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# SANDGROUSE

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Volume 20 (2)

1998



OSME

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ORNITHOLOGICAL SOCIETY OF  
THE MIDDLE EAST

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OSME

# ORNITHOLOGICAL SOCIETY OF THE MIDDLE EAST

OSME was founded in 1978 as the successor to the Ornithological Society of Turkey. Its primary aims are:

- To collect, collate, and publish data on all aspects of the birds of the Middle East.
- To promote an interest in ornithology and bird conservation throughout the Middle East.
- To develop productive working relationships with other governmental and non-governmental organisations with an interest in conservation and/or natural history in the region.

## MEMBERSHIP

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OSME publishes a scientific journal, *Sandgrouse*, containing papers, news and features on all aspects of Middle Eastern ornithology. Published twice yearly, it is issued free to members. Further copies are available for sale from OSME.

## MEETINGS

An Annual General Meeting is held in London at which guest speakers provide new perspectives on ornithology in the region. There are also occasional special meetings, some taking place outside the UK.

## PROJECTS

OSME organises field expeditions to collect data on birds in little-known parts of the region and in areas where OSME can assist by teaming up with local groups.

The Conservation & Research Committee grants funds to valuable field projects and desk studies which further knowledge and conservation of birds in the region. Grants have been awarded to over 30 projects since the Conservation & Research Fund was set up in 1982.

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## SANDGROUSE

Volume 20 (2)

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## COVER PHOTOGRAPH:

Male Grey Hypocolius  
*Hypocolius ampelinus*, taken  
by Dr Mike Hill in Bahrain.

OSME is grateful for sponsorship  
from Subbuteo Natural History Books  
Ltd. towards the cost of printing the  
colour photographs inside this issue.

# NOSME News



## OSME SUMMER MEETING 1999

Plans for next year's OSME Summer Meeting and AGM are already under way. The event will once again be held at the School of Oriental and African Studies, Russell Square, London on 17 July 1999. Full details will be announced in *Sandgrouse* 21 part 1.

## COMINGS AND GOINGS ON OSME COUNCIL

It was with sadness and a little heaviness of heart that three members retired from OSME Council on completion of their five-year, or longer, contribution to the increase in strength and vitality of OSME.

**Rosemary Parslow** was Membership Secretary and, together with Adrian Colston, maintained the membership database, an extremely important task. OSME is very grateful for all the assistance that Rosemary has rendered the Society over many years. Adrian continues as a co-opted Council member to allow a smooth passage of the financial reins to the next Treasurer. Owen Roberts has taken over as Membership Secretary and we welcome him in his new role.

**Gary Allport** has provided a very important connection to BirdLife International, chaired the Conservation and Research Committee and provided a link with the wider conservation world. Through his good offices, OSME has continued to promote ornithological research in the Middle East through its small grants scheme. Chris Bradshaw takes over as

Chairman of the Conservation and Research Committee.

**Hilary Welch** has been, and continues to be, strongly associated with OSME and all its work, and her active participation on Council will be sorely missed as she relinquishes the Librarian's post. This has, at last, allowed her to clear the spare bedroom! Ray Daniels has taken over this role and provides more information about the OSME library below.

*Andrew Grieve, OSME Chairman*

## OSME SUMMER MEETING 1998

A relatively small, but typically, enthusiastic audience enjoyed OSME's summer meeting, held in London at the School of Oriental & African Studies, on 25 July. The meeting opened with the now traditional round-up of conservation news from the region, summarised by Adnan Budieri, the new head of BirdLife International's Middle Eastern division. Hilary Welch discussed the highs and lows of travel in Turkey outside the popular spring and summer periods. The main business of the meeting, the AGM, was chaired in his own unique style by Andrew Grieve. After lunch the Grieve style continued with a highly entertaining Chairman's quiz loosely following the format of BBC's Question of Sport. The main talks continued with Nigel Cleere discussing recent ringing work in Kuwait, whilst Tim Loseby completed proceedings with some excellent slides from just beyond the OSME region, in Central Asia.

*Chris Bradshaw*

## OSME/SUNBIRD TRIP TO YEMEN

Led by Rod Martins and Dave Fisher, the joint OSME/Sunbird trip to Yemen which ran in April 1998 was highly successful, recording all of the south-west Arabian endemics, Arabian Bustard *Ardeotis arabs* and a host of rare migrants, including two first country records: Grey-headed Gull *Larus cirrocephalus* and Great Spotted Cuckoo *Clamator glandarius*. Further details appear in *Around the Region*. Another joint tour is planned for autumn 1999. Full details will be announced in due course.

## THE OSME LIBRARY

The OSME Library is 20 years old this year. It currently has 1940 items: 68 books, 55 booklets, 499 journals, 677 newsletters, 210 papers, 295 reports, 131 trip reports, five maps and videos. These are in nine languages: Arabic (22), Czech (three), Dutch (94), English (1568), French (44), German (124), Hebrew (34), Swedish (five) and Turkish (46). The high number of journals and newsletters is due to the fact that exchange agreements exist with over 40 clubs and societies. The main disappointment has to be the low number of books. As OSME's policy is to rely on donations, the begging bowl is out. Some notable omissions are *Birds of the Arabian Gulf* (Jennings), *Birds of southern Arabia* (Robinson & Chapman), *Directory of wetlands in the Middle East* (Scott), and *Raptors in Israel: passage and wintering populations* (Yekutiel). In addition, we do not hold *The birds of Israel* (Shirihai), the *Birdwatching guide to Qatar* (Oldfield) and *Deserts of Israel* (Shirihai & Bahat). The number of recent additions to the library is only 89 in the last five years (exchanges apart). The largest collection of material is, unsurprisingly, devoted to Turkey (329), but Cyprus (283),

Israel (180) and UAE (175) are also well represented. At the other end of the spectrum are Afghanistan (nothing), Iran (four), Qatar (six), and Djibouti, Morocco and Syria all with nine. We have only received five trip reports in the last five years (Turkey excepted). More, please.

Ray Daniel, Librarian

## Thinking of joining OSME?

Enjoy a year's membership for only £12!

### OSME

- promotes the study and conservation of birds throughout the Middle East
- encourages the standardised recording of bird observations
- brings together knowledge of the region's birdlife
- maintains a conservation and research fund to support small-scale projects by members
- publishes *Sandgrouse* twice a year, sent to all members

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# NEWS & INFORMATION

compiled by Simon Albrecht

The aim of this section is to inform readers about events in the OSME region. It relies on members and others supplying relevant news and information. If you have anything concerning birds, conservation or development issues in the OSME area please send it to *News & Information*, OSME, c/o The Lodge, Sandy, Bedfordshire SG19 2DL, U. K.

This section is not intended as a definitive report or write-up of the projects concerned. Many of the projects are sponsored; such support is appreciated but is not generally given acknowledgement here.

## GENERAL

**BirdLife International** has a new head for its Middle East division. Adnan Budieri, from Jordan, has taken over from Richard Porter and with the creation of a new BirdLife regional office in Jordan, the Middle East programme will now be administered from there. A profile of Adnan appears elsewhere in this issue.

**Bird Re-introductions** is the title of a round-table discussion to be held at the 22nd International Ornithological Congress, Durban, South Africa in August 1998. The intention was to have a free exchange of ideas and experiences, and to allow participants to make contact with the IUCN's Re-introduction Specialist Group (RSG) and those working on related topics. An abstract based on the discussions was to be prepared for participants. Those requiring further information should contact Dr Philip Seddon (IOC RTD), NWRC, P. O. Box 1086, Taif, Saudi Arabia. Tel: (966) 2 7455188; Fax: (966) 2 7455176. E-mail: nwrc@compuserve.com.

**Bald Ibis** We have previously given information on Bald Ibis *Geronticus eremita* in the Middle East and Morocco, which has the only known wild breeding population. The June 1998 *World Birdwatch* reports on research and conservation measures undertaken in Morocco since 1994. The cause of death of 40 Moroccan birds in nine days in May 1996

remains a mystery despite analyses and tests. Intoxication from an obscure source remains a possibility and demonstrates how vulnerable the remaining 200 wild birds are.

In Birecik, Turkey, a small free-flying, breeding population supported by feeding is taken into captivity in winter. It is thought that some of these birds may disperse in autumn and not get taken into captivity. To test this, birds at Birecik are being ringed. There are still suggestions of a Bald Ibis population in Yemen but no recent positive sightings. Anyone seeing a Bald Ibis in the Middle East is asked to note whether it is ringed (but not endanger the bird). Any sightings or past reports, including circumstantial evidence from local people, should be sent, as previously requested, to: Geoff & Hilary Welch, Minsmere Reserve, Westleton, Saxmundham, Suffolk IP17 3BY, U. K. Tel: +44 (0)1728 648298. Fax: +44 (0)1728 648529. E-mail: welch@easynet.co.uk.

**Cooperation on migrating birds** USAID/MERC has committed \$1,050,000 for Israel, Palestine and Jordan to cooperate on the issue of migrating birds. The money has been divided equally between the three countries. In Israel it has gone to the International Center for the Study of Bird Migration at Latrun while in Palestine a new centre was opened in April 1998 at Talitha Kumi School in Beit Jalla, west of Bethlehem. (Source: *SPNI News*)

## BAHRAIN

**Socotra Cormorants on Sawad Al Janabiyah** In *Sandgrouse* 20: 3, we reported that heavy rains had devastated the Socotra Cormorant *Phalacrocorax nigrogularis* colony in November 1997. Michael Hill returned to the colony a week later and found the colony replenished and back to its original size. It is unclear why the adults returned but many had nested again. It was predicted that most chicks would not survive but information is unavailable. It remains unclear whether the

devastation has had long-term effects on the colony. (Source: *Bahrain Nat. Hist. Soc. Newsletter* 1 May 1998)

**Bahrain signs Ramsar Convention** Bahrain signed the Ramsar Convention protecting internationally important wetlands on 27 February 1998. It has submitted two sites to the Ramsar List of Wetlands. (Source: *Ramsar Newsletter* 27 in *Oryx* 32 (2)).

## CYPRUS

**Breeding Birds Atlas** Visitors to Cyprus (north and south) from March–July are invited to assist the Cyprus Breeding Birds Atlas, which is based on 5-km squares and uses methodology similar to European atlas projects. Those willing to help are asked to contact David Whaley and Judy Dawes, Armou, Paphos 8522, Cyprus. Fax: + 356 (0)6 249787. Tel: + 356 (0)6 249788 before they go.

## EGYPT

**Crocodiles return** The Nile Crocodile *Crocodylus niloticus* was apparently extirpated in Egypt in the mid-1800s but with the construction of the Aswan High Dam in the 1960s there has been speculation that it would return, colonising from upstream Sudan. Since the mid-1990s, both stuffed and live juvenile crocodiles have been on sale in Luxor. There have also been recent reports of crocodile attacks, including at least one fatality, in Lake Nasser. No direct observations have been made because Lake Nasser has strict military restrictions but the regional governor has approached IUCN and the Crocodile Specialist Group is developing a management plan. (Source: IUCN/SSC in *Oryx* 32 (2)).

**New Protected Area** Lake Burullus and its adjacent sandbar, in the Nile Delta east of Alexandria, has recently been declared a Protected Area. The lake is one of the country's most spectacular Important Bird Areas (IBA) and is a focal point of the MedWet GEF project. (Source: *BirdLife International Update* 8).

## ISRAEL

**Stork migration on the internet** The use of satellite transmitters to track Houbara Bustards *Chlamydotis undulata* has been reported previously (*Sandgrouse* 20: 5). In Israel transmitters have been attached to species such as White Stork *Ciconia ciconia*

and Griffon Vulture *Gyps fulvus*. Movement of individuals over time can be followed on the internet. The site is in English and Hebrew and is located at: <http://www.birds.org.il>. For more information contact Dr Miri Rosenboim, The Kibbutzim State Teachers College, 147 Namir Road, Tel Aviv, Israel. Tel: (+972) 36902324. Fax: (+972) 39330924. E-mail: [romi@netvision.net.il](mailto:romi@netvision.net.il).

## LEBANON

**Aammiq Project** Information concerning this project (also spelt Ammiq) was presented in *Sandgrouse* 20: 13–16. The aim of the project is to create a field studies centre to facilitate conservation, education and research in the last remaining significant wetland in Lebanon. It is hoped the area will be protected in the near future. For further information contact: Chris Naylor, The Post Office, Qabb Elias, The Bekaa, Lebanon. Tel: 03 877387. E-mail: [csnaylor@destination.com.lb](mailto:csnaylor@destination.com.lb) or: A Rocha Trust International, 3 Hooper Street, Cambridge CB1 2NZ, U. K. Tel/Fax: (44) 01387 710286. E-mail: [a\\_rocha@compuserve.com](mailto:a_rocha@compuserve.com).

## SAUDI ARABIA

**The Houbara Bustard captive breeding programme** at Taif, Saudi Arabia has had another record-breaking year. With the laying period already completed, 485 eggs have been laid by 73 *macquennii* females compared with 439 eggs laid by 63 females in 1997. The first chick hatched on 24 January. 1998 was the most successful breeding season to date with more than 240 chicks reared. More than 100 birds will be released into Mahazat as-Sayd, the largest release since the first re-introduction in 1991. Successful breeding of re-introduced birds was first observed in 1995 with one brood and two nests discovered. This year at least 20 nests were found and 13 chicks seen. Following the successful 1997 season, the National Wildlife Research Center is continuing its major release programme. (Source: Stephane Hemon *in litt.* 1998)

## UNITED ARAB EMIRATES

**UAE bird recorder** Colin Richardson has recently changed his telephone and fax numbers. The new numbers are as follows. Tel: +9714 472277; Fax: 9714 472276. You can also contact him on the following mobile telephone no.: +97150 6503398. Colin is always happy to hear from visiting birders and exchange up-to-date information on birds and

sites in UAE. If you are planning a trip to the country, you can also contact him at: P. O. Box 50394, Dubai, United Arab Emirates.

## TURKEY

**Yelkouan Shearwater survey** Türk Deniz Araştırmaları Vakfı (TUDAV) are operating a research project on Yelkouan Shearwaters *Puffinus yelkouan* in the Black Sea, Bosphorus and Marmara Sea with the approval of the National Parks and General Management of Game and Wildlife. It aims to count the species, discover its breeding sites and investigate its ecology. TUDAV hope to ring 200 shearwaters. The rings are marked as follows: TR Ist. TUDAV P.K. 10 Beyoz followed by a number. Anyone finding a ring should send full details, including the number to: TUDAV, P.K. 10, Beyoz, 81650 Istanbul, Turkey.

## YEMEN

**Captive Leopards** Yemen harbours over half the total population of Arabian Leopard *Panthera pardus nimir* numbering c. 200 individuals. A remote gorge called Al Wadi-A c. 120 km north of Sana'a is an important area for the species and there are moves to create a protected Leopard area there. Due to hunting pressures much of the Leopard's natural food, especially Dorcas Gazelle *Gazella dorcae*, has been depleted. This has resulted in remaining Leopards turning to livestock and they are now regarded as a pest by local people who trap, shoot and, more recently, sell them into captivity.

Captive animals are kept in an appalling state in Yemen where they are teased and taunted by their keepers for the amusement of onlookers. It is illegal to kill or sell Leopards, or to use them commercially for public display without a licence. However few people know of these laws and they are rarely enforced. There is apparently some pressure to establish a zoo in Yemen. Before this is done, the conditions of animals currently in captivity require dramatic improvement, the laws protecting native wildlife must be enforced, and game reserves protecting Leopards and other rare species be established and operational. (Source: *International Zoo News* 45: 22-25).

**Bankoualé Palm** The Bankoualé Palm *Livistona carinensis* is a rare tree with just 38 in Somalia and c. 400 in Djibouti. A survey of the palm's stronghold in Yemen in March 1998

found 1357 trees, including three at a new site. The palms were all healthy but young with no trees taller than ten metres. Mature trees can grow to at least 26 metres. The tree is valued for its long straight trunk which makes it ideal for roofing timbers, and the survey counted 1936 cut stumps. This explains the even aged structure of the population in Yemen and demonstrates heavy local exploitation. A suggested conservation strategy is being developed. (Source: *Oryx* 32 (3)).

## REQUESTS for INFORMATION

### Photos required for *Sylvia* warbler monograph

The long-awaited monograph, by Hadoram Shrihai, Gabriel Gargallo, Andreas Helbig, Alan Harris and David Cottridge, on the Palearctic *Sylvia* warblers (including the Afrotropical genus *Parisoma*, which the authors subsume within *Sylvia*) is nearing completion. The book will include 80 colour plates. Dave Cottridge has managed to photograph most of the species covered by the book during the project but photographs of various plumages and races are still required. High quality field shots of any species are welcomed, and photographs of the following, either in-the-hand or field, are especially sought: *Sylvia deserticola*, *S. mystacea* (principally the races *mystacea* and *turcmenica*), *S. rueppelli* (juvenile), *S. melanothorax* (juvenile), *S. nana* (race *deserti*), *S. leucomelaena* (south Arabian and East African forms), *S. hortensis* (nominat race), *S. nisoria*, *S. curruca* (*althaea* and *minula*), and all species of *Parisoma*. A fee will be paid for each photograph published and all photographers will be fully credited in the text. The final photo selection will be made in late 1998 and material should be forwarded as soon as possible to: **David Cottridge, 6 Sutherland Road, Tottenham, London N17 0BN. Tel.: 0181 8081341.**

## Habitat selection by Syrian Serin *Serinus syriacus* in south-west Jordan

FARES KHOURY

The Syrian Serin *Serinus syriacus* breeds in montane Lebanon, Syria, north-east Israel and south-west Jordan, on rocky slopes with scattered trees and shrubs, and in open woodland (Shirihai 1996, Khoury 1998). Due to its restricted range, and the fact that it is the only endemic breeding bird species within its range, the species should receive the highest conservation priority in the region. Data on population trends and ecology is needed for species and habitat management. Little has been published on the species' ecology, although Shirihai (1996) provides some information on its breeding biology and habitats at Mount Hermon. Syrian Serin was only recently proven to breed in Jordan (RSCN 1995). Here, I summarise habitat selection as defined during research in south-west Jordan which aimed to identify key factors limiting the species' distribution and analyse the local bird community.

### STUDY AREA

The study focused on an area of 200 km<sup>2</sup> between Busseira and Shaubak, and included parts of Dana Nature Reserve where Syrian Serin breed. The area comprises the mountains east of Wadi Araba and the adjacent Sharra Highland plateau—a high altitude (1200–1630 metres) plain with moderate relief.

The climate is Mediterranean semi-arid with cool wet winters and hot dry summers.

Precipitation varies with altitude and location, the annual mean ranging from 200–400 mm at least.

The vegetation is generally of steppic character with Irano-Turanian and Mediterranean elements (Baierle 1993). Various dwarf shrub communities cover most of the landscape, but remnant *Pistacia* and *Amygdalus* trees suggest that many parts were formerly covered by open steppe woodland.



Plate 1. Syrian Serin *Serinus syriacus*, adult with juvenile, Dana Nature Reserve, Jordan, June 1996. (F. Khoury)

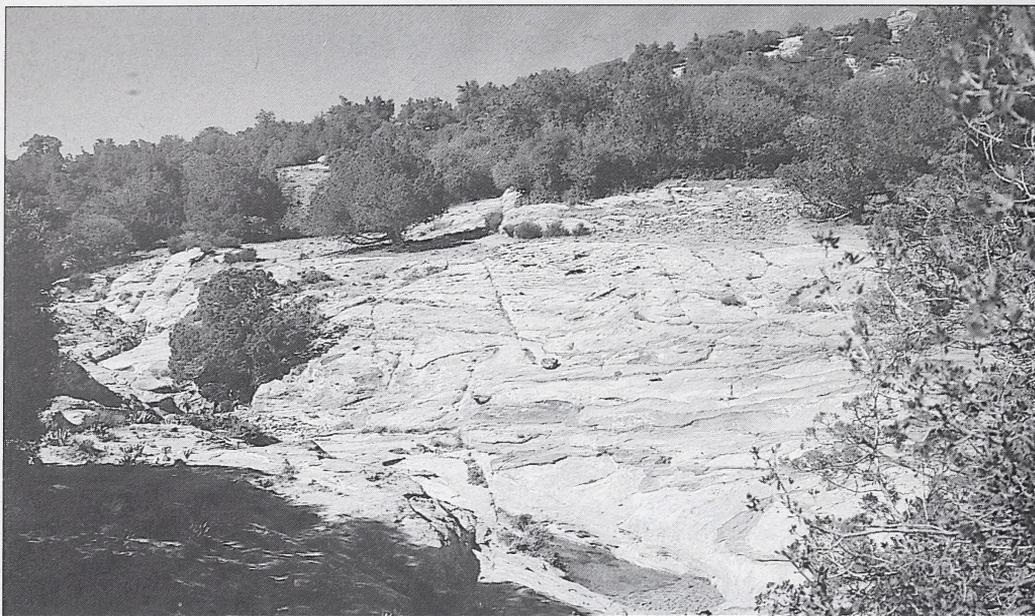


Plate 2. Oak-juniper woodland with remnant pool in Dana Nature Reserve (c. 1220 metres), Jordan, May 1997. (F. Khoury)

Extensive open woodland of evergreen *Quercus calliprinos* and *Juniperus phoenicea* still cloak some west-facing slopes of the ridge (Plate 2). Most stands are highly degraded due to wood cutting and grazing, and the undergrowth is typically dominated by annuals and dwarf shrubs. Trees are generally low, their mean height in most areas being 3–4 metres. Mediterranean plant communities exist this far south due to the higher rainfall at this altitude.

There are few towns and villages in the study area (Rashadiyah, Gharandal, Busseira, Qadissiyah, Dana and Mansura). The local population herds sheep and goats, and cultivates land around the villages. Nomadic Bedouin use the area in March–October.

Dry farming, mostly cereal cultivation, is still practised. Plants such as *Picnoman*, *Cousinia* and *Lactuca* cover most fallow and non-irrigated fields after harvesting. Ruderal vegetation dominates along roads, in orchards, at camp sites and in villages.

## METHODS

Fieldwork was conducted between October 1995–October 1996 and April–May 1997. Bird counts and habitat variables were recorded using point counts (Bibby *et al.* 1992) in the 1995–96 winter and 1996 breeding season (Table 1). At least 130 counts were made in each season in habitats from open steppe to

woodland. Although points were not random, they were evenly distributed in the breeding area and selected for their general habitat composition, especially tree cover. Species-habitat relationships were explored by multiple regression analysis.

Vegetation communities and habitat variables were recorded within 50 metres of nesting sites (Table 1), so as to accurately describe the breeding habitat. Plant species were identified using Zohary & Feinbrunn-Dothan (1966–1986). Areas known or expected to be used by Syrian Serin were visited 4–5 times per week, each visit commencing soon after dawn and lasting 4–8 hours. The use of habitat structures, mainly trees, during the breeding season and winter was analysed by noting the first observation of a certain behaviour (e.g. males singing on juniper or oak) during each session.

The  $X^2$ -Test was used to compare observations with expected frequencies derived from the abundance/frequency of the different tree species.

## STATUS AND POPULATION SIZE

Syrian Serin was found breeding only in Al Barra, a wooded area of c.15 km<sup>2</sup> above Wadi Dana, at 1000–1350 metres, the only known breeding area in Jordan. The population size in 1996 was estimated at 600–650 pairs. This population is considered resident as birds

**Table 1.** Habitat variables at nesting sites of *Serinus syriacus* in Al Barra, Dana Nature Reserve. The variables were recorded to a range of 50 m from the nests (n=37).

Habitat variable	Mean	Minimum	Maximum
Altitude [m a.s.l.]	1167.7	1100.0	1330.0
Slope [°]	14.0	0.0	40.0
Shrub cover [%]	15.5	5.0	30.0
Diversity of shrub layer [no. of species]	5.4	1.0	10.0
Mean height of shrub layer [cm]	86.5	40.0	100.0
Ground cover [%]	21.3	10.0	35.0
Bare ground [%]	15.2	3.0	35.0
Rock cover [%]	39.4	10.0	65.0
Stone cover [%]	8.5	0.0	40.0
Tree cover [%]	44.5	35.0	60.0
Diversity of trees [no. of species]	2.2	2.0	3.0
Proportion of <i>Juniperus</i> [%]	50.6	32.0	98.0
Proportion of <i>Quercus</i> [%]	49.1	0.0	67.0
<i>Artemisia</i> cover [%]	4.4	0.0	25.0

**Plate 3.** Fallow and wheat fields near Qadessiyya (c. 1500 metres), Jordan, late April 1997. Fields are often lined with remnant trees, shrubs (e.g. *Crataegus*) and dwarf shrubs. (F. Khoury)

were present throughout the research period. Movements are, however, likely in years when food, especially *Artemisia* seeds, is insufficient due to climatic variations (Khoury 1998).

### BREEDING HABITATS

The species bred at high density in open oak-juniper woodland, but less frequently in juniper-dominated woodland (relative densities 60 and eight pairs/km<sup>2</sup>) and avoided pure oak stands and pine plantations. According to multiple regression analysis, the species' breeding season

abundance correlated positively with tree cover. A preference for the densest patches in extensive open woodland is evident (mean tree cover at nesting sites was c.45%, Table 1). In contrast, breeding birds avoided sparsely wooded areas (<30% tree cover, Table 1) and highly degraded dry stony slopes where the undergrowth was dominated by dwarf shrubs, e.g. *Artemisia sieberi*.

At least one third of the trees or high shrubs at nesting sites were junipers (Table 1). Nests were built in either oak or juniper, but *J. phoenicea* over three metres high were often



Plate 4. Juniper *Juniperus phoenicea*, Dana Nature Reserve, Jordan, April 1997. (F. Khoury)

preferred by males as song perches (Fig. 1; significant when compared with oak trees *Q. calliprinos*;  $p < 0.01$ ;  $X^2$ -Test). Singing males used the highest defoliated branches of mature junipers, which are generally higher than the bushy oak trees (*Juniperus*: max. 9.5 metres, mean 3.5 metres, *Quercus*: max. 6.5 metres, mean 3 metres).

Breeding density is also related to the presence of remnant pools (Plate 2) and open feeding sites with a high density of annual vegetation which contains the most important food resources, especially in the early breeding season (March–May). Ground cover including annuals was always present near nest sites, and covered a mean of 21% of the ground surface (Table 1). Grazing is permitted here only in winter, thus short-living annuals can develop after the rainy season; overgrazing is, however, causing soil erosion

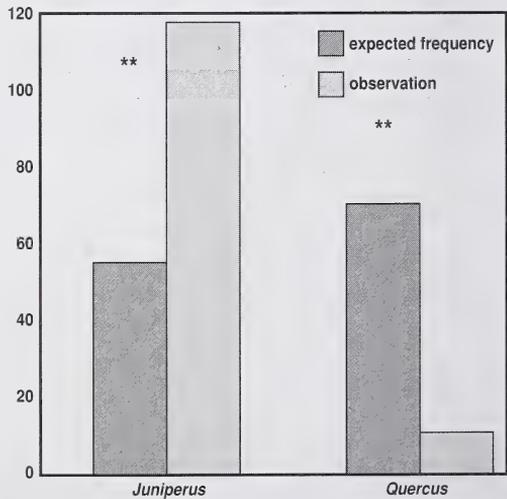


Figure 1. Breeding season habitat use by Syrian Serin *Serinus syriacus* in Dana Nature Reserve. Males prefer *Juniperus phoenicea* trees as song perches (\*\*-  $p < 0.01$ ).

and general habitat destruction (Plate 5). In surrounding areas annual vegetation is sparser due to year-round grazing. Shrub cover (including dwarf shrubs) is lower at breeding sites (mean 15.5%) than in surrounding areas where dwarf shrubs cover over 30% of the surface area (except cultivated fields).

The mosaic of vegetation types in one nesting area (c. 100 x110 metres) represents the typical vegetation pattern of a breeding site, including essential habitat structures (e.g. trees for nesting and song perches) and food resources. However, the serins used larger areas while breeding and often flew over 200 metres from their nests in search of productive feeding sites and pools. The undergrowth in the shade of the oak and juniper trees consists of thermophilic species of the *Cerantonio-Rhamnion* association. Some annuals are found in this community, including foodplants of Syrian Serin, e.g. *Erophila*, *Thlaspi*, *Holosteum*. Steppic vegetation which dominates surrounding

areas is often prevalent between trees. The plot includes a section with annual and ruderal vegetation (3b in Fig. 2) consisting of *Schismus arabicus*\*, *Crepis aspera*, *Matricaria aurea*\*, *Senecio vernalis*\*, *Erodium* sp.\*, *Hirschfeldia incana*\* and others (those marked with an asterisk are foodplants of Syrian Serin in the breeding season).

