1980) and it is now clear that it occurs in many places in the Middle East and Africa.

Apart from those instances where this species was deliberately introduced, for example in Malaya (Delacour 1947) and Zanzibar Island (Mackworth-Praed & Grant 1955), self-introduction appears to have occurred by transportation by ships. Certainly, reports of House Crows accompanying ships support this assumption. Hylton (1927) described birds accompanying a ship from Colombo to Fremantle, Western Australia, Davis (1951) cited an instance of four House Crows being transported from Colombo to Cape Guardafui, Somalia and more recently Stapleton (1975) reported six birds being borne from Colombo to South Africa. Moreover, examination of the areas of introduction, as compiled by Meininger *et al.* (1980), provides circumstantial evidence for ship-borne transportation. In all instances the House Crow is localized to coastal towns and villages and particularly to port areas.

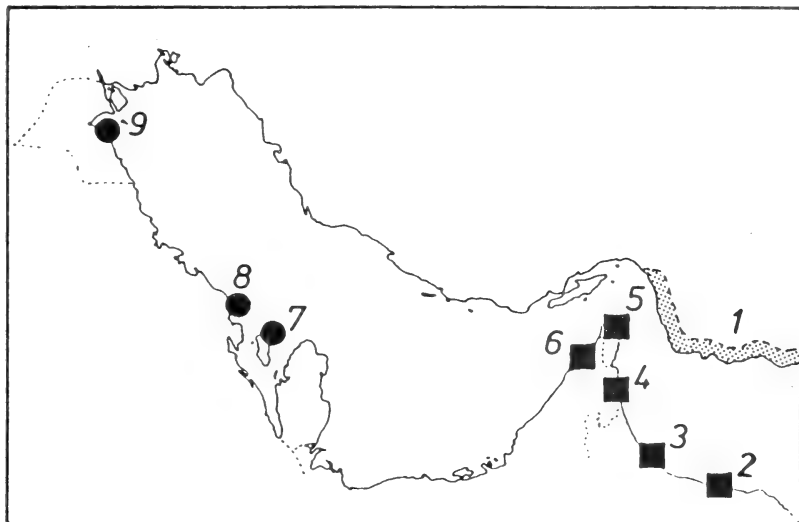
In the Arabian Gulf region the House Crow has an apparently patchy distribution (see *Figure 1*). Gallagher (1980) recorded it as a resident and breeding in the Musandam of Oman and the United Arab Emirates, although it is unrecorded in Sharjah and Abu Dhabi and also in Qatar. It is, however, suspected of breeding in Dubai and there are reports of its breeding in the Northern Emirates at Dhayah near Rams (F. E. Warr). To the west and north-west: in Bahrain, eastern Saudi Arabia and Kuwait, the available records led Jennings (1981) to list this crow as having an unconfirmed status of 'passage migrant' but in Kuwait it was considered (Haynes 1979) to occur only as an infrequent escapee.

This communication reports observations made mainly by the author, who is resident in Kuwait, during the period January 1979 to December 1985. It provides the first record of confirmed breeding by the House Crow in the northern Arabian Gulf and includes some comments on the status of this species in Kuwait and neighbouring countries.

OBSERVATIONS

Habitat and Distribution All sightings of the House Crow reported herein occurred within 0.8km. of the coast and the majority were made in or within the immediate vicinity of the port for cargo vessels at Shuweikh. On the shore of Kuwait Bay and immediately adjacent to the port is a campus of Kuwait University, a relatively well vegetated area. Its roads are bordered by Prosopis, tall Tamarisk and Eucalyptus trees with scattered Date and Washington Palms. Contiguous with the campus along a coastal strip are tree-lined grounds of several hospitals, in all covering an area of approximately 5 x 0.75km.

Figure 1: Sites of recorded breeding of the House Crow *Corvus splendens*, in the Arabian Gulf.

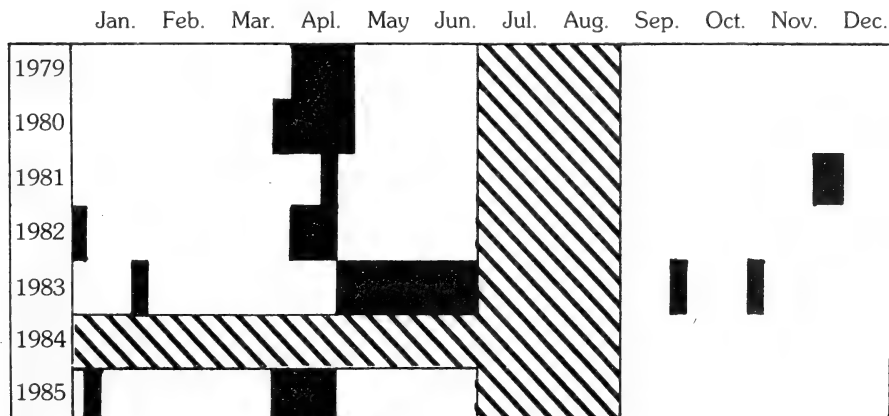


Key:

- Long-established, resident population.
- confirmed breeding first recorded 1982 or later.

