SANDGROUSE

1994 Volume 16 Part 1

OSME

OSME

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.

Publications OSME publishes a scientific journal, *Sandgrouse*, containing papers on all aspects of Middle Eastern ornithology. The *OSME Bulletin* contains more popular articles, letters, Society news, and other news and information from around the region. Both are published twice a year and are issued free to members.

Meetings An Annual General Meeting is held in London at which guest speakers provide new perspectives on ornithology in the region. OSME usually joins forces with other societies for a second meeting each winter and organises occasional special meetings of its own; some meetings take 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 societies. In addition, the Sites Register Scheme collects records from all interested ornithologists of important bird areas in the Middle East.

Grants The Conservation Research Committee disburses funds to valuable field projects and desk studies that further the conservation of birds in the region. Grants have been awarded to over 25 such projects since the Conservation Research Fund was set up in 1982.

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Breeding bird atlas of the Strandja mountains, south-east Bulgaria

BOJAN MILCHEV

Summary During 1988–90, mapping of the breeding bird distributions in the Bulgarian part of the Strandja mountains was carried out on the basis of 86 full and 51 partial 5-km squares; all but 14 (partial) squares were surveyed. 133 confirmed breeding species were found, eight probably breeding, and five possibly breeding. The most widely distributed species were those breeding in forest and scrub as well as in the ecotones existing between them and open landscapes: Turtle Dove *Streptopelia turtur*, Cuckoo *Cuculus canorus*, Great Spotted Woodpecker *Dendrocopos major*, Nightingale *Luscinia megarhynchos*, Blackbird *Turdus merula*, Song Thrush *T. philomelos*, Blackcap *Sylvia atricapilla*, Great Tit *Parus major*, Red-backed Shrike *Lanius collurio*, Chaffinch *Fringilla coelebs*, and Corn Bunting *Miliaria calandra*. The breeding of Great Spotted Cuckoo *Clamator glandarius* and the *samamisicus* race of Redstart *Phoenicurus phoenicurus* were confirmed for the first time in Bulgaria, and 30 pairs of Montagu's Harriers *Circus pygargus* were found, the largest concentration in the country. Short-toed Eagle *Circaetus gallicus*, Levant Sparrowhawk *Accipiter brevipes*, Hobby *Falco subbuteo*, and Masked Shrike *Lanius nubicus* were proved for the first time to breed in the Strandja, and Ruddy Shelduck *Tadorna ferruginea* was a new probable breeder. Atlas squares contained 20–81 species, mostly (42% of squares) 50–59 species; highest numbers were in squares containing a mixture of wetland, forest, scrub, open spaces, and human settlement. 4·4% of the Bulgarian part of the Strandja mountains has some form of conservation protection, and ten sites totalling 35·9 km² have been protected, primarily as breeding localities of rare bird species.

THE STRANDJA MOUNTAINS of Bulgaria are a continuation of the Istranca range of north-west Turkey which together form a bridge connecting the flora and fauna of mountains in Asia Minor with those on the Balkan peninsula. The Strandja has an extremely diverse vegetation, with plant species of essentially Mediterranean distribution penetrating along the Black Sea coast and the western slopes northwards, and such factors suggest the possibility of a rich avifauna. Consequently, during 1988–90 I carried out a project to map the distribution of breeding birds in the Bulgarian part of the mountain, a region poorly studied by ornithologists, as is the adjacent Turkish part of the range. This study is the first of its kind in Bulgaria. It was originally intended to form part of a larger project to produce a breeding bird atlas for the whole of Bulgaria, but the country's grave and worsening economic situation, resulting in a lack of funds and of the means of transport, has prevented progress with this.

NATURAL FEATURES AND LAND-USE

The Strandja/Istranca mountains are medium-altitude upland with their highest peak (Makhiada, 1,031 m) in Turkey. The range is about 200 km long and 20–40 km wide, covering a total of about 10,000 km². The mountain ridge forms the main watershed on the Balkan peninsula between the Black and Aegean Seas and the Sea of Marmara. The region under study includes the northern and north-

Figure 1. Location of the Strandja mountains in Bulgaria.

western parts of the range which lie within Bulgaria (about 2,950 km²: Figure 1). It is dominated by flat-topped hill ridges (average heights 300–400 m) separated by river valleys (Glovnia *et al.* 1983). The northern boundary of the study area is formed by the upper and middle courses of the Sredetzka river and the middle and lower parts of the Izvorska and Djavolska rivers; the western edge lies along the upper and middle Popovska river.

The river system of the Strandja is relatively dense. Within the Bulgarian part of the mountain only the Veleka has a more or less stable flow, others being subject to major seasonal fluctuations. A feature of rivers flowing into the Black Sea is a drowned lower valley resulting from sinking of the land and consequent submergence. Along the courses of the Popovska and Diavolska there are some relatively large dams, and many smaller ones have been built in the north-western part of the mountains. The dividing line between the Mediterranean and submediter-

Plate 1. Wooded ridges in the central part of the Strandja mountains (Bulgaria). (*Anna Ganeva*)

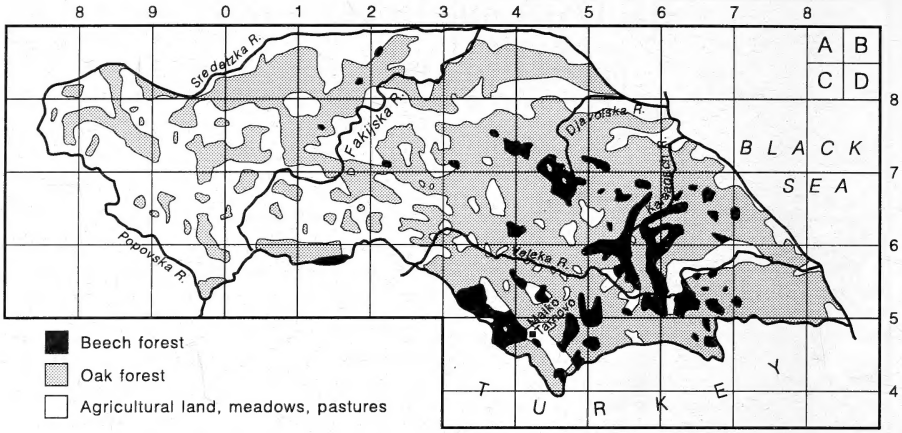


Figure 2. Vegetation cover of the Strandja mountains (Bulgaria) (after Bondev 1991).

ranean climatic provinces runs across the mountain (Vekilska and Topliyski 1990), and the region under study lies entirely within the submediterranean climate. During July–August in the central part of the region daily maximum temperatures (averaged over a month) reach 26–27°C, while western parts have 10–15 days per year with peak temperatures of at least 30°C. Autumns are warm and long, especially on the coast, and average monthly temperatures stay above freezing all year.

The vegetation cover of the Strandja comprises mainly forests of oak *Quercus* and beech *Fagus* (Figure 2). Plant communities of southeuxinian mesophyte type (Stojanov 1941) are widely distributed, indicative of a floristic connection with the mountains of Asia Minor, species common to both including *Fagus orientalis*, *Quercus hartwissiana*, *Rhododendron ponticum*, and *Daphne pontica*. The Mediterranean influence on the flora is much more significant in the southern (Turkish) part of the mountain, declining visibly to the north. Oak forests are the main vegetation cover on the Bulgarian part of the Strandja, consisting mainly of *Q. frainetto*, *Q. polycarpa*, and *Q. cerris*. In the central part of the mountain, forests of *Fagus orientalis* with evergreen undergrowth are present. Beech also grows, below the altitude at which oak dominates, in deep valleys, this inversion of the normal distribution pattern being determined by the valleys' microclimate. Agricultural lands and scrub dominated by Christ's thorn *Paliurus aculeatus* and hornbeam *Carpinus orientalis* cover large areas along the Black Sea coast and in the western parts of the mountain. Submediterranean scrub and open woodland vegetation (including *Q. frainetto*, *Q. pubescens*, *Q. virgiliana*, and *Phillyrea latifolia*) covers a strip of almost negligible width along the Black sea coast, and has now been much changed by man; it forms larger areas in the west of the mountains, but here again human activity is the main cause of its present mosaic distribution (Stojanov 1941; Bondev 1991).

During the past 45 years the forests of the Strandja have been managed solely by the state, and remnants of the former virgin forests remain only on inaccessible mountain slopes. Reforestation with coniferous species, mostly *Pinus nigra*, started

initially on small cultivated plots, and the practice was then extended to areas cleared of broadleaved forest. The Strandja's forests are now broken by many clearings, scrub, young secondary broadleaved stands, and coniferous plantations.

Until 1991 arable land existed only in large tracts (so-called cultivated steppe) on which collective farms grew mainly wheat, barley, maize, and alfalfa. Now, however, with the restitution of land property rights it seems likely that the type of management practised before World War II will be restored: the large areas of continuous arable will again be separated by field boundaries overgrown with herbs and shrubs, inevitably bringing about changes in bird numbers and species composition in agricultural sections of the mountains. The region under study is one of the most thinly populated parts of Bulgaria, with densities between 8·6 and 17 people per km^2 for different communities, while the average for the whole country is 80·6 per km^2. The main industries in the Strandja are agriculture, stock-rearing, forestry, tourism, and ore-mining (Anon. 1991).

METHODS

The bulk of the fieldwork was done by myself alone during May–July over three years, 1988–90, a total of 148 days. For some species I have also used my field studies carried out in April and August of the same years, covering an additional 93 days. Breeding distributions were mapped on the basis of 5-km squares on the Universal Transverse Mercator grid, giving a total of 151 squares. I surveyed all 86 full squares as well as 51 of the 65 partial ones; the 14 unsurveyed partial squares lay along the Turkish border (Figure 3), and permission to visit them was not available. During the course of the whole study period I was able to visit every full square more than once, in each case collecting data in day-long observations during which I did my best to cover the whole diversity of communities present. Partial squares were treated similarly, but I usually managed to map more than one during a day and in many cases they were visited only once during the study. The criteria used to assess breeding evidence follow Sharrock (1976) and Yeatman (1976); these are summarized as follows, with the symbols used in the distribution maps.

- **Possible.** Adult in suitable habitat in breeding season.
- **Probable.** Singing male; bird holding territory; courtship display; agitated behaviour; adult visiting probable nest-site; nest-building.
- **Confirmed.** Distraction-display, etc.; used nest; young recently fledged, in nest, or downy; adult carrying faecal sac or food; adult entering apparently occupied nest-site; nest with eggs or incubating adult.

Several groups of egg-thieves have been shown to be activé on the Balkan peninsula (Scheglman 1983), and for this reason most species included in the Bulgarian Red Data Book (Botev and Peshev 1985) are mapped on a coarser, 10-km grid with a single breeding-evidence symbol (the highest evidence obtained for the four 5-km squares) placed centrally in the 10-km square; the actual number of 5-km squares occupied is given below each such map. Data for a few especially vulnerable species are mapped on a 20-km grid, with the appropriate number and type of 5-km symbols placed centrally in each 20-km square. The locations of all vulnerable

species' breeding sites are kept in the Ornithological Information Bank of the Bulgarian Society for the Protection of Birds.

RESULTS AND DISCUSSION

No systematic ornithological work had been done in the Bulgarian section of the Strandja mountains before the present survey, so it is not possible to compare the current status and distribution of species with those of an earlier period. The atlas results serve instead as a baseline against which future changes in distribution may be judged. Fieldwork established the presence of 133 confirmed breeding species, eight probably breeding, and five possibly breeding (see distribution maps). Breeding of Great Spotted Cuckoo* and of the race *samamisicus* of Redstart was confirmed for the first time in Bulgaria. The region was also found for the first time to hold breeding Montagu's Harriers, with a population of about 30 pairs, including a concentration of eight pairs at one site; only one site, with a single pair, was previously known for the species in Bulgaria. Further species added to the breeding avifauna of the Strandja mountains were Short-toed Eagle, Levant Sparrowhawk, Hobby, and Masked Shrike (breeding confirmed), as well as Ruddy Shelduck (breeding probable), and Barn Owl, Long-legged Buzzard, Saker, and Green Sandpiper (breeding possible).