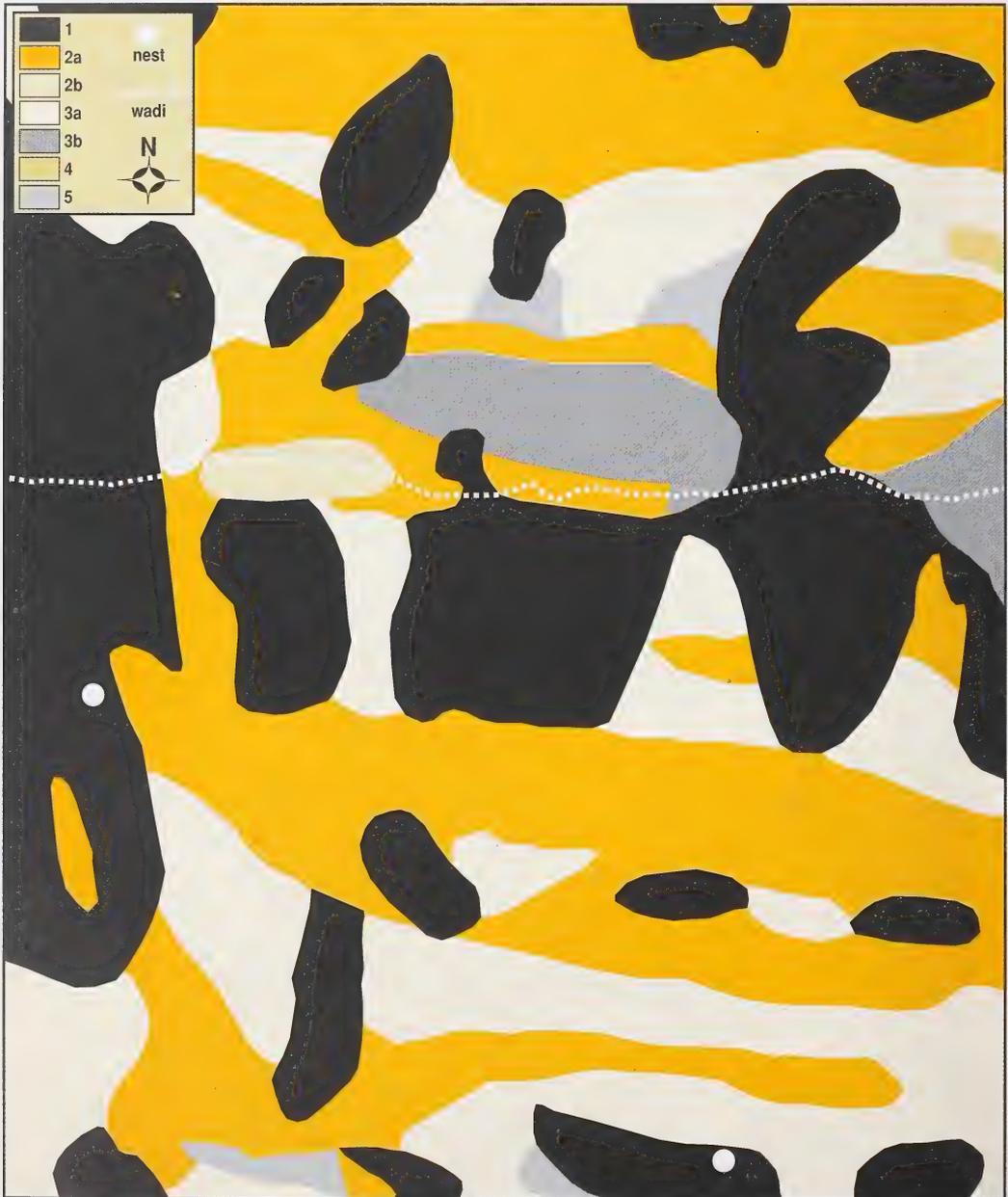
### HABITATS AT OTHER SEASONS

Following breeding, the species generally moved to higher ground in the vicinity of Rashadiyya and Qadessiyya (1300–1600 metres) and Dana orchards (c.1000 metres). The following habitats were used for foraging: waste places, gardens and orchards with ruderal vegetation containing the foodplants *Hirschfeldia*, *Sysimbrium*, *Reseda*, *Polygonum* and *Phalaris*, wheat and fallow fields (Plate 3) with segetal plant communities including the foodplants *Triticum*, *Cardaria*, *Raphanus* and *Lactuca*, and dwarf shrub communities including the foodplants *Piptatherum*, *Melica*, *Tanacetum*, *Nepeta* and *Noaea*.



Plate 5. Active erosion in Dana Nature Reserve, Jordan, due to intensive grazing. (F. Khoury)

**Figure 2.** Vegetation complex at a breeding locality of Syrian Serin *Serinus syriacus* in Dana Nature Reserve (c. 1150 metres). The plot (c. 100 x 110 metres) demonstrates the structural pattern and cover of plant communities including fragmentary associations. 1. Mediterranean-type, evergreen open woodland (*Junipero-Quercion*). Stands very open or in dense patches of high shrubs or trees (*Quercus calliprinos* and *Juniperus phoenicea*), up to six metres high. 2. Rocky ground (calcareous sandstone) with crevices containing: 2a *Varthemitea montanae* (e.g. *Centaurea damascena*); 2b Mediterranean semi steppe/batha (Ballotetalia, Sarcopoterietalia, e.g. *Ononis natrix*, *Sarcopoterium spinosum*) and perennial grass species among the thorny bushes e.g. *Piptatherum milaceum*. *Lavandula dentata* is locally found in rock crevices. 3. Sandy terraces and depressions between rocky sections: 3a short grass areas of *Poa bulbosa*, *Carex pachystilis*, *Bromus* sp. associated with *Astragalus spinosus*, *Onobrychis weststeinii* and others. 3b Annual and ruderal vegetation largely consisting of short annuals. 4. Dwarf shrub formations dominated by *Noaea mucronata* and *Astragalus bethlehemiticus* or *Artemisia sieberi* associated with *Helianthemum vesicarium*, *Astragalus sanctus*, *Stipa barbata*.



In January 1996 the serins had moved lower and were found in flocks of up to 200 birds in Wadi Dana (300–800 metres) and the Mansura/Wadi Bustan area (800–1100 metres) mainly in *Artemisia* steppe with few trees. Certain habitat structures also proved essential in the selection of feeding habitats, as demonstrated by observations of foraging birds. Tall trees, boulders or walls are always present in feeding habitats and were used by birds on arrival at the site or as cover when sensing danger. In winter the species preferred scattered indigenous trees e.g. *Pistacia* and *Juniperus*, whose vegetation was dominated by the dwarf shrub *Artemisia sieberi*. Most foraging Syrian Serins in winter in open steppe habitat were around single trees or tree stands (Fig. 3).

Among all trees and shrubs (>2m), *Pistacia atlantica* trees were used most frequently: the use of other species, including *Juniperus*, corresponded to their abundance ( $p \leq 0.01$ ;  $X^2$ -Test). *Pistacia* trees are the largest in the area (up to ten metres high) and provide an overview of the site. Birds using these trees can locate other foraging individuals, foodplants and predators, especially Sparrowhawk *Accipiter nisus*, which are common here in winter.

In the non-breeding season, Syrian Serins principally used open habitats for feeding from Gharandal south to Mansura, but returned daily to wooded areas, especially in Dana Nature Reserve, to roost. They always roosted in relatively tall trees (>four metres), in the evergreen oak *Q. calliprinos*, and in summer also in *Pistacia atlantica*.

## CONSERVATION

Especially in summer and autumn, Syrian Serin selects secondary habitats including cultivated areas for feeding, e.g. waste places, orchards, wheat and fallow fields. Thus it can adapt to or benefit from human activities, provided these are non-intensive and traditional. Intensive agriculture and urbanisation are, however, expected to expand in the area as a result of development and human population increases. Unless carefully planned and limited, these will fragment and destroy habitats important for Syrian Serin and other bird species.

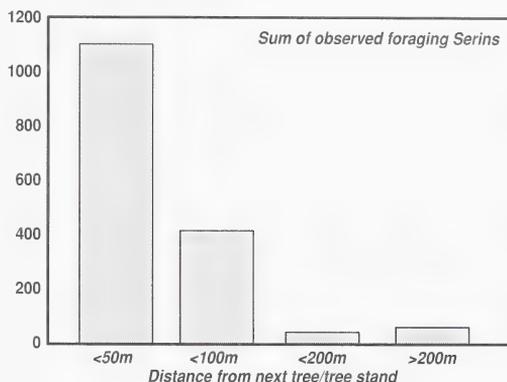


Figure 3. Relation between the number of foraging Syrian Serin *Serinus syriacus* in open steppe habitats in winter and the distance to next tree or tree stand.

The insular nature of the Al Barra breeding habitat has been exaggerated by human influences and now covers an area of only 15 km<sup>2</sup>. In the Dana Nature Reserve, this small area is currently subject to high grazing pressure. Wood cutting, overgrazing and other activities are degrading this unique woodland habitat, as well as preventing natural succession and regeneration. Although avoided by Syrian Serin and most other bird species, the only protected and ungrazed areas are those planted with *Pinus halepensis*. These plantations have low biodiversity compared to natural woodland in south-west Jordan (Khoury 1998).

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## Kibbutz Lotan—gem of the Arava valley, Israel

JAMES SMITH

Eilat has an international reputation amongst birders. However, the town is developing fast, encroaching on habitats once rich in migrant and resident birds, and visitors should consider the potential of otherwise unwatched migrations and rarities just 40 minutes north of Eilat town. Kibbutz Lotan nestles in a beautiful desert environment: the red sandstone hues of the Edom mountains in Jordan to the east and the limestone escarpments of the Negev plateau to the west provide a spectacular reminder that Lotan lies in the heart of the Arava valley. This introduction to birding in the area is designed to encourage others to come and 'discover' Lotan.



**Plate 1.** Arava Valley with Kibbutz Lotan and, in the background, the Edom mountains in Jordan, April 1996. (B. R. Hughes)



**Plate 2.** Acacia woodland at Nahal Quetura, January 1998. The acacia holds wintering Striated Scops Owl *Otus brucei*, Long-eared Owl *Asio otus*, Arabian Warbler *Sylvia leucomalaena*, Cyprus Warbler *S. melanothorax* and Sardinian Warbler *S. melanocephala*. (James Smith)

### SPRING RAPTOR MIGRATION

The mountains, cliffs, date plantations and fields around Lotan all provide important roosting places for migrating raptors. The flight direction, height and volume of passage depends on the species involved and can vary dramatically with weather changes. Perhaps most interesting, on days when few raptors pass through the Eilat mountains, 100s or 1000s of raptors may be visible at Lotan. Steppe Eagle *Aquila nipalensis* is the first migrant raptor of the spring, appearing in small flocks from around 10 February. Adults make up the bulk of the passage until late March when immatures become more obvious. This is the only eagle to migrate in reasonable numbers over the southern Arava: there have been counts of over 200 in early March. Imperial Eagle *A. heliaca* may number up to four in a day. Lesser Spotted Eagle *A. pomarina* is extremely scarce.

Steppe Buzzard *Buteo buteo rufinus* passage can be very impressive. During east winds streams of birds overfly Lotan into Jordan. Late afternoon passages are often the most exciting. After the quiet hours of midday when passage may be too high to observe from the Arava, 1000s may pour through, low along the cliffs of the Negev plateau. Counts of 2000–10,000 birds are regular. On 4 April 1996 I made a conservative estimate of 35,000 birds passing across a front of less than three

km in just three hours. To the south I could see great swirls of raptors looking for roosting sites in the mountains on the western side of the Arava, perhaps numbering a further 5000 birds.

Levant Sparrowhawks *Accipiter brevipes* often take the observer completely by surprise when they put in their first appearances in mid-April, sweeping low over the Kibbutz fields in dense flocks. Flocks of 2500 are not unusual between 16–30 April, but Lotan has yet to match some of the massive flocks (up to 25,000) recorded at Eilat. This species favours wind-breaks between the fields for roosting. Breath-taking views and excellent photographic opportunities are possible.

Honey Buzzard *Pernis apivorus* is the last of the common migrant raptors to appear, although singles occur from 23 March. In late April they often mix with Levant Sparrowhawks and other raptors, but subsequently huge flocks dominate the skies almost daily until about 20 May. Big days can occur on light northerly winds, windless days, or east-south east winds. On 17 May 1995 c. 27,000 passed over Lotan in three hours with much of the passage drifting east towards the Edom mountains. Large numbers of raptors are often visible from Lotan well into Jordan and more almost certainly pass unrecorded.

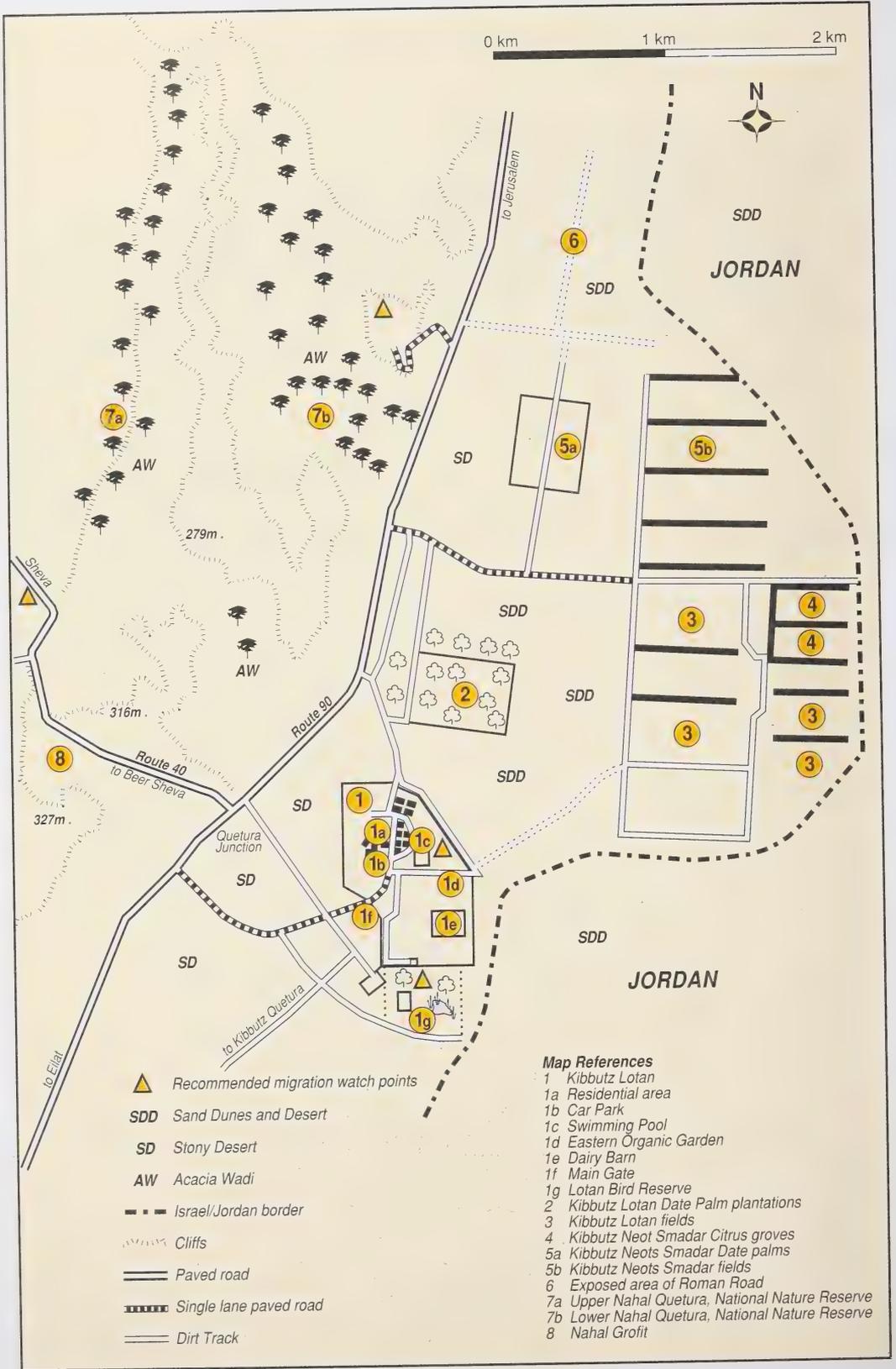




Plate 3. Masked Shrike *Lanius nubicus*, Kibbutz Lotan, Israel, April 1996. (B. R. Hughes)

## PASSERINES

One of the most exciting aspects of Lotan is the constant movement of passerines along the Arava valley in spring. Fresh migrants appear almost daily from c. 15 February until late May. It can be problematic choosing between observing visual raptor and songbird migration, and concentrating on passerines in the trees and bushes.

From mid-March to mid-May there is always a good sprinkling of Hoopoe *Upupa epops*, Wryneck *Jynx torquilla*, Nightingale *Luscinia megarhynchos*, Black-eared Wheatear *Oenanthe hispanica*, Masked *Lanius nubicus* and Woodchat Shrikes *L. senator*, and Eastern Bonelli's Warbler *Phylloscopus bonelli orientalis*. However, the bulk of migration consists of up to 1500 each of Lesser Whitethroat *Sylvia curruca* and Blackcap *S. atricapilla*, and up to 500 Olivaceous Warbler *Hippolais pallida*. East Mediterranean specialities include Cyprus *Sylvia melanothorax*, Rüppell's *S. rueppelli* and Orphean Warblers *S. hortensis*, and Semi-collared Flycatcher *Ficedula semitorquata* in March or early April. Upcher's *Hippolais languida* and Olive-tree Warblers *H. olivetorum* appear in early May, when Lesser Grey Shrikes *Lanius minor* destined for eastern Europe also pass through. The acacias by the main gate are particularly good for the last three species.

Other notable migrants found in spring include a River Warbler *Locustella fluviatilis* in late April 1995, whilst Savi's *L. lusciniodes* and Great Reed Warblers *Acrocephalus arundinaceus* are regular in the residential area. Syrian Serin *Serinus syriacus* has been found in the car park in March and Black-headed Bunting *Emberiza melanocephala* is regular in May when they drink from dripping irrigation pipes.

## VISIBLE MIGRATION

Apart from the superb raptor passage, the northward migration of other species (especially passerines) can be surprisingly obvious. Light to moderate northerly winds usually provide the best days, with passage of some species often continuing all day, especially bee-eaters *Merops* spp. and hirundines. It is the migration of White *Ciconia ciconia* and Black Storks *C. nigra* that really fires the imagination. Observing White Stork passage over the southern Arava requires strong to gale force westerly winds as most migration over southern Israel occurs through the western Negev. However, Lotan does occasionally witness passages of up to 25,000 White Storks in mid- or late March. Black Stork more consistently appears in late February-late May, and flocks of 100-600 are reasonably regular.



Plate 4. White Storks *Ciconia ciconia*, resting in kibbutz fields near Lotan during desert storm, March 1997. (Doug Friend)

Flocks of Garganey *Anas querquedula*, Pintail *A. acuta* and Shoveler *A. clypeata* occasionally move north over the Kibbutz, but wildfowl are poorly represented at Lotan as no open standing water exists in the area. V-formations of passing Cranes *Grus grus* (up to 120 per day) are regular in late autumn and less frequent in early spring, and there is one record of Cream-coloured Courser *Cursorius cursor*; a flock of 11 moving north-west on 6 March 1995.

From mid-February, Common Swifts *Apus apus* cruise steadily north along the Arava numbering up to 1500 per day by early March. Pallid *A. pallidus* (up to 250) and Alpine Swifts *A. melba* (up to 150) may appear amongst them and all three species will pause for a few hours if a sudden rain storm stimulates a hatch of flying termites. Little Swift *A. affinis* is very rare in the first two weeks of March. European Bee-eater *Merops apiaster* is one of the most abundant migrants through Lotan, their stunning colours and rich fluid calls being one of the most welcome signals that spring migration is in full swing. Any day in late March–mid-May can produce more than 1200 passing in flocks of up to 120 birds. Blue-cheeked Bee-eater *M. superciliosus* is very scarce in comparison, but especially regular in late April to mid-May and October.

Short-toed Lark *Calandrella cinerea* appears from c. 10 February; visual passage is most evident in March with up to 1500 daily. Lesser Short-toed *C. rufescens*, Calandra *Melanocorypha calandra* and Bimaculated Larks *M. bimaculata* are scarce at this time. Hirundine passage can be immense in early May, with counts suggesting a minimum of 25,000 Barn Swallow *Hirundo rustica* and 18,000 Sand Martin *Riparia riparia* passed through during 1–6 May 1996. Red-rumped Swallow *Hirundo daurica* usually peaks in late March. House *Delichon urbica* and Crag Martins *Ptyonoprogne rupestris* occur in much smaller numbers. The adult males of several races of *flava* wagtail are often present alongside each other, although *Motacilla f. feldegg* is the most common in March and *M. f. beema* very common in April. Equally impressive are the numbers that pass without stopping, peaking at c. 1000 per day in late March. Parties of Tawny *Anthus campestris* and Red-throated Pipits *A. cervinus* are often involved in these passages. Citrine Wagtail *Motacilla citreola* is rare but annual; the compost heaps just west of the dining room are the best place to see one.

Mysterious and unpredictable, small parties of Pale Rock Sparrow *Petronia brachydactyla* would go undetected were it not for their soft

bee-eater-like calls. Late February to early April is the peak time but ground views are rare. Cretzschmar's Bunting *Emberiza caesia* peak in mid-March with day counts of up to 180. This precedes the peak of up to 300 Ortolan Bunting *E. hortulana* per day, by about three weeks.

### VAGRANTS FROM THE EAST

Lotan has great potential for attracting rare and scarce migrants, late autumn (October–November) being the most productive period. Small Skylark *Alauda gulgula*, Cyprus Pied Wheatear *Oenanthe cypriaca*, Pied Stonechat *Saxicola caprata* (fourth record in Israel), Yellow-browed Warbler *Phylloscopus inornatus*, Hume's Yellow-browed Warbler *P. humei* and Dusky Warbler *P. fuscatus* (second record in Israel) were recorded in 1996 and 1997. Yellow-browed Warbler overwintered in both these years. Spring has produced fewer rarities but an adult male Crested Honey Buzzard *Pernis ptilorhynchus* on 14 May 1995 was accepted as the second record in Israel. Black Bush Robin *Cerotrachus podobe* and Rose-coloured Starling *Sturnus roseus* have lingered for several days during mid- to late April. Winter has recently produced two Striated Scops Owls *Otus brucei*

in remote acacia wadis near Lotan. Up to three individuals winter near Eilat, but elsewhere in Israel they remain extremely rare (but probably overlooked) winter and passage visitors.



Plate 6. Striated Scops Owl *Otus brucei*, Nahal Quetura, Arava Valley, Israel, January 1998. (James Smith)



Plate 5. Male Cretzschmar's Bunting *Emberiza caesia*, Kibbutz Lotan, Israel, April 1996. (B. R. Hughes)

## WINTER

Imperial, Steppe and Short-toed Eagles *Circaetus gallicus* all occur around Lotan in winter. Other raptors include 2-3 each of Hen Harrier *Circus cyaneus*, Merlin *Falco columbarius* and Barbary Falcon *F. pelegrinoides*. A Long-eared Owl *Asio otus* roost in Nahal Quetura usually holds 3-4 birds, which seem particularly adept at catching roosting Laughing Doves *Streptopelia senegalensis*.

Common wintering passerines around the Kibbutz include Water *Anthus spinoletta* (up to 60) and Red-throated Pipits, Bluethroat *Luscinia svecica*, Desert Wheatear *Oenanthe deserti*, Spanish Sparrow *Passer hispaniolensis* and as many as 300 Desert Finch *Rhodopechys obsoleta*. Mourning Wheatear *Oenanthe lugens* is often present by the compost bins while Spectacled *Sylvia conspicillata* and Cyprus Warblers (up to six) prefer acacia wadis and are rarely observed in the Kibbutz. Sinai Rosefinch *Carpodacus synoicus* occur in the Quetura mountains but can be difficult to see. Arabian Warbler *Sylvia leucomelaena* can also be found in Nahal Quetura and has been observed displaying in March.

## BREEDING BIRDS

Despite being an artificial oasis in a desert environment, Lotan boasts healthy populations of typical desert species. Barbary Falcon breeds on Mount Quetura and regularly gives breathtaking hunting demonstrations in late afternoon. Sand Partridge *Ammoperdix heyi* is quite common in the mountains and Chukar *Alectoris chukar* is present near the date palm plantations. Stone Curlew *Burhinus oediconemus* is present but virtually nocturnal with no conclusive proof of breeding. However, an adult with young has been seen in the Quetura mountains. Spur-winged Plover *Hoplopterus spinosus* recently colonised Lotan and can occur near the dairy barn year-round. Distraction displays have been noted but eggs and young have yet to be located. Little Green Bee-eater *Merops orientalis* is one of the most obvious residents, with at least 30 pairs. African Rock Martin *Pytonoprogne fuligula*, Yellow-vented Bulbul *Pycnonotus xanthopygos*, Hooded Wheatear *Oenanthe monacha*, White-crowned Black Wheatear *O. leucopyga*, Scrub Warbler *Scotocerca inquieta*, Arabian Babbler *Turdoides squamiceps*, Palestine Sunbird *Nectarinia osea* and



Plate 7. Long-eared Owl *Asio otus*, Nahal Quetura, Arava Valley, Israel, January 1998. (James Smith)



Plate 8. Namaqua Dove *Oena capensis*, Kibbutz Lotan, Israel, April 1996. (B. R. Hughes)

Trumpeter Finch *Bucanetes githagineus* are each represented by three or more pairs in the immediate area of the Kibbutz.

### VISITING

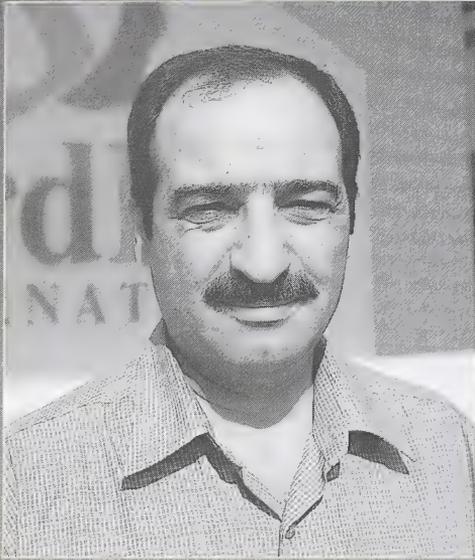
Lotan is located east of Quetura junction between Routes 90 and 40, and just north of km 63 post from Eilat. Regular bus services to and from Jerusalem and Tel Aviv pass Lotan daily and Ovda international airport is just 20 minutes by car.

A variety of guided and self-guided birding programmes are offered and full details are available from the address below. Self-guided day visitors are welcome and should report to the educational tourism office (Tel: +972-7-

6356935; fax: +972-7-6356827; e-mail: [edt\\_lot@hotmail.com](mailto:edt_lot@hotmail.com)). Half-day tours of Lotan's nature trails are available by advance arrangement, and medium distance hikes through the Quetura mountains can also be made. Details of ecological programmes such as practical ecology, alternative building methods, and applications for ecological volunteers are available from Mike Kaplin (fax: +972-7-6356827; e-mail: [gwenik@hotmail.com](mailto:gwenik@hotmail.com)).

*James Smith, Kibbutz Lotan, Doar Na Chevel  
Eilat 88855, Israel.*

# PROFILE



*Adnan Budieri*

Adnan Budieri has recently been appointed Head of BirdLife International's Middle East Division. Ornithology and wildlife conservation awareness have expanded enormously in the Middle East over the last ten years, and as education programmes, scientific studies, research projects and legislative measures by governments steadily increase, it is appropriate that BirdLife has employed an Arab scientist to manage and coordinate the many developments—current and projected—being undertaken throughout the region.

Adnan—a Jordanian—was born in Jerusalem and studied hydrobiology and ecology in Moldova. Latterly his interests have extended to wildlife conservation, biodiversity studies and sustainable development policies. He has held a variety of posts within the Royal Society for the Conservation of Nature, in Jordan, is Jordan's representative on CITES, and is a National Coordinator for the IWRB. Recently, there has scarcely been a major Middle East wildlife conservation initiative with which he has not been associated. He brings to his new post a wealth of experience, both of the problems associated with bird conservation in the Middle East, and ways to achieve conservation objectives.

Adnan sees his new role as forging a relationship between the partners, designates, and all related organisations and donors, to conserve birds and their habitats. In the short term, he aims to establish a functional BirdLife office in the region; publish an Arabic version of the Middle East IBA book; update that book and publish at least two country IBAs in Arabic; raise awareness of the IBA book's importance in the region; establish practical operational strategies for bird conservation and management; develop strong relations with international and regional conservation organisations; and create IBA management strategies in Palestine, Jordan, Lebanon and Yemen. Longer term, Adnan seeks to extend the network of partners and designates to all countries in the region, and to oversee as many IBAs as possible become legally protected areas.

Whilst recognising that the Middle Eastern economy has become oil-dependent, changing moral attitudes towards the use of natural resources, with highway construction, agricultural expansion, housing development and water extraction schemes all disturbing the ecological balance, Adnan is hopeful for the future.

*Derek Harvey*

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Hadoram now resides in Turkey for May & June each year and it is possible to meet up with him during this period at any location.

Some of the very special difficult-of-access species, such as Caspian Snowcock and Caucasian Black Grouse, normally requiring long and difficult climbs at traditional sites, are more easily watched on Hadoram's tours, thus more suitable for birdwatchers of all ages.

Finding the usual specialities (Dalmatian Pelican, Pygmy Cormorant, Marbled & White-headed Ducks, See-see Partridge, Purple Gallinule, Demoiselle Crane, Audouin's Gull, Striated Scops Owl, Desert Eagle Owl, Bimaculated Lark, Radde's Accentor, White-throated Robin, Finsch's & Red-tailed Wheatears, Paddyfield, Upcher's, Olive-tree, Menetrie's, Ruppell's & Green Warblers, Mountain Chiffchaff, Semi-collared Flycatcher, Sombre Tit, Kruper's, Western & Eastern Rock Nuthatches, Wallcreeper, Masked Shrike, Alpine Chough, Dead Sea, Pale Rock & Yellow-throated Sparrows, Red-fronted Serin, Snow, Crimson-winged & Mongolian Trumpeter Finch, Cinereous, Grey-necked, Cretzschmar's & Black-headed Buntings) normally takes Hadoram 12 days.





# PHOTO spot

## Hume's Tawny Owl

Relatively few birders have had the opportunity to study a Hume's Tawny Owl *Strix butleri* outside of Israel. The species' distribution is poorly understood. Most records are from Israel, Jordan and western Arabia, with fewer observations from Egypt and Oman, and one old record from Pakistan. Occurrence in Syria is unconfirmed.

On a visit to Yemen in spring 1998, I found four Hume's Tawny Owls along a steep rocky cliff at c. 3000 metres at Kawkaban, just north of Sana'a. The species appears to be restricted to this habitat. It breeds in warm arid places with rocky mountains, wadis and steep slopes.