- | | |
|--|--------------------------------|
| 1 Coastal southern Iran – natural range | 6 Dubai (United Arab Emirates) |
| 2 Muscat and adjacent coastal villages (Oman) | 7 Al-Muharraq (Bahrain) |
| 3 Coastal villages of the Batinah Plain | 8 Ras Tannurah (Saudi Arabia) |
| 4 Villages of the east coast of United Arab Emirates | 9 Shuweikh (Kuwait) |
| 5 Coastal villages of Musandam Peninsula (Oman) | |

Figure 2: Occurrence of the House Crow *Corvus splendens* in Kuwait



Shaded areas of the chart indicate those weeks when at least one sighting was made. Cross-hatched areas signify the absence of observers.

Frequency of occurrence Sightings are summarised in *Figure 2* and it should be noted that the author was out of Kuwait during the first eight months of 1984. Although the House Crow has been seen at various times throughout the year, its occurrence seems to have been most frequent and consistent in April-May.

Five subspecies of *Corvus splendens* are recognized and at least two have been discovered in Kuwait. Most observations concerned birds resembling *C.s. zugmeyeri* and hybrids having a fawnish tone to the neck and lower breast, which probably represented intergrades with *C.s. splendens*. On one occasion, three birds showing less contrast between light and dark areas of plumage were typical of the race *C.s. protegatus*.

Number of birds and breeding behaviour At all times the number of birds seen was small and never exceeded nine. The number of birds seen during the breeding season and comments on their breeding activities are indicated in the TABLE. For the purposes of allocating a breeding code the breeding season is assumed to be that reported for those regions where this species is indigenous, namely, March-July (Ali & Ripley 1972).

TABLE: NUMBER OF HOUSE CROWS *C. SPLENDENS* SIGHTED IN THE BREEDING SEASON AND COMMENTS ON BREEDING BEHAVIOUR

Year	Number of Birds	Breeding Code	Observations
1979	5	1	No indication of pairing or breeding activity.
1980	3	0	No indication of pairing or breeding activity.
1981	1	0	No indication of pairing or breeding activity.
1982	6	9	Several birds collecting wire and other materials for nest building.
1983	9	14	Parents carrying food to nest located in tall tamarisk.
1984	(2)	(12)	Second nest constructed a metre away from previous year's in same tree. Dead fledgling next to nest.
1985	5	1	No indication of pairing or breeding activity.

Note: Numbers in parentheses are estimated minimum values. Breeding code assessed according to criteria adopted by the European Ornithological Atlas Committee.

DISCUSSION

The occurrence of the House Crow in Kuwait has been restricted to a narrow coastal belt and this distribution is similar to that seen in other countries of the Arabian Gulf and elsewhere where the species is assumed to have been self-introduced. This Corvid is always found in close association with human habitations and it is claimed that no population is known living away from man (Meininger *et al.* 1980).

Although highly adapted to urban life and village environments, the House Crow is a tree-nester, only rarely nesting in buildings, and Goodwin (1979) suggests that "the presence of some trees is probably essential for its permanent establishment in any area." Despite the House Crow's recognized preference for nesting in trees, first observations of nest building in

Kuwait indicated that one or more nests were being constructed at least 20 metres up among girders of dockyard cranes, yet the trees in which this bird nested a year later were only 300 metres distant. A degree of adaptability in selecting nest sites is also indicated by reports of nesting among the iron girders of a bridge in Port Sudan (Kinnear 1942), on a floating crane in Bahrain (Nightingale 1984) and in a building under construction in Port Tewfik, Suez (Bijlsma & Meininger 1984). In this last location, where there is an estimated population of 850 House Crows, suitable trees are scarce and accommodate only a few small colonies of nests.

In April 1982, the birds in Shuweikh port were collecting mainly pieces of wire, a material that is not unusual for the House Crow; in fact, Ali & Ripley (1972) describe a nest constructed entirely of wire. Apparently these attempts at nesting were soon abandoned, since the crows were not seen in the area after a few weeks. The nests sited in trees in subsequent years appear to have been built largely of twigs and that constructed in 1983 was commenced in mid-May. It is of interest to note that the House Crow was first recorded breeding in the Eastern Province of Saudi Arabia and Bahrain in May 1983 and in Dubai one or two months earlier.