26 species of birds listed in the Red Book of Bulgaria breed in the mountains, most being more numerous and of much wider distribution in the Strandja then in the rest of the country (Michev 1983; Simeonov *et al.* 1990). This fact is explained by the mosaic pattern of the vegetation (favouring particularly Goshawk, Lesser Spotted Eagle, Golden Eagle, and Hobby), the remaining small areas of virgin forest (favouring Black Stork, Honey Buzzard, Goshawk, Lesser Spotted Eagle, Golden Eagle, Booted Eagle, Stock Dove, Black Woodpecker, and White-backed Woodpecker), the relatively large number of unpolluted natural and artificial waterbodies (favouring Black Stork and Black Kite), and the low degree of urbanization (favouring most species).

Compared with the rest of the country there appears to be a lower altitudinal limit to the distribution of several species (about 50 m for White-backed Woodpecker, about 250 m for Mistle Thrush and Willow Tit, and about 200 m for Tree Pipit and Treecreeper), but bird distribution in the mountains is mostly determined by the vegetation cover. Birds nesting in forest and scrub communities, as well as in the ecotones existing between them and open areas, have the widest distributions and include Turtle Dove, Cuckoo, Great Spotted Woodpecker, Nightingale, Blackbird, Song Thrush, Blackcap, Great Tit, Red-backed Shrike, Chaffinch, and Corn Bunting.

Along the western side of the mountains and, to a lesser degree, on the northern and eastern edges, there are extensive tracts of cultivated land, a large number of isolated forest patches, and natural and artificial waterbodies which attract breeding birds typical of open spaces, scrub, forest edge, and wetlands. Such species of these landscapes in the Strandja are grebes, Montagu's Harrier, Kestrel, Hobby, gamebirds, rails, waders, larks, wheatears, some of the warblers, shrikes, Magpie, and

* For scientific names of bird species, see distribution maps.

Ortolan and Black-headed Buntings, as well as species characteristic of human settlements such as White Stork, Little Owl, Jackdaw, Starling, sparrows, etc.

The central part of the study area is the most mountainous (Glovnia *et al.* 1983), which explains the presence of Grey Wagtail, Dipper, Rock Thrush, Rock Bunting, and other species. This part of the mountain carries the lowest level of human population, and cultivated plots are almost absent, thus restricting species typical of urban environments and open areas. Beech forests with evergreen undergrowth occur only in this region, although the drier oak forests with *Quercus polycarpa* as the dominant species cover larger areas. Most of the forest in this part of the mountain has never been felled and the distributions of forest species are consequently centred here: Goshawk, Stock Dove, Woodpigeon, Tawny Owl, woodpeckers, Mistle Thrush, Wood Warbler, tits, treecreepers, etc.

Birds of southern distribution nest predominantly by the Black Sea coast and on the western edge of the mountains where the submediterranean vegetation covers larger areas; these species include Levant Sparrowhawk, Chukar, Great Spotted Cuckoo, Syrian Woodpecker, Isabelline Wheatear, Olive-tree Warbler, Woodchat and Masked Shrikes, and Black-headed Bunting.

The number of breeding species in each square is determined mainly by the diversity of the plant communities contained within it. Squares with 50–59 breeding bird species predominate, comprising 42% of the total of 137 whole or partial squares surveyed (Figure 3). The greatest numbers of species occur around the mouths of the rivers Djavolska (square 67A, 76 species) and Karaagach (square 67C, 72 species) and in the vicinity of the town of Malko Tarnovo (square 44A, 81 species). Each of these three squares contains wetland, forest, scrub, open spaces, and human settlements. Squares with a relatively uniform vegetation cover may have fewer than 40 species breeding, as for example in squares 47A, 65D, 75D, and 75C which are covered with young oak and beech forests with no settlements or large open spaces. The lowest number of breeding species recorded was 20 (square 85D).

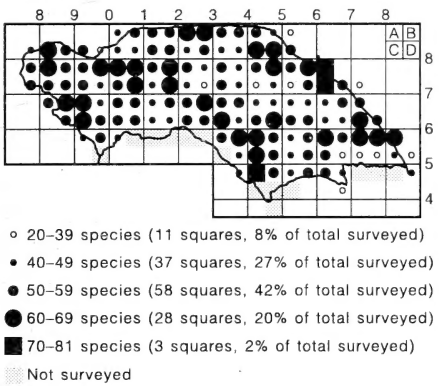


Figure 3. Number of species registered in each 5-km atlas square (possible, probable, or confirmed breeding), Strandja mountains (Bulgaria).

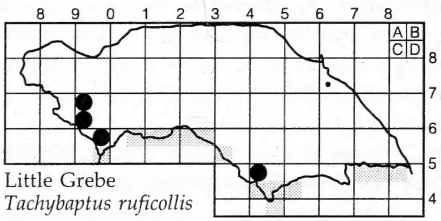
CONSERVATION

Protected areas comprise 129 km² (4·4%) of the Bulgarian part of the Strandja mountains. Almost all of this area (125·1 km²) is accounted for by five Nature Reserves (64·6 km²) and 17 Protected Areas (60·6 km²), ten of the latter (35·9 km²) having been set up specifically to protect breeding localities of rare bird species. The Ministry of Forests is responsible for all these protected areas, but none is wardened.

Since 1988, with help from the Bulgarian Society for the Protection of Birds, I have managed to ensure successful breeding of the largest colony of Montagu's Harriers, but it is difficult to give any prediction about the future success of this population as the restitution of land property rights seems likely to break up its habitat (see above). Once or twice a month members of the BSPB feed one of the Egyptian Vulture pairs in the Strandja, but this initiative is limited by lack of money, and waste from slaughterhouses is becoming steadily more difficult to obtain.

DISTRIBUTION MAPS

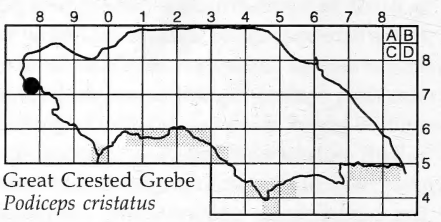
For key to symbols, and breeding evidence criteria, see p. 5.



Little Grebe
Tachybaptus ruficollis

Nos. of 5-km squares with breeding evidence:

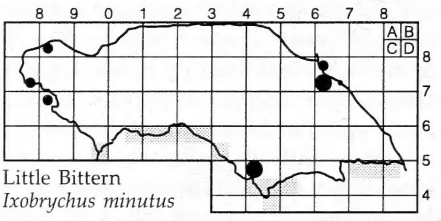
Possible	1	Confirmed	4
Probable	0	Total	5 (4% of squares surveyed)



Great Crested Grebe
Podiceps cristatus

Nos. of 5-km squares with breeding evidence:

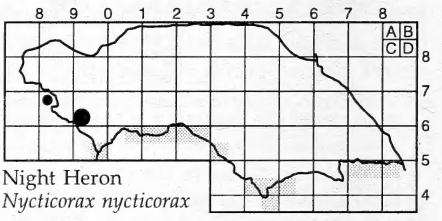
Possible	0	Confirmed	1
Probable	0	Total	1 (1% of squares surveyed)



Little Bittern
Ixobrychus minutus

Nos. of 5-km squares with breeding evidence:

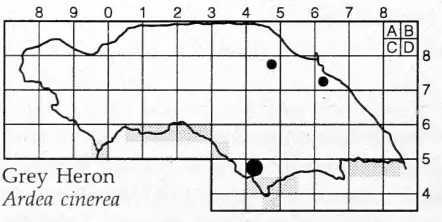
Possible	1	Confirmed	2
Probable	4	Total	7 (5% of squares surveyed)



Night Heron
Nycticorax nycticorax

Nos. of 5-km squares with breeding evidence:

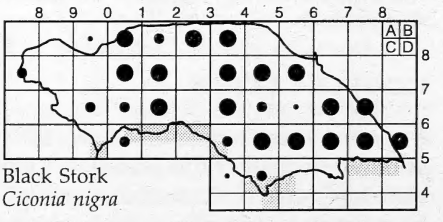
Possible	0	Confirmed	1
Probable	1	Total	2 (1% of squares surveyed)



Grey Heron
Ardea cinerea

Nos. of 5-km squares with breeding evidence:

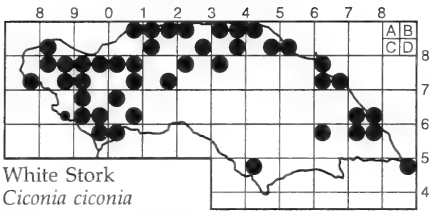
Possible	0	Confirmed	1
Probable	2	Total	3 (2% of squares surveyed)



Black Stork
Ciconia nigra

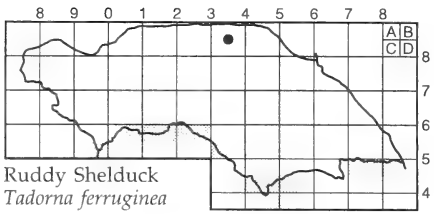
Nos. of 5-km squares with breeding evidence:

Possible	10	Confirmed	25
Probable	17	Total	52 (38% of squares surveyed)



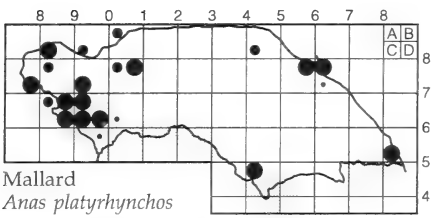
White Stork
Ciconia ciconia

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 43
Probable 1 Total 44 (32% of squares surveyed)



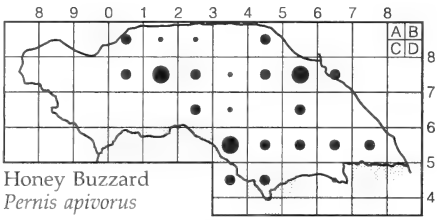
Ruddy Shelduck
Tadorna ferruginea

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 0
Probable 1 Total 1 (1% of squares surveyed)



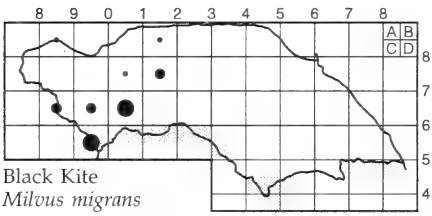
Mallard
Anas platyrhynchos

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 13
Probable 6 Total 22 (16% of squares surveyed)



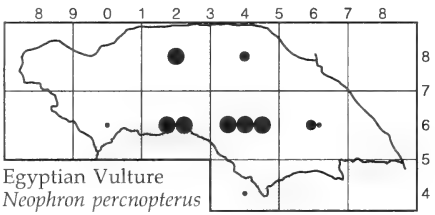
Honey Buzzard
Pernis apivorus

Nos. of 5-km squares with breeding evidence:
Possible 10 Confirmed 3
Probable 23 Total 36 (26% of squares surveyed)



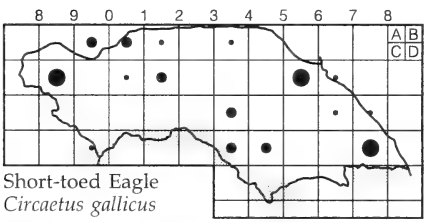
Black Kite
Milvus migrans

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 3
Probable 4 Total 10 (7% of squares surveyed)



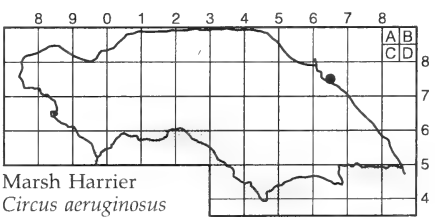
Egyptian Vulture
Neophron percnopterus

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 6
Probable 2 Total 11 (8% of squares surveyed)