In the north of its range, it is liable to be confused with pale Tawny Owls *Strix aluco*, and observers should note the lack of broad breast streaks on adultstts (juveniles not studied in the field). The eye colour is also different: dark in Tawny, orange-yellowish in Hume's.

Hume's Tawny Owl is a very pale owl, almost the same size as a Tawny Owl. The sexes are similar. The facial disc is pale buff or dirty white with near-white half-spectacles meeting above the bill. The crown and nape are golden-buff, with dark brown-black feather tips giving a strongly mottled appearance. The collar on the lower hindneck is pale golden-buff and

distinct. The upperparts are cream-buff, with indistinct bars and spots on the mantle, and brown with pale cream spots on the scapulars. The upperwing possesses a pattern akin to Tawny, but paler with a buff ground colour and obvious brown spots on the coverts. The underwing is buff-white with dark barring on the tips of the primary-coverts and all flight feathers. The tail is buff, barred dark brown. The underparts are largely buff-white, with faint grey-buff bars and streaks on the flanks. The unmarked vent appears a little paler. The plumage should be fresh in a first adult in August–September, still relatively fresh in a January adult, but slightly worn by March. As the Hume's Tawny Owls in Yemen were only observed by torchlight it was impossible to establish if there were any observable differences from other birds in other areas. I know that a bird from Wadi Kelt, near the Dead Sea in Israel, had markedly greyer upperparts than a Jerusalem bird.

As Hume's Tawny Owl is strictly nocturnal it is more often heard than seen. Only one of the birds found in Yemen was seen perched, by torchlight roosting on a cliff edge, but song and calls were regularly heard. Some calls do not appear to have been previously described in the literature. The Hume's reacted spontaneously to an imitation of a Tawny Owl. The song of Hume's is like a Tawny, but without the latter's vibrating character. The territorial call is a: "Whooh, hoo-hoo, who-who", easily distinguished from Tawny Owl. Simultaneously, from a different individual, I heard a "kuwitt" call, repeated several times whilst the male was singing. This was reminiscent of a female Tawny Owl. Could it have been a female Hume's calling? Both birds were then observed flying between two cliffs and started to duet again. Whilst imitating the territorial song of Hume's Tawny Owl, the same male came right over my head uttering a deep "squeek", like rubbing a balloon.

When roosting on a rock or cliff edge Hume's Tawny Owl appears to lean slightly forward. The flight is like Tawny. Hume's Tawny Owl has rather long, broad wings with rounded wing-tips. At night, leaving the roost, they move along their cliff face with only a few wingflaps and then glide silently into the dark.

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Kristiansand, Norway.

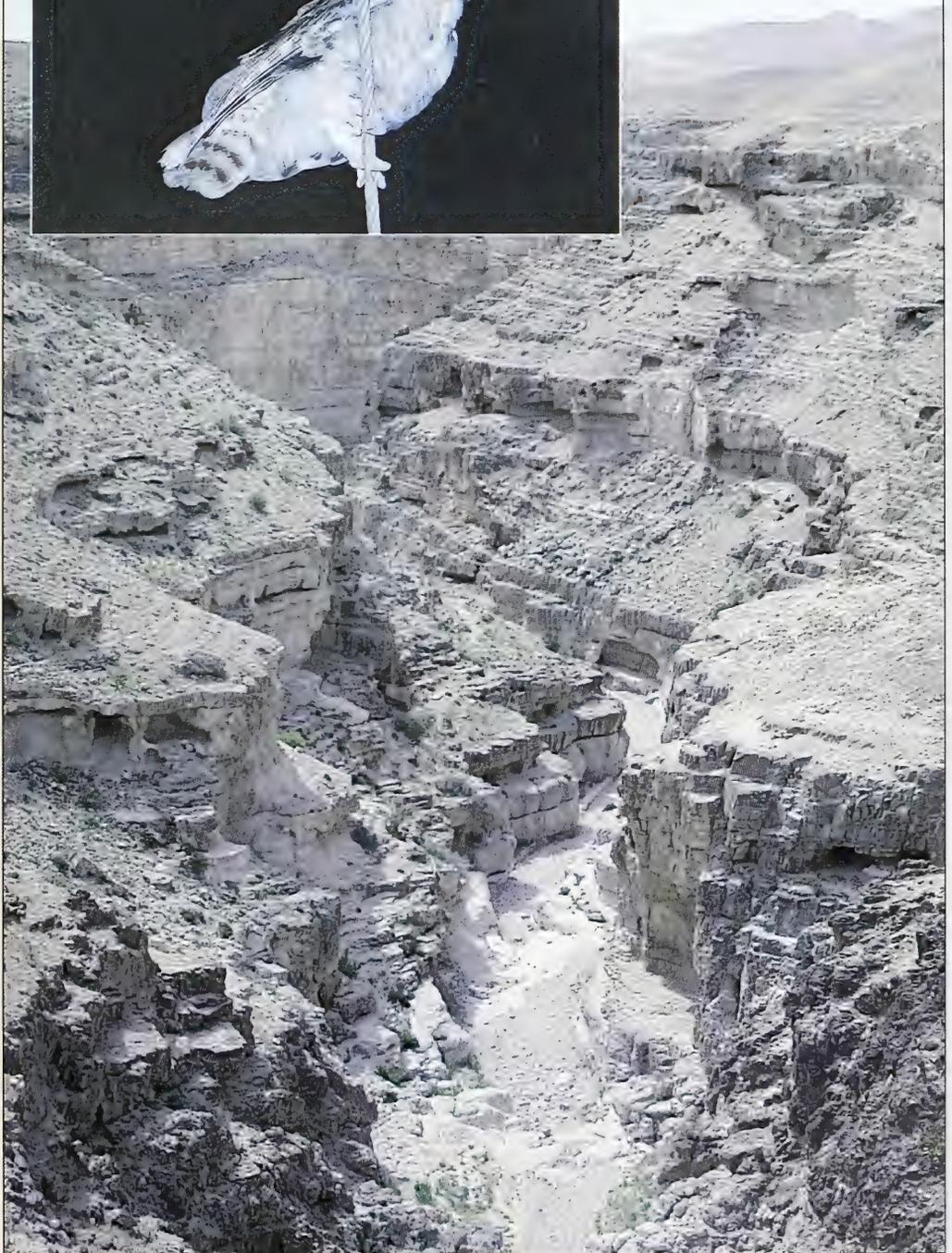


Plate 1. Kawkaban, Yemen, 30 October 1989. (Magnus Ullman)

Plate 2. Hume's Tawny Owl *Strix butleri*, Israel. (Yossi Eshbol)



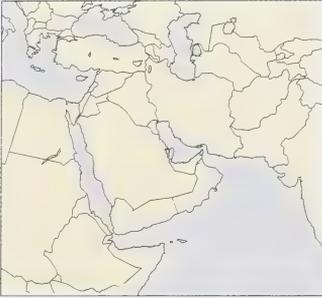
**Plate 3.** Hume's Tawny Owl *Strix butleri*, En Gedi, Israel, October 1986. (Paul Doherty)



**Plate 4.** Dead Sea area, Israel, March 1987. (Paul Doherty)

# Comments on the limits of the Western Palearctic in Iran and the Arabian Peninsula

R. P. MARTINS AND ERIK HIRSCHFELD



*Birds of the Western Palearctic* adopts arbitrary limits to the geographical area treated at its south-west fringe. There is scope to consider the most zoogeographically representative definition of the limits of a western subregion of the Palearctic. An attempt is made to justify revised and more comprehensively reviewed limits based (in Arabia) upon a significantly improved understanding of breeding bird distributions. A proposal is made that Arabia, excluding two small areas where Afrotropical influence is dominant, and part of Iran be henceforth included in the geographical area formally treated as a western subdivision of the Palearctic. Novel limits to western influence within the breeding landbird avifauna of Iran are proposed.

## INTRODUCTION

**S**UBDIVISION OF THE PALEARCTIC into Western and Eastern generates helpful interpretation when examining bird breeding distributions and considering zoogeographical patterns within this avifaunal realm. The term Western Palearctic, stimulated by the publication of *Birds of the Western Palearctic* (*BWP*), is widely established among ornithologists and birders. The problems of defining such a subdivision are acknowledged in the introduction to *BWP* (Cramp & Simmons 1977) where it is conceded that delimitation, especially at the southern/south-eastern peripheries, was largely arbitrary. The eastern limit adopted is the western frontier of Iran (which has changed slightly since publication) and the southern border within Arabia is the southern frontier of Kuwait, extending west across northern Saudi Arabia.

Since this problem was addressed by the editors of *BWP*, understanding of the distribution and status of the Arabian avifauna, almost all of which was excluded from the area treated, has substantially advanced. The information now available, collected by a growing number of experienced observers, some resident for extended periods, permits reconsideration of the boundaries of the Western Palearctic, as currently applied, in relevant areas of Arabia and Iran. These areas are mainly (Arabia) or totally (Iran) excluded from the area of Eurasia treated as Western Palearctic by *BWP*. As this position becomes widely accepted and remains unquestioned, it appears likely that the declared limitations of the definition of the Western Palearctic used in *BWP*, will remain ignored.

Here, we review the variety of treatments adopted by past authors confronted by this problem, with particular reference to the Arabian peninsula. We also provide supplementary information concerning those areas where Afrotropical elements are dominant within the breeding avifauna (and which are therefore clearly *not* Palearctic) in south-west Arabia. We discuss statistics concerning zoogeographical affinities of species which are constituents of the breeding avifauna within certain countries/regions in Arabia. We feel that the limits of the area conventionally treated as Western Palearctic merit reassessment and hope to stimulate discussion so that consensus may arise.

Our views concerning the Arabian Peninsula have developed through examining the literature; field experience in Bahrain, Yemen, the United Arab Emirates (UAE) and

Oman; and extensive discussion with other observers familiar with the region. We lack field experience in Iran, but have substantial relevant experience in adjacent Pakistan and Turkey. The eastern limit of the area treated as Western Palearctic in *BWP*, apparently reflecting mere administrative convenience, coincides with the western frontier of Iran—a boundary lacking any zoogeographical relevance. As the avifauna of the Zagros mountain range further east shows strong Western Palearctic influence, we feel it justifiable to examine this question in Iran using the limited information available.

Any attempt to define the limits of a natural avifaunal realm—or subdivisions and provinces thereof—in a geographically explicit way is clearly an artificial exercise, seeking to define man-made categories within a natural continuum. *BWP* discusses this dilemma as follows: “If the boundaries of the Palearctic region elude any logically unquestionable demarcation, the determination of the eastern limits of the western part is clearly arbitrary”. This assertion has failed to quell interest in the issue. We consider the term Western Palearctic, even given conceptual shortcomings, carries a degree of meaningfulness which warrants more careful consideration.

### TREATMENT IN THE LITERATURE

Here we document the approach taken by successive authors when discussing the nature and affinities of the Arabian breeding landbird avifauna and the classification of Arabia with regard to global avifaunal realms. In this section, the term “Ethiopian” is synonymous with “Afrotropical”, following Benson *et al.* (1979), wherein it is argued that this is a more appropriate and less ambiguous term.

Hartert (1903–23) included north Arabia and Iran in the Palearctic but excluded south Arabia due to the localised dominance of tropical forms. It may be questioned whether bird distributions were sufficiently known within the region at that time for a properly informed judgment to be made.

Meinertzhagen, an authority on the Palearctic region, acknowledged the dominance of Palearctic elements within Arabia. In *Birds of Arabia* (1954), he writes: “...I regard it [Arabia] as a transition zone between the Palearctic and Ethiopian regions, predominantly Palearctic at the specific level, with a small Oriental admixture and also a small bird element peculiar to itself at the specific level” (i.e. endemic). Further “There is...a large African element in Yemen but an equal number of purely Palearctic species, which confirms the transition zone idea”. He concludes “on the whole...I prefer to treat Arabia as part of the Palearctic region; the alternative is an awkward transitional zone between three major zoogeographical regions”. However, in Campbell & Lack (1985) where the essay on the Palearctic (originally written by Meinertzhagen) is repeated, following revision by K. H. Voous, it is stated “at present mountainous south-west Arabia is included by most biogeographers in the Afrotropical region”. Much of this area received no extensive attention from field ornithologists until the early 1980s. Through contributions, including Cornwallis & Porter (1982), Jennings (1981, 1995), Phillips (1982) and Stagg (1985), data gathered by the OSME expeditions to North Yemen in autumn 1985 and South Yemen in spring 1993 and resultant reviews of bird status and distribution in Yemen (Brooks *et al.* 1987, Martins *et al.* 1996, Porter *et al.* 1996b), it is now possible to define the limits of Afrotropical influence more precisely (Martins & Hirschfeld 1994). This subject is discussed in a following section.

Vaurie (1959) included all of Arabia in the Palearctic whilst excluding local breeders of Afrotropical affinity in an undefined area of the southern peninsula from his



**Plates 1 & 2.** Extensively vegetated coastal slopes in south coastal Arabia: Mahrah province, Yemen, late April 1993. (*R. P. Martins*)



**Plate 3.** Open forest on limestone karst, Mahrah province, Yemen, late April 1993. (*R. P. Martins*)



**Plate 4.** Deep wadi, Mahrah province, Yemen, late April 1993. (*R. P. Martins*)



**Plate 5.** Limestone scarp with limited small caves caused by solution weathering, Mahrah province, Yemen, late April 1993. (R. P. Martins)



**Plate 6.** Vegetation eradication around nomadic tribal settlement, Mahrah province, Yemen, late April 1993. (R. P. Martins)



**Plates 7.** Densely wooded coastal hills, Dhofar, Oman. (Erik Hirschfeld)



**Plates 8.** Densely wooded coastal hills, Dhofar, Oman. (Erik Hirschfeld)



**Plate 9.** Montane juniper *Juniperus* woodland. Jabal Iraf, Yemen, late March 1993 (G. M. Kirwan)

treatment of its avifauna. Voous (1960) "...avoids suggesting the existence of a Palaearctic faunal region but instead indicates a Palaearctic fauna, or else a distribution range covering parts of the Palaearctic region". Consequently, Voous (1973) included the entire Arabian Peninsula and Iran in the Holarctic region acknowledging that this meant "the happy incorporation of a small number of species of an Ethiopian and Oriental origin respectively". Udvardy (1975)—in a study of all plants and animals—classified all of Arabia as Palearctic.

Lees-Smith (1986) analysed the composition of the south-west Arabian avifauna, concluding that Afrotropical taxa dominate within a coastal strip 50–100 km in width. This area is mapped as extending parallel to the Gulf of Aden coast east but not for a known distance, illustrating the lack of information from central south coastal Arabia at that time. A smaller number of Afrotropical taxa also occur on the seaward slopes of the Dhofar region of south coastal Oman (Gallagher & Woodcock 1980) extending west into the Mahrah (province) of Yemen for c. 50 km (Martins 1996, Porter *et al.* 1996a). It may be speculated that Afrotropical/Paleotropical influence in south-west and southern Arabia was, in more pluvial climatic phases, associated with the coastal periphery in general rather than the isolated enclaves found today. However, as Ripley (1954) has noted, the presence of several genera with species common to both areas, but with morphologically distinct subspecies in each, demonstrates that the central south coast of Yemen has presented an enduring barrier to faunal interchange. The area of Afrotropical dominance defined by Lees-Smith lies west of that suggested by Chapin (see Ripley 1954). This includes part of the Rub' Al-Khali (hyper-arid central Arabia) where the breeding avifauna is overwhelmingly Palearctic. As Lees-Smith remarks, Chapin's line merely indicates the northern and eastern limits of the breeding distributions of a small minority of the Afrotropical species in Arabia.

Hollom *et al.* (1988) stated the aim of treating the southern part of the Western Palearctic. The entire Arabian Peninsula is included and, while acknowledging the existence of Afrotropical and Oriental elements, especially in southern Arabia, the authors consider it "difficult to draw a...comprehensive line further north than Arabia's southern coast-line". Iran is also treated. The inclusion of these areas apparently results from a need to make new information accessible rather than any attempt to examine zoogeographical issues.

## METHODS OF ANALYSING THE AVIFAUNA

Here, in an attempt to examine this question in a (inevitably fairly crude) systematic way, distributions of Arabian breeding species and their associated zoogeographical affinities are categorised according to the headings below. Categories used are largely those adopted by Lees-Smith (1986) with the following changes: species with Old World and/or Holarctic distributions have been merged with other widespread (Cosmopolitan) species. These are too extensively distributed to contribute meaningfully to this discussion and are labelled Pan-continental. No distinction has been made between species considered by Lees-Smith "Afrotropical–Eurasian" and "Eurasian–Afrotropical" for the same reason. These have been categorised as Pan-continental. Species categorised by Lees-Smith, which have been reclassified are discussed below (see Appendix 1). Iranian breeding species are categorised as eastern, western or widespread within the Palearctic (see Appendix 2).

## ZOOGEOGRAPHICAL CATEGORIES USED AND THEIR DEFINITIONS

The categories adopted and associated comments below refer only to known breeding distributions. Each distributional category is indicated by letters in bold.

**1. Pan-continental (PC)**

This category is used for species in the three categories below. These are widespread and therefore cannot contribute any information relevant to this investigation.

**Cosmopolitan**

Distributed extensively through a minimum of three continents.

**Old World**

Widely distributed within Africa and Eurasia (and in some cases beyond through south-east Asia to Australia) including species classified "Afrotropical-Eurasian" and "Eurasian-Afrotropical" by Lees-Smith (1986).

**Holarctic**

Distributed extensively through northern Eurasia and northern North America (circumpolar).

**2. Saharo-Sindian (SS)**

Distributed within the Saharo-Sindian zone as discussed by Harrison (1982, 1986), i.e. from arid north-west Africa and Macaronesia (the temperate Atlantic islands) east to north-west India. The ranges of a few species extend north-east beyond montane south Central Asia to Mongolia and western China or through the arid lowlands fringing the southern Red Sea and Gulf of Aden.

**3. Afrotropical (A)**

Distributed primarily within sub-Saharan Africa and the south and south-west margins of the Arabian Peninsula.

**4. Oriental (O)**

Distributed primarily within the Indian subcontinent and/or Indochina south of the arid trans-Himalayan zone (thus including the Sino-Himalayan avifauna) variously west and—in a few cases—through southern Baluchistan, the northern Gulf coastlands to the flood plains of Iraq, occasionally west to southern Turkey.

**5. Paleotropical (PT)**

Distributed south of the Himalaya within Asia and sub-Saharan Africa, with or without isolated breeding populations in the Middle East. The use of the term Middle East here refers to an area extending from lowland areas adjacent to Red Sea coasts in the west and south, north to the Black Sea coast of Turkey and east to Baluchistan, south of lowland arid Central Asia.

**6. Palearctic (P)**

Distributed within the Palearctic: the middle and high latitude temperate zone of Eurasia north of the Himalaya, tropical China and the Sahara, including species primarily distributed through relict wetlands of the Sarmatic Sea. While Saharo-Sindian species breeding within this region are treated separately, species within the Palearctic category differ in their significance to this analysis. They may be subdivided as follows:

**Wide-ranging**

Extensively distributed throughout most of the Palearctic, with distributions showing neither a western nor eastern bias. Not meaningful for analysis of west/east influence.

**Eastern Palearctic**

A distribution showing an easterly bias: significant for this analysis.

### **Western Palearctic**

A distribution showing a westerly bias: significant for this analysis.

### **7. Middle Eastern and/or Central Asian (MC)**

Distributed primarily within one or both of these regions where Central Asia is defined for the purpose of this paper, as the arid and semi-arid mainly lowland region of steppe and desert east from the Caspian Sea to Lake Balkash and Ozero Zayan, bordered to the south by the Elburz, Hindu Kush, Pamirs and Tien Shan and, in the east, by the Altai. Species with this distribution pattern may be considered part of an expansively defined Western Palearctic avifauna, but form a group with distributions which are more similar to each other than those shown by the fundamentally western or eastern elements. Species endemic to Central Asia are included in this category.

In the analysis of the different areas, we have looked mainly at the number of species within each zoogeographical category detailed above. The percentage of the Palearctic breeding avifauna represented by the total number of species in each category is calculated (such figures have been approximated to the nearest whole number). Two differing methods are adopted for this analysis:

#### **Method 1**

We consider an area classifiable as Palearctic where Palearctic species are more numerous than Afrotropical and Oriental species considered together. Subdivisions within the Palearctic avifauna of Iran are also examined, with the aim of identifying the interface along which areas showing substantial western and eastern influence are contiguous.

#### **Method 2**

In the second analysis we have considered Middle East and/or Central Asian and Saharo-Sindian elements combined to be Palearctic, since they do not usually breed in Oriental or Afrotropical areas. In contrast, Paleotropical, Afrotropical, Oriental and Indian Ocean species are clearly not Palearctic. Pan-continental elements are excluded from this analysis.

Attention has been restricted to the breeding avifauna. (Inclusion of the substantial number of Palearctic migrant species passing through the region would not be relevant.) We have included breeding seabirds for completeness, although their distributions are unrelated to the zoogeographical phenomena examined here. Most are globally widespread and do not affect the discussion significantly.

Introduced species are excluded from the analysis because they are not natural elements of the breeding avifauna examined.

### **THE GEOGRAPHICAL EXTENT OF WESTERN PALEARCTIC TAXA IN IRAN**

While we lack field experience in Iran, we have attempted to understand Iranian breeding bird distributions by examining maps compiled by D. A. Scott (Scott *et al.* 1975). The text of this publication is in Farsi and we have been unable to make use of it. Given the historical scarcity of observers in Iran it is perhaps inevitable that such maps are based upon limited data. The maps in BWP and Hollom *et al.* (1988) are based on unpublished information from D. A. Scott and are more recent but the differences between these and Scott *et al.* (1975) are slight and would not appear to suggest significantly different conclusions. Species which appear likely to breed (indicated by question marks on maps) are included. Twelve taxa, not now believed to breed in Iran (D. A. Scott pers. comm.) are excluded.

### Types of distribution pattern apparent from maps

Fifty-one species have breeding distributions restricted to wooded or forested altitudes in the Elburz and/or the (more isolated) montane areas of Azerbaijan. Distributions in the Elburz typically extend east well beyond the eastern shore of the Caspian Sea, usually to the vicinity of Bojnurd and occasionally as far as the environs of Mashad. The breeding avifauna within this area is almost entirely (see analysis section below) Western Palearctic and includes such typically western forms as the migratory western race of Lesser Spotted Eagle *Aquila pomarina*, Middle Spotted Woodpecker *Dendrocopos medius* and Woodlark *Lullula arborea*. The easternmost ranges of such species extend over 1500 km beyond the area treated in *BWP* at this latitude. While ranges of species showing western bias in their Eurasian breeding distributions often extend east of the Elburz range at higher latitudes, this region is the terminus of many ranges of such species south of the lowland steppe zone east of the Caucasus, from which they are absent. The avifauna of the forests of northern Iran is thus most correctly interpreted as an outlier of what might be labelled a 'middle European' avifauna. It extends discontinuously, south-east through montane temperate forest zones in the Balkans east through the Turkish Black Sea coastlands and the Caucasus to the temperate Elburz. At c. 56°E (c. 100 km west of Bojnurd) the deciduous forests of the north slope of the Elburz range end abruptly, marking a precise limit to the distribution of many woodland passerines (e.g. Blue Tit *Parus caeruleus* and Treecreeper *Certhia familiaris*) in northern Iran. East of here, forested areas are juniper-dominated, with some deciduous scrub (D. A. Scott *in litt.*).

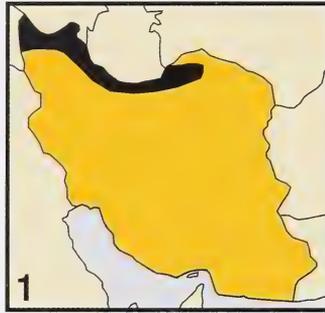
When distributions of western and eastern counterparts are examined, several closely related taxa demonstrate a gap between respective ranges or a zone of marginal overlap (Haffer 1977). Eastern forms extend west through Afghanistan terminating in upland north-east Iran while western forms do not extend further east than the Elburz. Examples of pairs of taxa or discrete populations demonstrating this include Pied *Oenanthe pleschanka* and Black-eared Wheatears *O. hispanica*, the green- and grey-mantled populations of Great Tit *Parus major*, the black-headed and grey-headed races of Goldfinch (*Carduelis c. carduelis* and *C. c. paropanisi*) and Red-headed *Emberiza bruniceps* and Black-headed Buntings *E. melanocephala*. As Haffer (1977) has shown, this region constitutes a zoogeographical divide representing a locally meaningful division between western and eastern influence within the Palearctic avifauna.

The breeding distributions of 72 additional species extend both through the Elburz and also to a variable extent south-east through the Zagros range, where western elements are overwhelmingly dominant (see Paludan 1938). The avifauna of the Zagros thus constitutes a different aspect of western influence, again showing similarities with the 'middle European' avifauna.

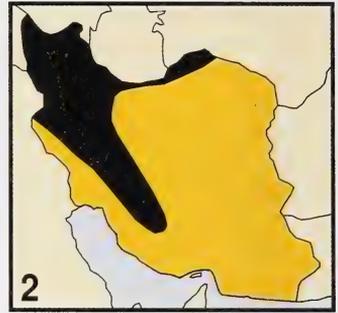
These two patterns reoccur and are demonstrated by numerous distributions, either individually or combined, to variable degrees. Maps 1 and 2 illustrate this point. Taken together, these two patterns suggest southern and eastern limits to the dominance of western elements in the Iranian Palearctic avifauna.

Thirteen species have breeding ranges extending no further west than the eastern third of Iran, demonstrating that the hyper-arid lowland central deserts of the Dasht-e-Kavir and the Dasht-e-Lut constitute a barrier to range expansion. Examples of exclusively eastern species whose distributions terminate east of these physiographic regions include Small Skylark *Alauda gulgula* (Map 3) and Pied Stonechat *Saxicola caprata* (Map 4) while Pleske's Ground Jay *Podoces pleskei* (clearly eastern in origin) is endemic to the area (Map 5). The breeding avifauna of this region is primarily Saharo-Sindian with eastern and western elements occurring at its margins.

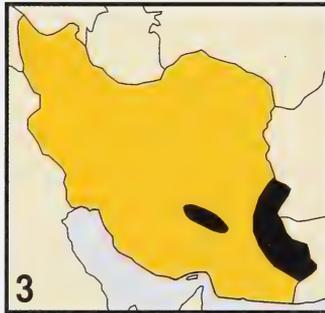
**Map 1.** Breeding range of Black Woodpecker *Dryocopus martius* in Iran.



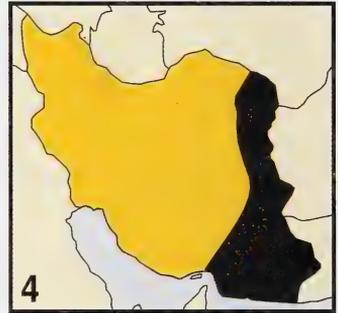
**Map 2.** Breeding range of Woodlark *Lullula arborea* in Iran.



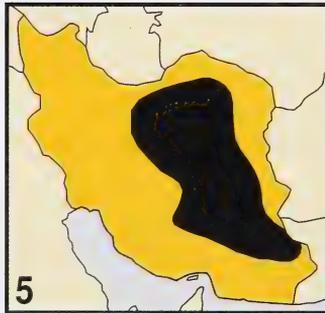
**Map 3.** Breeding range of Small Skylark *Alauda gulgula* in Iran.



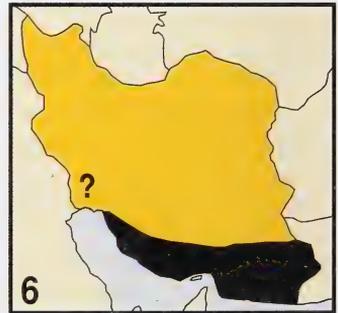
**Map 4.** Breeding range of Pied Stonechat *Saxicola caprata* in Iran.



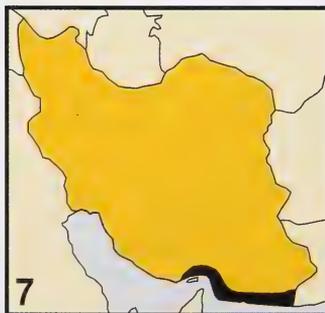
**Map 5.** Breeding range of Pleske's Ground Jay *Podoces pleskei* in Iran.



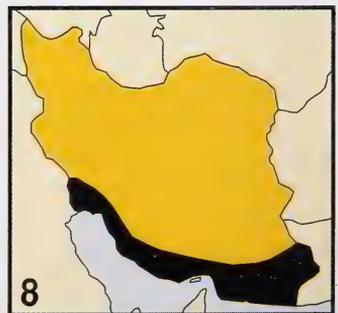
**Map 6.** Breeding range of Spotted Little Owl *Athene brama* in Iran.



**Map 7.** Breeding range of Great Stone Plover *Esacus recurvirostris* in Iran.



**Map 8.** Breeding range of Indian Roller *Coracias benghalensis* in Iran.



A fourth group of species, principally of Oriental or Paletropical origin, including three Sindian elements, have distributions demonstrating eastern bias. The Sindian (eastern) species—Sykes's Nightjar *Caprimulgus mahrattensis*, Sind Pied Woodpecker *Dendrocopos assimilis* and Sind Jungle Sparrow *Passer pyrrhonotus*—are restricted to the south-east of the country in Baluchistan and are at the margins of their ranges. Sind Jungle Sparrow seems likely to have been a breeder in the past (D. A. Scott pers. comm.) but is now perhaps a rare and irregular visitor (Grimmett 1987). It is included because this area has apparently not been visited by ornithologists since Zarudny (1911). Sindian species are scarce in Iran (D. I. M. Wallace pers. comm.), but it is clear that eastern influence in the south-east is a recognisable phenomenon, discernable north to the Elburz.