The regular appearance of the House Crow in April/May in all of the six years when observers were present since 1979 (and almost certainly in the seventh year also), indicates that this species can no longer be regarded as an occasional escapee in Kuwait, but the confinement to the cargo port area raises some further ecological issues. It is clear that the University campus and hospital grounds in Shuweikh provide a breeding habitat somewhat similar to that favoured by this species in its eastern range. However, there are similar park-like areas along the coast and the garden city of Ahmadi, which is situated 4-5km. inland in sight of the port at Fahaheel 30km. to the south of Shuweikh, might be expected to be frequented. In fact of the few early records of crows at Ahmadi, the reports in 1957 of two Hooded Crows *Corvus corone sardonius*, were rejected as unlikely, more probably being House Crows, and in 1972 a dead, juvenile House Crow was recorded (S. Howe).

The timing of its occurrence in Kuwait strongly suggests that, in the main, the House Crow is not arriving by ship but through natural dispersal, probably from areas in the southern Gulf, such as those in Oman, where there are long-established breeding populations. Determination of subspecies might help to establish their origins and at least two subspecies have been observed in Kuwait. In Oman, where the House Crow population is counted in thousands (Stanford 1973) most resemble *C.s. zugmyeri* or intergrades with *C.s. splendens* (Gallagher & Woodcock 1980) which is not incompatible with the notion that most of the House Crows occurring in Kuwait originate from Oman. It is possible that this population of Oman represents the western extreme of the House Crow's natural range. *C.s. zugmyeri* is native to the south coast of Iran (Hüe & Etchecopar 1970) and it is only about 50km. across the Straits of Hormuz to the Musandam Peninsula. The presence in Oman of more than one race along with hybrids, could be accounted for by interbreeding of an indigenous population with other, self-introduced races, for example, *C.s. splendens*.

Throughout 1977 and 1978 observation was made daily at Shuweikh but no sightings of the House Crow were recorded during that period. The first breeding records for Kuwait coincide with those for the Eastern Province of Saudi Arabia, Bahrain and Dubai, which indicates a very recent extension of the bird's range. Thus, the individuals occurring in Kuwait could be migrants from a natural population located in the southern Gulf and if this were so, it would represent an extension of this crow's natural range from the Oriental Region into the Western Palaearctic zone. In Kuwait, it appears that the House Crow should now be accorded a status of scarce passage migrant and occasional breeding summer visitor.

ACKNOWLEDGEMENTS

I should like to thank Mrs. F.E. Warr for her kind help and co-operation in collating and forwarding records of the House Crow for other Gulf States. My thanks are also due to Dr. Alan Tye for his constructive comments on the manuscript.

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ABDIM'S STORK IN ARABIA

by

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INTRODUCTION

Abdim's Stork *Ciconia abdimii* is a small, gregarious, black-and-white stork, which winters mainly in southern Africa, but migrates northwards to breed in the wet season (spring and summer) across the northern tropics from Senegal to Ethiopia and Somalia, some birds spilling over into south-west Arabia. This paper documents its general distribution in Arabia, and reports its occurrence and unusual over-wintering as far east as central Oman, eastern Arabia.

The original aim was to report only the Oman and South Yemen records, but then it was felt that these are better given in a fuller Arabian context. I am indebted to observers and others who have contributed records from other parts of Arabia as well as from Oman. Co-ordinates are taken from *The Times Atlas of the World* and from local maps.

DESCRIPTION

The adult Abdim's Stork is distinguished from the Black Stork *C. nigra* (with which confusion has occurred because of the generally similar black-and-white pattern), by the former's smaller size, gregarious nature, and by the distinctive white back and rump, which is particularly noticeable in flight; also by the pale or greenish (not bright red) bill and legs, the reddish joints of the legs and by the naked red and blue facial skin.

MOVEMENTS

In Africa, most birds leave the breeding grounds in September–October, and they remain in their winter range until about March. In Eritrea, some arrive in late April, but most in early May; they breed July–August, and depart in September (Smith 1957). However, egg-laying in western Kenya is reported as early as January–March (Brown *et al.* 1982), and on the Dahlac Islands (16°N, 40°E), there were small young on a nest in the first week of March (Tornielli 1964, quoted in Urban & Boswell 1969). Further details of movements and biology in Africa are given in Brown *et al.* (1982).

OCCURRENCE IN ARABIA

Saudi Arabia

Abdim's Stork is known only in the extreme south-west of Saudi Arabia in summer, when it is uncommon or scarce, but where it probably breeds (Jennings 1981, Stagg 1984). A female was obtained at Abu 'Arish (16° 59'N, 42° 49'E) in Asir and close to the North Yemen border in May 1944 (Halfawi 1945, Meinertzhagen 1954). J. Gasperetti, *in litt.* to Mrs. F. E. Warr, says it is "no doubt in the Wadi Jizan dam and very common", but this and the statement that it is a resident breeder would seem to require confirmation.

North Yemen (Yemen Arab Republic)

After its discovery nesting in 1962 there were few reports until 1983, when increased observation was possible.