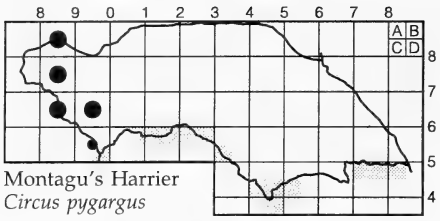
Short-toed Eagle
Circaetus gallicus

Nos. of 5-km squares with breeding evidence:
Possible 9 Confirmed 4
Probable 6 Total 19 (14% of squares surveyed)



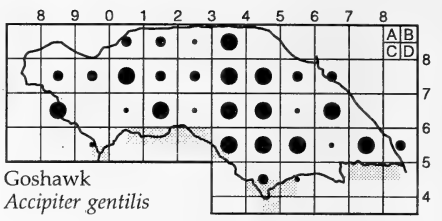
Marsh Harrier
Circus aeruginosus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 0
Probable 1 Total 2 (1% of squares surveyed)



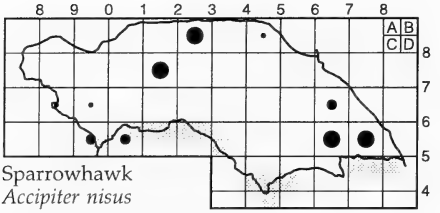
Montagu's Harrier
Circus pygargus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 6
Probable 2 Total 8 (6% of squares surveyed)



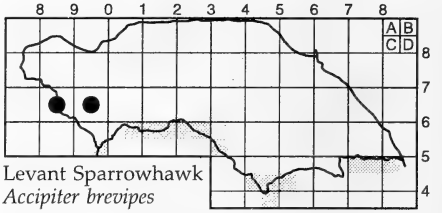
Goshawk
Accipiter gentilis

Nos. of 5-km squares with breeding evidence:
Possible 12 Confirmed 13
Probable 15 Total 40 (29% of squares surveyed)



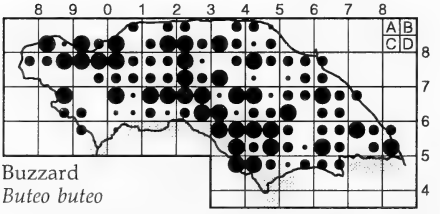
Sparrowhawk
Accipiter nisus

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 4
Probable 3 Total 10 (7% of squares surveyed)



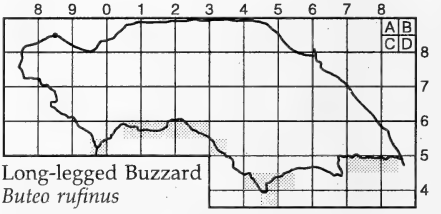
Levant Sparrowhawk
Accipiter brevipes

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 2
Probable 0 Total 3 (2% of squares surveyed)



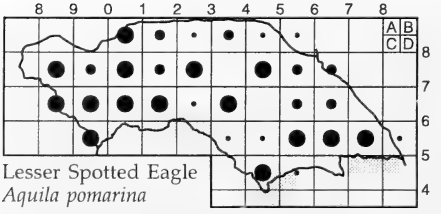
Buzzard
Buteo buteo

Nos. of 5-km squares with breeding evidence:
Possible 16 Confirmed 37
Probable 54 Total 107 (78% of squares surveyed)



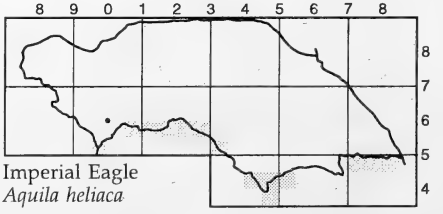
Long-legged Buzzard
Buteo rufinus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 0
Probable 0 Total 1 (1% of squares surveyed)



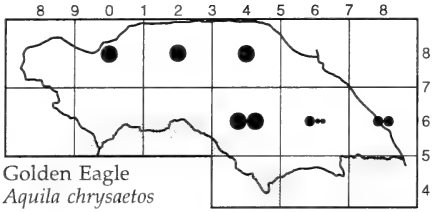
Lesser Spotted Eagle
Aquila pomarina

Nos. of 5-km squares with breeding evidence:
Possible 19 Confirmed 20
Probable 18 Total 57 (42% of squares surveyed)



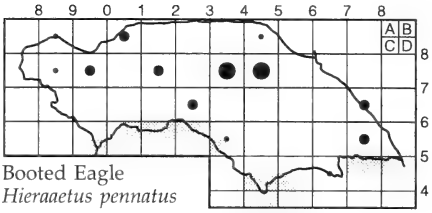
Imperial Eagle
Aquila heliaca

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 0
Probable 0 Total 1 (1% of squares surveyed)



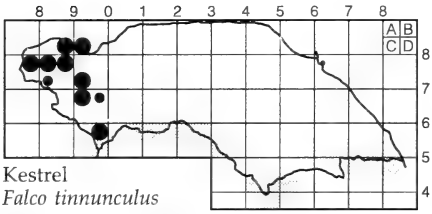
Golden Eagle
Aquila chrysaetos

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 5
Probable 3 Total 10 (7% of squares surveyed)



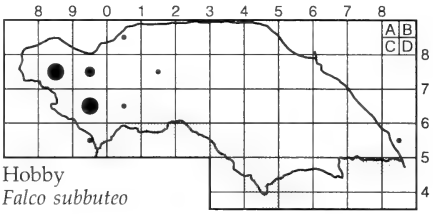
Booted Eagle
Hieraaetus pennatus

Nos. of 5-km squares with breeding evidence:
Possible 7 Confirmed 3
Probable 6 Total 16 (12% of squares surveyed)



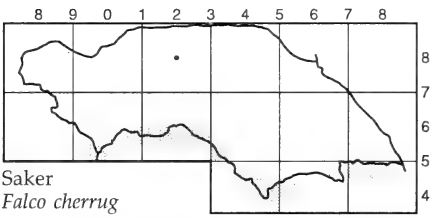
Kestrel
Falco tinnunculus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 8
Probable 2 Total 11 (8% of squares surveyed)



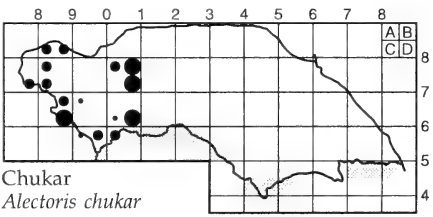
Hobby
Falco subbuteo

Nos. of 5-km squares with breeding evidence:
Possible 8 Confirmed 3
Probable 1 Total 12 (9% of squares surveyed)



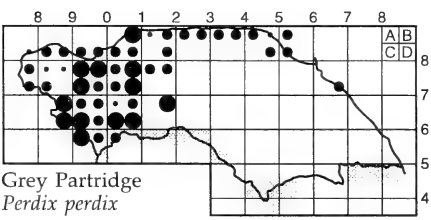
Saker
Falco cherrug

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 0
Probable 0 Total 1 (1% of squares surveyed)



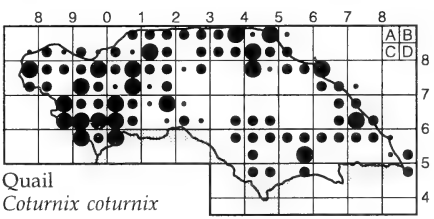
Chukar
Alectoris chukar

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 4
Probable 9 Total 16 (12% of squares surveyed)



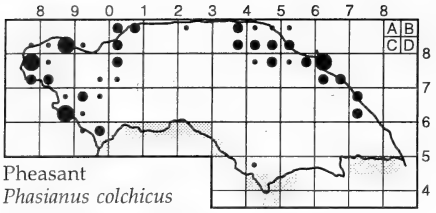
Grey Partridge
Perdix perdix

Nos. of 5-km squares with breeding evidence:
Possible 6 Confirmed 13
Probable 31 Total 50 (37% of squares surveyed)



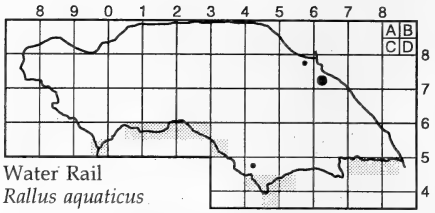
Quail
Coturnix coturnix

Nos. of 5-km squares with breeding evidence:
Possible 17 Confirmed 22
Probable 58 Total 97 (70% of squares surveyed)



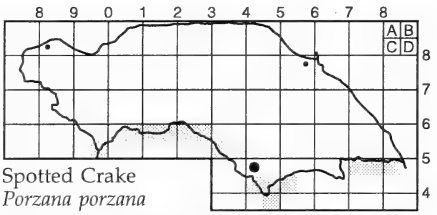
Pheasant
Phasianus colchicus

Nos. of 5-km squares with breeding evidence:
Possible 17 Confirmed 4
Probable 19 Total 40 (29% of squares surveyed)



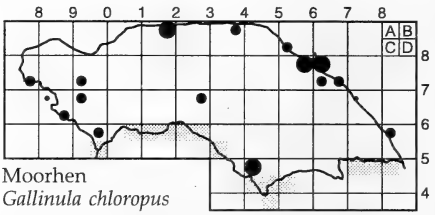
Water Rail
Rallus aquaticus

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 0
Probable 1 Total 3 (2% of squares surveyed)



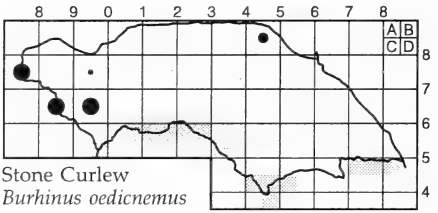
Spotted Crake
Porzana porzana

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 0
Probable 1 Total 3 (2% of squares surveyed)



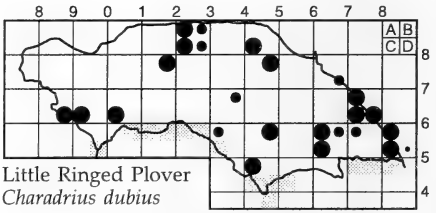
Moorhen
Gallinula chloropus

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 4
Probable 11 Total 17 (21% of squares surveyed)



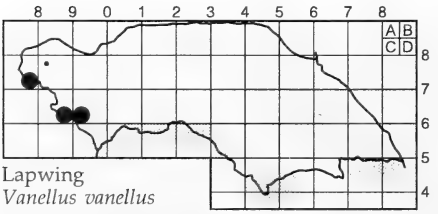
Stone Curlew
Burhinus oedicnemus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 3
Probable 2 Total 6 (4% of squares surveyed)



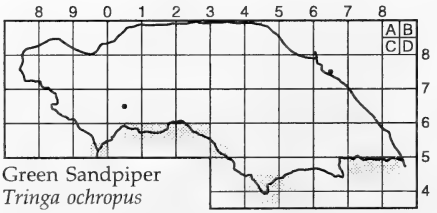
Little Ringed Plover
Charadrius dubius

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 17
Probable 7 Total 25 (18% of squares surveyed)



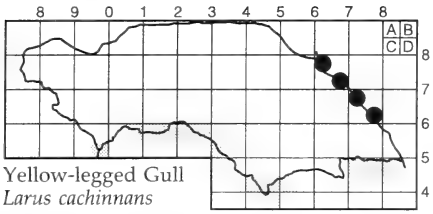
Lapwing
Vanellus vanellus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 3
Probable 0 Total 4 (3% of squares surveyed)



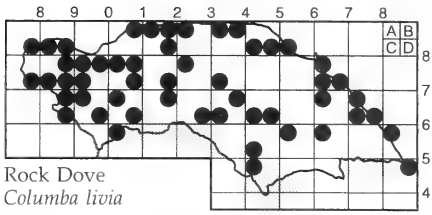
Green Sandpiper
Tringa ochropus

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 0
Probable 0 Total 2 (1% of squares surveyed)