Species with southern or south-eastern distributions comprising widespread Oriental taxa at the margins of their ranges in Iran, e.g. Grey Francolin *Francolinus pondericanus*, or Paletropical in distribution, e.g. Little Green Bee-eater *Merops orientalis*, extend from Iranian Baluchistan west between the Zagros watershed and the northern Gulf coast for varying distances. Ranges of 11 (excluding Sindian) species terminate on the northern Gulf coast east of, or at approximately, 300 km west of the Straits of Hormuz e.g. Spotted Little Owl *Athene brama* (Map 6) and Great Stone Plover *Esacus recurvirostris* (Map 7). Others extend further west, either to the head of the Gulf, e.g. Indian Roller *Coracias benghalensis* (Map 8), or further north-west, e.g. Yellow-throated Sparrow *Petronia xanthicollis* or around and beyond the head of the Gulf and along its south coast, e.g. White-cheeked Bulbul *Pycnonotus leucogenys* (although introductions have perhaps played a role in this case). Generally, species extending this far west appear merely to reflect the consequences of post-Pleistocene expansion as well as a tolerance of, or affinity for, habitats created or adapted by human activities. Species of Oriental origin or Paletropical distribution which occur throughout southern Iran are, we suggest, insufficient in number for any part of western Iran not to be considered Palearctic. In contrast, Oriental influence is significant east of the Straits of Hormuz.

Based on the patterns of bird distributions in Iran detailed above we have divided the country into the four regions mapped in Map 10 and calculated the proportional occurrence of relevant elements among the breeding species of these regions.

### Mountainous north and west

Two hundred and seven breeding species occur in this region, the largest number among the four subdivisions of Iran adopted here. Analysis by method 1 reveals an overwhelming dominance of Palearctic elements—71%—followed by 19% Pan-continental elements. Figures derived through Method 2 are 79% Palearctic elements and 2% non-Palearctic elements.

#### Percentage occurrence of breeding species within relevant zoogeographical categories in the mountainous north and west

PC	MC	PT	P	O	SS	IO
19%	6%	1%	71%	1%	2%	0%

SS+MC+P	O+IO+PT
79%	2%

### Makran coast region

The Makran coast region supports 96 breeding species. Method 1 demonstrates that the largest single category excluding Pan-continental species (30%) is Oriental (20%), closely followed by Palearctic (16%). If method 2 is employed Saharo-Sindian, Middle

Eastern/Central Asian and Palearctic species together comprise 38% of the avifauna while Oriental, Indian Ocean and Paletropical species comprise 32%. Among 16 Palearctic species, nine are wide-ranging, five western and two are eastern.

**Percentage occurrence of breeding species within relevant zoogeographical categories in the Makran coast region**

PC	MC	PT	P	O	SS	IO
30%	4%	12%	16%	20%	18%	0%

SS+MC+P	O+IO+PT
38%	32%

**Gulf coast region**

The Gulf coast region supports 94 breeding species. The largest single relevant category excluding Pan-continental species (32%) is Palearctic, comprising 19%. Oriental influence is diminished to 15% while there is no Afrotropical influence. If method 2 is employed the three Palearctic categories comprise 43% of the avifauna and the three non-Palearctic categories 25%. Among the 19 Palearctic species 13 are wide-ranging, five western and one eastern.

**Percentage occurrence of breeding species within relevant zoogeographical categories in the Gulf coast region**

PC	MC	PT	P	O	SS	IO
32%	8%	8%	19%	15%	16%	2%

SS+MC+P	O+IO+PT
43%	25%

**East region**

The (non-mountainous) east region supports 164 breeding species. Here Palearctic species dominate, constituting 33%, while Oriental influence is demonstrated in only 9% of the avifauna. Among the 58 Palearctic species 35 are wide-ranging, 18 western and five eastern. Method 2 generates 55% for Palearctic and 20% for non-Palearctic.

**Percentage occurrence of breeding species within relevant zoogeographical categories in the East region**

PC	MC	PT	P	O	SS	IO
25%	11%	11%	33%	9%	11%	0%

SS+MC+P	O+IO+PT
55%	20%

Oriental influence increases from north to south in east Iran being most strongly expressed within the region labelled Makran coast.

**THE ZOOGEOGRAPHICAL REGIONS OF IRAN**

The Makran coast region can thus be considered transitional, supporting both Oriental (eastern) and true Palearctic elements in approximately equal proportions. Palearctic elements dominate along the Gulf coast, which is best assigned to a western subregion. In the eastern region Palearctic species are the largest category. Among these, western elements outnumber eastern species threefold. The western limits of three eastern Palearctic species are located within the region. These, together with the Oriental and Palaeotropical species (here an extension of the south Asian part of their global ranges), suggest that a weakly defined eastern influence can be recognised within the breeding avifauna east from Iran's central arid core at commensurate latitudes.

## ANALYSIS OF BREEDING BIRDS IN DIFFERENT AREAS OF ARABIA BY COUNTRY

Although zoogeographical and political subdivisions of Arabia are clearly unrelated, we have seen no alternative to the use of bird distributional information in national checklists or reviews as political subdivisions are typically the basis through which such information is presented.

We have reassigned one south-western breeding species which was, in our opinion, incorrectly categorised by Lees-Smith (1986)—Yemen Parisoma (Yemen Warbler) *Parisoma buryi*. We suggest that observation of Yemen Parisoma in life strongly suggests that it is best assigned to *Parisoma* (not *Sylvia*). Close similarities exist—in field characters and behaviour—between this and other *Parisoma* species. This genus is largely Afrotropical in distribution and apparent origin (Brooks 1987). It is difficult to see what evidence supports its treatment within *Sylvia* as in Lees-Smith (1986) or as an “intermediate link”—most closely to Arabian Warbler *Sylvia leucomelaena* as has been suggested (Shirihai 1988)—between *Parisoma* and *Sylvia*. The systematic position of Arabian Woodpecker *Dendrocopos dorae* is incompletely understood. We follow Winkler *et al.* (1995) in treating the species within *Picoides* which would imply Palearctic origin. However, the species’ relationship to Afrotropical *Campethera* requires examination.

The systematic position, relationships and zoogeographical affinities of Golden-winged Grosbeak *Rhynchostruthus socotranus*—a highly distinctive monotypic genus—are unclear (Martins 1987). Lees-Smith (1986) considered it Palearctic in origin. Rather than create an ‘indeterminate’ category for this species, this approach has been followed.

Four south-west Arabian breeding species omitted by Lees-Smith (1986): Goliath Heron *Ardea goliath*, Black-winged Kite *Elanus caeruleus*, Spur-winged Plover *Hoplopterus spinosus* and Zebra Waxbill *Amandava subflava* are included here, as are breeding seabirds.

### Bahrain

Of the 32 species breeding in Bahrain, the majority—47%—are Pan-continental; 28% are Saharo-Sindian, 6% are Palearctic, 3% are Oriental species and there is no Afrotropical influence. Method 2 generates 34% of species showing Palearctic affinities and 19% with non-Palearctic affinities. Two Palearctic breeders, Turtle Dove *Streptopelia turtur* and Olivaceous Warbler *Hippolais pallida* are essentially western.

#### Percentage influence of different avifaunal elements in Bahrain

PC	MC	PT	P	A	O	SS	IO
47%	0%	9%	6%	0%	3%	28%	7%

SS+MC+P	O+IO+PT+A
34%	19%

### Qatar

Qatar has a breeding avifauna similar to that of neighbouring Bahrain. We have not undertaken an analysis for Qatar as sufficient information is not available.

### The United Arab Emirates

Seventy species are regular breeders in the United Arab Emirates (Richardson 1990). The largest proportion of species—30%—are Pan-continental while 19% are Saharo-Sindian. There are 6% Oriental species, 2% Afrotropical and 12% Palearctic. Method 2 generates a total of 39% of the breeding avifauna exhibiting Palearctic affinities while

26% show non-Palearctic affinities according to the categorisation we have adopted. Of the eight Palearctic breeders four can be considered wide-ranging and four western.

Two breeding species, Grey Francolin and Chukar *Alectoris chukar* seem most likely to have been introduced into the UAE (and Oman) by man, and have been deleted from the analysis. The status of Grey Francolin might merit re-examination as it is possible that Arabian populations represent relicts from a period when the Arabian Gulf was less extensively inundated by marine waters.

**Percentage influence of different avifaunal elements in the United Arab Emirates**

PC	MC	PT	P	O	A	SS	IO
30%	8%	19%	12%	6%	2%	19%	4%

SS+MC+P	O+IO+PT+A
39%	31%

**Oman**

Oman may be subdivided into Dhofar and elsewhere within the country. Monsoon rainfall strongly influences Dhofar, sustaining drought-deciduous vegetation (as occurs, for the same reason, on the lower western slopes of montane south-west Arabia) supporting a substantial proportion of Afrotropical species. In strong contrast, most of Oman has a climate and vegetation more typical of Arabia.

Seventy-six species have been treated as breeding outside Dhofar, the largest proportion (37%) being Pan-continental. There are 5% Oriental, 3% Afrotropical and 8% Palearctic species. Method 2 generates 36% of species showing Palearctic affinities and 26% non-Palearctic. Of the six Palearctic species two are western and four wide-ranging. Grey Francolin and Chukar have been excluded for the same reasons as recorded under the treatment of the United Arab Emirates.

**Percentage influence of different avifaunal elements in primarily arid Oman**

PC	MC	PT	P	A	O	SS	IO	END
37%	3%	13%	8%	3%	5%	25%	5%	1%

SS+MC+P	O+IO+PT+A
36%	26%

The avifaunal composition differs greatly in Dhofar. Of 73 breeding species 30% are Pan-continental, 26% Afrotropical, 26% Saharo-Sindian and 3% Palearctic. Method 2 generates 32% in Palearctic categories and 33% in non-Palearctic. Only two widely distributed Palearctic species are present, Little Ringed Plover *Charadrius dubius* and Little Owl *Athene noctua*.

**Percentage influence of different avifaunal elements in Dhofar, Oman**

PC	MC	PT	P	A	O	SS	IO	END
30%	3%	6%	3%	26%	0%	26%	1%	5%

SS+MC+P	O+IO+PT+A
32%	33%

**Yemen**

One hundred and thirty-three species breed in Yemen where the two most strongly represented categories are Afrotropical (37%) and Pan-continental (27%). Palearctic species constitute only 3% and no Oriental species are present. Employing method 2

generates 17% of species with Palearctic affinities and 46% showing non-Palearctic affinities. The four Palearctic breeders are all considered wide-ranging.

**Percentage influence of different avifaunal elements in Yemen**

PC	MC	PT	P	A	O	SS	IO	END
27%	2%	7%	3%	37%	0%	12%	2%	10%

SS+MC+P	O+IO+PT+A
17%	46%

**South-west Saudi Arabia**

One hundred and twenty-four species breed in south-west Saudi Arabia. Afrotropical elements are strongly represented at 34% followed by 26% Pan-continental. Method 2 generates 19% Palearctic and 44% non-Palearctic species.

**Percentage influence of different avifaunal elements in south-west Saudi Arabia**

PC	MC	PT	P	A	O	AE	SS	IO	END
26%	1%	7%	3%	34%	0%	2%	15%	3%	9%

SS+MC+P	O+IO+PT+A
19%	44%

In central and eastern Saudi Arabia the locally breeding landbird avifauna is overwhelmingly Saharo-Sindian.

**THE POSITION OF THE LIMITS OF AFROTROPICAL DOMINANCE IN SOUTH-WEST ARABIA**

The presence of substantial Afrotropical influence in Dhofar and montane south-west Arabia has prevented consensus among authors seeking to describe the zoogeography of Arabia in general. Inadequate understanding of bird distributions in much of southern Arabia has sustained the idea that such an admixture of species of differing affinity exists that the area is best treated as a transition zone. An alternative view, apparently determined by the location of the easternmost limits of a small number of the most widespread Afrotropical species, has driven the frontier of a recognised Afrotropical zone in Arabia east to the fringe of its arid core. Neither treatment properly reflects patterns of bird distribution, which are now more adequately understood. Lees-Smith (1986) highlighted the difficulty of judging whether Afrotropical influence is best seen as a continuum—from montane south-western Arabia through the coastal fringe to eastern Dhofar—or whether some alternative view would be more appropriate. A limited number of Afrotropical species do occur locally through southern Yemen, but the composition of the breeding landbird avifauna does not suggest strong continental influence. By contrast, such influence is readily apparent in the field on the seaward slopes of Dhofar and west from the western ramparts of the Yemen highlands.

Therefore we suggest that Afrotropical influence is dominant in two disjunct ecological islands sustained by monsoon rainfall—Dhofar (Oman)/the eastern Mahrah (Yemen) and montane south-west Arabia—surrounded by radically different (oceanic or arid) environments. The extremely small proportion of the Arabian Peninsula these areas comprise—less than 5%—is striking. Below, we discuss them in more detail.

**Dhofar**

A division between Palearctic and Afrotropical avifaunas in Dhofar is readily apparent in the field, reflecting the topography of the region. North of the narrow (up

to 20 km in width) coastal plains, a range of mountains rises to 2000 metres. Seaward slopes receive substantial precipitation during the monsoon (May–September: Gallagher & Woodcock 1980), mainly through the influence of regular and persistent fog, and are heavily vegetated. Climax drought-deciduous woodland occurs on slopes with tropical evergreen riparian vegetation along wadis. Permanent or regular seasonal surface water, often originating from springs, may be locally common. At higher altitudes woodland is replaced by grassland which diminishes toward stone and gravel desert with decreasing altitude toward deserts further north. Directly north of Salalah, the interface between monsoon-influenced and arid areas is located c. 35 km from the coast. Further east it coincides more closely with the coast. Summer temperatures may vary across this interface by up to 20°C within a few hundred meters (pers. obs.). The desert and northern slopes of this range support typical (arid) Saharo-Sindian zone species such as Sand Partridge *Ammoperdix heyi*, sandgrouse *Pterocles* spp., Desert Lark *Ammomanes deserti* and Brown-necked Raven *Corvus ruficollis*, whilst the grassland and scrub along the summits of the mountain range supports substantial populations of Singing Bush Lark *Mirafra cantillans*, South Arabian Wheatear *Oenanthe lugens* and African Rock Bunting *Emberiza tahapisi*. The forests on the seaward slopes support typical Afrotropical species such as Spotted Eagle Owl *Bubo africanus*, sunbirds *Nectarinia* spp., African Paradise Flycatcher *Terpsiphone viridis* and White-breasted White-eye *Zosterops abyssinica*. The border between the dry Palearctic and coastal Afrotropical zones lies along the summits of this coastal range. At least seven Saharo-Sindian and one Cosmopolitan species occur only on the northern dry slopes and/or the desert plateau beyond. If these species are excluded from an analysis of the southern slopes and the coastal plain, the view that this part of Dhofar is best considered predominantly Afrotropical is strengthened.

Two species occurring both in desert areas and the wetter montane habitats—Laughing Dove *Streptopelia senegalensis* and Blackstart *Cercomela melanura*—show strong morphological differentiation between zones, being represented by different subspecies in each. Laughing Doves in the mountains and coastal plains are of the Afrotropical subspecies *senegalensis* while those in the more arid zone north of the watershed are Oriental *cambayensis* (Gallagher & Woodcock 1980, Bundy 1986). Bundy (1986) has already drawn attention to the differences in habitat occupied by Afrotropical *erlangeri* and nominate (Arabian) *melanura* subspecies of Blackstart in Dhofar. These examples demonstrate that differences within bird populations and plant communities in south-coastal Arabia have been stable and enduring: when examining avifaunal relationships within this area there is more to consider than simply the natural variation between the bird communities of different habitats.

## Montane south-west Arabia

### Western Yemen

In western Yemen (roughly speaking, the western part of the erstwhile political state of North Yemen), the Afrotropical component is dominant within the breeding landbird avifauna throughout the heavily dissected western scarps, extending more weakly across the central plateau and, to a much diminished degree, beyond through the eastern flanks of the highlands. Afrotropical influence is too weakly expressed along the eastern fringe of this montane bloc to justify the frequent presentation of all south-western Arabia as wholly Afrotropical. Equally, treating such an extensive area as 'transitional', another approach adopted by past authors, fails to adequately reflect local differences in bird distributions. If a transition zone has to be defined, then this would be best restricted to the highland plateau only. Thus, the poorly demarcated

eastern and more clearly evident western fringes of the central plateau denote restrictively and expansively defined limits to Saharo-Sindian/western Palearctic influence (Martins & Hirschfeld 1994).

### South-west Saudi Arabia

The position of the limits of Afrotropical influence in south-west Saudi Arabia is not completely clear (S. Newton *in litt.*) and there is interesting (if unsurprising) evidence that relationships between the distributions of related species occupying similar niches may be remarkably fluid. P. Symens & S. Newton (*in litt.*) offer examples from the environs of Taif: Spotted Eagle Owl was recorded breeding in virtually every suitable wadi around the National Wildlife Research Center during 1986–89 but has since been replaced by Eagle Owl *Bubo bubo* at the same sites and Spotted Eagle Owl has not been recorded since 1991. Since 1988, particularly following heavy rainfall in 1992, several Afrotropical breeders including African Collared Dove *Streptopelia roseogrisea*, Black Bush Robin *Cercotrichas podobe* and African Silverbill *Lonchura cantans* have increased substantially in numbers. By contrast, others such as Grey-headed Kingfisher *Halcyon leucocephala* and Hamerkop *Scopus umbretta* appear subject to severe pressure here at the northernmost limits of their ranges due to anthropomorphic factors associated with settlement of nomadic people in permanently watered wadis.

### CONCLUSIONS

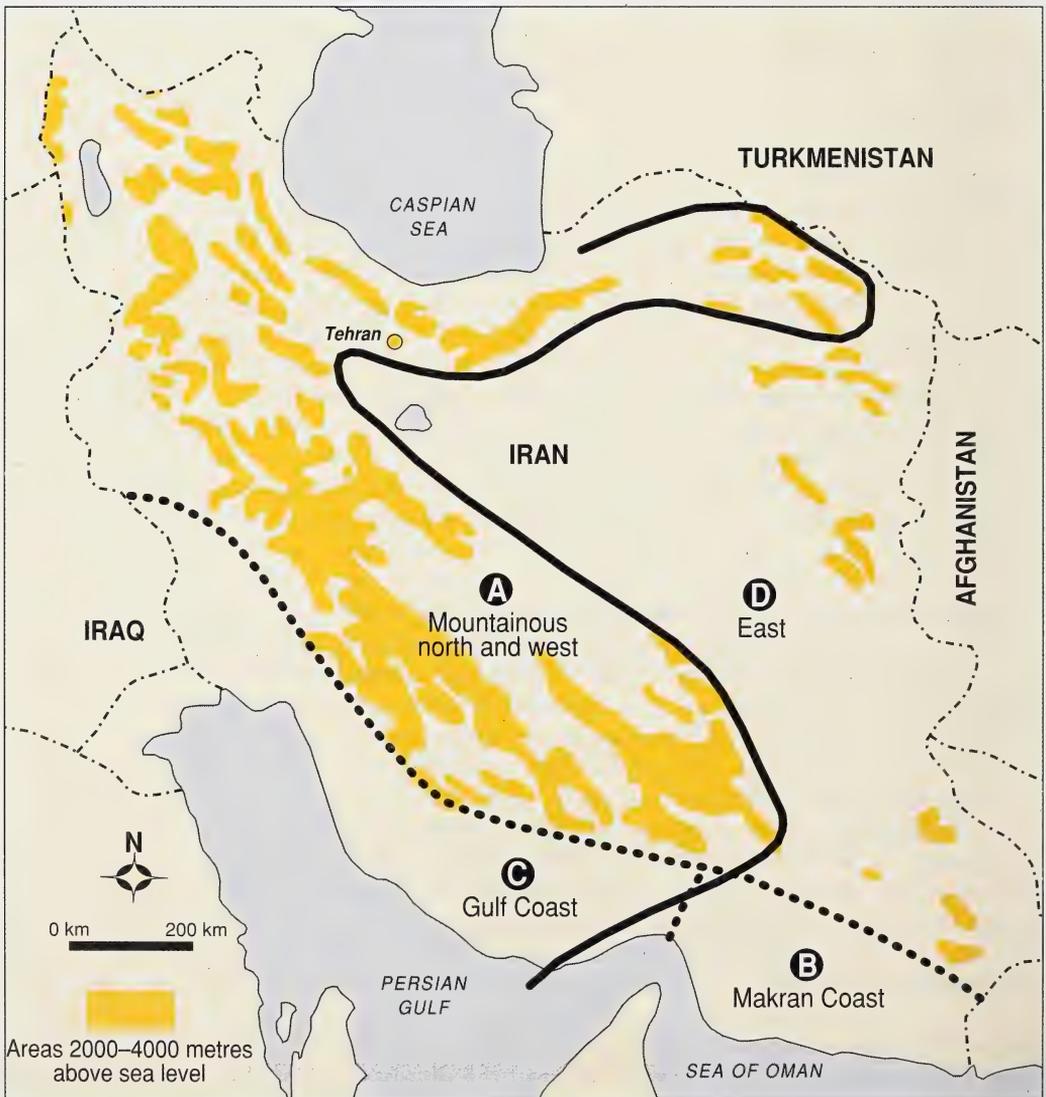
We suggest that the variety of opinions presented in the literature demonstrate that the categorisation of Arabia and Iran with respect to the most meaningful definition of the 'limits' of the Western Palearctic awaits proper resolution. As attempts to delineate zoogeographical realms (or provinces therein, where subdivisions are even more difficult to define) are typically problematic we see no compelling reason why past uncertainty should be maintained. The time has come for reconsideration of where the 'best-fit' border, or border zone, might be positioned. It should also be noted that all authorities cited except *BWP*, consider Arabia mainly Palearctic. Considering the geographical position of Arabia at the 'crossroads' of three continents, the Palearctic elements dominating within the breeding avifauna of the region and the lack of true eastern Palearctic elements, it seems natural to assign it to the Western Palearctic.

We conclude that the most defensible boundary between western and eastern Palearctic influence within the Iranian breeding avifauna is as depicted in Map 10. This passes from the northern Gulf coast just west of the Straits of Hormuz through a (more lowland) gap between the south-westernmost flanks of the Zagros and the uplands of the Makran coast/Iranian Baluchistan, north-west along the eastern flank of the Zagros turning east along the southern flank of the Elburz at the lowest altitude at which temperate taxa dominate, as far as the Kuh-e Hazar Masjed and thence west along the lower northern flanks of the Elburz (west of Ashkabad in Turkmenistan) to the Caspian. West and north Iran is Palearctic, with lowland eastern areas being perhaps most properly viewed as a transitional zone. Interestingly, several Palearctic species with eastern affinities have their westernmost limits in the eastern part of the country. Map 4 shows the distribution of Pied Stonechat, which illustrates this well. However, species with western affinities still dominate within this area.

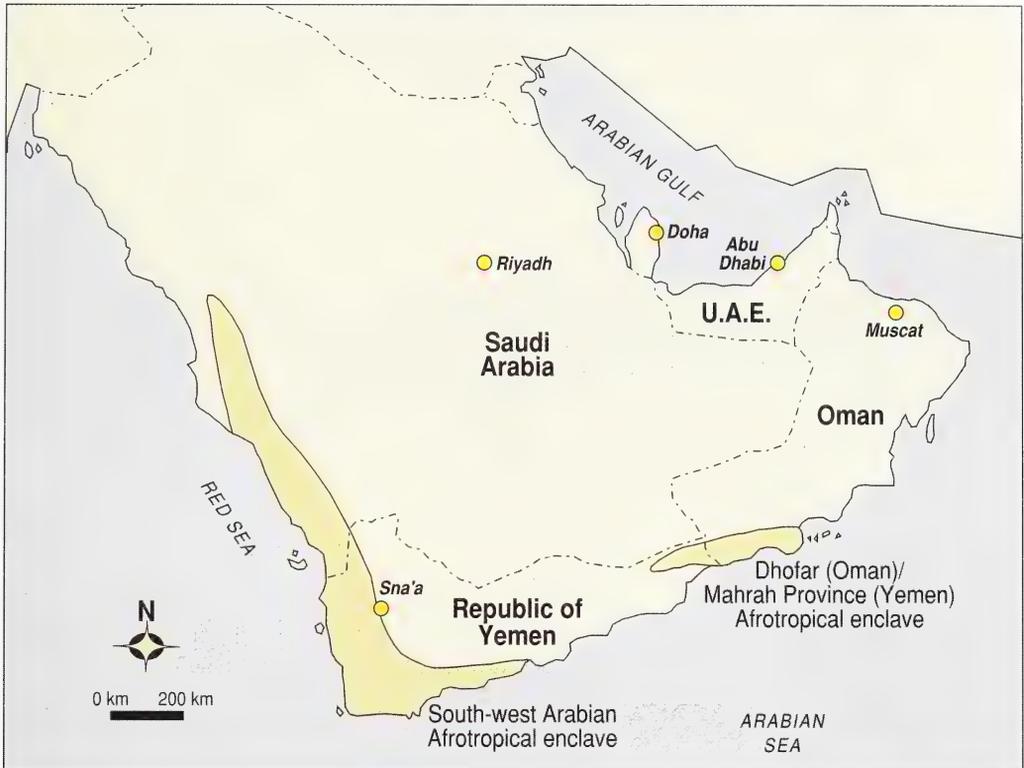
We readily acknowledge that in reality no absolutely clear boundary may be defined in Iran and that ranges of taxa either side of the divide may sometimes extend a short distance beyond it. Also, certain distribution patterns indicate that it might be equally

meaningful to treat the Makran coast as a transition zone. However, we suggest that this boundary offers a helpful tool toward a better understanding of the avian zoogeography of this region of the southern Palearctic and that it should be adopted as the real eastern limits of the Western Palearctic.

We choose not to seek a clear boundary north of the Elburz. While a meaningful divide may be recognised in Iran, at higher latitudes sufficient overlap exists in the distributions of western and eastern (i.e. including widely distributed Eurasian species which clearly do not show any western bias in their distribution) taxa to render an attempt at clarification without extensive field experience perhaps too adventurous. As latitude increases north of the Elburz, especially within the more arid zones of central Eurasia, the ranges of most species show such a wide longitudinal spread that labels such as west and east, when applied to the avifauna in general, lack meaning. A clear periphery of western influence not only, to requote *BWP*, eludes "any logically unquestionable definition" but would apparently need to be wholly



Map 9. The limits of the Western Palearctic in Iran and the zoogeographical regions of the country used in this paper.



Map 10. Arabia: the limits of Afrotropical dominance within the breeding avifauna in Dhofar (Yemen/Oman) and south-west Arabia.

contrived. Further north, the situation changes. If a zone of Palearctic Eurasia were to be defined as western using the position of the easternmost limits of expansively distributed Western Palearctic species as the primary criterion for its identification, then, as Harrison (1982) recognised, the frontiers of the Western Palearctic might extend east to Lake Baikal or at least to the Yenisei river. Equally, if the same criterion were to be applied to eastern species, the area where a substantial proportion of taxa show a primarily eastern bias could be extended well west of Baikal and even west of the Yenisei. The vague definition of an extensive zone of overlap is (as would be expected in a continental area with extensive tracts of similar habitat types lacking strongly significant physical barriers) would seem the best achievable result. However, if the eastern limits of extensively distributed western elements is considered as a sole criterion to force the delimitation of a boundary, then this might run from just west of the Yenisei, then along the western edge of the highlands of the Altai, Pamirs and the Tibetan upland, skirting the western end of the high Himalaya.

The avian zoogeography of the Arabian peninsula is less easy to simplify than the situation in Iran and any statistical analysis less powerful because the relatively low number of breeders make quantitative comparisons less meaningful. The overwhelming majority of Arabia has a minimal number of predominantly Saharo-Sindian breeding species with an almost total absence of fundamentally eastern elements. While recognising the validity of a Saharo-Sindian avifauna, we follow *BWP* and treat the Palearctic as embracing it, primarily because the majority of Saharo-Sindian taxa are apparently derived from Palearctic or common ancestral stock. Given this treatment and the scarcity of eastern elements, we view most of Arabia as Western Palearctic.

The situation changes around the coastal fringes of south-west, south and eastern Arabia. Here, adjacent avifaunal realms naturally exert some influence upon the breeding avifauna and relict enclaves of Afrotropical dominance persist in montane regions, surrounded by radically different marine or arid conditions, in vegetation types sustained by the influence of a monsoon climate. These areas, with limits as discussed, cannot be treated as Western Palearctic. They represent an extremely small proportion (c. 5%) of the area of Arabia. In the east a small number of Oriental, i.e. eastern, forms breed along a primarily lowland coastal fringe. In limited areas of the east Arabian coastal fringe therefore, the avifauna might best be regarded as transitional. This fact does little to diminish the argument that the overwhelming majority of the Arabian peninsula is most defendably classified as Western Palearctic.