- 1962/63 A breeding colony in Eucalyptus trees at Ta'izz (13° 35'N 44° 02'E) on 24 August 1962, and 10 birds returning to nest-build in the following April (Montfort 1965).
- 1975 A nest at Zabid (14° 10'N 43° 18'E) on 16 April 1975 (Thiollay & Duhautois 1976).
- 1979 Five occupied nests with young were found on the Tihama on 16 April 1979, a further 17 in nearby areas, and one further south in Wadi Rima on 19 April; it "apparently breeds in scattered colonies on the Tihama" (Cornwallis & Porter 1982).
- 1982 None near Ta'izz (J. Karpowicz).
- 1983 Sixteen Al-Khawkah → Al Mansuriyah on 19 September 1983, and two Al Mansuriyah → Madinat al 'Abid on 20 September 1983 (M. Evans).
Four present at Ibb (14° 03'N 44° 10'E) in October 1983 (J. Karpowicz).
- 1984 Six at El Berh (the sewage ponds near Ta'izz) on 27 July 1984 (J. Karpowicz).
- 1985 One at Ta'izz on 16 March 1985 (Finch 1985). Annual visitors to village near Sukhna (Tihama), building nests on top of thatched houses, 10 May 1985 (D. Perkins).
Six present on the Tihama near the base of Jabal Bura (14° 50'N 43° 26'E) on 18 October, and one seen in Wadi Surdud, Tihama, on 24 October 1985 (Self 1985).
- 1986 One at Ta'izz ponds on 14 February 1986, and three in Wadi Warrazan on 16 February; a pair nest-building on a tree in a Tihama village 10km. east of Harad (16° 27'N 43° 04'E) on 28 March 1986 (Fairman 1986).
Two present on the Tihama site 2 on 15 April and five at site 1 on 17 April 1986 (*pers. comm.* R. Martins).

South Yemen (Peoples' Democratic Republic of Yemen)

Yerbury (1896: 38) was the first to report the nesting of Abdim's Stork in Arabia, when he collected one of a pair on 18 March 1895 that had just started building in a tree at Lahej (which at 13° 01'N 44° 54'E is about 30km. NNW of Aden and has a large area under cultivation). About a week later he found five or six pairs nesting at Haithalhim, north of Lahej. There is an adult specimen in the Percival collection at Tring taken on 7 September 1899 in this area. It was subsequently reported in Wadi Kabir near Haithalhim on 24 March 1945, and at El Anad on 26 April (Bark Jones & Hartley 1957).

On 15 May 1960 H. P. Medhurst and I saw one bird incubating on a nest in a huge mango tree at Lahej. On 6 June two egg-shells were below the occupied nest, and on 10 July I saw an adult with two nestlings on the nest. I saw no nesting there in 1961 or 1962; on my last visit, on 8 March 1962, the many large trees had been felled. My only other observation of this species in South Yemen was of one on 29 May 1961 soaring towards the mountainous border with North Yemen at Dhala (Ad Dali, 13° 41'N 44° 45'E), only 80km. almost due east of Ta'izz, North Yemen.

Oman

The occurrence of Abdim's Stork in Oman (first reported in Gallagher & Rogers 1980, Gallagher & Woodcock 1980) is irregular, but merits detailed documentation so that future trends may be assessed. All records, with the exception of the two mentioned in the summary below, have been from cultivations on the coastal plain of Dhofar, the southern province of Oman, between Salalah (16° 59'N 54° 02'E) and Taqah, 24km. to the east. (See map on p. 94.) It has been difficult to be certain of total numbers in the area, and of dates of arrival and departure. The available records for the period 1983 to 1986 come from a dozen observers (all but three were resident in Dhofar), and thanks are due to them all for their assistance in this review. However, figures disclose that complete or regular censuses of the entire region of Salalah plain (Raysut to Taqah) were rarely undertaken, but even when this was possible that some private farms were excluded. Also, some accounts of the same events have been at variance. Many birds were in immature or 'sub-adult' plumage, but regular notes of this were not reported.

- 1978 The first record for Oman was of a party of eight in the Salalah region from 3 February to 10 June, though the party occasionally split up. The last sighting was of two on 3 July.
- 1979 One was reported present from 28 February to 3 April 1979 (Walker 1981), and one (presumably the same individual) was noted on 21 June and 17 July 1979.
- 1980 One appeared briefly on the semi-desert plateau at Yalooni, 450km. north-east of Salalah at 19° 57'N 57° 07'E, on 7 June, where it was photographed (J. H. Usher Smith).
- 1983 An irruption began with seven on 11 October 1983, probably part of a flock of 17 seen next day. These were immatures (with sooty-brown head, neck and breast and very pale legs, see *Plates 10 and 11*). By the end of the year numbers had increased to 45 (a few of which appear to have lingered over three winters until May 1986).
- 1984 Numbers had further increased to 61 by 6 January 1984, but although one observer reported "60+ over summer" other reports showed a decline to 50 in April, 46 in May, 40 in June and smaller numbers in summer until "20 to 30" were discovered in the Royal Farm at Razat, east of Salalah, in September; 25 seen on 26 and 30 October were probably the same. The last group may have been departing, as thereafter only seven were seen. One was seen at Marmul, 175km. north-east of Salalah at 18° 10'N 55° 15'E, on 20 September 1984.
- 1985 The seven were evidently still present in March; two were seen on 9 May, but the last record was of four at Taqah in August.
- 1986 Three were reported frequently from January until 11 April at Taqah, where two survived until last seen on 9 May.