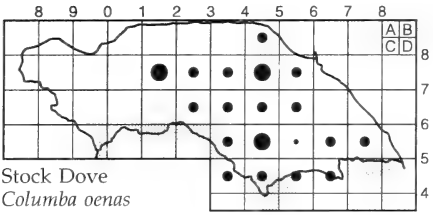
Yellow-legged Gull
Larus cachinnans

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 4
Probable 0 Total 4 (3% of squares surveyed)



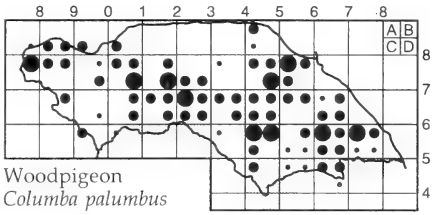
Rock Dove
Columba livia

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 52
Probable 0 Total 52 (38% of squares surveyed)



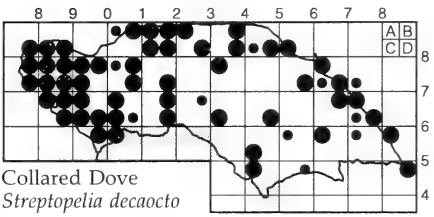
Stock Dove
Columba oenas

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 3
Probable 22 Total 27 (20% of squares surveyed)



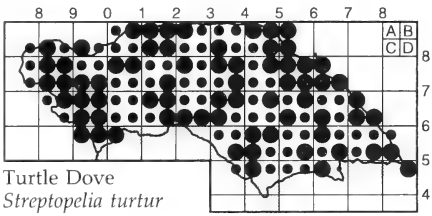
Woodpigeon
Columba palumbus

Nos. of 5-km squares with breeding evidence:
Possible 15 Confirmed 10
Probable 48 Total 73 (52% of squares surveyed)



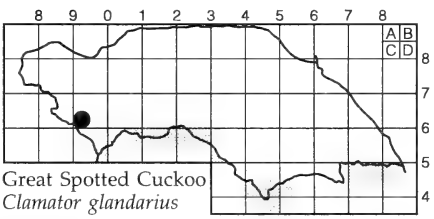
Collared Dove
Streptopelia decaocto

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 52
Probable 11 Total 63 (46% of squares surveyed)



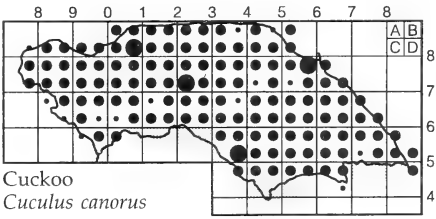
Turtle Dove
Streptopelia turtur

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 70
Probable 63 Total 134 (98% of squares surveyed)



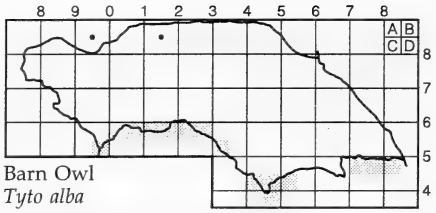
Great Spotted Cuckoo
Clamator glandarius

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 1
Probable 0 Total 1 (1% of squares surveyed)



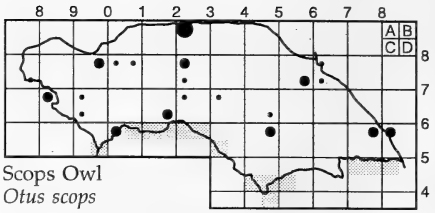
Cuckoo
Cuculus canorus

Nos. of 5-km squares with breeding evidence:
Possible 14 Confirmed 4
Probable118 Total 136 (99% of squares surveyed)



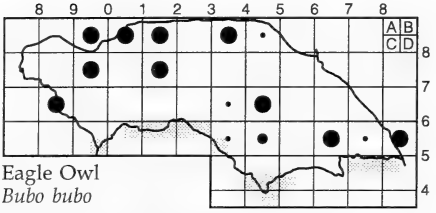
Barn Owl
Tyto alba

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 0
Probable 0 Total 2 (1% of squares surveyed)



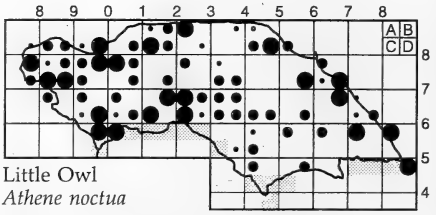
Scops Owl
Otus scops

Nos. of 5-km squares with breeding evidence:
Possible 11 Confirmed 1
Probable 9 Total 21 (15% of squares surveyed)



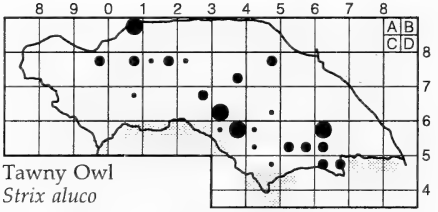
Eagle Owl
Bubo bubo

Nos. of 5-km squares with breeding evidence:
Possible 6 Confirmed 13
Probable 3 Total 22 (16% of squares surveyed)



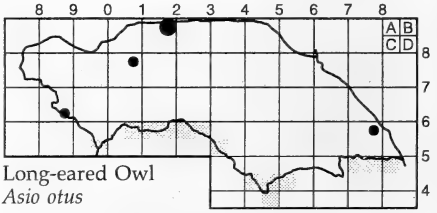
Little Owl
Athene noctua

Nos. of 5-km squares with breeding evidence:
Possible 16 Confirmed 22
Probable 36 Total 74 (54% of squares surveyed)



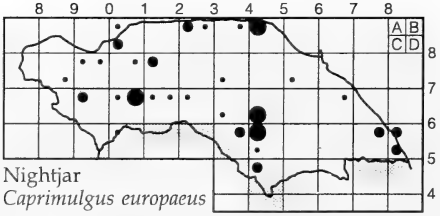
Tawny Owl
Strix aluco

Nos. of 5-km squares with breeding evidence:
Possible 8 Confirmed 4
Probable 11 Total 23 (17% of squares surveyed)



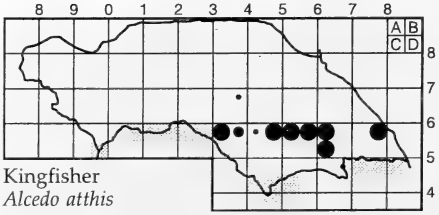
Long-eared Owl
Asio otus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 1
Probable 3 Total 4 (3% of squares surveyed)



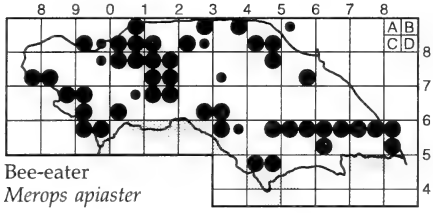
Nightjar
Caprimulgus europaeus

Nos. of 5-km squares with breeding evidence:
Possible 17 Confirmed 4
Probable 9 Total 30 (22% of squares surveyed)



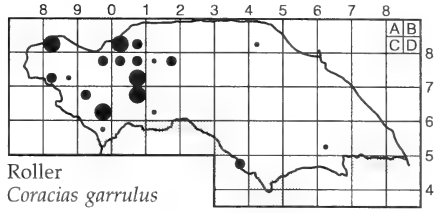
Kingfisher
Alcedo atthis

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 7
Probable 1 Total 11 (8% of squares surveyed)



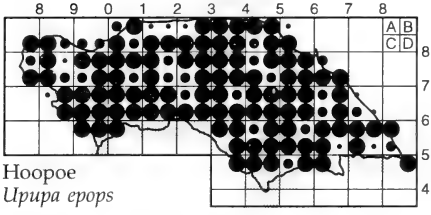
Bee-eater
Merops apiaster

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 43
Probable 7 Total 50 (37% of squares surveyed)



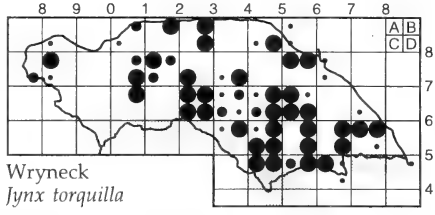
Roller
Coracias garrulus

Nos. of 5-km squares with breeding evidence:
Possible 6 Confirmed 5
Probable 8 Total 19 (14% of squares surveyed)



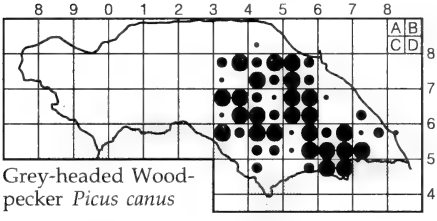
Hoopoe
Upupa epops

Nos. of 5-km squares with breeding evidence:
Possible 10 Confirmed 98
Probable 25 Total 133 (97% of squares surveyed)



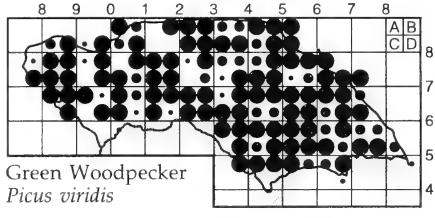
Wryneck
Jynx torquilla

Nos. of 5-km squares with breeding evidence:
Possible 20 Confirmed 35
Probable 9 Total 64 (47% of squares surveyed)



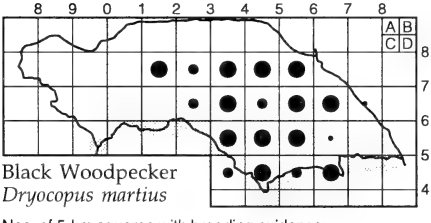
Grey-headed Woodpecker *Picus canus*

Nos. of 5-km squares with breeding evidence:
Possible 9 Confirmed 24
Probable 15 Total 48 (35% of squares surveyed)



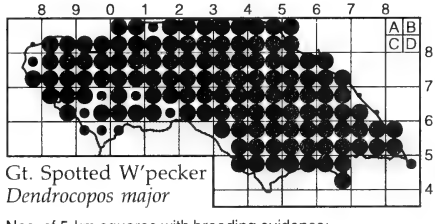
Green Woodpecker
Picus viridis

Nos. of 5-km squares with breeding evidence:
Possible 13 Confirmed 86
Probable 25 Total 124 (91% of squares surveyed)



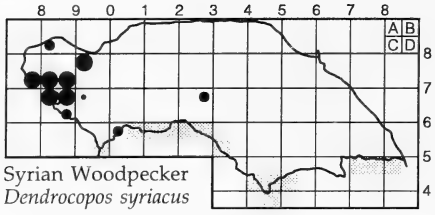
Black Woodpecker
Dryocopus martius

Nos. of 5-km squares with breeding evidence:
Possible 13 Confirmed 17
Probable 8 Total 38 (28% of squares surveyed)



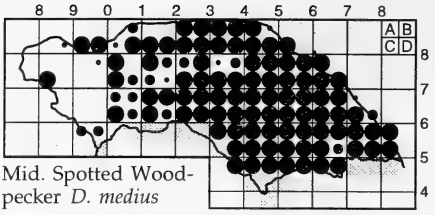
Gt. Spotted W'pecker
Dendrocopos major

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 122
Probable 10 Total 135 (99% of squares surveyed)



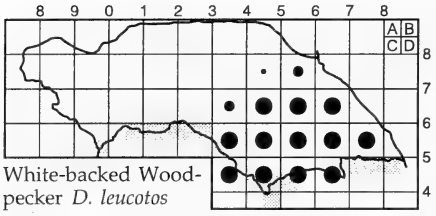
Syrian Woodpecker
Dendrocopos syriacus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 6
Probable 4 Total 11 (8% of squares surveyed)



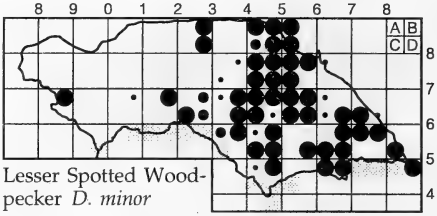
Mid. Spotted Woodpecker *D. medius*

Nos. of 5-km squares with breeding evidence:
Possible 7 Confirmed 89
Probable 14 Total 110 (80% of squares surveyed)