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Plate 10. Immature Laughing Dove *Streptopelia senegalensis senegalensis*. Khawr Rouri, Dhofar, Oman, 19 November 1994. (M. Ullman)

## Appendix 1. Complete list of breeding species in Arabia and Iran assessed in this paper, and their affinities.

Little Grebe	<i>Tachybaptus ruficollis</i>	PC	Bateleur	<i>Terathopus ecaudatus</i>	A
Great Crested Grebe	<i>Podiceps cristatus</i>	PC	Marsh Harrier	<i>Circus aeruginosus</i>	P
Red-necked Grebe	<i>Podiceps grisegena</i>	PC	Pallid Harrier	<i>Circus macrourus</i>	MC
Black-necked Grebe	<i>Podiceps nigricollis</i>	PC	Montagu's Harrier	<i>Circus pygargus</i>	P
Persian Shearwater	<i>Puffinus (Iherminieri) persicus</i>	PC	Dark Chanting Goshawk	<i>Melierax metabates</i>	A
Red-billed Tropicbird	<i>Phaethon aethereus</i>	PC	Gabar Goshawk	<i>Micronisus gabar</i>	A
Masked Booby	<i>Sula dactylatra</i>	PC	Goshawk	<i>Accipiter gentilis</i>	PC
Brown Booby	<i>Sula leucogaster</i>	PC	Sparrowhawk	<i>Accipiter nisus</i>	P
Cormorant	<i>Phalacrocorax carbo</i>	PC	Shikra	<i>Accipiter badius</i>	PT
Socotra Cormorant	<i>Phalacrocorax nigrogularis</i>	MC	Levant Sparrowhawk	<i>Accipiter brevipes</i>	P
White Pelican	<i>Pelecanus onocrotalus</i>	PC	White-eyed Buzzard	<i>Butastur teesa</i>	O
Dalmatian Pelican	<i>Pelecanus crispus</i>	P	Common Buzzard	<i>Buteo buteo</i>	P
Pink-backed Pelican	<i>Pelecanus rufescens</i>	A	Long-legged Buzzard	<i>Buteo rufinus</i>	P
Bittern	<i>Botaurus stellaris</i>	PC	Lesser Spotted Eagle	<i>Aquila pomarina</i>	P
Little Bittern	<i>Ixobrychus minutus</i>	PC	Greater Spotted Eagle	<i>Aquila clanga</i>	P
Night Heron	<i>Nycticorax nycticorax</i>	PC	Tawny Eagle	<i>Aquila rapax</i>	PT
Striated Heron	<i>Butorides striatus</i>	PT	Imperial Eagle	<i>Aquila heliaca</i>	P
Squacco Heron	<i>Ardeola ralloides</i>	PC	Golden Eagle	<i>Aquila chrysaetos</i>	PC
Indian Pond Heron	<i>Ardeola grayii</i>	O	Verraux's Eagle	<i>Aquila verreauxii</i>	A
Cattle Egret	<i>Bubulcus ibis</i>	PC	Booted Eagle	<i>Hieraaetus pennatus</i>	PC
Western Reef Heron	<i>Egretta gularis</i>	PT	Bonelli's Eagle	<i>Hieraaetus fasciatus</i>	PC
Little Egret	<i>Egretta garzetta</i>	PC	Osprey	<i>Pandion haliaetus</i>	PC
Great White Egret	<i>Egretta alba</i>	PC	Lesser Kestrel	<i>Falco naumanni</i>	P
Grey Heron	<i>Ardea cinerea</i>	PC	Kestrel	<i>Falco tinnunculus</i>	PC
Purple Heron	<i>Ardea purpurea</i>	PC	Hobby	<i>Falco subbuteo</i>	P
Goliath Heron	<i>Ardea goliath</i>	A	Sooty Falcon	<i>Falco concolor</i>	SS
Hamerkop	<i>Scopus umbretta</i>	A	Lanner Falcon	<i>Falco biarmicus</i>	PC
Black Stork	<i>Ciconia nigra</i>	PC	Saker Falcon	<i>Falco cherrug</i>	P
Abdim's Stork	<i>Ciconia abdimii</i>	A	Peregrine Falcon	<i>Falco peregrinus</i>	PC
White Stork	<i>Ciconia ciconia</i>	P	Barbary Falcon	<i>Falco pelegrinoides</i>	SS
Glossy Ibis	<i>Plegadis falcinellus</i>	PC	Caucasian Black Grouse	<i>Tetrao mlkosiewiczi</i>	P
Sacred Ibis	<i>Threskiornis aethiopicus</i>	A	Caspian Snowcock	<i>Tetraogallus caspius</i>	MC
Spoonbill	<i>Platalea leucorodia</i>	PC	Chukar	<i>Alectoris chukar</i>	P
Greater Flamingo	<i>Phoenicopterus ruber</i>	PC	Philby's Partridge	<i>Alectoris philbyi</i>	END
Greylag Goose	<i>Anser anser</i>	P	Arabian Partridge	<i>Alectoris melanocephala</i>	END
Ruddy Shelduck	<i>Tadorna ferruginea</i>	P	See-see Partridge	<i>Ammoperdix griseogularis</i>	SS
Shelduck	<i>Tadorna tadorna</i>	P	Sand Partridge	<i>Ammoperdix heyi</i>	SS
Gadwall	<i>Anas strepera</i>	PC	Black Francolin	<i>Francolinus francolinus</i>	O
Teal	<i>Anas crecca</i>	PC	Grey Francolin	<i>Francolinus pondicerianus</i>	O
Mallard	<i>Anas platyrhynchos</i>	PC	Grey Partridge	<i>Perdix perdix</i>	P
Garganey	<i>Anas querquedula</i>	P	Quail	<i>Coturnix coturnix</i>	PC
Marbled Teal	<i>Marmaronetta angustirostris</i>	P	Harlequin Quail	<i>Coturnix delegorguei</i>	A
Red-crested Pochard	<i>Netta rufina</i>	P	Pheasant	<i>Phasianus colchicus</i>	P
Pochard	<i>Aythya ferina</i>	P	Helmeted Guineafowl	<i>Numida meleagris</i>	A
Ferruginous Duck	<i>Aythya nyroca</i>	P	Little Button Quail	<i>Turnix sylvatica</i>	PT
Tufted Duck	<i>Aythya fuligula</i>	P	Water Rail	<i>Rallus aquaticus</i>	P
White-headed Duck	<i>Oxyura leucocephala</i>	P	Spotted Crake	<i>Porzana porzana</i>	P
Honey Buzzard	<i>Pernis apivorus</i>	P	Baillon's Crake	<i>Porzana pusilla</i>	PC
Black-winged Kite	<i>Elanus caeruleus</i>	PT	Corncrake	<i>Crex crex</i>	P
Black Kite	<i>Milvus migrans</i>	PC	Moorhen	<i>Gallinula chloropus</i>	PC
White-tailed Eagle	<i>Haliaeetus albicilla</i>	P	Purple Gallinule	<i>Porphyrio porphyrio</i>	PC
Lammergeier	<i>Gypaetus barbatus</i>	PC	Coot	<i>Fulica atra</i>	PC
Egyptian Vulture	<i>Neophron percnopterus</i>	PC	Little Bustard	<i>Tetrax tetrax</i>	P
Indian White-backed Vulture	<i>Gyps bengalensis</i>	O	Houbara Bustard	<i>Chlamydotis undulata</i>	SS
Griffon Vulture	<i>Gyps fulvus</i>	P	Arabian Bustard	<i>Ardeotis arabs</i>	A
Lappet-faced Vulture	<i>Torgos tracheliotos</i>	A	Great Bustard	<i>Otis tarda</i>	P
Black Vulture	<i>Aegyptius monachus</i>	P	Pheasant-tailed Jacana	<i>Hophasayndnius chirurgus</i>	O
Short-toed Eagle	<i>Circaetus gallicus</i>	P	Oystercatcher	<i>Haematopus ostralegus</i>	P

Black-winged Stilt	<i>Himantopus himantopus</i>	PC	White-browed Coucal	<i>Centropus superciliosus</i>	A
Avocet	<i>Recurvirostra avocetta</i>	PC	Barn Owl	<i>Tyto alba</i>	PC
Crab Plover	<i>Dromas ardeola</i>	PT	Striated Scops Owl	<i>Otus brucei</i>	MC
Stone Curlew	<i>Burhinus oedicnemus</i>	PC	European Scops Owl	<i>Otus scops</i>	P
Spotted Thick-knee	<i>Burhinus capensis</i>	A	African Scops Owl	<i>Otus senegalensis</i>	A
Great Stone Plover	<i>Esacus recurvirostris</i>	O	Eagle Owl	<i>Bubo bubo</i>	PC
Cream-coloured Courser	<i>Cursorius cursor</i>	SS	Spotted Eagle Owl	<i>Bubo africanus</i>	A
Collared Pratincole	<i>Glareola pratincola</i>	PC	Brown Fish Owl	<i>Ketupa ceylonensis</i>	O
Little Ringed Plover	<i>Charadrius dubius</i>	P	Little Owl	<i>Athene noctua</i>	P
Kentish Plover	<i>Charadrius alexandrinus</i>	PC	Spotted Little Owl	<i>Athene brama</i>	O
Greater Sand Plover	<i>Charadrius leschenaultii</i>	P	Tawny Owl	<i>Strix aluco</i>	P
Spur-winged Plover	<i>Hoplopterus spinosus</i>	PC	Hume's Tawny Owl	<i>Strix butleri</i>	SS
Red-wattled Plover	<i>Hoplopterus indicus</i>	O	Long-eared Owl	<i>Asio otus</i>	PC
White-tailed Plover	<i>Chettusia leucura</i>	MC	Plain Nightjar	<i>Caprimulgus inornatus</i>	A
Lapwing	<i>Vanellus vanellus</i>	P	Nubian Nightjar	<i>Caprimulgus nubicus</i>	A
Redshank	<i>Tringa totanus</i>	P	Sykes's Nightjar	<i>Caprimulgus maharattensis</i>	O
Common Sandpiper	<i>Actitis hypoleucos</i>	P	European Nightjar	<i>Caprimulgus europaeus</i>	P
Sooty Gull	<i>Larus hemprichii</i>	IO	Egyptian Nightjar	<i>Caprimulgus aegyptius</i>	SS
White-eyed Gull	<i>Larus leucophthalmus</i>	IO	Mountain Nightjar	<i>Caprimulgus poliocephalus</i>	A
Black-headed Gull	<i>Larus ridibundus</i>	P	Common Swift	<i>Apus apus</i>	P
Slender-billed Gull	<i>Larus genei</i>	P	Pallid Swift	<i>Apus pallidus</i>	SS
Armenian Gull	<i>Larus armenicus</i>	MC	Alpine Swift	<i>Apus melba</i>	PC
Gull-billed Tern	<i>Gelochelidon nilotica</i>	PC	Little Swift	<i>Apus affinis</i>	PC
Caspian Tern	<i>Sterna caspia</i>	PC	Palm Swift	<i>Cypsiurus parvus</i>	A
Swift Tern	<i>Sterna bergii</i>	PC	White-breasted Kingfisher	<i>Halcyon smymensis</i>	O
Lesser Crested Tern	<i>Sterna bengalensis</i>	PC	Grey-headed Kingfisher	<i>Halcyon leucocephala</i>	A
Sandwich Tern	<i>Sterna sandwicensis</i>	PC	White-collared Kingfisher	<i>Halcyon chloris</i>	PT
Roseate Tern	<i>Sterna dougallii</i>	PC	Common Kingfisher	<i>Alcedo atthis</i>	PC
Common Tern	<i>Sterna hirundo</i>	PC	Pied Kingfisher	<i>Ceryle rudis</i>	PT
White-cheeked Tern	<i>Sterna repressa</i>	IO	White-throated Bee-eater	<i>Merops albicollis</i>	A
Bridled Tern	<i>Sterna anaethetus</i>	PC	Little Green Bee-eater	<i>Merops orientalis</i>	PT
Sooty Tern	<i>Sterna fuscata</i>	PC	Blue-cheeked Bee-eater	<i>Merops persicus</i>	MC
Little Tern	<i>Sterna albifrons</i>	PC	European Bee-eater	<i>Merops apiaster</i>	PC
Saunders's Little Tern	<i>Sterna saundersi</i>	IO	European Roller	<i>Coracias garrulus</i>	P
Whiskered Tern	<i>Chlidonias hybridus</i>	PC	Abyssinian Roller	<i>Coracias abyssinicus</i>	A
Common Noddy	<i>Anous stolidus</i>	PC	Indian Roller	<i>Coracias benghalensis</i>	O
Lichtenstein's Sandgrouse	<i>Pterocles lichtsteini</i>	SS	Hoopoe	<i>Upupa epops</i>	PC
Crowned Sandgrouse	<i>Pterocles coronatus</i>	SS	African Grey Hornbill	<i>Tockus nasutus</i>	A
Spotted Sandgrouse	<i>Pterocles senegallus</i>	SS	Green Woodpecker	<i>Picus viridis</i>	P
Chestnut-bellied Sandgrouse	<i>Pterocles exustus</i>	PT	Black Woodpecker	<i>Dryocopus martius</i>	P
Black-bellied Sandgrouse	<i>Pterocles orientalis</i>	P	Great Spotted Woodpecker	<i>Dendrocopus major</i>	P
Pin-tailed Sandgrouse	<i>Pterocles alchata</i>	P	Syrian Woodpecker	<i>Dendrocopus syriacus</i>	P
Rock Dove	<i>Columba livia</i>	PC	Sind Pied Woodpecker	<i>Dendrocopus assimilis</i>	P
Stock Dove	<i>Columba oenas</i>	P	Middle Spotted Woodpecker	<i>Dendrocopus medius</i>	P
Eastern Stock Dove	<i>Columba eversmanni</i>	MC	Lesser Spotted Woodpecker	<i>Dendrocopus minor</i>	P
Woodpigeon	<i>Columba palumbus</i>	P	Arabian Woodpecker	<i>Dendrocopos dora</i>	END
Olive Pigeon	<i>Columba arquatrix</i>	A	Singing Bush Lark	<i>Mirafra cantillans</i>	PC
African Collared Dove	<i>Streptopelia roseogrisea</i>	A	Black-crowned Finch Lark	<i>Eremopterix nigriceps</i>	SS
Collared Dove	<i>Streptopelia decaocto</i>	PC	Dunn's Lark	<i>Eremalauda durni</i>	SS
Red-eyed Dove	<i>Streptopelia semitorquata</i>	A	Bar-tailed Desert Lark	<i>Ammomanes cincturus</i>	SS
Turtle Dove	<i>Streptopelia turtur</i>	P	Desert Lark	<i>Ammomanes deserti</i>	SS
Dusky Turtle Dove	<i>Streptopelia lugens</i>	A	Hoopoe Lark	<i>Alaemon alaudipes</i>	SS
Laughing Dove	<i>Streptopelia senegalensis</i>	PT	Thick-billed Lark	<i>Ramphocoris clotbey</i>	SS
Namaqua Dove	<i>Oena capensis</i>	A	Calandra Lark	<i>Melanocorypha calandra</i>	P
Bruce's Green Pigeon	<i>Treron waalia</i>	A	Bimaculated Lark	<i>Melanocorypha bimaculata</i>	MC
Great Spotted Cuckoo	<i>Clamator glandarius</i>	PC	Red-capped Lark	<i>Calandrella cinerea</i>	A
Didric Cuckoo	<i>Chrysococcyx caprius</i>	A	Short-toed Lark	<i>Calandrella brachydactyla</i>	P
Klaas's Cuckoo	<i>Chrysococcyx klaas</i>	A	Hume's Short-toed Lark	<i>Calandrella acutirostris</i>	P
Common Cuckoo	<i>Cuculus canorus</i>	P	Lesser Short-toed Lark	<i>Calandrella rufescens</i>	P



Plate 11. Black Bush Robin *Cercotrichas podobe*, Wadi al-Khubt, Yemen, 24 March 1993. (G. M. Kinwan)



Plate 12. Spotted Eagle Owl *Bubo africanus*, Al Madafin, Yemen, 15 November 1992. (Magnus Ullman)



Plate 13. African Collared Dove *Streptopelia roseogrisea*, north of Al Mansuriyah, Yemen, 15 November 1992. (Magnus Ullman)



Plate 14. Golden-winged Grosbeak *Rhynchostruthus socotranus*, Socotra, April 1993. (G. M. Kirwan)

Indian Sand Lark	<i>Calandrella raytal</i>	O	Yemen Thrush	<i>Turdus menachensis</i>	END
Crested Lark	<i>Galerida cristata</i>	PC	Ring Ouzel	<i>Turdus torquatus</i>	P
Woodlark	<i>Lullula arborea</i>	P	Blackbird	<i>Turdus merula</i>	P
Skylark	<i>Alauda arvensis</i>	P	Song Thrush	<i>Turdus philomelos</i>	P
Small Skylark	<i>Alauda gulgula</i>	O	Mistle Thrush	<i>Turdus viscivorus</i>	P
Shore Lark	<i>Eremophila alpestris</i>	PC	Cetti's Warbler	<i>Cettia cetti</i>	P
Temminck's Horned Lark	<i>Eremophila bilopha</i>	SS	Yemen Warbler	<i>Parisoma buryi</i>	END
Sand Martin	<i>Riparia riparia</i>	PC	Fan-tailed Cisticola	<i>Cisticola juncidis</i>	PC
African Rock Martin	<i>Ptyonoprogne fuligula</i>	PC	Graceful Prinia	<i>Prinia gracilis</i>	PT
Crag Martin	<i>Ptyonoprogne rupestris</i>	P	Scrub Warbler	<i>Scotoecera inquieta</i>	SS
Barn Swallow	<i>Hirundo rustica</i>	PC	Grasshopper Warbler	<i>Locustella naevia</i>	P
Red-rumped Swallow	<i>Hirundo daurica</i>	PC	Savi's Warbler	<i>Locustella luscinioides</i>	P
House Martin	<i>Delichon urbica</i>	P	Moustached Warbler	<i>Acrocephalus melanopogon</i>	P
Richard's Pipit	<i>Anthus richardi</i>	PC	Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	P
Tawny Pipit	<i>Anthus campestris</i>	PC	Paddyfield Warbler	<i>Acrocephalus agricola</i>	P
Long-billed Pipit	<i>Anthus similis</i>	PC	Blyth's Reed Warbler	<i>Acrocephalus dumetorum</i>	P
Tree Pipit	<i>Anthus trivialis</i>	P	Marsh Warbler	<i>Acrocephalus palustris</i>	P
Water Pipit	<i>Anthus spinoletta</i>	P	European Reed Warbler	<i>Acrocephalus scirpaceus</i>	P
Yellow Wagtail	<i>Motacilla flava</i>	P	Clamorous Reed Warbler	<i>Acrocephalus stentoreus</i>	PC
Citrine Wagtail	<i>Motacilla citreola</i>	P	Great Reed Warbler	<i>Acrocephalus arundinaceus</i>	P
Grey Wagtail	<i>Motacilla cinerea</i>	P	Basra Reed Warbler	<i>Acrocephalus griseldis</i>	MC
White Wagtail	<i>Motacilla alba</i>	P	Olivaceous Warbler	<i>Hippolais pallida</i>	P
White-cheeked Bulbul	<i>Pycnonotus leucogenys</i>	O	Booted Warbler	<i>Hippolais caligata</i>	P
Yellow-vented Bulbul	<i>Pycnonotus xanthopygos</i>	MC	Upcher's Warbler	<i>Hippolais languida</i>	MC
Grey Hypocolius	<i>Hypocolius ampelinus</i>	MC	Icterine Warbler	<i>Hippolais icterina</i>	P
Dipper	<i>Cinclus cinclus</i>	P	Ménétries' Warbler	<i>Sylvia mystacea</i>	MC
Wren	<i>Troglodytes troglodytes</i>	PC	Desert Warbler	<i>Sylvia nana</i>	SS
Duncock	<i>Prunella modularis</i>	P	Arabian Warbler	<i>Sylvia leucomelaena</i>	MC
Radde's Accentor	<i>Prunella ocularis</i>	MC	Orphean Warbler	<i>Sylvia hortensis</i>	P
Arabian Accentor	<i>Prunella fagani</i>	END	Barred Warbler	<i>Sylvia nisoria</i>	P
Alpine Accentor	<i>Prunella collaris</i>	P	Lesser Whitethroat	<i>Sylvia curruca</i>	P
Rufous Bush Robin	<i>Cercotrichas galactotes</i>	PC	Hume's Lesser Whitethroat	<i>Sylvia (curruca) althaea</i>	MC
Black Bush Robin	<i>Cercotrichas podobe</i>	A	Whitethroat	<i>Sylvia communis</i>	P
Robin	<i>Erithacus rubecula</i>	P	Blackcap	<i>Sylvia atricapilla</i>	P
Nightingale	<i>Luscinia megarhynchos</i>	P	Brown Woodland Warbler	<i>Phylloscopus umbrovirens</i>	A
White-throated Robin	<i>Irania gutturalis</i>	MC	Greenish Warbler	<i>Phylloscopus trochiloides</i>	P
Black Redstart	<i>Phoenicurus ochruros</i>	P	Plain Leaf Warbler	<i>Phylloscopus neglectus</i>	MC
Common Redstart	<i>Phoenicurus phoenicurus</i>	P	Mountain Chiffchaff	<i>Phylloscopus sindianus</i>	MC
Blackstart	<i>Cercomela melanura</i>	A	Chiffchaff	<i>Phylloscopus collybita</i>	P
Whinchat	<i>Saxicola rubetra</i>	P	Goldcrest	<i>Regulus regulus</i>	P
Stonechat	<i>Saxicola torquata</i>	PC	Spotted Flycatcher	<i>Muscicapa striata</i>	P
Pied Stonechat	<i>Saxicola caprata</i>	O	Gambaga Flycatcher	<i>Muscicapa gamabagae</i>	A
Isabelline Wheatear	<i>Oenanthe isabellina</i>	P	Red-breasted Flycatcher	<i>Ficedula parva</i>	P
Red-breasted Wheatear	<i>Oenanthe bottae</i>	A	Semi-collared Flycatcher	<i>Ficedula semitorquata</i>	MC
Northern Wheatear	<i>Oenanthe oenanthe</i>	PC	African Paradise Flycatcher	<i>Terpsiphone viridis</i>	A
Pied Wheatear	<i>Oenanthe pleschanka</i>	P	Bearded Tit	<i>Panurus biarmicus</i>	P
Black-eared Wheatear	<i>Oenanthe hispanica</i>	P	Iraq Babbler	<i>Turdoides altostris</i>	MC
Desert Wheatear	<i>Oenanthe deserti</i>	SS	Common Babbler	<i>Turdoides caudatus</i>	O
Finsch's Wheatear	<i>Oenanthe finschii</i>	MC	Arabian Babbler	<i>Turdoides squamiceps</i>	SS
Red-tailed Wheatear	<i>Oenanthe xanthopyrna</i>	MC	Long-tailed Tit	<i>Aegithalos caudatus</i>	P
Eastern Pied Wheatear	<i>Oenanthe picata</i>	P	Sombre Tit	<i>Parus lugubris</i>	P
Mourning Wheatear	<i>Oenanthe lugens</i>	SS	Coal Tit	<i>Parus ater</i>	P
South Arabian Wheatear	<i>Oenanthe lugentoides</i>	END	Blue Tit	<i>Parus caeruleus</i>	P
Hooded Wheatear	<i>Oenanthe monacha</i>	SS	Great Tit	<i>Parus major</i>	P
Hume's Wheatear	<i>Oenanthe alboniger</i>	MC	Turkestan Tit	<i>Parus bokharensis</i>	MC
White-crowned Blk. Wheatear	<i>Oenanthe leucopyga</i>	SS	Nuthatch	<i>Sitta europaea</i>	P
Little Rock Thrush	<i>Monticola rufocinerea</i>	A	Eastern Rock Nuthatch	<i>Sitta tephronota</i>	MC
Rock Thrush	<i>Monticola saxatilis</i>	P	Western Rock Nuthatch	<i>Sitta neumayer</i>	P
Blue Rock Thrush	<i>Monticola solitarius</i>	P	Wallcreeper	<i>Tichodroma muraria</i>	P

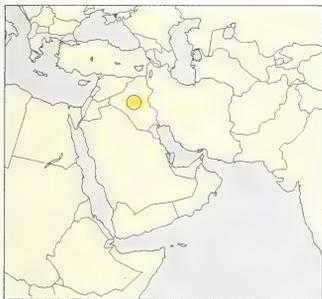
Treecreeper	<i>Certhia familiaris</i>	P	Crimson-winged Finch	<i>Rhodopechys sanguinea</i>	SS
Penduline Tit	<i>Remiz pendulinus</i>	P	Desert Finch	<i>Rhodospiza obsoleta</i>	MC
Nile Valley Sunbird	<i>Anthreptes metallicus</i>	A	Mongolian Trumpeter Finch	<i>Bucanetes mongolicus</i>	P
Purple Sunbird	<i>Nectarinia asiatica</i>	O	Trumpeter Finch	<i>Bucanetes githagineus</i>	SS
Shining Sunbird	<i>Nectarinia habessinica</i>	A	Common Rosefinch	<i>Carpodacus erythrinus</i>	P
Palestine Sunbird	<i>Nectarinia osea</i>	A	Bullfinch	<i>Pyrrhula pyrrhula</i>	P
White-breasted White-eye	<i>Zosterops abyssinica</i>	A	White-winged Grosbeak	<i>Mycerobas carripes</i>	P
Golden Oriole	<i>Oriolus oriolus</i>	PC	Hawfinch	<i>Coccothraustes coccothraustes</i>	P
Black-headed Bush Shrike	<i>Tchagra senegalae</i>	A	White-capped Bunting	<i>Emberiza stewarti</i>	P
Isabelline Shrike	<i>Lanius isabellinus</i>	P	Rock Bunting	<i>Emberiza cia</i>	P
Red-backed Shrike	<i>Lanius collurio</i>	P	House Bunting	<i>Emberiza striolata</i>	SS
Bay-backed Shrike	<i>Lanius vittatus</i>	O	African Rock Bunting	<i>Emberiza tahapisi</i>	A
Lesser Grey Shrike	<i>Lanius minor</i>	P	Cinereous Bunting	<i>Emberiza cineracea</i>	MC
Great Grey Shrike	<i>Lanius excubitor</i>	PC	Orotan Bunting	<i>Emberiza hortulana</i>	P
Woodchat Shrike	<i>Lanius senator</i>	P	Grey-necked Bunting	<i>Emberiza buchanani</i>	MC
Masked Shrike	<i>Lanius nubicus</i>	MC	Reed Bunting	<i>Emberiza schoeniclus</i>	P
Jay	<i>Garrulus glandarius</i>	P	Red-headed Bunting	<i>Emberiza bruniceps</i>	P
Magpie	<i>Pica pica</i>	PC	Black-headed Bunting	<i>Emberiza melanocphala</i>	P
Pleske's Ground Jay	<i>Podoces pleskei</i>	MC	Corn Bunting	<i>Miliaria calandra</i>	P
Alpine Chough	<i>Pyrrhocorax graculus</i>	P			
Chough	<i>Pyrrhocorax pyrrhocorax</i>	P			
Jackdaw	<i>Corvus monedula</i>	P			
Rook	<i>Corvus frugilegus</i>	P			
Carion Crow	<i>Corvus corone</i>	P	<b>Omitted species are</b>		
Brown-necked Raven	<i>Corvus ruficollis</i>	SS	Pygmy Cormorant	<i>Phalacrocorax pygmaeus</i>	
Raven	<i>Corvus corax</i>	PC	No evidence of breeding.		
Fan-tailed Raven	<i>Corvus rhipidurus</i>	SS	Red Kite	<i>Milvus milvus</i>	
Tristram's Grackle	<i>Onychognathus tristramii</i>	A	No evidence of breeding.		
Amethyst Starling	<i>Cinnyricinclus leucogaster</i>	A	Red-headed Merlin	<i>Falco chicquera</i>	
Starling	<i>Sturnus vulgaris</i>	P	Apparently historical records only. No evidence of breeding.		
Rose-coloured Starling	<i>Sturnus roseus</i>	MC	White-winged Black Tern	<i>Chlidonias leucopterus</i>	
Common Mynah	<i>Acridotheres tristis</i>	O	No evidence of breeding.		
House Sparrow	<i>Passer domesticus</i>	PC	Hume's Tawny Owl	<i>Strix butleri</i>	
Spanish Sparrow	<i>Passer hispaniolensis</i>	P	One specimen from the Makran coast in Pakistan (Roberts 1991) is extralimital to the known range elsewhere. Discussion of possible occurrence in Iran (Goodman & Sabry 1984) indicates that there is no incontrovertible evidence of occurrence and that the provenance of the only apparent record is mysterious, concluding that "it seems possible...that this species has never been recorded in Iran".		
Sind Jungle Sparrow	<i>Passer pyrrhonotus</i>	O			
Dead Sea Sparrow	<i>Passer moabiticus</i>	MC			
Tree Sparrow	<i>Passer montanus</i>	P			
Arabian Golden Sparrow	<i>Passer euchlorus</i>	A			
Pale Rock Sparrow	<i>Carpospiza brachyactyla</i>	MC			
Yellow-throated Sparrow	<i>Petronia xanthocollis</i>	PT	Rose-ringed Parakeet	<i>Psittacula krameri</i>	
Bush Petronia	<i>Petronia dentata</i>	A	Although there are records from 14 widely separated localities in Iran, virtually all are from city parks and gardens in urban areas and there is no indication that the species occurs as anything other than an introduced exotic (D. A. Scott <i>in litt.</i> ).		
Rock Sparrow	<i>Petronia petronia</i>	P			
Snow Finch	<i>Montifringilla nivalis</i>	P			
Rüppell's Weaver	<i>Ploceus galbula</i>	A	Wryneck	<i>Jynx torquilla</i>	
Arabian Waxbill	<i>Estrilda rufibarba</i>	END	No evidence of breeding.		
Zebra Waxbill	<i>Amandava subflava</i>	A			
Indian Silverbill	<i>Eudice malabarica</i>	O	Bluethroat	<i>Luscinia svecica</i>	
African Silverbill	<i>Eudice cantans</i>	A	No evidence of breeding.		
Chaffinch	<i>Fringilla coelebs</i>	P	Güldenstädt's Redstart	<i>Phoenicurus erythrogaster</i>	
Red-fronted Serin	<i>Serinus pusillus</i>	MC	No evidence of breeding.		
Arabian Serin	<i>Serinus rothschildi</i>	END	Desert Lesser Whitethroat	<i>Sylvia (curruca) minula</i>	
Yemen Serin	<i>Serinus menachensis</i>	END	Apparently does not breed in Iran. C. D. R. Heard ( <i>in litt.</i> ) did not record the species during three months of extensive travel there in spring 1977 and D. A. Scott ( <i>in litt.</i> ) does not consider this form to breed in Iran.		
Golden-winged Grosbeak	<i>Rhynchostrutis socotranus</i>	END			
Greenfinch	<i>Carduelis chloris</i>	P			
Goldfinch	<i>Carduelis carduelis</i>	P			
Siskin	<i>Carduelis spinus</i>	P			
Linnet	<i>Carduelis cannabina</i>	P			
Yemen Linnet	<i>Carduelis yemenensis</i>	END			
Twite	<i>Carduelis flavirostris</i>	P			

## Appendix 2. Subclassification of Palearctic species used in this paper

<b>WIDESPREAD</b>	Blackbird	European Scops Owl
Dalmatian Pelican	Paddyfield Warbler	European Roller
Greylag Goose	Blyth's Reed Warbler	Green Woodpecker
Ruddy Shelduck	Clamorous Reed Warbler	Syrian Woodpecker
Shelduck	Booted Warbler	Middle Spotted Woodpecker
Garganey	Barred Warbler	Calandra Lark
Red-crested Pochard	Lesser Whitethroat	Woodlark
Pochard	Greenish Warbler	Water Pipit
Tufted Duck	Chiffchaff	Dunnock
White-tailed Eagle	Goldcrest	Robin
Griffon Vulture	Red-breasted Flycatcher	Nightingale
Black Vulture	Bearded Tit	Redstart
Marsh Harrier	Long-tailed Tit	Whinchat
Sparrowhawk	Coal Tit	Black-eared Wheatear
Common Buzzard	Great Tit	Ring Ouzel
Long-legged Buzzard	Nuthatch	Song Thrush
Greater Spotted Eagle	Wallcreeper	Mistle Thrush
Lesser Kestrel	Treecreeper	Cetti's Warbler
Hobby	Penduline Tit	Grasshopper Warbler
Saker Falcon	Jay	Savi's Warbler
Chukar	Alpine Chough	Moustached Warbler
Grey Partridge	Chough	Sedge Warbler
Pheasant	Rook	Marsh Warbler
Water Rail	Carrion Crow	European Reed Warbler
Great Bustard	Tree Sparrow	Great Reed Warbler
Oystercatcher	Rock Sparrow	Olivaceous Warbler
Little Ringed Plover	Snow Finch	Icterine Warbler
Greater Sand Plover	Goldfinch	Orphean Warbler
Lapwing	Siskin	Whitethroat
Redshank	Twite	Blackcap
Common Sandpiper	Common Rosefinch	Spotted Flycatcher
Black-headed Gull	Bullfinch	Sombre Tit
Common Cuckoo	Hawfinch	Blue Tit
Little Owl	Rock Bunting	Rock Nuthatch
Tawny Owl	Reed Bunting	Red-backed Shrike
European Nightjar		Lesser Grey Shrike
Common Swift	<b>WESTERN</b>	Woodchat Shrike
Wryneck	White Stork	Jackdaw
Black Woodpecker	Marbled Teal	Starling
Great Spotted Woodpecker	Ferruginous Duck	Spanish Sparrow
Lesser Spotted Woodpecker	White-headed Duck	Chaffinch
Short-toed Lark	Honey Buzzard	Greenfinch
Lesser Short-toed Lark	Red Kite	Linnet
Skylark	Short-toed Eagle	Ortolan Bunting
Crag Martin	Montagu's Harrier	Black-headed Bunting
House Martin	Levant Sparrowhawk	Corn Bunting
Tawny Pipit	Lesser Spotted Eagle	
Tree Pipit	Imperial Eagle	<b>EASTERN</b>
Yellow Wagtail	Caucasian Black Grouse	Sind Pied Woodpecker
Grey Wagtail	Spotted Crane	Hume's Short-toed Lark
White Wagtail	Corncrake	Citrine Wagtail
Dipper	Little Bustard	Güldenstädt's Redstart
Alpine Accentor	Slender-billed Gull	Pied Wheatear
Bluethroat	White-winged Black Tern	Eastern Pied Wheatear
Black Redstart	Black-bellied Sandgrouse	Isabelline Shrike
Isabelline Wheatear	Pin-tailed Sandgrouse	Mongolian Trumpeter Finch
Pied Wheatear	Stock Dove	White-winged Grosbeak
Rock Thrush	Woodpigeon	White-capped Bunting
Blue Rock Thrush	Turtle Dove	Red-headed Bunting

# The birds of semi-desert areas of central Iraq

KHALID Y. AL-DABBAGH



Fieldwork was conducted at three sites, since recognised as Important Bird Areas (IBAs), in central Iraq during February 1988 to October 1989. A total of 172 species was recorded including four globally threatened species: Pygmy Cormorant *Phalacrocorax pygmeus*, Marbled Teal *Marmaronetta angustirostris*, Lesser Kestrel *Falco naumanni* and Houbara Bustard *Chlamydotis undulata*, and at least ten restricted-range and regionally threatened species in the Middle East.