DISCUSSION

The occurrence of Abdim's Stork in Arabia appears to be as an extension of its strongly seasonal migrations in Africa. Brown *et al.* (1982) mention that it can cross wide bodies of water, but whether this is because of its known crossing of the Red Sea, or of other water bodies, is not clear. It has been known since 1895 to nest seasonally in the cultivated area near Aden, and since 1962 in North Yemen; the recent discoveries of several more nesting localities in North Yemen have indicated that more are to be expected.

Small parties of these storks can easily be overlooked when feeding amongst cultivation, and detailed searches will often be necessary to locate them. The birds are not shy and should become visible in other situations, such as on open grassland, on trees and beside water, and in soaring flights, but from experience in Oman soaring behaviour may not be frequent nor relied upon to disclose their presence. In former times they may have occurred but not been reported. However, it may be significant that in Oman there had been no reports of the species in the Salalah area of the south until 1978, some 14 years after bird recording was started there; it is therefore quite possible that the occurrence there of Abdim's Stork is in fact a recent development, in which case a similar extension of range and numbers could be witnessed elsewhere in southern Arabia.

Influxes, such as those witnessed recently in southern Oman, could be of disorientated inexperienced birds, but they could also be due to unusual but un-reported meteorological conditions, or to the birds following or searching for locusts and other food sources. There was a large number of grasshoppers amongst fodder crops near Salalah in autumn 1983 after good rains, but although there were many White Storks *C. ciconia* present, fewer than 10 Waddled Starlings *Creatophora cineracea* (another vagrant species known to search for grasshoppers) were reported.

The early dates (February) of records in North Yemen and Oman indicate that these were birds which may have wintered north of the Equator, perhaps even within Arabia. That some birds must winter near the Equator is evidenced by the early dates of nesting in Kenya (January), already mentioned. The late dates of departure (October) appear normal for Africa,

but the arrivals in Oman (October 1983) were highly unusual, and may have been due to dispersal in the 'wrong' (easterly) direction for winter. Many of the birds seen in Oman are in immature or 'sub-adult' non-breeding plumage, not apparently recorded (though perhaps observed) elsewhere in Arabia. The duration of such plumage is probably hitherto unknown (C. H. Fry *in litt.*) and might be worthy of note in birds which may over-winter in the future. When large groups of young birds (61 is the maximum so far counted in Oman) discover attractive conditions, such as exist on the Tihama and around Salalah, it is possible that some may remain, or return in a following season, and may then even commence to nest; but there is no evidence of this in Oman as yet.

Oman's southern province shares with south-west Arabia a strong Afrotropical element, and has regular migrant breeders from Africa such as Didric Cuckoo *Chrysococcyx caprius* and Grey-headed Kingfisher *Halcyon leucocephala*, and vagrants such as Wattle Starling (Gallagher & Rogers 1980). More African migrants to Oman are mentioned elsewhere (Gallagher 1986). That Abdim's Stork has found Oman is not surprising, but that it has apparently taken so long is less understandable. Regular censusing of Abdim's Stork in Arabia now seems justified in order to understand its status better and to monitor its possible spread.

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SUMMARY

The occurrence in Arabia of Abdim's Stork *Ciconia abdimii* is documented. Although known to nest in South Yemen since 1895, and in North Yemen since 1962, the bird has been subject to few observations until a survey of the Tihama in 1979 and the first reports in southern Oman in 1978. Arrivals in North Yemen are as early as February, implying over-wintering north of the Equator. An extraordinary irruption of up to 61 birds occurred in southern Oman 1983/84, some of which remained over three winters, the first known over-wintering in Arabia, but most birds were immatures and none nested; disorientation and a good crop of grasshoppers are possible reasons for this event. Regular censusing is suggested.

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DOTTEREL WINTERING IN SAUDI ARABIA

by

John Palfery

During the past four winters small numbers of Dotterel *Charadrius morinellus* have been found on the Dibdibah (28° 00' N 46° 00' E) in north-eastern Saudi Arabia. They have been present from mid-November until the end of February and some 200 birds have been recorded in one area. They were first noted in November 1982.

The Dibdibah is an extensive, slightly undulating, gravel plain, steppe-like in character, and largely featureless. It was once part of the flood plain of the Wadi Al Batin, and it extends from the Summam Plateau north into Kuwait and Iraq. It has a higher rainfall than the areas to the south and though normally there is no surface water, there are depressions which, after winter rains, can fill with water to form small, temporary lakes. In some springs, if there has been sufficient rain, the Dibdibah is green with the grass *Stipa capensis* and bright with colourful annuals; by the summer, however, all that remains is a sparse, yellowed stubble. In some areas a few stunted bushes occur but none are higher than about 50cm. Maps of the area indicate no permanent habitation but during the winter and spring the area is grazed by Bedouin camels and sheep.