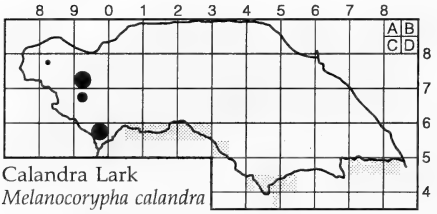
White-backed Woodpecker *D. leucotos*

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 21
Probable 4 Total 28 (20% of squares surveyed)



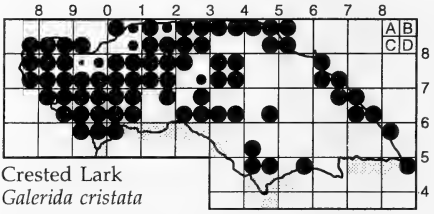
Lesser Spotted Woodpecker *D. minor*

Nos. of 5-km squares with breeding evidence:
Possible 11 Confirmed 43
Probable 4 Total 58 (42% of squares surveyed)



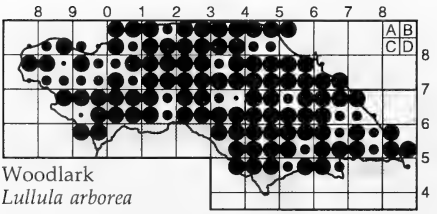
Calandra Lark
Melanocorypha calandra

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 2
Probable 1 Total 4 (3% of squares surveyed)



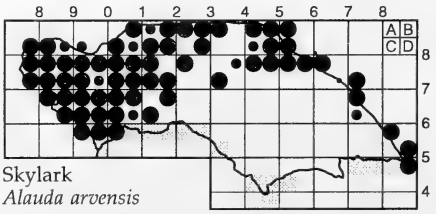
Crested Lark
Galerida cristata

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 74
Probable 5 Total 80 (58% of squares surveyed)



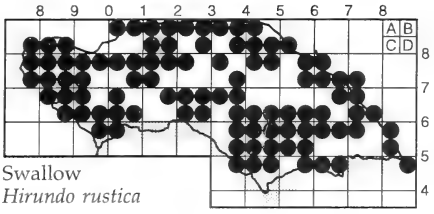
Woodlark
Lullula arborea

Nos. of 5-km squares with breeding evidence:
Possible 9 Confirmed 96
Probable 26 Total 131 (96% of squares surveyed)



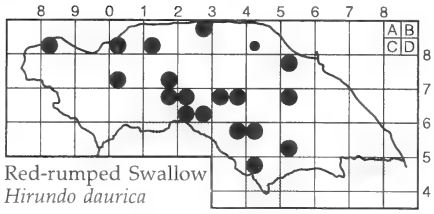
Skylark
Alauda arvensis

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 59
Probable 9 Total 69 (50% of squares surveyed)



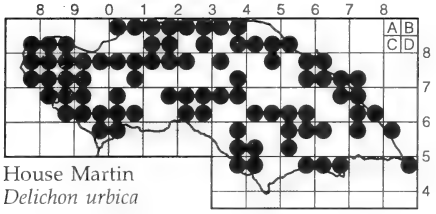
Swallow
Hirundo rustica

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 95
Probable 0 Total 95 (69% of squares surveyed)



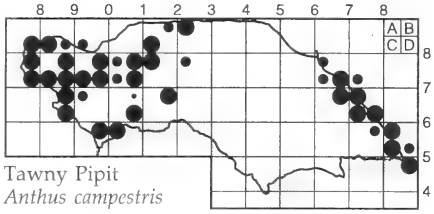
Red-rumped Swallow
Hirundo daurica

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 18
Probable 1 Total 19 (14% of squares surveyed)



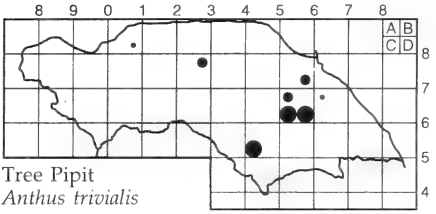
House Martin
Delichon urbica

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 83
Probable 0 Total 83 (61% of squares surveyed)



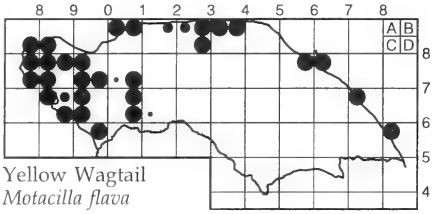
Tawny Pipit
Anthus campestris

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 29
Probable 12 Total 42 (31% of squares surveyed)



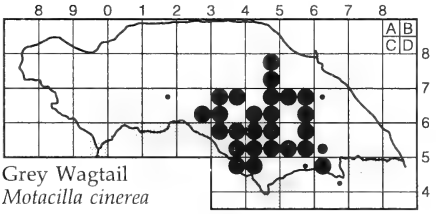
Tree Pipit
Anthus trivialis

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 3
Probable 3 Total 8 (6% of squares surveyed)



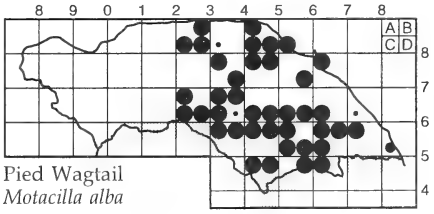
Yellow Wagtail
Motacilla flava

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 28
Probable 3 Total 33 (24% of squares surveyed)



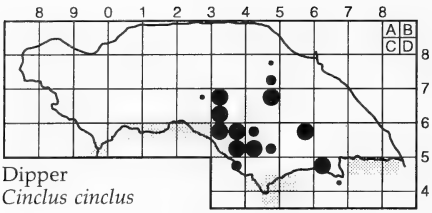
Grey Wagtail
Motacilla cinerea

Nos. of 5-km squares with breeding evidence:
Possible 4 Confirmed 25
Probable 1 Total 30 (22% of squares surveyed)



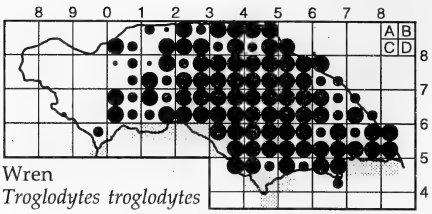
Pied Wagtail
Motacilla alba

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 39
Probable 1 Total 43 (31% of squares surveyed)



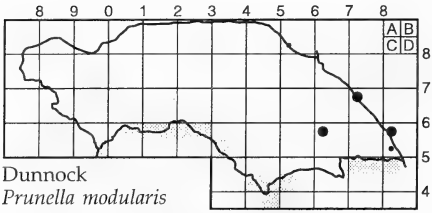
Dipper
Cinclus cinclus

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 9
Probable 4 Total 16 (12% of squares surveyed)



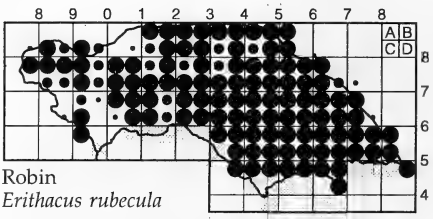
Wren
Troglodytes troglodytes

Nos. of 5-km squares with breeding evidence:
Possible 4 Confirmed 77
Probable 25 Total 106 (77% of squares surveyed)



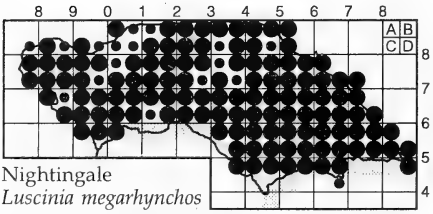
Dunnock
Prunella modularis

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 0
Probable 3 Total 5 (4% of squares surveyed)



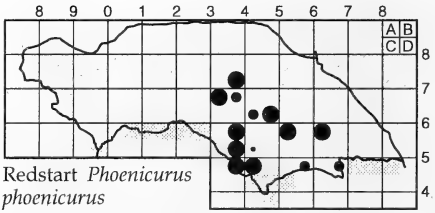
Robin
Erithacus rubecula

Nos. of 5-km squares with breeding evidence:
Possible 7 Confirmed 104
Probable 16 Total 127 (93% of squares surveyed)



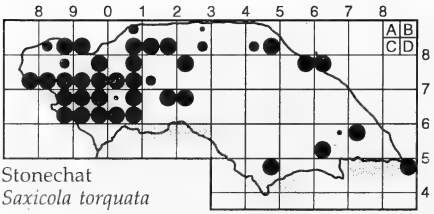
Nightingale
Luscinia megarhynchos

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 120
Probable 17 Total 137 (100% of squares surveyed)



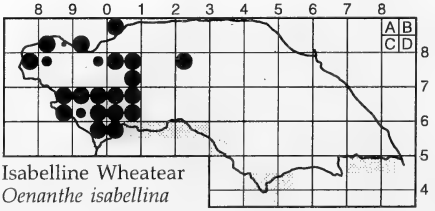
Redstart *Phoenicurus phoenicurus*

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 9
Probable 4 Total 14 (10% of squares surveyed)



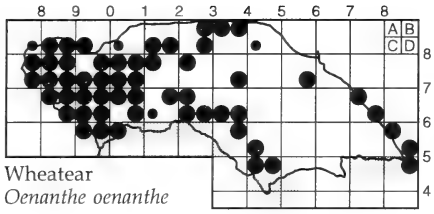
Stonechat
Saxicola torquata

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 33
Probable 6 Total 42 (31% of squares surveyed)



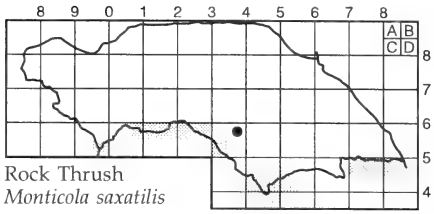
Isabelline Wheatear
Oenanthe isabellina

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 19
Probable 3 Total 23 (17% of squares surveyed)



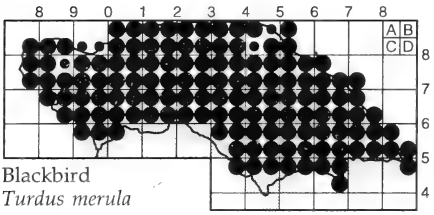
Wheatear
Oenanthe oenanthe

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 54
Probable 4 Total 58 (42% of squares surveyed)



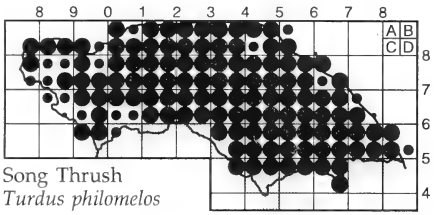
Rock Thrush
Monticola saxatilis

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 0
Probable 1 Total 1 (1% of squares surveyed)



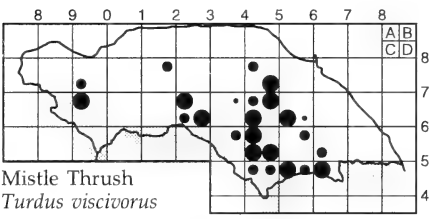
Blackbird
Turdus merula

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 132
Probable 5 Total 137 (100% of squares surveyed)



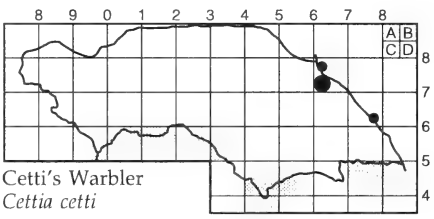
Song Thrush
Turdus philomelos

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 115
Probable 18 Total 135 (99% of squares surveyed)