## INTRODUCTION

OVER 400 SPECIES OF BIRD were recorded in Iraq by Allouse (1960–63). Since then, many of the country's habitats have been damaged and fragmented but little work has been performed on the effects of this on birds. Some work was done in the southern marshes during the 1960s and 1970s (George & Savage 1970, George & Vielliard 1970). The most recent work was that of Scott & Carp (1982), who were considering birds wintering from south-east Asia.

This paper reports a study on birds in two habitats in central Iraq: riverine forest and semi-desert. Most of the original riverine poplar forests have been replaced by fruit orchards; the semi-desert areas have been exploited for underground water, grazing and agriculture. The paper aims to update information on the avifauna of central Iraq; to report on wetland birds outside the southern marshes; and to evaluate the effects of habitat change.

## STUDY SITES

Three sites were chosen, all within the area (34°–35° N 43°–44° E) which is part of the lower Jazira desert (Gest 1966) that stretches from the foothills of Hemrin in the east, to the River Euphrates in the west. It includes the major towns of Baiji, Tikrit and Samarra.

### Site 1: Al-Mahzam

This site is 120 km north of Baghdad. It is bounded by lake Tharthar to the west, the Baghdad–Mosul road between Samarra and Baiji to the east, the Baiji–Haditha road to the north, and part of lake Tharthar to the south. The site covers c. 4000 km<sup>2</sup> including part of the lake. Its centre is located at approximately 42° 22' E, 34° 30' N. This area is a typical uniform-surfaced semi-arid calcareous desert pavement. Most of the south and centre are covered by desert pavement (small sandy stones); the north is mainly sandy. Overlooking the lake in the west are small hills covered in larger stones. A few wadis run across the whole area, descending towards the lake, and there is extensive groundwater.

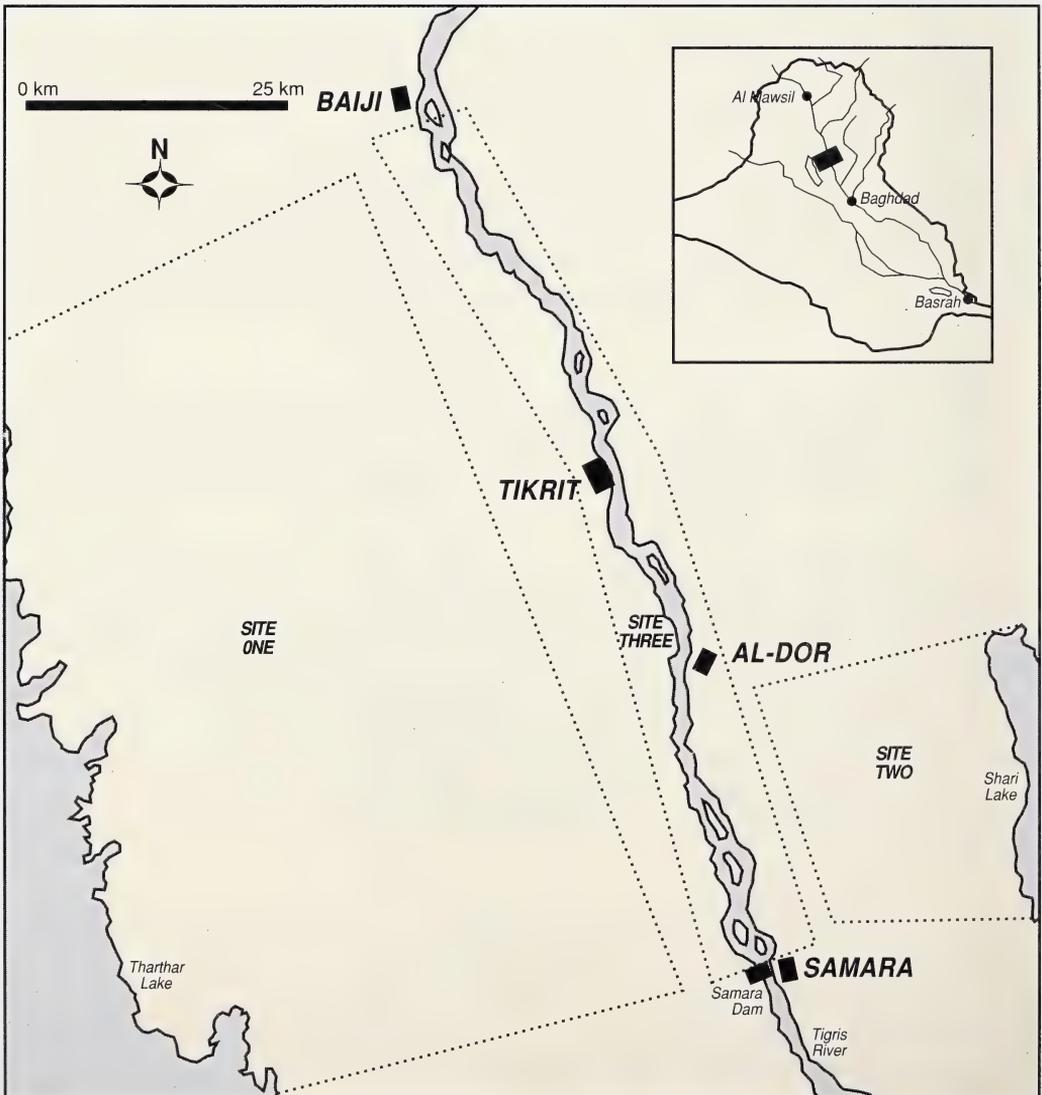
The natural vegetation consists of sparsely scattered scrub and bushes with thicker patches of scrub around some of the wadis. The main species are *Halaxylyon salicornicum*, *Achillea fragrantissima*, *Artimisia herba-alba*, and *Ranterium epaposum*. In spring, most of the area becomes covered with a thin layer of grasses and annual plants, which grow flower and die within one month. A distinctive feature of the vegetation is the presence of small scattered individuals of *Zizyphus* sp., sometimes in groups of 3–5.

The climate is hot and dry for most of the year. Mean annual rainfall is c. 150 mm, most falling during December–February. Average annual temperature is c. 20°C, ranging from 5°C in January to 45°C in July–August.

Between 150 and 200 farmers lease land from the government. Each has drilled a well for irrigation. Most of the farms are on the main Baghdad–Mosul road but there is a 20 km wide strip of land near the lake that is unsuitable for agriculture. The farms have brought soil- and habitat destruction and introduced exotic species.

### Site 2: Abu-Dalaf

This site is centred on c. 34°15' N 44° 00' E, 10 km north of Samara and east of the River Tigris. The site is bounded by the Samara–Al-Dor road to the west, Al-Dor–Doz to the north and Lake Shari to the east. It covers c. 1200 km<sup>2</sup> plus 80 km<sup>2</sup> of Lake Shari, a highly saline shallow lake which varies in size depending on floodwater from the Hemrin hills and Al-Authaim River. The soil, natural vegetation and climate is similar



to Site 1 but has more bushes and a thicker cover of grasses and annuals during spring, especially near the lake, when sheep graze the area.

### Site 3: Lake Samarra and the Tigris valley

This site comprises a five km strip of land either side of the River Tigris between Samarra and the town of Baiji. The area includes several habitats. Immediately behind the Samarra dam is a large, well-established lake with thick reedbeds and an area of old stone quarries, covered by a rich growth of poplar and tamarisk trees. The rest of the river valley comprises orchards, open agricultural fields, open shallow water pools with marsh vegetation and small remnants of the original Ahrash Forest (mainly poplar *Populus euphratica*) particularly on small islands within the river. In some areas, the river bank forms high cliffs overlooking the river valley. The general climate is similar to that of the other two sites.

## METHODS

The study consisted of at least one visit a month in February 1988–October 1989. Each area was covered by driving a slow-moving vehicle systematically through the entire site and recording the numbers and species of birds seen. In addition, mist-nets were used among the trees of Site 3, and evidence of breeding (nests or young) was noted. During the winter, waterbirds were recorded from a boat travelling along the River Tigris from Baiji downstream to Samarra.

## RESULTS

A total of 172 species was recorded: 103 at Site 1; 79 at Site 2; and 146 at Site 3 (see Appendix 1). The maximum number recorded in a day at each site and evidence of breeding is recorded. The distribution of birds from the three sites according to their status is shown in Table 1. Site 3 had the highest number in all categories. In general residents were more common, but a substantial number were winter visitors, particularly ducks and waders.

Table 1. Bird status at the three study sites.

sites	Residents	Winter visitors	Summer visitors	Passage migrants	Total
site 1	36	32	15	20	103
site 2	31	24	13	11	79
site 3	42	40	28	36	146

## DISCUSSION

The three sites contained a large range of bird species, despite the original habitats not being pristine. At all three sites, as well as aquatic or semi-arid species, there were still a substantial number of birds usually associated with agricultural land. It seems, therefore, that human influence and the destruction of the original habitats have caused a noticeable change to the avifauna. It was clear that in areas not covered by this study semi-arid species were more common where original habitats remained.

Scott & Carp (1982) included all three sites in their list of important wetlands in Iraq. They considered Samarra Barrage and Tharthar Lake as wetlands with large concentrations of waterfowl and possible international importance and quoted maximum counts of 5,800 and 3,000 waterfowl at Samarra and Tharthar. The estimates from this study exceed 30,000 and 20,000 for Samarra and Tharthar despite the present study covering only a small part of Tharthar. It is apparent that these two sites are of international importance for wintering waterfowl in the Middle East. All three sites qualify as Important Bird Areas (IBAs): they hold more than 20,000 waterfowl and Site

3 more than 1% of non-breeding populations in the Middle East of several aquatic birds (Night Heron *Nycticorax nycticorax*, Squacco Heron *Ardeola ralloides*, Little Egret *Egretta garzetta*, Grey Heron *Ardea cinerea*, Purple Heron *A. purpurea*, Marsh Harrier *Circus aeruginosus*, Purple Gallinule *Porphyrio porphyrio*, Black-winged Stilt *Himantopus himantopus*, Collared Pratincole *Glareola pratincola*, Kentish Plover *Charadrius alexandrinus*, Red-wattled Plover *Hoplopterus indicus*, White-tailed Plover *Chettusia leucura*, Gull-billed *Gelochelidon nilotica*, Little *Sterna albifrons* and White-winged Black Terns *Chlidonias leucopterus*).

Both sites 1 and 3 hold globally threatened bird species. At site 1, the most important of these is Houbara Bustard *Chlamydotis undulata*. Two breeding pairs were located at an inaccessible area in the north. The other species were Pygmy Cormorant *Phalacrocorax pygmeus*, Marbled Teal *Marmaronetta angustirostris* and Lesser Kestrel *Falco naumanni*. At site 3, the latter three species were more common and suspected to breed. Other globally threatened species e.g. Dalmatian Pelican *Pelecanus crispus*, White-tailed Eagle *Haliaeetus albicilla* and Slender-billed Curlew *Numenius tenuirostris*, which were reported to occur in the past (Allouse 1960) were not seen during this study.

The three sites also support at least 10 restricted-range and regionally threatened species in the Middle East. Most important of these are those that occur and breed in significant numbers: See-see Partridge *Ammoperdix griseogularis*, Grey Hypocolius *Hypocolius ampelinus*, Iraq Babbler *Turdoides altirostris* and Dead Sea Sparrow *Passer moabiticus*.

The study strongly suggests that the sites should receive conservation designation, probably in the form of National Parks. In site 1, the eastern shores of Tharthar Lake with a 20 km strip of the semi-desert area along the shore would be the most suitable part for conservation and is also important for Desert Monitor *Varanus gresius*, a globally threatened lizard present in relatively significant numbers. At site 3, the reedbeds behind the Samarra Barrage and up to 25 km north of the dam would make an excellent conservation site for most threatened species. At Site 2, the whole of Shari Lake could be considered as another conservation site; it attracts fewer birds than the other two sites but its shores are probably more important for geese and waders.

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**Appendix 1.** Systematic list of birds recorded within the three study sites.

RA: Relative abundance, a measure of the number of visits in which a species is seen (A, very abundant (80–100% of site visits); B, abundant (60–80%); C, common (40–60%); D, frequent (20–40%); E, occasional (5–20%); F, rare, (< 5%). Numbers are the highest daily count. Status: W = winter visitor, S = summer visitor, R = resident, and P = passage migrant.

Species	Sites/RA			Status	Breeding status
	1	2	3		
Little Grebe <i>Tachybaptus ruficollis</i>	C10	D6	C20	R	20 pairs, Site 3
Great Crested Grebe <i>Podiceps cristatus</i>	E1	-	D2	W	
Black-necked Grebe <i>P. nigricollis</i>	E2	-	D10	W	
Pygmy Cormorant <i>Phalacrocorax pygmeus</i>	D10	D6	D14	R	Prob. breeding, Site 3
White Pelican <i>Pelecanus onocrotalus</i>	F1	-	F1	W	
Bittern <i>Botaurus stellaris</i>	-	-	E1	P	
Little Bittern <i>Ixobrychus minutus</i>	-	-	E1	P	
Night Heron <i>Nycticorax nycticorax</i>	-	-	C60	S	
Squacco Heron <i>Ardeola ralloides</i>	E10	E2	D20	S	
Cattle Egret <i>Bubulcus ibis</i>	E4	-	E10	S	20 pairs, Site 3
Little Egret <i>Egretta garzetta</i>	C20	C10	B40	R	Prob. breeding, Site 3
Great White Egret <i>E. alba</i>	F2	-	E4	W	
Grey Heron <i>Ardea cinerea</i>	D4	D2	C20	R	Prob. breeding, Site 3
Purple Heron <i>A. purpurea</i>	E2	E2	D10	S	
White Stork <i>Ciconia ciconia</i>	E2	E2	E2	S	
Greater Flamingo <i>Phoenicopterus ruber</i>	-	E50	-	W	
Glossy Ibis <i>Plegadis falcinellus</i>	-	-	E6	W	
White-fronted Goose <i>Anser albifrons</i>	E10	E20	-	W	
Greylag Goose <i>A. anser</i>	4	F	-	W	
Shelduck <i>Tadorna tadorna</i>	E2	F4	E2	W	
Wigeon <i>Anas penelope</i>	C50	E10	C50	W	
Gadwall <i>A. strepera</i>	C100	E10	C200	W	
Teal <i>A. crecca</i>	E20	E20	C40	W	
Mallard <i>A. platyrhynchos</i>	B10000	C200	B5000	W	
Pintail <i>A. acuta</i>	E20	-	E50	W	
Garganey <i>A. querquedula</i>	F2	-	E8	W	
Shoveler <i>A. clypeata</i>	-	-	E6	W	
Marbled Teal <i>Marmaronetta angustirostris</i>	E2	E2	C6	R	Prob. breeding
Pochard <i>Aythya ferina</i>	B10000	C200	B1000	W	
Ferruginous Duck <i>A. nyroca</i>	E10	-	E25	W	
Tufted Duck <i>A. fuligula</i>	C400	C200	C250	W	
Black Kite <i>Milvus migrans</i>	E10	E2	E6	W	
Egyptian Vulture <i>Neophron percnopterus</i>	E4	-	-	P	
Marsh Harrier <i>Circus aeruginosus</i>	C6	C4	B20	R	Prob. breeding, Site 3
Hen Harrier <i>C. cyaneus</i>	E4	E2	E2	W	
Pallid Harrier <i>C. macrourus</i>	F1	F1	-	P	
Sparrowhawk <i>Accipiter nisus</i>	E2	E2	C4	R	
Levant Sparrowhawk <i>A. brevipes</i>	-	F1	-	P	
Common Buzzard <i>Buteo buteo</i>	-	-	F1	P	
Long-legged Buzzard <i>B. rufinus</i>	-	-	E2	R	
Steppe Eagle <i>Aguila nipalensis</i>	E4	E2	-	P	
Lesser Kestrel <i>Falco naumanni</i>	F2	F2	F2	R	?
Kestrel <i>F. tinnunculus</i>	B10	B10	B20	R	
Merlin <i>F. columbarius</i>	F1	F1	-	P	
Saker Falcon <i>F. cherrug</i>	F1	-	-	P	
Peregrine Falcon <i>F. peregrinus</i>	F2	F1	-	P	?
Barbary Falcon <i>F. pelegrinoides</i>	E2	E4	E4	R	? Hemrin Hills
See-see Partridge <i>Ammoperdix griseogularis</i>	C20	C20	C4	R	
Black Francolin <i>Francolinus francolinus</i>	-	-	A40	R	Many, Site 3
Quail <i>Coturnix coturnix</i>	E2	-	-	R	20 pairs, Site 2
Moorhen <i>Gallinula chloropus</i>	C20	C50	A10	R	Many, Site 3
Purple Gallinule <i>Porphyrio porphyrio</i>	-	-	B20	R	Many, Site 3
Coot <i>Fulica atra</i>	A1000	B500	A15000	W	? Site 3

Houbara Bustard <i>Chlamydotis undulata</i>	E4	F2	-	R	Many, Site 3
Black-winged Stilt <i>Himantopus himantopus</i>	D20	D10	C50	R	? Site 2
Avocet <i>Recurvirostra avosetta</i>	-	-	E10	W	
Stone Curlew <i>Burhinus oedicephalus</i>	E10	E6	-	R	
Cream-coloured Courser <i>Cursorius cursor</i>	C10	C6	-	R	20 Site 1; 6, Site 2
Collared Pratincole <i>Glareola pratincola</i>	C	C	B50	S	30+, Site 3
Ringed Plover <i>Charadrius hiaticula</i>	E4	E2	E2	P	
Kentish Plover <i>C. alexandrinus</i>	C100	C40	E10	R	20, Site 1; 5, Site 2
Caspian Plover <i>C. asiaticus</i>	E60	E20	-	P	
Dotterel <i>C. morinellus</i>	F2	-	F4	P	
Red-wattled Plover <i>Hoplopterus indicus</i>	B20	B20	A40	R	20 pairs, all sites
Spur-winged Plover <i>H. spinosus</i>	-	-	F2	P	
Sociable Plover <i>Chettusia gregaria</i>	-	-	F2	W	
White-tailed Plover <i>C. leucura</i>	E4	D20	B100	R	10, Site 2; 50, Site 3
Lapwing <i>Vanellus vanellus</i>	-	-	E6	W	
Little Stint <i>Calidris minuta</i>	C100	C40	C10	W	
Temminck's Stint <i>C. temminckii</i>	F4	-	-	W	
Dunlin <i>C. alpina</i>	F2	-	-	P	
Black-tailed Godwit <i>Limosa limosa</i>	-	-	F	P	
Whimbrel <i>Numenius phaeopus</i>	-	-	F1	P	
Curlew <i>N. arquata</i>	F2	F4	E4	W	
Spotted Redshank <i>Tringa erythropus</i>	-	-	F4	P	
Redshank <i>T. totanus</i>	E2	-	C10	W	
Marsh Sandpiper <i>T. stagnatilis</i>	-	-	F2	P	
Greenshank <i>T. nebularia</i>	-	-	E60	W	
Green Sandpiper <i>T. ochropus</i>	-	-	F2	P	
Black-headed Gull <i>Larus ridibundus</i>	C40	C20	C100	W	
Slender-billed Gull <i>L. genei</i>	C100	E10	C60	W	
Lesser black-backed Gull <i>L. fuscus</i>	F6	-	F4	W	
Yellow-legged Gull <i>L. cachinnans</i>	C20	E4	C40	W	
Gull-billed Tern <i>Gelochelidon nilotica</i>	E10	C20	E4	S	4, Site 2
Common Tern <i>Sterna hirundo</i>	E10	E10	E10	S	? Site 3
Little Tern <i>S. albifrons</i>	C40	C20	C40	S	? Site 3
Whiskered Tern <i>Chlidonias hybridus</i>	-	-	E6	S	
White-winged Black Tern <i>C. leucopterus</i>	E10	E10	C100	S	? Site 3
Pin-tailed Sandgrouse <i>Pterocles alchata</i>	B1000	B2000	E100	R	Many, Site 2
Rock Dove <i>Columba livia</i>	A100	A50	A20	R	Many, all sites
Woodpigeon <i>C. palumbus</i>	-	-	A500	R	Many, Site 3
Collared Dove <i>Streptopelia decaocto</i>	A40	A40	A500	R	Many, all sites
Turtle Dove <i>S. turtur</i>	B20	B20	C10	S	Many, all sites
Common Cuckoo <i>Cuculus canorus</i>	F1	-	-	S	Egg in Great Grey Shrike nest
Barn Owl <i>Tyto alba</i>	E2	-	E2	R	Pair, Site 1
European Scops Owl <i>Otus scops</i>	2	1	D2	R	
Eagle Owl <i>Bubo bubo</i>	E2	-	-	R	
Little Owl <i>Athena noctua</i>	D4	D4	D6	R	? all sites
European Nighthawk <i>Caprimulgus europaeus</i>	-	-	E1	S	? all sites
Common Swift <i>Apus apus</i>	-	-	D20	S	
White-breasted Kingfisher <i>Halcyon smyrnensis</i>	-	-	A20	R	50 pairs, Site 3
Common Kingfisher <i>Alcedo atthis</i>	-	-	D4	R	50 pairs, Site 3
Pied Kingfisher <i>Ceryle rudis</i>	-	-	B20	R	10 pairs, Site 3
Blue-cheeked Bee-eater <i>Merops superciliosus</i>	-	10	E	S	
European Bee-eater <i>M. apiaster</i>	D10	D10	B100	S	
European Roller <i>Coracias garrulus</i>	D10	D10	D20	S	? Site 3
Hoopoe <i>Upupa epops</i>	D4	D6	D4	S	
Hoopoe Lark <i>Alaemon alaudipes</i>	B10	-	E4	R	
Desert Lark <i>Ammomanes deserti</i>	C20	-	-	R	? Site 1
Calandra Lark <i>Melanocorypha calandra</i>	-	-	E10	P	
Bimaculated Lark <i>M. bimaculata</i>	E6	-	-	P	
Short-toed Lark <i>Calandrella brachydactyla</i>	C50	C40	E10	P	

Lesser Short-toed Lark <i>C. rufescens</i>	B500	B400	E20	R	? sites 1 and 2
Crested Lark <i>Galerida cristata</i>	A60	A50	A50	R	Many, all sites
Skylark <i>Alauda arvensis</i>	B200	B200	C10	W	
Sand Martin <i>Riparia riparia</i>	-	-	E20	S	
Barn Swallow <i>Hirundo rustica</i>	-	-	C100	S	Many, Site 3
House Martin <i>Delichon urbica</i>	-	-	E20	P	
Meadow Pipit <i>Anthus pratensis</i>	-	-	E2	P	
Water Pipit <i>A. spinoletta</i>	-	-	C6	W	
Yellow Wagtail <i>Motacilla flava</i>	E6	E6	C40	W	
Grey Wagtail <i>M. cinerea</i>	-	-	E10	P	
White Wagtail <i>M. alba</i>	E20	E10	B50	W	
White-cheeked Bulbul <i>Pycnonotus leucogenys</i>	E10	E10	A200	R	Many, Site 3
Grey Hypocolius <i>Hypocolius ampelinus</i>	-	-	B80	S	50 nests, Site 3
Dunnock <i>Prunella modularis</i>	F1	-	-	P	
Rufous Bush Robin <i>Cercotrichas galactotes</i>	E2	E2	B10	S	
Robin <i>Erithacus rubecula</i>	-	-	C10	W	
Nightingale <i>Luscinia megarhynchos</i>	-	-	E2	S	
Bluethroat <i>L. svecica</i>	-	-	F1	P	
Black Redstart <i>Phoenicurus ochruros</i>	-	-	E2	P	
Common Redstart <i>P. phoenicurus</i>	D2	D2	D4	P	
Whinchat <i>Saxicola rubetra</i>	-	-	F2	P	
Stonechat <i>S. torquata</i>	D10	D10	C20	W	
Isabelline Wheatear <i>Oenanthe isabellina</i>	B20	B16	E4	R	? Sites 1 and 2
Northern Wheatear <i>O. oenanthe</i>	D10	D6	E4	W	
Finsch's Wheatear <i>O. finschii</i>	D6	D4	-	R	
Blue Rock Thrush <i>Monticola solitarius</i>	E1	-	-	P	
Blackbird <i>Turdus merula</i>	-	-	E2	R	
Graceful Prinia <i>Prinia gracilis</i>	E10	E4	B20	R	Many, all sites
European Reed Warbler <i>Acrocephalus scirpaceus</i>	-	-	E2	P	
Great Reed Warbler <i>A. arundinaceus</i>	-	-	E2	P	
Olivaceous Warbler <i>Hippolais pallida</i>	-	-	C4	p	
Blackcap <i>Sylvia atricapilla</i>	-	-	D6	S	
Lesser Whitethroat <i>S. curruca</i>	-	-	E2	S	
Desert Lesser Whitethroat <i>S. (curruca) minula</i>	E2	-	-	P	
Whitethroat <i>S. communis</i>	E1	-	C4	P	
Chiffchaff <i>Phylloscopus collybita</i>	-	-	D6	P	
Willow Warbler <i>P. trochilus</i>	-	-	E10	P	
Spotted Flycatcher <i>Muscicapa striata</i>					
Iraq Babbler <i>Turdoides altirostris</i>	-	-	A10	R	
Common Babbler <i>T. caudatus</i>	-	-	B10	R	Many, Site 3
Wallcreeper <i>Tichodroma muraria</i>	-	-	E1	P	
Golden Oriole <i>Oriolus oriolus</i>	-	-	C6	S	
Red-backed Shrike <i>Lanius collurio</i>	D10	D8	B20	P	
Lesser Grey Shrike <i>L. minor</i>	-	-	E2	P	
Great Grey Shrike <i>L. excubitor</i>	B20	B10	E4	R	60, Site 1; 20, Site 2
Woodchat Shrike <i>L. senator</i>	D6	D4	D10	P	
Magpie <i>Pica pica</i>	-	-	C10	R	Many, Site 3
Jackdaw <i>Corvus monedula</i>	-	-	E50	P	
Rook <i>C. frugilegus</i>	-	-	B100	W	
Hooded Crow <i>C. corone cornix</i>	-	-	C10	R	? Site 3
Raven <i>C. corax</i>	E4	-	-	P	
Starling <i>Sturnus vulgaris</i>	C100	C100	B1000	W	
House Sparrow <i>Passer domesticus</i>	A	A	A	R	Many, all sites
Dead Sea Sparrow <i>P. moabiticus</i>	-	-	A100	S	Many, Site 3
Chaffinch <i>Fringilla coelebs</i>	-	-	C14C	W	
Greenfinch <i>Carduelis chloris</i>	-	-	E10	P	
Goldfinch <i>C. carduelis</i>	-	-	E20	P	
Desert Finch <i>Rhodospiza obsoleta</i>	-	-	E8	P	
Black-headed Bunting <i>Emberiza melanocephala</i>	-	-	E10	P	
Corn Bunting <i>Miliaria calandra</i>	-	-	E4	P	Many, Site

# Seawatching at Ras Beirut, Lebanon in spring 1997

SIMON BUSUTTIL AND DAVE FLUMM

BETWEEN 8–11 APRIL 1997, DF spent some time seawatching from the roof of a 30 metre-high apartment block on the seafront at Ras Beirut (west Beirut), Lebanon. On 8 April, he was joined by SB. Observations were made with a 30 x 80 Optolyth telescope and 10 x 40 Zeiss binoculars. The principal species recorded are summarised in Table 1.