It has been possible to visit only a relatively small area of less than 2,000km.² on the south-eastern edge of the plain, near the village of Assaiera (Al Wariah on some maps). Regular visits have not been possible either. Consequently only very incomplete data are available for the four winters. The numbers I have recorded are as follows:

- 1982/3 Nine birds on 19 November; 140, in a single flock, on 10 December.
1983/4 218-234 birds (maximum flock size 85) on 25 November; 136 (maximum flock size 104) on 22/23 December; 14 on 24 February.
1984/5 Eight birds on 4 January.
1985/6 76-128 birds (maximum flock size 54) on 24 January.

Although these numbers are small, the fact that they are taken from only one small area means that the total wintering population on the Dibdibah may well be considerably larger.

Hitherto the Dotterel has been considered to be only a rare migrant in Saudi Arabia (Bundy & Warr 1980; Jennings 1981). No other plover species is known to winter on the Dibdibah, but in spring, migrating flocks of Caspian Plovers *Charadrius asiaticus* pass through the plains and up to 500 birds have been noted in the Assaiera area in late March (own observations).

There appear to be no immediate threats to the area. As already noted, there are no permanent human habitations shown on the maps. The King Khaled Military City has been built at Hafra Al Batin and military exercises have been held on the plains, but these do not appear to be a regular event. There are two comparatively small oil fields, and of recent years a tiny area has been irrigated and farmed near Assaiera, but the scheme has not been expanded as with similar irrigated areas further east. Man's main use of the Dibdibah, therefore, continues to be by the Bedouin for winter and spring grazing.

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FIRST RECORD OF LONG-BILLED DOWITCHER IN THE SULTANATE OF OMAN

by

D. J. G. Foster and C. M. Greaves

INTRODUCTION

On 30 November 1985 a dowitcher was seen by CMG at Khawr Taqah near Salalah in southern Oman (17° 02'N, 54° 20'E). At first it was thought likely to be the Asiatic Dowitcher *Limnodromus semipalmatus* because that species had been reported at Aden in 1958 (J. P. Paige 1965), an occurrence that seemed to be the only acceptable record of *Limnodromus* species for Arabia. It was quickly clear, however, that the bird was not an Asiatic Dowitcher but one of the two Nearctic species. The bird stayed in the area until at least 9 May 1986 and was seen by several observers, often for long periods, and at ranges as close as 20 metres. Our opinion was that it was probably a Long-billed Dowitcher *L. scolopaceus*; copies of CMG's photographs (see *Plate 12*) obtained soon after the bird's discovery, were sent to the British Birds Rarities Committee (BBRC) and they unanimously agree that it was indeed a Long-billed, adding that it was a juvenile almost fully moulted into first-winter plumage (M. J. Rogers in *pers. comm.* to M. D. Gallagher).

The bird was seen in a small area of marsh, either fresh or brackish, virtually at sea level and only a few hundred metres from the sea, consisting of small raised grassy areas, areas of shallow open water, and small clumps of rush.

DESCRIPTION

Size: The bird seemed to be the same size as a female Ruff *Philomachus pugnax* when the two were seen together.

Winter Plumage: The following description is from notes made on 5 and 6 December. It was generally of grey-brown appearance. Head, chin, throat and breast were light grey-brown, shading to off-white on belly, vent area and undertail coverts; crown slightly darker than the rest of the head, a triangular dark smudge on lower forehead, a fairly conspicuous dark eye-stripe with pale supercilium. The sides of the breast, and the flanks, had diffuse, broad, light brown vermiculations. The wing coverts showed broad pale fringes, but they were only slightly paler than the main part of the feathers. The tip of the folded wing reached the tip of the tail. The undertail coverts showed two rows of marks on each side, the marks being spots, short bars, chevrons and half-moons, more or less at random. A view with a 30× telescope showed each mark to be almost exclusively made up of very small spots which could not be resolved at lower power. In flight the upper wing was seen to have a white trailing edge along its whole length, the white band being broadest on the outer secondaries. *Bare parts:* legs dull green; bill black with a small green patch at proximal end of lower mandible, distal third slightly downcurved and tip slightly swollen.