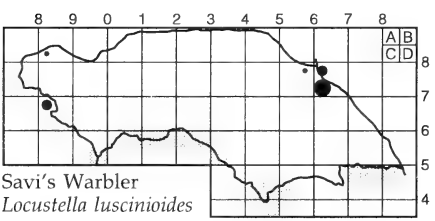
Mistle Thrush
Turdus viscivorus

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 12
Probable 11 Total 25 (18% of squares surveyed)



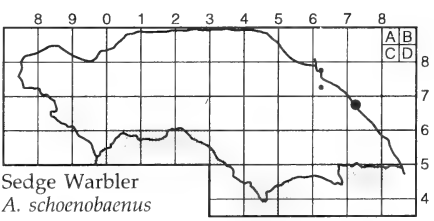
Cetti's Warbler
Cettia cetti

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 1
Probable 2 Total 3 (2% of squares surveyed)



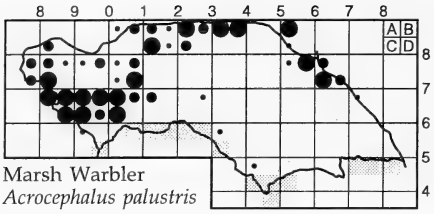
Savi's Warbler
Locustella luscinioides

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 1
Probable 2 Total 5 (4% of squares surveyed)



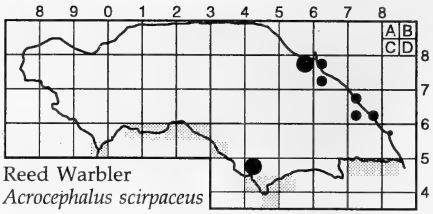
Sedge Warbler
A. schoenobaenus

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 0
Probable 1 Total 3 (2% of squares surveyed)



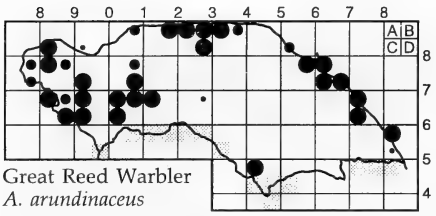
Marsh Warbler
Acrocephalus palustris

Nos. of 5-km squares with breeding evidence:
Possible 14 Confirmed 17
Probable 15 Total 46 (34% of squares surveyed)



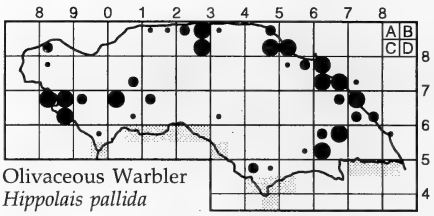
Reed Warbler
Acrocephalus scirpaceus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 2
Probable 5 Total 8 (6% of squares surveyed)



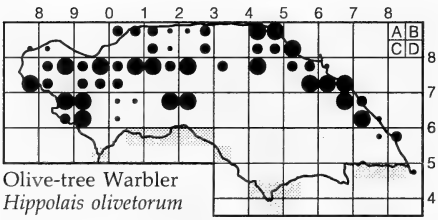
Great Reed Warbler
A. arundinaceus

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 25
Probable 8 Total 36 (26% of squares surveyed)



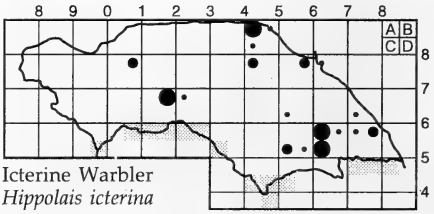
Olivaceous Warbler
Hippolais pallida

Nos. of 5-km squares with breeding evidence:
Possible 12 Confirmed 14
Probable 12 Total 38 (28% of squares surveyed)



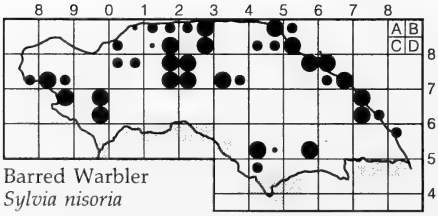
Olive-tree Warbler
Hippolais olivetorum

Nos. of 5-km squares with breeding evidence:
Possible 12 Confirmed 20
Probable 22 Total 54 (39% of squares surveyed)



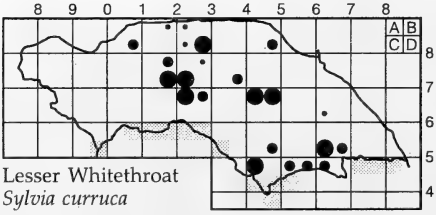
Icterine Warbler
Hippolais icterina

Nos. of 5-km squares with breeding evidence:
Possible 9 Confirmed 4
Probable 5 Total 18 (13% of squares surveyed)



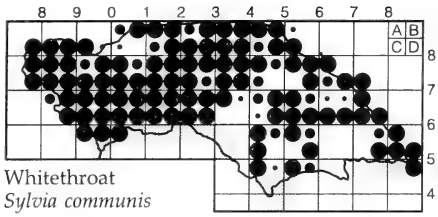
Barred Warbler
Sylvia nisoria

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 21
Probable 16 Total 40 (29% of squares surveyed)



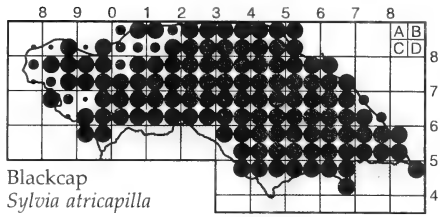
Lesser Whitethroat
Sylvia curruca

Nos. of 5-km squares with breeding evidence:
Possible 5 Confirmed 8
Probable 10 Total 23 (17% of squares surveyed)



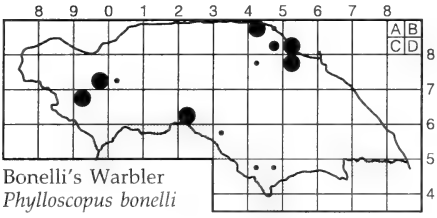
Whitethroat
Sylvia communis

Nos. of 5-km squares with breeding evidence:
Possible 8 Confirmed 92
Probable 17 Total 117 (85% of squares surveyed)



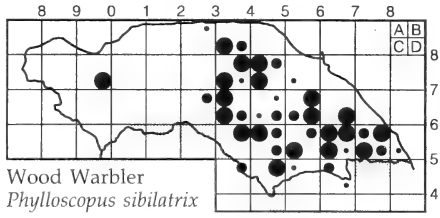
Blackcap
Sylvia atricapilla

Nos. of 5-km squares with breeding evidence:
Possible 6 Confirmed 117
Probable 11 Total 134 (98% of squares surveyed)



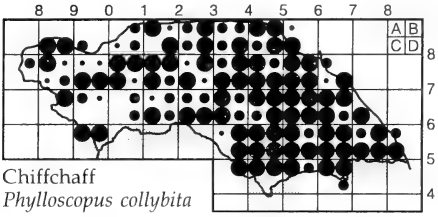
Bonelli's Warbler
Phylloscopus bonelli

Nos. of 5-km squares with breeding evidence:
Possible 6 Confirmed 6
Probable 1 Total 13 (9% of squares surveyed)



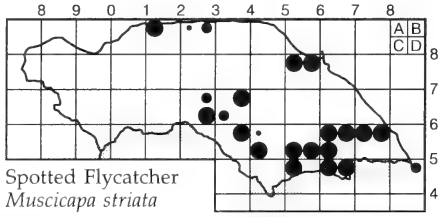
Wood Warbler
Phylloscopus sibilatrix

Nos. of 5-km squares with breeding evidence:
Possible 9 Confirmed 20
Probable 13 Total 42 (31% of squares surveyed)



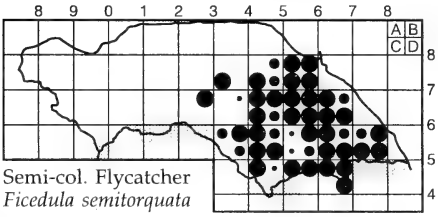
Chiffchaff
Phylloscopus collybita

Nos. of 5-km squares with breeding evidence:
Possible 14 Confirmed 75
Probable 31 Total 120 (88% of squares surveyed)



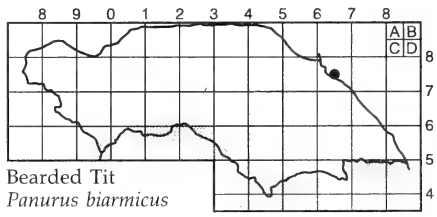
Spotted Flycatcher
Muscicapa striata

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 17
Probable 4 Total 23 (17% of squares surveyed)



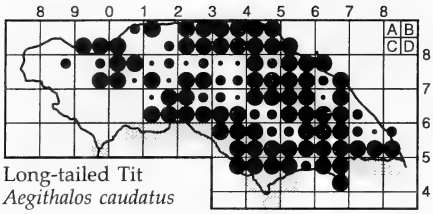
Semi-col. Flycatcher
Ficedula semitorquata

Nos. of 5-km squares with breeding evidence:
Possible 4 Confirmed 34
Probable 10 Total 48 (35% of squares surveyed)



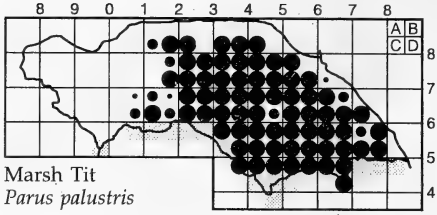
Bearded Tit
Panurus biarmicus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 0
Probable 1 Total 1 (1% of squares surveyed)



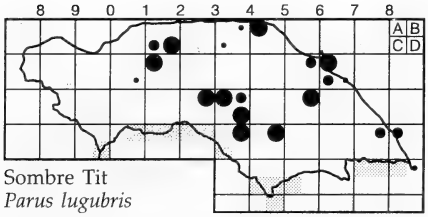
Long-tailed Tit
Aegithalos caudatus

Nos. of 5-km squares with breeding evidence:
Possible 10 Confirmed 73
Probable 20 Total 103 (75% of squares surveyed)



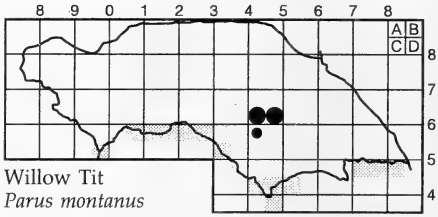
Marsh Tit
Parus palustris

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 67
Probable 8 Total 78 (57% of squares surveyed)



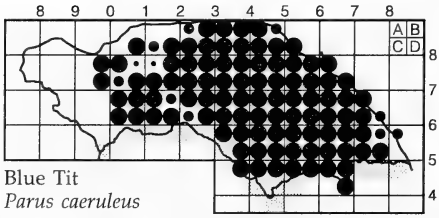
Sombre Tit
Parus lugubris

Nos. of 5-km squares with breeding evidence:
Possible 5 Confirmed 10
Probable 6 Total 21 (15% of squares surveyed)



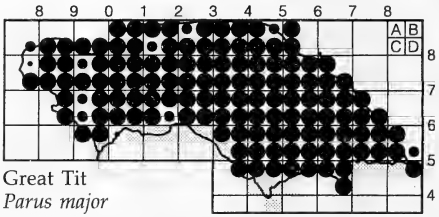
Willow Tit
Parus montanus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 2
Probable 1 Total 3 (2% of squares surveyed)



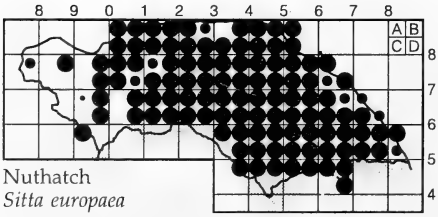
Blue Tit
Parus caeruleus

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 93
Probable 9 Total 104 (76% of squares surveyed)



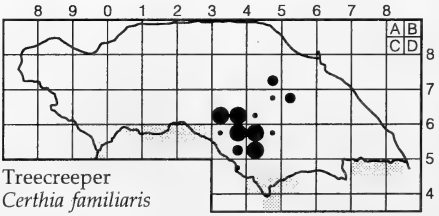
Great Tit
Parus major

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 124
Probable 9 Total 135 (99% of squares surveyed)