Table 1. Species recorded at Ras Beirut 8–11 April 1997.

	8 April		9 April		10 April	11 April
	0800–	1440–	0730–	1430–	0830–	0800–
Cory's Shearwater <i>Calonectris diomedea</i>	1000	1000	950	400	1000	160
Mediterranean Shearwater <i>Puffinus yelkouan</i>	3	100	18	20	30	7
European Storm-petrel <i>Hydrobates pelagicus</i>					1	
Gannet <i>Sula bassana</i>	1		2		3	
Garganey <i>Anas querquedula</i>			15		5100	60
Pomarine Skua <i>Stercorarius pomarinus</i>	2	1	1	1	1	
Arctic Skua <i>S. parasiticus</i>					4	
Pomarine/Arctic Skua	1	1		2		
Mediterranean Gull <i>Larus melanocephalus</i>					2	
Little Gull <i>L. minutus</i>					1	
Black-headed Gull <i>L. ridibundus</i>	10		4		6	3
Slender billed Gull <i>L. genei</i>					14	
Lesser Black-backed Gull <i>L. fuscus</i>	500	800	400		300	50
Yellow-legged Gull <i>L. cachinnans</i>	5	5	40		30	5
Sandwich Tern <i>Sterna sandwichensis</i>		11	5		3	1
Common Tern <i>S. hirundo</i>	600	500	194		40	
Black Tern <i>Chlidonias niger</i>		1				

The commonest species was Cory's Shearwater *Calonectris diomedea* with 1000 or more seen on three dates. The large numbers may have occurred as a result of unseasonally strong westerly winds prior to 8 April which were particularly marked south of Beirut. The sea was very rough throughout this period although the windspeed subsided between 8–10 April and had dropped even further by 11 April (when numbers of birds offshore declined). However, the shearwaters were clearly congregating around large schools of tuna so their appearance off Beirut in such numbers may have been attributable to these—which moved further out to sea on 11 April and were perhaps followed by the seabirds.

All the Mediterranean Shearwaters *P. yelkouan* seen well were of the nominate form; no *P. y. mauretanicus* were seen despite being searched for. A European Storm-petrel on 10 April was the second record in Lebanon although it breeds in the western Mediterranean (Cramp & Simmons 1977). Gannet *Sula bassana* is recorded as accidental in Lebanon (Cramp & Simmons 1977) but with three recorded in one morning must, in fact, be commoner. Only one was adult. Pomarine Skua *Stercorarius pomarinus* was seen on all dates except 11 April: all those seen well were considered to be first- or second-summer birds. On 10 April, three adult light phase and one adult dark phase Arctic Skua *S. parasiticus* were seen. Three or four other skuas were too far away to be identified.

Six gull *Larus* species were seen including a flock of 14 adult Slender-billed Gull *Larus genei* on the sea just off the promenade for 1.5 hours on 10 April. All Lesser Black-backed Gulls *L. fuscus* appeared to be the nominate race, except a single on 9 April which was paler and may have been *heuglini*. Virtually all these birds were adult but no Yellow-legged Gulls *L. cachinnans* over three years-old were seen.

A remarkable passage of Garganey *Anas querquedula* took place on 10 April when over 5000 passed in two hours heading north in flocks of 40–300. The wind was west-north-west Force five, the sky completely overcast, cold and with a little drizzle. Most birds were moving 1–2 km west of the seawatch station though a few flocks were closer and moving in a more north-easterly direction.

Macfarlane (1978) also recorded Gannet, Pomarine and Arctic Skuas off Ras Beirut between 1974–1977 but his sightings of other seabirds, e.g. Cory's Shearwater and Common Tern *Sterna hirundo* give the impression that these species are uncommon in Lebanese waters. Given modern optical equipment, this is clearly not the case.

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## Migrant raptors at Krak des Chevaliers, Syria

M. J. AND E. A. EVERETT

WELL WORTH A VISIT in its own right, the magnificent Crusader castle of Krak des Chevaliers, close to the Lebanese border c. 35 km west of Homs, appears to have great potential as a raptor migration watchpoint. Its wide-topped outer wall and high inner ward command a fine view in all directions and offer numerous comfortable vantage points from which passing birds can be seen low overhead (sometimes at eye-level) and from which counting is relatively straightforward.

The castle rock forms a distinct spur from which, at least in some wind conditions, spring migrants moving north from the Lebanon mountains pass over the valley towards the southern end of the next high ground, Jabal al Nusariyah. A visit on 13 October 1994, when a few Steppe Buzzard *Buteo buteo vulpinus* and Sparrowhawk *Accipiter nisus* were moving, indicated that the reverse route is used in autumn.

On the hot, almost windless morning of 10 April 1998, a substantial north to north-easterly movement was witnessed: passing birds were counted from 0910–1135 hrs when, frustratingly, it was clear that the movement was still in full swing. The following totals are minima: White Stork *Ciconia ciconia* 155; Black Kite *Milvus migrans* three; Short-toed Eagle *Circaetus gallicus* two; Pallid Harrier *Circus macrourus* one; Sparrowhawk five; Steppe Buzzard 221; Lesser Spotted Eagle *Aquila pomarina* 63; Booted Eagle *Hieraetus pennatus* four; and Saker Falcon *Falco cherrug* one.

Jabal al Nusariyah appears to offer an obvious route for large soaring raptors moving through Syria: casual observations in the area on 11–12 April 1998, included small numbers of migrating White Stork, Steppe Buzzard and Lesser Spotted Eagle.

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# A February record of Demoiselle Crane *Anthropoides virgo* in south Turkey

EDWIN W. A. M. VAASEN

ON 9 FEBRUARY 1997, during a four-day visit to the Göksu delta, south Turkey, I observed a group of 53 Common *Grus grus* and two, possibly five, Demoiselle Cranes *Anthropoides virgo* in farmland on the west side of the Göksu river, c. six km south of Sökün village. The flock was observed from c. 70 metres, through a 20–60x telescope, and I compiled a full description of the Demoiselle Cranes (lodged in the Turkey Bird Report files) during the short observation period before the birds took flight.

This appears to be the northernmost winter record of Demoiselle Crane in the Western Palearctic. The species is a very rare breeding summer visitor to eastern Turkey, with records between late March–September (Kasperek 1992). Most, if not all of the western populations, including that in Turkey, winter in north-east and north-central Africa, where numbers peak in October–February. Spring passage through Saudi Arabia peaks in late March and over Cyprus in late March–mid-April (*BWP Concise*). In Israel there are records during 1 March–15 December, but the species has never overwintered (Shirihai 1996), although there are two winter (late December and January) records in Egypt, including one from Sinai (Goodman & Meininger 1989). In Arabia, there is a January record in Kuwait (Meinertzhagen 1954), two December records in both UAE and Yemen (Richardson & Aspinall 1996, Brooks *et al.* 1987) and the species is a scarce and irregular winter visitor, in September–April in southern Oman (OBRC 1994).

## ACKNOWLEDGEMENTS

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# The first Speckled Pigeon *Columba guinea* in Yemen and the Middle East

DAVID B. STANTON

ON 18 DECEMBER 1997, I approached the Hodeidah sewage ponds to count waterfowl. My attention was drawn to a preening dove which I soon identified as a Speckled Pigeon *Columba guinea*, a species with which I have had considerable experience in southern Africa. I observed the bird from a range of 50 metres for 20 minutes through a 20 x telescope, and photographed it with a 400 mm lens, until it settled down and slept. When I returned to the ponds four hours later the bird could not be relocated.



Plate 1. Speckled Pigeon *Columba guinea* (in centre on ground) Hodeidah sewage ponds, Yemen, 18 December 1997. (David B. Stanton)

**Description.** A pigeon appreciably larger than a Rock Dove *Columba livia* with a large patch of bare red skin around the eye. Purplish wash on throat. Head and breast warm blue-grey while the mantle and wings were deep purplish red. The wings were liberally peppered with white spots forming three lines on the greater upperwing-coverts with more diffuse speckling on the lesser upperwing-coverts. Tail not seen. Yellow-orange feet and legs. Greyish cere.

This is apparently the first Yemen and Middle Eastern record of this species which is widespread and common in Africa including neighbouring Eritrea (van Perlo 1995, Urban *et al.* 1986). There is evidence that the species is becoming commoner in nearby Djibouti (G. & H. Welch *in litt.* to G. M. Kirwan 1998) and it is spreading its range in Somalia (Ash & Miskell 1983, Clarke 1986).

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## Bar-tailed Desert Lark *Ammomanes cincturus* and Black-crowned Finch Lark *Eremopterix* *nigriceps* breeding in Kuwait

P. J. COWAN AND D. L. NEWMAN

**B**AR-TAILED DESERT LARK *Ammomanes cincturus* is a resident breeder in the Eastern Province of Saudi Arabia (Bundy *et al.* 1989, Jennings 1995). Breeding apparently occurs in three areas of Iraq (north-central), but not in west and south-west Iran (Cramp 1988, Porter *et al.* 1996). In Kuwait, it is scarce and irregular in occurrence (Bundy & Warr 1980), occurring in some years in very small numbers (C. W. T. Pilcher pers. comm.).

On 5 April 1996, we observed a Bar-tailed Desert Lark in mainland north-east Kuwait. Subsequently, we recorded the species there in May and October 1996 (we were absent from Kuwait in mid-June–mid-September) and in January, April–June, September, October and December 1997 (absent from Kuwait again, July–mid-September). The records involved small numbers, with a maximum of c. five on 10 January 1997. Additionally, two breeding occurrences were documented in mainland north-east Kuwait.

On 10 May 1996, at c. 29° 45'N 47° 55'E we watched an adult Bar-tailed Desert Lark foraging and occasionally feeding two juveniles. This is the first record of the species breeding in Kuwait and has been accepted by the Kuwait Ornithological Rarities Committee (KORC). Further confirmation of breeding was obtained on 24 April 1997 at c. 29° 35'N 47° 50'E where PJC found an adult Bar-tailed Desert Lark with a nest containing four nestlings. Future observations will indicate whether this species is becoming established in Kuwait.

In the Eastern Province of Saudi Arabia, Black-crowned Finch Lark *Eremopterix nigriceps* is a breeding summer visitor north of c. 25°N but resident further south (Bundy *et al.* 1989, Jennings 1995). In Iraq, there are apparently 1–2 breeding sites in the south with none around the northern Gulf in Iran (Cramp 1988, Porter *et al.* 1996).

Haynes (1979) stated that Black-crowned Finch Lark is a common breeding summer visitor to Kuwait, being very common on post-breeding dispersal. Bundy & Warr (1980) noted the species as scarce and local in Kuwait from October–March. Subsequently there have been relatively few records and no evidence of breeding (C. W. T. Pilcher pers. comm.).

On 22 February 1996, we watched a male Black-crowned Finch Lark in mainland north-east Kuwait. The species was recorded by us there in April, May, November–December 1996 and in February–May and December 1997. These records involved small numbers, with a maximum of c. eight on 13 December 1996. Additionally, breeding was recorded twice in mainland north-east Kuwait.

On 31 May 1996, we watched a foraging male Black-crowned Finch Lark feeding an adjacent juvenile almost continually for c. 15 minutes at c. 29° 45'N 47° 55'E. This record has been accepted by KORC. Further confirmation of breeding by this species was obtained on 20 April 1997, when we observed a pair with a nest containing two nestlings in the same vicinity as the previous year's breeding record.

All of our records reported in this note are of birds seen in ABBA square NB36 (Jennings 1995), with a single exception. On 12 December 1997 we saw a Bar-tailed Desert Lark c. 20 km east of Salmi, in western Kuwait (MB35).

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## The first Semi-collared Flycatcher records *Ficedula semitorquata* in Lebanon

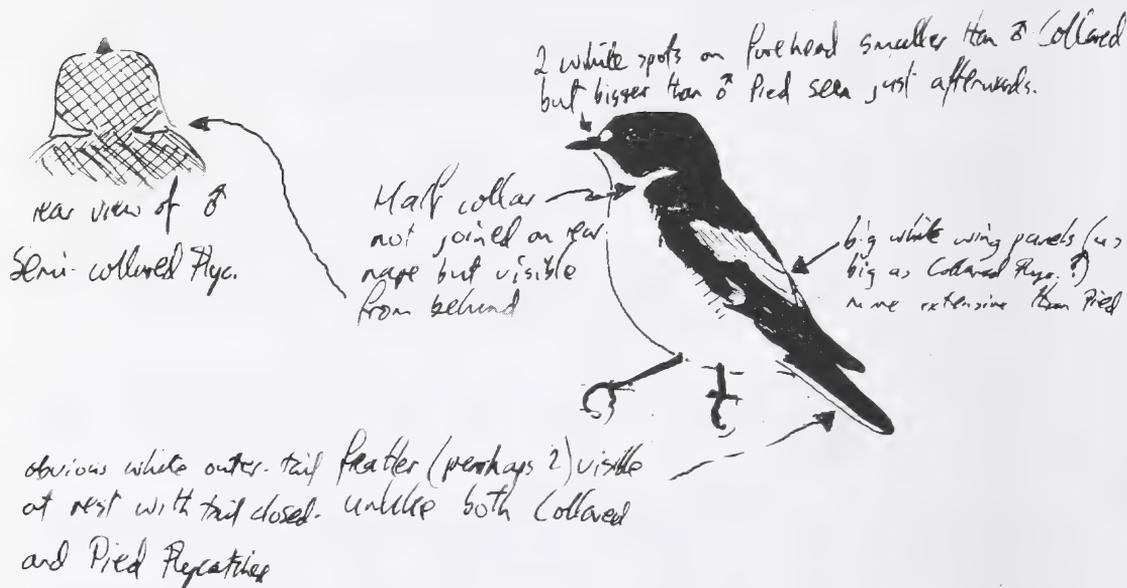
SIMON BUSUTTIL AND DAVE FLUMM

ON 7 APRIL 1997, during wet cloudy weather, while watching migrants at Haouch Ammiq, a group of farm buildings on the south-west edge of Ammiq swamp (33°46'N 35°46'E), SB noticed a male *Ficedula* flycatcher in an apple tree c. 50 metres away. We had previously observed several Collared Flycatcher *Ficedula albicollis* during our stay in Lebanon and I was checking all such black-and-white flycatchers carefully.

From the bird's neck, it was immediately apparent it was not a Collared Flycatcher, as only a half-collar was visible. Approaching to c. 30 metres and with the bird frequently changing position as it flycatched, SB noted several other features convincing him that it was a Semi-collared Flycatcher *F. semitorquata*. These included white wingbars at the base of the primaries and—above the main white wing patch—on the inner median coverts, producing a large 'three-part' white wing pattern, white outertail feathers, a dark rump and a small white forehead patch, much smaller and less rounded than that of the five nearby male Collared Flycatchers. The restricted amount of white on the neck and smaller forehead patch gave the bird a very different appearance, especially in flight when the dark rump and obvious white outertail feathers were apparent. After several minutes, SB returned to his accommodation and checked the field features of the black-and-white *Ficedula* flycatchers in Jonsson (1992), which confirmed the identification. SB returned to the orchard but fast-deteriorating weather conditions precluded further good views of the bird.

Following SB's return to Britain, DF remained in Beirut. On 9 April, he found a male Semi-collared Flycatcher in the grounds of the American University of Beirut (field notes supplied). A male Pied *F. hypoleuca*, ten male Collared and three unidentified female *Ficedula* flycatchers were also present. Another male Semi-collared Flycatcher was seen by DF on Beirut promenade on 11 April.

Cramp & Perrins (1993) describe Semi-collared Flycatcher as quite common in spring in Israel and rare in Syria and Jordan, where it perhaps only occurs in spring. In Turkey, it is not uncommon on spring passage, from late March until at least late April, especially in the south and west of the country. Given its apparent status as a regular spring migrant through this part of the Middle East, it is unsurprising that it should be recorded in Lebanon.



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## The first Common Mynah *Acridotheres tristis* in Iraq

MUDHAFAR A. SALIM

ON 3 OCTOBER 1997, during fieldwork in the Abu al-Khaseeb area, 14 km south-east of Basrah in southern Iraq, I discovered an apparent pair of Common Mynah *Acridotheres tristis* in an area of dense orchards. Two days later a local hunter brought me a juvenile specimen of the same species which had been trapped in the same area (see Plate 1). The specimen could be separated from Bank Mynah *A. ginginianus* on the basis of the following features: yellow bill, bright yellow bare skin below and behind the eye, large white patch on the base of the primaries, white tail corners and undertail-coverts, and dark grey-brown overall body plumage colour. Local hunters reported that the species appeared to be established and breeding in the area.

Elsewhere in the Middle East, Common Mynah is a localised breeding resident in parts of Bahrain, Iran, Kuwait, Oman, Saudi Arabia and the United Arab Emirates (Porter *et al.* 1996). It has also recently been discovered breeding in Ankara, Turkey (Bilgin 1996). Most, if not all, of these populations are considered to relate to escapes from captivity.



**Plate 1.** Juvenile Common Mynah *Acridotheres tristis* specimen taken at Abu al-Khaseeb, south Iraq, October 1997. (Mudhafar A. Salim)

#### REFERENCES

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- PORTER, R. F., CHRISTENSEN, S. AND SCHIRMACKER-HANSEN, P. (1996) *Field guide to the birds of the Middle East*. T. & A. D. Poyser, London.

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# REVIEWS & Recent Literature

**Ash, J. S. & Miskell, J. E. (1998)** *Birds of Somalia*. Pica Press, Mountfield, U. K. pp 336, 5 colour plates and 654 distribution maps, £40.

This is really much more than an annotated list of the birds of Somalia, it is, in fact, the sum total of our ornithological knowledge of a small, little-known and extremely neglected but important country on the horn of Africa. Written (largely on the results of their own efforts and expeditions) by two of the continent's leading ornithologists, it is only the third published work dealing with the entire avifauna of the country (and one of the previous two was by the same authors). It is a worthy successor to the almost unattainable *Birds of British Somaliland and the Gulf of Aden* by Archer & Godman published over 60 years ago.

The introductory chapters deal (very readably) in some depth with vegetation and soils, history of ornithology in the country, geology, climate, bird and wildlife conservation, bird migration and breeding seasons, and provide a welcome background and illumination into this largely closed country. I was particularly intrigued by the chapter on the ornithological history of Somalia, an impressive piece of work (and a worthy subject for a separate book) in its own right. Bearing in mind that the indefatigable British are usually regarded as the pioneers of the dark continent, it was truly enlightening to hear that we were not the only colonialists to look seriously at the wildlife.

The meat of the book is the 650 species distribution maps which are based mainly on the work of the authors or the fortunate few others who have also spent time in Somalia. Comparing these with some of the maps in the volumes of *The birds of Africa (BoA)*, which reflected our previous limited knowledge of the country, I was pleasantly surprised to find that for no less than 45 species in volume 1 alone there were major differences in the

distribution. In *BoA* the ranges were mainly either too extensive (and presumably a result of guesswork) or too restricted. For four species (Tawny Eagle *Aquila rapax*, Martial Eagle *Polemaetus bellicosus*, Kestrel *Falco tinnunculus* and Eleonora's Falcon *F. eleonorae*) there were serious discrepancies in the ranges shown and for eight species there was no reference at all to occurrences in Somalia. Clearly anyone either wanting to know the definitive information on ranges in, or planning to visit, the country (once the political climate improves) will now have a more detailed baseline.

In such an impressive work it is superfluous and somewhat pedantic to find fault but if asked what (if any) flaws there are, I would say that since this is such a large step forward in our knowledge of the avifauna I would have appreciated enormously a chapter devoted to the identification of some of the difficult species groups of the region, particularly the multitude of similar-looking larks, all of which are admirably illustrated by Martin Woodcock. Secondly, and this is perhaps more of a niggle than anything else, the title. This is, after all, an atlas of the birds of Somalia, so why not call it that?

In summary, a massive and splendid contribution to African ornithology for which the authors and publishers should be congratulated.

Peter Clement

**Baker, K. (1997)** *Warblers of Europe, Asia and North Africa*. A. & C. Black, London. pp 400, 48 colour plates, 145 colour distribution maps, many line-drawings, £32.

Warblers have long attracted the attention of field ornithologists, indeed Ticehurst's (1938) review of the genus *Phylloscopus* and Williamson's 1960s ringers guides remain important works for present-day fieldworkers. More recently, the work of

Martens and Alström & Olsson and their co-workers has highlighted our incomplete knowledge of Asian *Phylloscopus* and other genera, demonstrating, as Kevin Baker notes in his introduction, that much remains to be discovered about the Sylviinae. This new work is specifically aimed at those who wish to identify warblers, be it in the field or hand, and thus it contains relatively little information on unrelated subjects, e.g. life-history. This is perhaps the most important take-home message in an unusually concise introduction, which, unlike recent guides in the similar Pica Press series, contains no general biological background reading. Given that it is questionable how many such introductions are read by their purchasers, this may be no significant detriment.

I am sure that readers of this review will be familiar with the layout of previous works in this series: *Warblers* follows the well-established pattern. Typically the book's first section is occupied by the plates with facing-page notes and colour-coded distribution maps. Both are somewhat disappointing. Baker has spent the last ten years researching and illustrating this volume and, as such, it is a personal *tour-de-force*. Unfortunately the plates, whilst not unattractive are largely not of the quality demanded by modern-day birders. Whilst all are 'jizzy' and it is pleasing to see an artist make more effort with backgrounds than most illustrators of this series, the shapes of many are incongruous—Yemen Warbler *Parisoma [Sylvia] buryi*, for instance, is almost unrecognisable—and plumage detail is often very basic. Some of the best illustrations appear to be direct copies of photographs; compare, for example, the adult winter Two-barred Greenish Warbler *Phylloscopus trocholooides plumbeitarsus* with Dave Cottridge's transparency of the Isles of Scilly bird in 1987 (*Twitching* 1: 336). For those species treated by BWP and / or Parmenter & Byers (1991), continued use of the illustrations in those volumes appears necessary. Readers whose interest is centred further east must wait for the forthcoming field guides to the Indian subcontinent and south-east Asia, both of which, I hope, will deliver finer illustrations than those found here. Afrotropical Sylviinae, beyond the ambit of Baker's work, are already covered in the most recent volume of *Birds of Africa*.

Furthermore, in this first section, the wholly inadequate distribution maps cannot escape comment. Although the author points out that these are not designed to more than broadly indicate a species' range, I noticed a number of omissions (repeated in the species accounts) which should not have gone uncorrected. On the plus side, the ranges of many east Asian species are mapped for the first time in this volume. However, the larger-scale maps of the Pica Press series, although not colour-coded, are much easier to use and significantly more useful. To add insult to injury, several maps have the country boundaries reproduced so pale that, at normal reading distance, they appear as nothing more than area/s of colour within a box. Although an errata sheet has been issued by the publishers, the whole issue of the maps requires significant attention in future volumes of the series.

The text describes, in great detail, the identification of 145 species. Quite without rationale, African Reed Warbler *Acrocephalus baeticatus*, which breeds in mangroves on the Red Sea coasts of Saudi Arabia, Yemen and perhaps Egypt, as well as south through Africa, is omitted by Baker. This decision, if indeed it was one, is left unexplained and acquires greater significance given the proposal by Leisler *et al.* (1997) to promote *A. b. avicennae*, the subspecies involved, to specific status—under the name Mangrove Reed Warbler—a proposition which has already accrued support (Sangster 1997). Baker states that he has not made any judgement over species or subspecies status for any taxa, following Peters *et al.* (1934–1987) with species order and some additions being taken from Beaman (1994). Given that Baker has examined all the relevant specimens in one of the largest skin collections in the world, one might be tempted to suggest that his own analysis may have yielded some new insights into the validity of certain taxa (even though he has relied solely on the British Museum collection), but not even this! Baker rightly includes two species of *Phylloscopus*—Emei Leaf Warbler *P. emeiensis* and Hainan Leaf Warbler *P. hainanus*—described in 1993 and 1995 but then inexplicably fails to follow the elevation of *chloronotus* to species status, distinct from *P. proregulus* (Alström & Olsson 1990, Sibley & Monroe 1993) and does not specifically note that specific status for *kansuensis*, from the same grouping, has also

been proposed (Alström *et al.* 1997), in line with the "further studies" which Baker states are needed for this form.

Recent informative discussions of Chiffchaff *Phylloscopus collybita* (Helbig *et al.* 1996) and Lesser Whitethroat *Sylvia curruca* taxonomy (Martens & Steil 1997) have also gone unnoticed. Perhaps they appeared beyond the author's cut-off point for the inclusion of fresh data, but as no such date is provided, it is impossible to be sure of this. Additionally, Baker struggles with the taxonomic position of Yemen Warbler; in this case understandably. Of late, mt-DNA studies based on tiny datasets have suggested that, in contrast to the evidence of most field observers, this species belongs to the genus *Sylvia* rather than *Parisoma*.

A common complaint with this work must be the incomplete study of the literature: Baker not only fails to note the existence of literature which updates and clarifies the information he presents but even appears guilty of the more heinous crime of not reading some of that which he cites. For instance, he fails to note the occurrence of Paddyfield Warbler *Acrocephalus agricola* in Bulgaria and Turkey—references to the latter, of which there are approximately ten, have apparently all been missed, whilst a work discussing in some detail the Bulgarian population is listed in the references. To give the author his due, distribution is not a key priority (e.g. I located no mention of vagrancy, even for those east Asian species which regularly occur in north-west Europe in autumn) but to omit regular, albeit outlying, breeding or wintering areas is not defensible. Surely distribution is used as a major clue by many ornithologists when identifying birds in the field. In the same vein, Baker states that some published material may have been overlooked. Certainly so, but for major works dealing with the status and distribution—e.g. Shirihai (1996)—and even taxonomy—Roselaar (1995)—to have gone unused is quite frankly incomprehensible. Use of the former and other key works would have corrected a suite of errors and omissions in the distribution section of Cyprus Warbler *Sylvia melanothorax*, whilst reference to Roselaar would have solved many other incorrect or only partially correct statements for some species occurring in Turkey.

Finally, among more regularly occurring

gripes, confusing statements appear with relative frequency. One example—Grasshopper Warbler *Locustella naevia*—will give a flavour of this problem. Under 'Geographical variation', the subspecies occurring in Afghanistan is given as *straminea*. However, in the species introduction, it is listed as a summer migrant "probably [to] northern Afghanistan" and, under 'Distribution' *straminea* is listed as "possibly [occurring in] northern Afghanistan". Reference to Paludan (1959) would have provided additional confirmation that *straminea* does occur in the country, and consultation with observers with field experience there, could have clarified its status.

I found the presentation of the reference section for each species, in chronological order, personally irritating. A small, but not insignificant, number of typographical and other errors e.g. reference dates being incorrectly cited, further add to the litany of faults.

Having found much to take issue with in this volume, it must be stated that for readers solely concerned with field identification this book has much to recommend it. As a compendium of information for this task it is currently without equal and most Palearctic birders will want to own it for that reason. The plumage texts for Western Palearctic species are largely good, but one wonders how qualified Baker is to write on many of the Asian taxa. I am convinced that individual works, currently in preparation and written by *real* experts, e.g. Shirihai & Cottridge's work on the genus *Sylvia*, will far supercede this volume. Steve Howell, in reviewing one of the recent similar guides from Pica Press (*Cotinga* 6: 42–43) drew attention to falling standards in ornithological publishing. This work also bears these hallmarks: it is not without its uses, but the birding public has not been best served by its production.

Guy M. Kirwan

**del Hoyo, J., Elliott, A. & Sargatal, J. (eds.) (1997) Handbook of the birds of the world Vol. 4, Sandgrouse to Cuckoos.** Lynx Edicions, Barcelona. pp 679, 70 colour plates, numerous colour photographs and distribution maps, £110.

The latest volume in this series covers sandgrouse, pigeons and doves, cockatoos and parrots, turacos, and cuckoos; a mix of families that should arouse interest in Middle Eastern birders. For many, sandgrouse are the archetypal desert birds, and have been the flagship for our society's endeavours since its inception and the vehicle through which we communicate our ornithological discoveries to the wider world (this journal). I continue to be impressed with the general family accounts in this series: they are scholarly, well referenced, up-to-date, easy to read and beautifully illustrated. The 20 pages on sandgrouse alone nearly make the volume worth purchasing! The species accounts certainly give a satisfactory summary of available information on the six species that occur in the OSME region—I will not quibble with the maps as I feel there is much still to be learned of the status and distribution of sandgrouse in the Middle East.