Summer plumage: In early April the rather drab greyness of the winter plumage began to change as the mantle and scapular feathers became more black-centred with orange-rufous fringes. Combined with the pale whitish-buff fringes of the coverts this brightened up the appearance of the bird. In early May it was in full breeding plumage: crown brown with fine darker streaking, supercilium bright chestnut, brown eye-stripe, and cheeks chestnut. Neck streaky chestnut, quite rich and darkish, mantle and scapulars black or very dark grey-brown fringed bright orange. Coverts grey with pale buff fringes, flight feathers dark brown. In flight the back showed a white triangular patch, the rump had narrow brown bars on a white ground, and the upper tail had wider brown bars on an off-white ground. The underparts were particularly bright, being bright palish chestnut from the chin through to the undertail, the

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colour only broken by the undertail markings and the vermiculations on the sides of the breast and the flanks noted in the winter plumage, and by brown streaking from the fore-neck onto the breast. There was no sign of whiteness on the belly.

Voice: Occasionally calling with a single "chip" or "kick"; when mildly alarmed calling "chu,chu,chu", in quick succession—a call reminiscent of Greenshank *Tringa nebularia*, but not so strident. There was a surprise/annoyance call usually uttered as the bird flew into its favourite feeding area and was confronted by a watcher's vehicle — this was a strange jumble of throaty, rich, and squeaky notes, quite loud, cascading downwards slightly in pitch and loudness, reminiscent of a Budgerigar *Melopsittacus undulatus* chattering loudly. The flight call when moving from one feeding area to another was a long, rippling "chirr, irr, ipper", descending in pitch and volume, with the initial pitch the same as the "chip" call.

BEHAVIOUR

A very active feeder, mostly with the bill vertical and a fast 'sewing machine' action. Sometimes probing on top of dryish grassy clumps, but mostly in wet areas, often wading with belly immersed and with head at times fully under water. During the winter the bird was really approachable but before leaving, it became difficult to get near it, and it spent most of its time wheeling around the marshy areas in the company of Greenshanks and Black-tailed Godwits *Limosa limosa*, the latter also in breeding plumage.

COMPARISON WITH ASIATIC DOWITCHER

Asiatic Dowitcher is not known to the authors, but from the information given by Paige (1965), Kitson (1978) and Hayman *et al.* (1986) there would seem to be little risk of confusing it with either Long-billed or Short-billed Dowitcher *L. griseus*. In particular the Asiatic species is larger (almost the size of Bar-tailed Godwit *Limosa lapponica*) and has black legs.

The Long-billed Dowitcher breeds in north-east Siberia and in the north-west corner of North America. It is a long-distance migrant and those breeding in Siberia are believed to join the North American birds to move south to wintering areas in the southern United States and Central America (Cramp & Simmons 1982). However, vagrants have recently been recorded in Bali, Brunei and Thailand (Hayman *et al.* 1986). The distance from north-east Siberia to south-west Oman, via Thailand, is about 7,300 nautical miles, as opposed to about 9,600 nautical miles travelling eastwards via the eastern seaboard of the USA; it seems possible therefore that this bird reached Oman by the former route.

ACKNOWLEDGEMENTS

We are most grateful to the members of the BBRC for giving time considering this record, and to Michael Gallagher for his most helpful comments on an early draft of this paper.

SUMMARY

The occurrence of Long-billed Dowitcher *Limnodromus scolopaceus* is reported from Oman, south Arabia, between 30 November 1985 and 9 May 1986, the first reported for the country and probably the first for Arabia.

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WILSON'S PHALAROPE IN OMAN: THE FIRST RECORD FOR ARABIA

by

Roger Hedley, Steve Tibbett and Ray Midgley

At about 1600 hrs. on 15 August 1986 we flushed a party of waders from some pools near the coastal town of Taqa, 30km. east of Salalah in southern Oman. The attention of ST was drawn to a very pale looking wader circling overhead with some Ruffs *Philomachus pugnax*. On eventually alighting by a pool, it was watched feeding in company with Little Ringed and Lesser Sand Plovers *Charadrius dubius* and *C. mongolus*, Little Stints *Calidris minuta* and a Curlew Sandpiper *C. ferruginea*, a Redshank *Tringa totanus* and Wood Sandpiper *T. glareola* and Common Sandpiper *Actitis hypoleucos*. The bird was about the size of Curlew Sandpiper but with a dumper body, small head and relatively long neck. The long thin bill was reminiscent of Marsh Sandpiper *Tringa stagnatilis*. In flight it looked pale grey and white with all grey back and wings, with a white rump not extending up to the back and grey tail. The light was fading as we watched it feeding on a muddy area by some small pools and low scrub. It was very active and fed in an almost frantic and frenzied manner, dashing forwards with lowered head and outstretched neck, lungeing and stabbing at insects on the surface of mud and water. Sometimes it fed by sweeping its long, fine bill from side to side. During this period of active feeding the tail was held upwards in a 'half-cocked' manner. On one occasion it waded out into the shallow pool belly-deep but made no attempt to swim. We lost sight of the bird when it waded to parts of the pool behind low scrub. We agreed it was a phalarope *Phalaropus* and as we are all familiar with Red-necked *P. lobatus* in this region concluded that it was not that species.