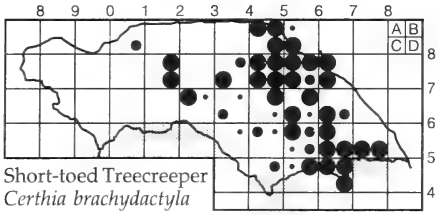
Nuthatch
Sitta europaea

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 104
Probable 9 Total 114 (83% of squares surveyed)



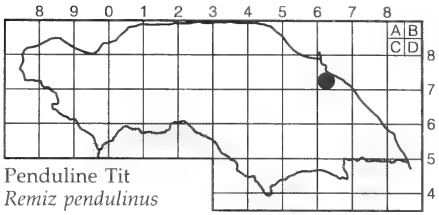
Treecreeper
Certhia familiaris

Nos. of 5-km squares with breeding evidence:
Possible 5 Confirmed 5
Probable 3 Total 13 (9% of squares surveyed)



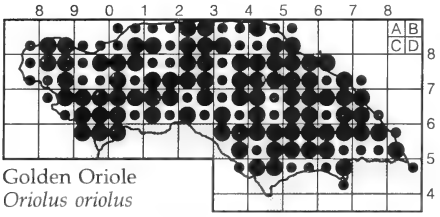
Short-toed Treecreeper
Certhia brachydactyla

Nos. of 5-km squares with breeding evidence:
Possible 9 Confirmed 31
Probable 9 Total 49 (38% of squares surveyed)



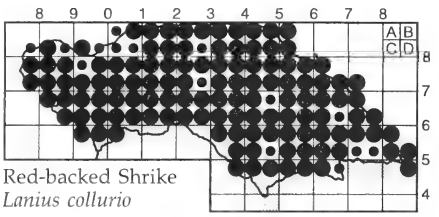
Penduline Tit
Remiz pendulinus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 1
Probable 0 Total 1 (1% of squares surveyed)



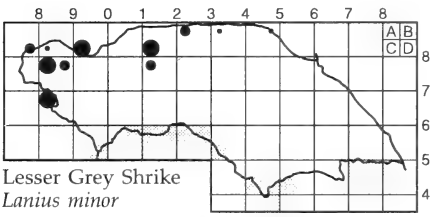
Golden Oriole
Oriolus oriolus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 85
Probable 51 Total 136 (99% of squares surveyed)



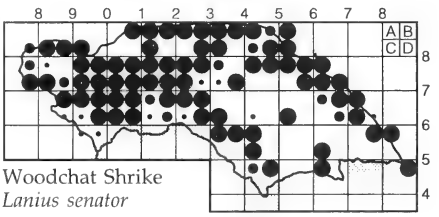
Red-backed Shrike
Lanius collurio

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 121
Probable 15 Total 136 (99% of squares surveyed)



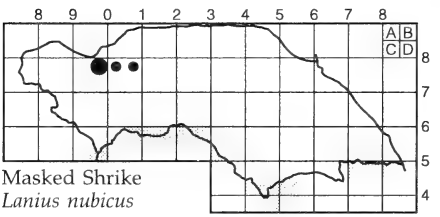
Lesser Grey Shrike
Lanius minor

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 4
Probable 4 Total 11 (8% of squares surveyed)



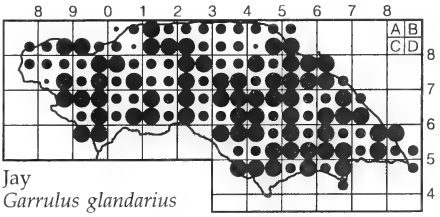
Woodchat Shrike
Lanius senator

Nos. of 5-km squares with breeding evidence:
Possible 11 Confirmed 70
Probable 11 Total 92 (67% of squares surveyed)



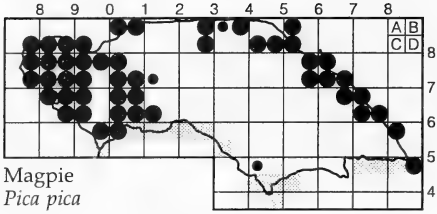
Masked Shrike
Lanius nubicus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 1
Probable 2 Total 3 (2% of squares surveyed)



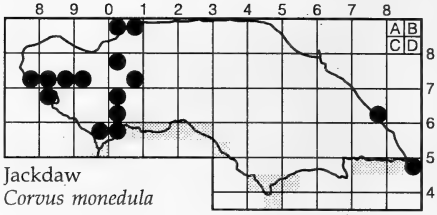
Jay
Garrulus glandarius

Nos. of 5-km squares with breeding evidence:
Possible 4 Confirmed 67
Probable 60 Total 131 (96% of squares surveyed)



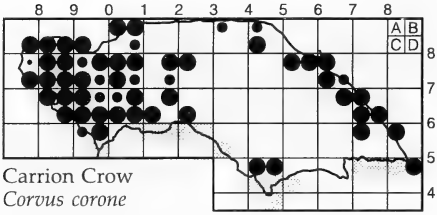
Magpie
Pica pica

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 48
Probable 3 Total 51 (37% of squares surveyed)



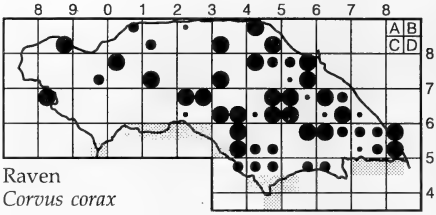
Jackdaw
Corvus monedula

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 15
Probable 0 Total 15 (11% of squares surveyed)



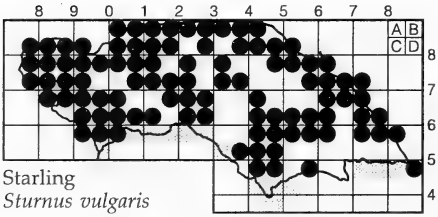
Carrion Crow
Corvus corone

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 45
Probable 11 Total 57 (42% of squares surveyed)



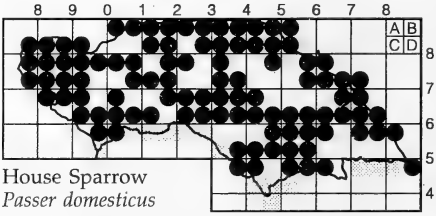
Raven
Corvus corax

Nos. of 5-km squares with breeding evidence:
Possible 8 Confirmed 27
Probable 17 Total 52 (38% of squares surveyed)



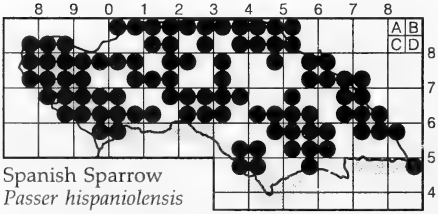
Starling
Sturnus vulgaris

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 94
Probable 0 Total 94 (69% of squares surveyed)



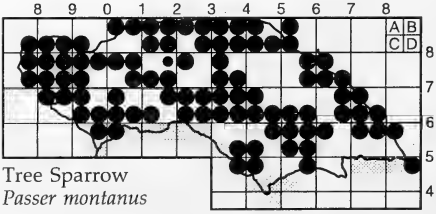
House Sparrow
Passer domesticus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 98
Probable 0 Total 98 (72% of squares surveyed)



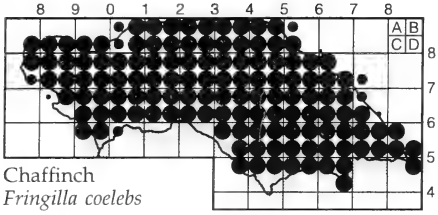
Spanish Sparrow
Passer hispaniolensis

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 93
Probable 0 Total 93 (68% of squares surveyed)



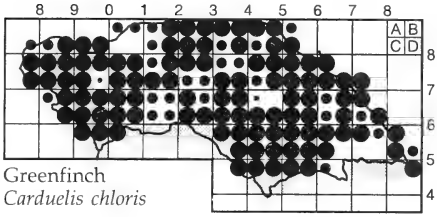
Tree Sparrow
Passer montanus

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 89
Probable 1 Total 90 (66% of squares surveyed)



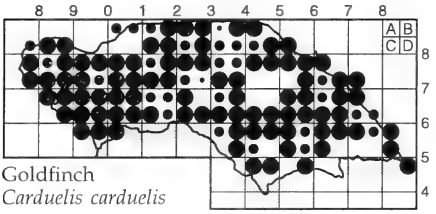
Chaffinch
Fringilla coelebs

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 127
Probable 7 Total 136 (99% of squares surveyed)



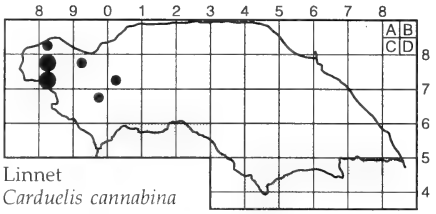
Greenfinch
Carduelis chloris

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 100
Probable 27 Total 129 (94% of squares surveyed)



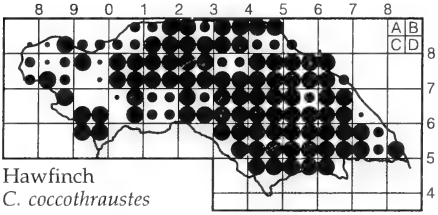
Goldfinch
Carduelis carduelis

Nos. of 5-km squares with breeding evidence:
Possible 2 Confirmed 86
Probable 27 Total 115 (84% of squares surveyed)



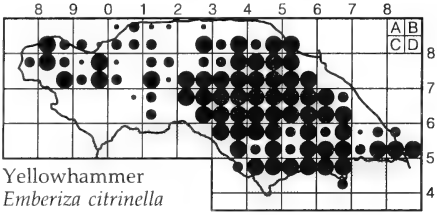
Linnet
Carduelis cannabina

Nos. of 5-km squares with breeding evidence:
Possible 0 Confirmed 2
Probable 4 Total 6 (4% of squares surveyed)



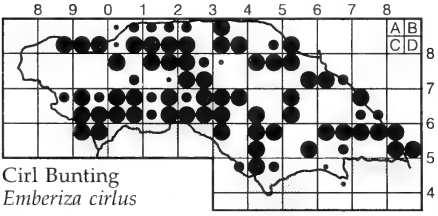
Hawfinch
C. coccothraustes

Nos. of 5-km squares with breeding evidence:
Possible 7 Confirmed 87
Probable 25 Total 119 (87% of squares surveyed)



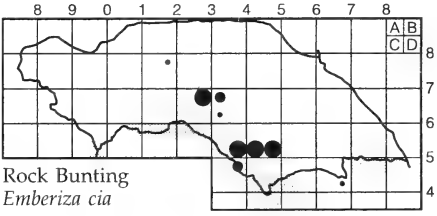
Yellowhammer
Emberiza citrinella

Nos. of 5-km squares with breeding evidence:
Possible 10 Confirmed 60
Probable 28 Total 98 (72% of squares surveyed)



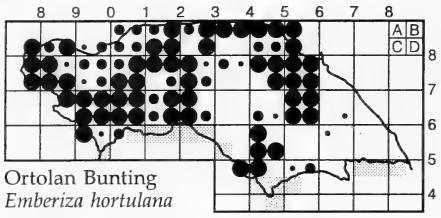
Cirl Bunting
Emberiza cirlus

Nos. of 5-km squares with breeding evidence:
Possible 6 Confirmed 56
Probable 18 Total 80 (58% of squares surveyed)



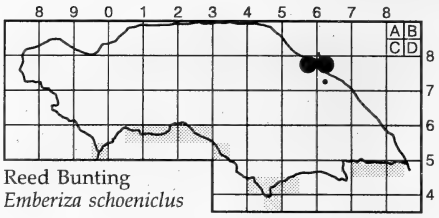
Rock Bunting
Emberiza cia

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 4
Probable 2 Total 9 (7% of squares surveyed)



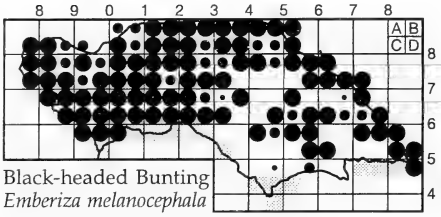
Ortolan Bunting
Emberiza hortulana

Nos. of 5-km squares with breeding evidence:
Possible 10 Confirmed 55
Probable 23 Total 88 (64% of squares surveyed)



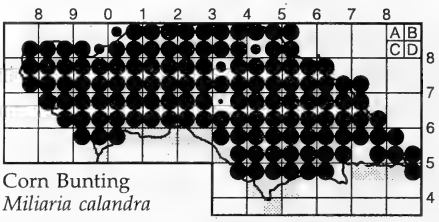
Reed Bunting
Emberiza schoeniclus

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 2
Probable 0 Total 3 (2% of squares surveyed)



Black-headed Bunting
Emberiza melanocephala

Nos. of 5-km squares with breeding evidence:
Possible 3 Confirmed 85
Probable 21 Total 109 (80% of squares surveyed)



Corn Bunting
Miliaria calandra

Nos. of 5-km squares with breeding evidence:
Possible 1 Confirmed 129
Probable 4 Total 134 (98% of squares surveyed)

ACKNOWLEDGEMENTS

My most cordial thanks go to the late Dr Simeon Simeonov and to Dr Tanu Michev for their valuable advice and guidance during the preparation of this work. I would hardly have succeeded in my field trips in the mountains without the help I received from my friends Ursula Georgieva, the late Vasil Marinov, Raicho Raichev, and Lubomir Ganchev. My sincere thanks go to them as well.