How does the section on pigeons and doves bear up to scrutiny? This family may be a good one to evaluate the accuracy of accounts and maps as several members are showing range expansions, e.g. Eurasian *Streptopelia decaocto* and African Collared Doves *S. roseogrisea* and Namaqua Dove *Oena capensis*. It looks as though the mapped ranges have been gleaned from the *Interim Atlas* (Jennings 1995) and are thus fairly representative given the space and size limitations. Unfortunately, there is no mention of the small population of the African Olive Pigeon *Columba arquatrix* in Arabia—perhaps it would be unfair to expect a tiny spot of colour on the map, though some mention of this important range extension outside Africa should have appeared in the text. Bruce's Green Pigeon *Treron waalia* is cited as a resident in south-west Arabia. This may be true in the extreme south, but further north there is certainly some trans-Red Sea passage during the spring and it may also be an altitudinal migrant. Also, the mapped range of the Dusky Turtle Dove *Streptopelia lugens* indicates it is present only in southern Yemen, when in fact its range does extend well into the Saudi Asir Mountains. It is cited as being sedentary, though in Arabia I would suggest it has a fairly pronounced altitudinal migration.

Leap-frogging over cockatoos, parrots and turacos (with 100s of stunning illustrations) to

the next family of Middle Eastern interest, the cuckoos. Accounts and maps for the Jacobin Cuckoo *Clamator jacobinus*, Great Spotted Cuckoo *C. glandarius*, Didric Cuckoo *Chrysococcyx caprius*, Common Koel *Eudynamis scolopacea* and White-browed Coucal *Centropus superciliosus* are all satisfactory, but at the same time they show how poor is our knowledge of this group in our region. Klaas's Cuckoo's *Chrysococcyx klaas* Arabian range is not shown on the map but the text sections on distribution, movements and status and conservation all give slightly different versions of an uncertain status, when in reality it is probably a scarce migrant visitor.

Despite being able to pick up a few errors or oversights, I urge all serious ornithologists to purchase this series personally or use your influence to get it stocked in any libraries you use. I cannot praise it highly enough.

Stephen Newton

**Mearns, B. & Mearns, R. (1998)** *The bird collectors*. Academic Press, London. pp 472, many black-and-white photographs, £34.95.

Barbara and Richard Mearns are amongst the leading authorities on the history of ornithology. Their previous books documented, on both sides of the Atlantic, the lives of almost 200 early ornithologists whose legend had been secured through numerous patronymic bird names, but whose living character and actual achievements had often fallen from view. The Mearns' self-appointed task was to rescue these fascinating figures from obscurity. Now they have examined another huge area of ornithology's past in this exhaustively researched and highly enjoyable (if rather pricey) book on the life and exciting times of European and American bird collectors mainly in the last two centuries.

It is a measure of the huge shifts in birdwatching culture that the authors should feel it necessary to provide a lengthy justification—amounting to an apologia—for the methods and mindset of collectors. Not least of this book's merits is that it makes clear the massive debt owed by the modern environmental community to these remarkable characters. To give just one example, the U. S.

ornithologist, Professor Foster Beal collected birds almost exclusively to examine their stomach contents. His slaughter of 40,000 birds seems both appalling and frivolous until one appreciates that his research formed the basis of a book (which ran through 50 editions!) educating farmers on the economic contribution made by birds through their consumption of weed seeds and agricultural pests. In short, Beal's work was a foundation stone for U. S. conservation legislation.

The Mearns take us to the very origins of bird collecting as a social and scientific activity, then provide a comprehensive survey of the collectors, treating them mainly according to their different social castes and professions. But they also preface this main portion of the book with a fascinating insight into the mechanics and materials of bird killing and preparation. It seems anomalous in a book that emphasises the critical importance of detailed labels for bird skins that they themselves should cite their sources so sparingly. Too often they accumulate in meticulous fashion the facts to support their arguments, but only give a reference where a quotation has been used. By clearing away many of the markers that determined their own trail they have made it more difficult for anyone to follow in their wake.

My other criticism centres on the arrangement of the text. Occasionally they cluster together under a single heading a disparate bag of subjects, which occasionally makes the book seem rather fragmented. It is as if the synoptic model they established in their previous two books was almost irresistible for them in this one. However I should stress that these are minor gripes in the context of their greater achievement. The Mearns have trawled and ably synthesised a vast body of literature and their final product is very well written and displays a wonderful eye for the telling detail and humorous anecdote. They should be congratulated for opening up to us all this largely neglected seam in our ornithological past and for mining it to such profit.

Mark Cocker

Stattersfield, A. J., Crosby, M. J., Long, A. J. & Wege, D. C. (1998) *Endemic Bird Areas of the world. Priorities for biodiversity*

*conservation*. BirdLife International (BirdLife Conservation Series No. 7), Cambridge, U. K. pp 846, many black-and-white photographs and maps, £37.

BirdLife International's IBA concept has been widely accepted and utilised as an important conservation tool around the world. The production of books and databases by region or continent is well advanced and in some areas second editions or national compendiums have been produced. BirdLife have maintained its position at the forefront of the global biodiversity awareness campaign by producing this amazing new directory of Endemic Bird Areas (EBAs).

The book largely (70%) comprises succinct descriptions of 218 Endemic Bird Areas and 138 Secondary areas (those with only a single restricted-range species). Each account is usually two pages and includes a small tabulated basic facts file, a larger table which summarises status and habitat of restricted-range species, and three accompanying text sections on "General Characteristics", "Restricted-range Species" and "Threats and Conservation". It is well worth going through the introductory chapters and regional overviews which clearly describe how EBAs are identified, defined and prioritised for conservation action.

Within the core OSME region, there are four EBAs: Socotra, south-west Arabian mountains (Saudi Arabia, - Yemen), Mesopotamian Marshes (Iraq) and Cyprus, with the Levantine Mountains identified as a secondary area on the basis of the Syrian Serin *Serinus syriacus*. Other EBAs and secondary areas in the Caucasus and in African countries on the south shore of the Red Sea may be of interest to *Sandgrouse* readers.

How useful are these accounts to those interested in Middle Eastern ornithology? Interesting yes but, as can be imagined, rather too brief to give anything but the flavour of the area in question. To me, some of the accounts focus too much on why various endemic species have been omitted from the definition of the EBA, e.g. Arabian Partridge *Alectoris melanocephala*, Arabian Woodpecker *Dendrocopos doriae*, South Arabian Wheatear *Oenanthe lugentoides*, Arabian Golden Sparrow *Passer euchlorus*, Arabian Warbler

*Sylvia leucomelaena*, Arabian Serin *Serinus rothschildi* and Golden-winged Grosbeak *Rhynchostruthus socotranus* from the south-west Arabian mountains (perhaps the criteria were too strict?), or the possibility of Bald Ibis *Geronticus eremita* nesting in the area, rather than giving more detail on birds and habitats that have been included. More annoying are the factual errors that should have been picked up prior to publication: "*Estrilda rufibarba*.... has not been recorded in the Asir Mountains", yet they plainly cite a paper which describes the waxbill as a resident breeder in the said mountains! I hope this is an exception and that there are not too many more silly errors in the 846 pages.

Overall, I doubt many with a particular interest in the birds in the Middle East or arid areas in general will buy this book. However, for those birders keen on travel, it is an incredible guide to the key hotspots for avian and other wildlife biodiversity, especially in Africa, Australasia and the Neotropics. Go visit them, appreciate their riches and contribute something in the campaign to conserve them.

Stephen Newton

**The warblers of Britain and Europe** by Paul Doherty. A Bird Images video guide narrated by Bill Oddie. VHS video. Two hours and 28 minutes. 60 species. £16.95 (+ p&p £2 U. K. & Europe, £5 world). Available from Bird Images, 28 Carousel Walk, Sherburn-in-Elmet, North Yorkshire LS25 6LP, U. K.

This, one of Paul Doherty's latest video guide offerings, reflects the significant strides being made by bird photographers using this media. Virtually all of the species included are captured on near- or TV quality cuts. Having accompanied Paul on two filming trips to Turkey in recent springs I know just how much each few seconds of suitable film costs in time and effort. Only Caspian Reed Warbler *Acrocephalus (scirpaceus) fuscus* and Syke's Booted Warbler *Hippolais (caligata) rama* (indicating Paul's response to the most recent taxonomic developments) are solely represented by stills. All regular European breeding species are included, as are many Asian vagrants filmed in China (of those on the British list only Thick-billed Warbler

*Acrocephalus aedon* is not featured) and other extralimitals, e.g. Clamorous Reed Warbler *A. stentoreus*, Tristram's Warbler *Sylvia deserticola* and Cyprus Warbler *S. melanothorax*. For sexually dimorphic species, both male and female plumages are covered, as are juveniles where possible, and, in addition, distinctive taxa e.g. *icterops* Whitethroat *Sylvia communis* are also featured. The narrative describes the breeding range, status in Britain (where relevant), plumage features, identification tips and voice. Handy comparisons are made using stills to explain certain plumage minutiae e.g. tertial spacing in some *Hippolais*. Middle Eastern birders will enjoy instructive footage of e.g. Blyth's Reed *Acrocephalus dumetorum*, Paddyfield *A. agricola*, Upcher's *Hippolais languida*, Olive-tree *H. olivetorum*, Ménétries's *Sylvia mystacea*, Arabian *S. leucomelaena*, Desert *S. nana*, Chiffchaff *Phylloscopus collybita brevirostris*, Mountain Chiffchaff *P. sindianus* and Green Warblers *P. nitidus*. Indeed, the addition of just a few additional species would make it a complete guide to Western Palearctic warblers, and I'm sure many observers would welcome the chance to study e.g. Basra Reed Warbler *Acrocephalus griseldis* in moving close-up. This is a first-rate guide worthy of scrutiny by both beginner and expert. Don't discard your field guides, *BWP* and shelf-full of journals just yet, but this is highly recommended.

Guy M. Kirwan

#### ALSO RECEIVED

**Gancz, A. (ed.) (1997)** *The Torgos*. 27. Society for the Protection of Nature in Israel, Tel-Aviv.

The winter 1997 issue of *The Torgos* is largely devoted to a Hebrew translation of the introduction and Israeli chapter of *Important Bird Areas in the Middle East* (Evans 1994). Additional articles, in English, highlight specific sites and studies: the status of Lesser Kestrel *Falco naumanni* in the Jerusalem and Ramot-Menashe areas, and a summary of significant results from bird ringing studies at Mt. Hermon between 1979–1997.

**Hagemeijer, W. J. M. & Blair, M. J. (1997)** *The EBCC atlas of European breeding birds*. T. & A. D. Poyser, London. pp 903, many line-drawings and distribution maps, £55.

This truly monumental publication, compiled and produced through the efforts of a legion of amateur fieldworkers, deserves to be on the shelves of all those interested in the status and distribution, breeding and conservation prospects of European or Western Palearctic birds. Four-hundred and ninety-five species receive detailed treatment; a further 17 (not 62 as claimed on the inside of the dust jacket) very localized species are dealt with in summary. Introductory chapters and indices are presented in 14 languages, and species accounts are also available in languages other than English on request from relevant national organisations which participated in the EBCC project. This authoritative and thoroughly excellent work will serve as a benchmark for many years to come, although it is worth remarking that the only region both covered by this book and part of the OSME area—Thrace—would appear to offer not insignificant opportunities for those seeking to work in areas under-represented by atlas data. Comparatively little data on Thracian birds is available anywhere in the literature, which is further evidenced here.

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# Around the Region

compiled by  
Guy M. Kirwan

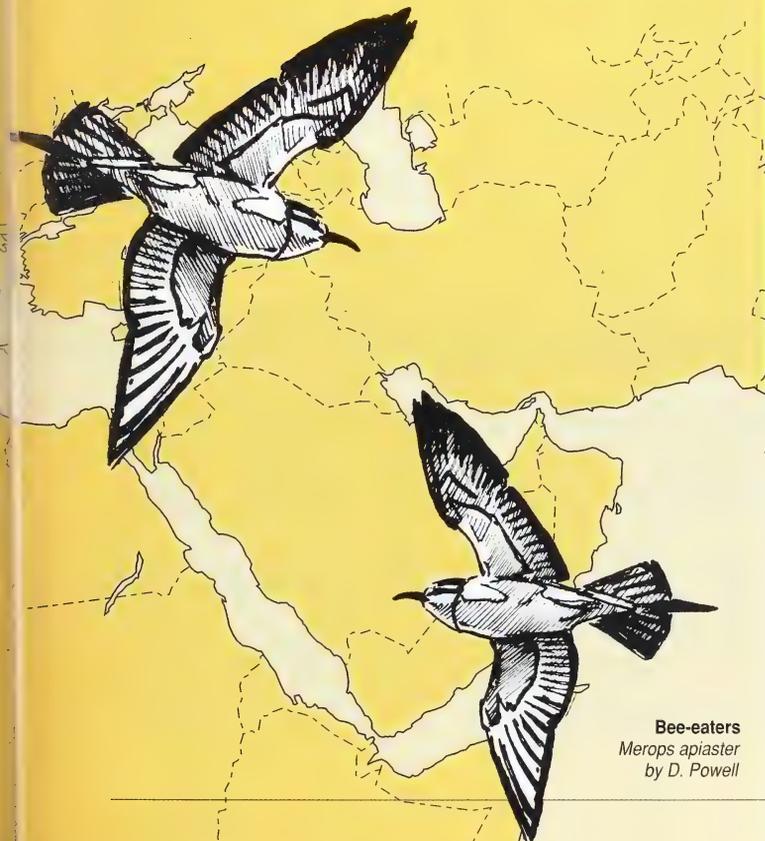
Records in *Around the Region* are published for interest only; their inclusion does not imply acceptance by the records committee of the relevant country. Some records have been authenticated, including all those from Cyprus, and these are usually indicated. All records refer to 1998 unless otherwise stated.

Records and photographs for *Sandgrouse 21 (1)* should be sent, by December 15, to *Around the Region*, OSME, c/o The Lodge, Sandy, Bedfordshire SG19 2DL, U.K.

In Lebanon, the third record of **European Storm-petrel** *Hydrobates pelagicus* was one off Tyre ruins on 29 January; all have been in the last few years. Following counts in January (*Sandgrouse 20*: 76), up to 120 **Leach's Storm-petrel** *Oceanodroma leucorhoa* were off Jaffa, Israel on 10 February. The first **Lesser Frigatebird** *Fregata ariel* in Israel and the Western Palearctic, at Eilat on 1 December 1997 (*Sandgrouse 20*: 76) has recently been accepted (*Brit. Birds 91*: 242). There are few records of **Masked Booby** *Sula dactylatra* from the mainland Yemeni coast but one was seen near Dhubab on 20 March and a total of four off Babel Mandeb on 22–25 March. A **Brown Booby** *S. leucogaster* off Dibba on 9 February will be the fourth record in UAE if accepted.

We rarely receive reports from Iran, thus a number of records made during a Birdquest trip to the country this spring are of interest, including at least ten **Spoonbill** *Platalea leucorodia* nests in mangroves at Hara in late April: this species was not previously known to nest along the Gulf coast. In Israel, an immature **Yellow-billed Stork** *Mycteria ibis* flew over Eilat on 20 April. In Turkey, two **Lesser White-fronted Goose** *Anser erythropus* were at Göksu delta on 26 December. The first **Southern Pochard** *Netta erythrophthalma* to be recorded in Israel, the Middle East and Western Palearctic was photographed at km 20 north of Eilat from 22 April–8 May (*Birding World 11*: 179).

Just outside the OSME region, a **Crested Honey Buzzard** *Pernis ptilorhynchus* was seen migrating north along the Ugam Valley, in the Tien Shan mountains, Uzbekistan on 9 May, is nevertheless of interest. Further records of this species in the UAE involved one at Eastern Lagoon, Abu Dhabi on 26 February, the bird at Mushrif Park remained until 8 April and was joined by a second bird from 12 March–8 April, and two were near Sharjah airport on 17 April, bringing the total number of country records to six. At least four **Black-winged Kite** *Elanus caeruleus* c. 25 km east of Mindab in late April was the first record in Iran, and one at Hamraniyah on 11–12 March was the eighth record in UAE. A female **Shikra** *Accipiter badius* at Zabeel was c. 4th record in UAE. The most extraordinary raptor record of the period, if confirmed, involved a **Swainson's Hawk** *Buteo swainsoni* photographed at Sede



Bee-eaters  
*Merops apiaster*  
by D. Powell

Boquer in the central Negev, Israel on 27 March (*Birdwatch* 71: 64). There is one previous record in the Western Palearctic, in Norway in May 1986 and a record still pending from Israel in March 1989. Single adult **Golden Eagles** *Aquila chrysaetos* north and east of Thamud on 13 and 17 February 1997 were the first records in eastern Yemen (Jennings 1997). An unseasonal **Lesser Spotted Eagle** *A. pomarina* at Zabel, UAE on 15 June was the ninth country record. The third **Tawny Eagle** *A. rapax* in Israel was at Urim, near Eilat on 21 December 1997. A sub-adult **Sooty Falcon** *Falco concolor* at Marib on 23 April was the fourth record in Yemen.

Two **Little Bustard** *Tetrax tetrax* at Göksu delta, south Turkey on 25 December was interesting, but more significant was the discovery of at least 11 birds, including displaying males, at two sites in the Konya basin in mid-June, the first concrete evidence of breeding in the country for many years. Several localities holding **Great Bustard** *Otis tarda* were located during the same survey; this species is now very rare in Turkey (Eken & Magnin in prep.). Nikolous & Ash (1997) report possible breeding by **Spotted Crane** *Porzana porzana* in Saudi Arabia, south of Riyadh in April 1996. A **Corncrake** *Crex crex* was heard calling at Eşmekaya sazlığı in early June; there is one previous confirmed instance of breeding in Turkey (Green 1997). In UAE, the **White-breasted Waterhen** *Amaurornis phoenicurus* at Emirates golf course remained until 24 March (see *Sandgrouse* 20: 77) and the eighth country record of **Common Crane** *Grus grus* involved three at Al Ain on 23 February–8 March. A **Spotted Thick-knee** *Burhinus capensis* was seen at the Jol, east of Thamud on 17 February 1997, the first record in eastern Yemen (Jennings 1997). Potentially the second Israeli record, a **Lesser Sand Plover** *Charadrius mongolus* was apparently photographed at km 20 north of Eilat on 14–16 April. Spring wader rarities in UAE included: two **Black-winged Pratincole** *Glareola nordmanni* at Al Wathba on 29 April (sixth record); a **Sociable Plover** *Chettusia gregaria* at Umm al Quwain on 12 February (11th record); a **Knot** *Calidris canutus* at the same place on 14–23 February (fourth record); and a **Long-toed Stint** *C. subminuta* in Abu Dhabi on 21–22 May (13th record). The **Red-wattled Plover** *Hoplopterus indicus* at Dhahran refuse

tip, Saudi Arabia remained until 18 February. Remarkable records from the early spring migration through Israel included the Western Palearctic's first accepted record of **Swinhoe's Snipe** *Gallinago megala* in the Hula valley from 28 February–4 March (*Brit. Birds* 91: 246).

Among rarities at Eilat, there was a claim of a **South Polar Skua** *Catharacta maccormicki* on 25 April (*Birdwatch* 72: 56), the second Israeli record if accepted. The first Cypriot record of **Pomarine Skua** *Stercorarius pomarinus* involved two subadults at Akrotiri Bay on 19 July 1994 (*Brit. Birds* 91: 247) and a **Long-tailed Skua** *S. longicaudus* reported at Hamraniyah on 10 April would be the third record in UAE if accepted. On 8–9 March, a **Mediterranean Gull** *Larus melanocephalus* was on Sir Bani Yas island, the fourth record in UAE. Additional interesting gull records from the same country were: the 4–6th records of **Little Gull** *L. minutus*, at Umm al Quwain on 4–5 March, Emirates golf course on 11–21 April and Al Ghar lake on 30 April; the sixth **Common Gull** *L. canus* at Kalba on 31 March–17 April; and a first-summer **Kittiwake** *Rissa tridactyla*, the first country record, at Fujeirah on 9 April and then at Kalba from 17 April. A first- or second-summer **Grey-headed Gull** *L. cirrocephalus* was well watched and photographed at Hodeidah sewage ponds on 16 April, the first record in Yemen. In July 1997, a pair of **Slender-billed Gull** *L. genei* were behaving in a manner strongly suggestive of breeding near Jubail, Saudi Arabia. There are no breeding records of this species in Arabia. A **Great Black-backed Gull** *L. marinus*

was reported at Shifdan, Tel Aviv on 24–27 February. The fifth record of **Black Tern** *Chlidonias niger* in UAE was one at Ramtha lagoons on 19 July.

Jennings (1997) reports the first records in eastern Yemen of **Spotted Sandgrouse** *Pterocles senegallus*: two flocks north-east of Marib on 10 February 1997 and two other flocks of birds, thought to be this species seen subsequently in the survey. A **Woodpigeon** *Columba palumbus* at Dubai Creek Park, UAE on 16–19 March will be the fourth country record if accepted. During the OSME/Sunbird tour to north Yemen, a series of interesting cuckoo records was made: three **Jacobin Cuckoo** *Clamator jacobinus* were at Al Midman on 17 April, with singles at Al Qanawais on 19 April and Hajjah on 19–20 April; a first-year **Great Spotted Cuckoo** *C. glandarius* at Al Midman on 17 April was apparently the first country record; and a **Klaas's Cuckoo** *Chrysococcyx klaas* was heard calling south of Nu'man on 21 April. Elsewhere in Yemen, the first record of **Eagle Owl** *Bubo bubo* in the east of the country was one calling near Minwakh on 11 February 1997 (Jennings 1997) and a pair of **Hume's Tawny Owl** *Strix butleri* was seen near Kawkaban on 7–9 April. At least three Hume's Tawny Owls were near Hurghada, Egypt on 19 April, a new locality for the species (*Birding World* 11: 216; *Birdwatch* 74: 61). The fifth record of **Tengmalm's Owl** *Aegolius funereus* in Turkey was heard calling throughout the night at Güzelier in the Yuluk Dağı, Taurus mountains on 15 May (Eken & Magnin in prep.). Three **Alpine Swift** *Apus melba* over the Emirates golf course on 14 April will



Plate 1. Arabian Woodpecker *Dendrocopos dorae*, near Hajjah, Yemen, 20 April 1998. (Peter Los)

be the 14th record in UAE if accepted. In eastern Saudi, the **White-breasted Kingfisher** *Halcyon smyrnensis* was at Dhahran until 13 February, whilst a **Hoopoe** *Upupa epops* seen food-carrying and entering a presumed nest-site in the same area on 15–16 April appears to be the first evidence of breeding in this part of the country. Records of scarce passage migrants from Yemen included four **European Roller** *Coracias garrulus* in the Dhubab area on 20–21 March and a **Wryneck** *Jynx torquilla* in Wadi Hajr on 14 March.

The second **Bimaculated Lark** *Melanocorypha bimaculata* in Yemen, reported from Bab el Mandeb on 25 March is accompanied by a description: the first was in November 1985 (Brooks *et al.* 1987). In early 1997, Jennings (1997) recorded a total of 22 **Dunn's Lark** *Eremaluda dunnii* in four squares in eastern Yemen, and found 78 **Bar-tailed Desert Lark** *Ammomanes cincturus* at eight localities on 15–19 February, the first records in the east of the country. Recently published records of singing **Skylark** *Alauda arvensis* in Qatar involve birds at two sites in June 1986 (*The Phoenix* 14: 2). Following 'hot-on-the-heels' of the second record (see *Sandgrouse* 20: 79), the third **Wire-tailed Swallow** *Hirundo smithii* in UAE was at Al Ain camel track on 7 February–2 April. There are few previous records of **Richard's Pipit** *Anthus richardi* in Yemen, but a series of records, totalling 14 birds at three localities, was made during the OSME/*Sunbird* tour this spring. Three **Blyth's Pipit** *A. godlewskii* overwintered at Al Wathba, UAE until 12 April, whilst the two **Forest Wagtail** *Dendronanthus indicus* already reported (*Sandgrouse* 20: 79) remained in Abu Dhabi from 7 November 1997–4 April and 12 December 1997–February 1998, with another at Mushref gardens, Abu Dhabi on 13 February, bringing the total number of occurrences in UAE to 12 (see *Birdwatch* 73: 19).

The sixth **Grey Hypocolius** *Hypocolius ampelinus* in Israel was well-watched and photographed at km 20 north of Eilat from December 1997–12 April (see *Birding World* 11: 137); one was also reported at Kibbutz Samar from late January into February. A **Thrush Nightingale** *Luscinia luscinia* east of Al Quatay on 16 April was an interesting record, there are very few spring records in Yemen. The sixth record of **White-crowned Black Wheatear**



**Plate 2.** Basra Reed Warbler *Acrocephalus griseldis*, km 20 north of Eilat, Israel, 27 March 1998. (Arie Ouwerkerk)

*Oenanthe leucopyga* in UAE was on Das island on 8–13 April. The first record in eastern Yemen of **Red-tailed Wheatear** *O. xanthopyrma* was north-west of Sanau on 19 February 1997 (Jennings 1997). The first record of **Dusky Thrush** *Turdus naumanni* in UAE involved one at Safa Park on 12–24 March, although it may have been present since November 1997 (see *Birdwatch* 73: 19). In Turkey, several **Grasshopper Warbler** *Locustella naevia* were singing at Eşmekaya sazlığı in early June: there is just one previous breeding record in Turkey in late May 1965 (Kumerloev 1967). Up to four **Basra Reed Warbler** *Acrocephalus griseldis* were apparently breeding at Al Hair, south of Riyadh, Saudi Arabia on 14 April–5 May 1996 (Nikolaus & Ash 1997). The species has recently started to colonise Kuwait, presumably in response to the continuing drainage of its breeding habitat in southern Iraq. This record may also indicate fresh colonisation, although the possibility that the species had previously been overlooked cannot be eliminated. In Israel, the eighth record was one at km 20 north of Eilat on 24 March–10 April (see Plate 2). The tenth record of **Moustached Warbler** *A. melanopoegon* in UAE was of one at Dhayah on 13 February. Very few records of **Olive-tree Warbler** *Hippolais olivetorum* are available from Yemen; one was east of Al Quaty on 16 April. In June 1996, **Booted Warbler** *H. caligata* was proven to breed south of Riyadh, Saudi Arabia, a considerable range extension from UAE, and in Turkey, there was one south of Beyşehir Gölü on 25 May, the westernmost record in the country (Eken & Magnin in prep.). Single **Ménétries's Warblers** *Sylvia mystacea* were at the rarity hotspot of

km 20 north of Eilat on 12 and 16 April. On Das Island, UAE there was an **Icterine Warbler** *H. icterina* on 24–25 April, the eighth country record, a **Yellow-browed Warbler** *Phylloscopus inornatus* on 19 February–7 April (second record) and a **Hume's Yellow-browed Warbler** *P. humei* on 30 April. At Yotvata in south Israel there was a Hume's Yellow-browed Warbler on 23–29 March and two were apparently at Eilat on 24 March. A **Green Warbler** *P. nitidus* was in Abu Dhabi on 11–13 May, the fourth record in UAE if accepted. A Yellow-browed Warbler at Mansourieh on 29 September 1997 is apparently the first record in Lebanon, and probably one of the earliest autumn records in the Middle East.

There are no previous confirmed records of **Bearded Tit** *Panurus biarmicus* in Syria; thus 2–3 birds at Sed Wadi Abiad, 20 km north of Palmyra on 22 May are the first. In Turkey, an **Isabelline Shrike** *Lanius isabellinus*, of the race *phoenicuroides*, was trapped and photographed at Kızıllırmak Delta on 3 May. The seventh **Bay-backed Shrike** *L. vittatus* in UAE was at Dibba on 11 March. In Iran, **House Crow** *Corvus splendens* was found to be common around Bushire and at a fishing village 70 km further south-east along the coast: in the 1970s this species was known, in the country, only from the island of Khark, north-west of Bushire. The third **Rose-coloured Starling** *Sturnus roseus* was to be found in Yemen was at Marib on 23 April. Arthur Stagg has drawn my attention to the fact that recent records of **Bank Mynah** *Acridotheres ginginianus* in Saudi Arabia and published here (*Sandgrouse* 19: 159; 20: 80) are not the first, and details

of its occurrence, since at least 1987, in the Riyadh region have been published (Stagg 1991). The first **Common Mynah** *A. tristis* was found in Egypt was located at Ain Sukhna on 20–29 April when it died of gunshot wounds (*Birding World* 11:

216). In the 1970s, **Indian Silverbill** *Lonchura malabarica* was not known to occur west of Minab, but in late April it was found 45 km east of Bandar Lengeh and in the Bandar Abbas and Minab areas of Iran, suggesting that the species is expanding its range. The

fourth record of **Goldfinch** *Carduelis carduelis* in UAE was of one on the migrant trap of Das island on 26–27 April, which also recently hosted the third record (*Sandgrouse* 20: 80).

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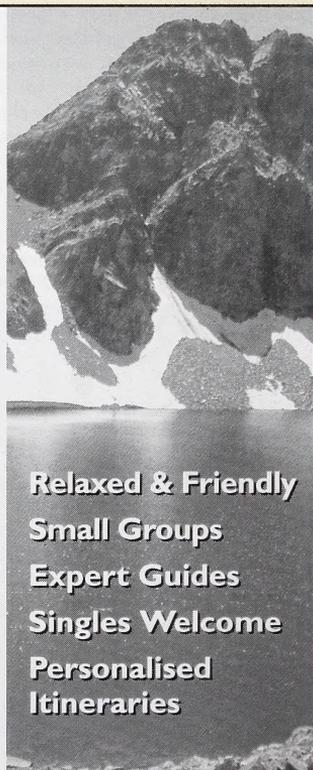
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