On 17 August we were able to return to the area and, in much better light conditions at 0930 hrs., we soon re-located the bird. It was again seen close to a Curlew Sandpiper and also fed close to a Broad-billed Sandpiper *Limicola falcinellus*. It was obviously longer-bodied than the latter and very comparable in size to the former. RH had seen two Red-necked Phalaropes on the previous day at Thumrait (80km. north of Salalah) and estimated that the present bird had a relatively longer all-black bill. It had a grey crown, white supercilium and a grey mark through the eye with the remainder of the face, neck and underparts pure white. The whole of the upperparts were grey, the upperwing being uniform and, in good flight views, showed no trace of any wing-bar. The upper-tail coverts were white, the tail grey. On the ground when seen closely on 17 August a noticeable feature was the whiteness of the sides of the tail which also appeared quite broad and square ended. In flight the tail was seen to be dark in the centre and paler towards the outer tail feathers with the outermost appearing as pure white. All the tail feathers were narrowly tipped with white. During one close flight view the legs were seen to extend slightly beyond the tail. The legs looked all black on 15 August but when seen in better light on 17 August were blackest on the tibia above the knee. The tarsus looked more greenish while the soles of the feet showed some yellow when the bird walked directly away. Although flushed a number of times, the bird remained silent.

We identified this bird as Wilson's Phalarope *Phalaropus tricolor* by its size and structure – notably the long, straight and slender bill – by the uniform grey upperparts and upperwing, the square-shaped white rump patch and leg colour; a combination which eliminates all other Holarctic waders. The leg colour suggests that the bird was an adult since first year birds have yellowish legs until December-January (Cramp & Simmons 1983).

Although this would be the first record for Arabia, Wilson's Phalarope is now an annual vagrant in north-west Europe. There are three records for Morocco and five for southern Africa (November-January and April) in recent years (Urban *et al.* 1986), this suggesting that a few might even over-winter on the eastern side of the Atlantic.

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NOTES TO CONTRIBUTORS

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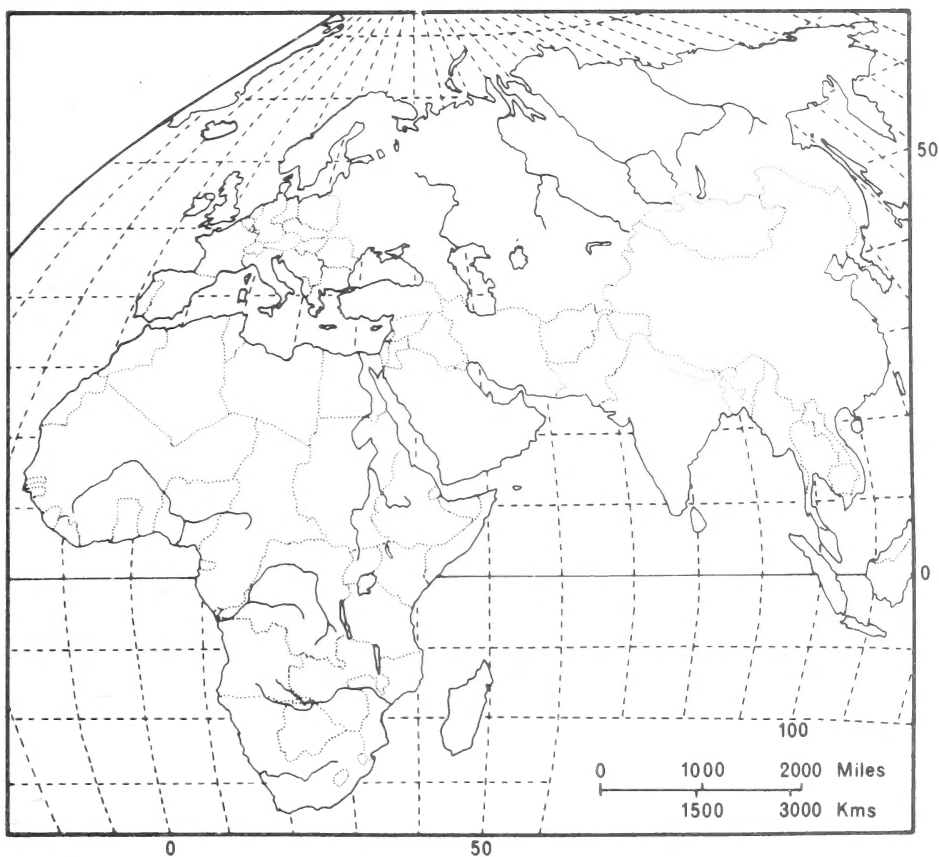
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CORRIGENDA

Sandgrouse 7, 1986.

Please insert *Addendum* containing *Figures 1 and 2* (Blackstarts in Southern Oman) between pages 42 and 43.



An equal-area map of the Palearctic, Oriental and Afrotropical zoogeographical regions. O.S.M.E.'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.

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