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Sandgrouse (1994) 16: 28–31.

A description of the Middle Eastern black morph of Mourning Wheatear *Oenanthe lugens* from museum specimens

ALAN TYE

Summary Descriptions are given of two specimens of the black morph of Mourning Wheatear *Oenanthe l. lugens*, from Jordan and (allegedly) Egypt, discovered in the collections of the British Museum (Natural History). They differ from the black *opistholeuca* morph of Eastern Pied Wheatear *O. picata* (with which the form was formerly confused) especially in having broad white fringes to the flight-feathers; the undertail coverts differ from typical Mourning Wheatear in being white rather than salmon-pink.

THE BASALT DESERTS of north-east Jordan and southern Syria are home to a black form of the Mourning Wheatear *Oenanthe lugens*. The birds were first referred to Eastern Pied Wheatear *O. picata* by their discoverers and others (Macfarlane 1978; Clarke 1981; Wallace 1983a, b) but were later assigned to *O. lugens* by L. Cornwallis (Cramp 1988). The form is not a true geographical subspecies, as it occurs sympatrically with the 'normal' form of the local race *O. l. lugens* and the two forms sometimes interbreed (Cramp 1988). However, they are apparently largely separated by habitat, with the black morph occupying basalt desert and the typical form, in the same area, found mainly on desert chalk cliffs and shrubland (Wallace 1983a). This is analogous to the situation in the Desert Lark *Ammomanes deserti*, where the so-called race '*annae*' is actually a well-marked dark morph which occupies the black lava deserts of the Middle East. In northern Saudi Arabia (Harat al-Harar) these breed alongside more typical individuals which inhabit lighter-coloured habitat patches (e.g. sand, silt) among the lava fields (pers. obs.). In Jordan the black morph of *O. l. lugens* is found in the same habitat, alongside the *annae* form of Desert Lark.

O. l. lugens had hitherto been regarded as monomorphic, although other races of the species are polymorphic. The species is the most polytypic wheatear, with eight races, of which several exhibit polymorphism and/or sexual dimorphism (Tye 1989).

Until now, all descriptions of the black morph of *O. l. lugens* have been based on field observations and it was thought that no specimens existed in museum collections. However, I describe here two specimens of the morph, discovered among the collections of the British Museum (Natural History) at Tring, UK, where they had been wrongly classified as the dark '*opistholeuca*' morph of Eastern Pied Wheatear *O. picata*. Specimens have now also been located in Jordan (Andrews 1994). There are apparently no specimens of this form in the American Museum of Natural History, New York (S. Keith in litt.).

THE SPECIMENS

Specimen 1947.14.214

This is a bird shot by W. K. Bigger at 'Aneizeh, Transjordan' on 9 November 1926. The locality is probably Jabal Aneiza ('Unayzah), which now forms the point where Jordan, Iraq, and Saudi Arabia meet (32°15′N 39°15′E). The mountain lies outside the present breeding range of the dark morph birds, within an area of pale limestone hills 100 km east of the basalt desert (I. J. Andrews *in litt.*). The bird is in light moult, with the flight-feathers slightly worn and the tail partly new. It was labelled as a female by the collector, who stated that the ovary was small. This had been thought (almost certainly wrongly) by later museum staff to be an error, when the bird had been referred to the *opistholeuca* morph of Eastern Pied Wheatear, since the females of that form are duller and browner than the specimen in question. At first glance, the specimen matches *opistholeuca* males quite well, but a closer examination reveals fundamental differences. Below follows a description of the specimen, with differences from male *opistholeuca* pointed out.

The entire body plumage is black (actually a very dark brownish-black), except for the upper- and undertail coverts which are white. There is no trace of the salmon-pink present on the undertail coverts of typical *O. l. lugens* (as well as on other races of the species). The flight-feathers and wing-coverts are very dark brown, with greater primary coverts tipped white, producing a narrow bar on the closed wing (this is rarely present in *opistholeuca*, perhaps only in immatures, but it is a feature of the fresh plumage of typical *O. l. lugens*). The basal half to two-thirds of the inner webs of the primaries and the basal two-thirds of the inner webs of the secondaries are broadly fringed white, but on the primaries the white does not reach the shaft. The white is not so extensive as in the wing-patch of typical *O. l. lugens*; however, none of the three morphs of Eastern Pied Wheatear shows a white patch at all, although the wing-feathers may appear rather silvery-grey below and the inner webs of the primaries may occasionally show a narrow buff fringe. The tail-feathers are basally white, with three-quarters of the central pair black (rather more than in typical *O. l. lugens*, which normally has half black), the black extending up the shaft (Figure 1); this pattern is sometimes shown by both Eastern Pied

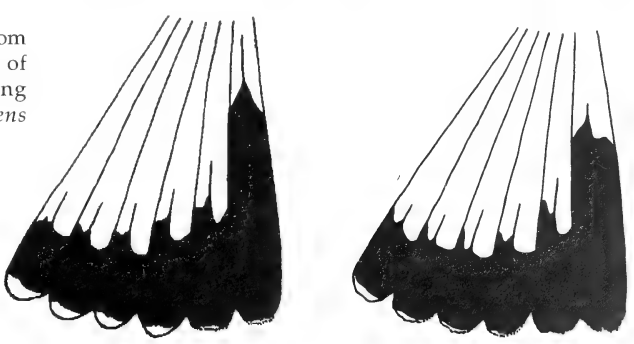

Figure 1. Left half-tails (from above) of two specimens of black morph Mourning Wheatear *Oenanthe lugens lugens*. (*Hilary Tye*)

and by typical Mourning Wheatears, in which there is wide variation in the detail of the shape of the junction between the black and white portions of the feather. The other tail-feathers have the terminal quarter black (in Eastern Pied and typical *O. l. lugens* they are one-fifth black), with a pattern as shown in Figure 1. All the tail-feathers are tipped white, a character more evident in typical *O. l. lugens* than in any morph of Eastern Pied which has the tips narrower and often buff. The bird's measurements are wing 94 mm, tail 62 mm, bill 19 mm, tarsus 24 mm.

Specimen 81.5.1.933

This is an unsexed bird supposedly collected in Egypt, though it comes from the collection of John Gould whose localities are often erroneous. From the accession date it was evidently collected before May 1881, although no date is given on the label. It closely matches the description given above for 1947.14.214, except that it is in more worn and faded (browner) plumage. There is no white visible on the wing-coverts, which are worn, and the white tips to the tail-feathers are nearly worn off. The pattern of black and white on the tail is shown in Figure 1. The central pair of tail-feathers has its terminal two-thirds black and the outers have one-fifth black, as in typical Eastern Pied Wheatear and *O. l. lugens*. The wing is 93 mm, tail 62 mm, bill 19 mm, and tarsus 25 mm.

Identification

The difference of these two specimens from *opistholeuca* Eastern Pied lies mainly in the wing, whose pattern matches that of *O. l. lugens*. The specimens are too small to be Black Wheatears *O. leucura* and the tail pattern prevents them from being referred to White-crowned Black Wheatear *O. leucopyga* (see Cramp 1988). It seems that these two specimens refer to the black morph of *O. l. lugens*. They closely match descriptions based on field notes given in Cramp (1988), although earlier observers (e.g. Wallace 1983b) missed the white wing-patch, which can be difficult to see on typical *O. l. lugens* under many field conditions. The absence of salmon-pink on the undertail coverts, thus differing from other forms of Mourning Wheatear, is also notable.

RANGE AND MOVEMENTS

Neither of the BMNH specimens is known to have been obtained within the breeding range, although 1947.14.214 may have been, if some latitude is allowed to the locality name. Though allegedly obtained in Egypt, specimen 81.5.1.933 may actually have come from within or close to the breeding area, given the very different political boundaries in the mid-19th century and the uncertainty attached to Gould's localities. However, there remains a possibility that the population undertakes some seasonal movement although there are still no definite records outside the breeding range. Clarke's (1981) sightings 'south' of the basalt shield in June and September were actually very close to it (I. Andrews *in litt.*).

SYSTEMATICS

The black morph of *O. l. lugens* emphasizes the phylogenetic link between Mourning and Eastern Pied Wheatears. The two were already thought to be close relatives, comprising a superspecies together with Finsch's Wheatear *O. finschii* (Tye 1989), and this supposition is reinforced by the fact that Mourning Wheatear, in a race geographically close to Eastern Pied, has a morph so closely resembling the *opistholeuca* morph of Eastern Pied.

It seems clear that the black form is simply a morph, rather than a subspecies, as there is broad overlap in the ranges of the black and typical forms, the two occasionally interbreed, and intermediates are not known. For this reason, the black form does not deserve its own subspecific name.

ACKNOWLEDGEMENTS

I thank Mike Evans and Duncan Brooks for believing my possible sighting of a black *lugens* in northern Saudi Arabia more than I did myself, thereby stimulating the production of this note; also the staff of the British Museum (Natural History) at Tring for access to specimens and Hilary Tye for drawing the figure.

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Description and status of the black morph Mourning Wheatear *Oenanthe lugens* in Jordan

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Summary Descriptions are given of two specimens of the black morph of Mourning Wheatear *Oenanthe lugens* in the Jordan Natural History Museum, recently reidentified. Photographs of a live bird, apparently the first ever published, are included. In Jordan, black morph birds are restricted to the Al Harra basalt in the north and are not common. The main range of normal morph birds lies in the south-west of the country.

IN ADDITION to the specimens of black morph Mourning Wheatear *Oenanthe lugens* recently found by Tye (1994) in the British Museum (Natural History), I have discovered three specimens in Jordan, originally assigned to Black Wheatear *O. leucopyga* (Disi and Bouran 1987; Shafei 1988). One is in the Shaumari reserve museum at Azraq, and the other two, described below, are located in the extensive collection of the Jordan Natural History Museum at Yarmouk University in Irbid. I have also photographed one individual east of As Safawi.

THE SPECIMENS

Specimen no. 677 is a male collected 30 km west of As Safawi (at 32°09′N 36°47′E) on 27 January 1985. The whole of the body plumage is matt black with a slight brownish tinge, except for the white rump and upper- and undertail coverts. The extent of white on the tail is similar to Eastern Pied Wheatear *O. picata*, but the black on the underparts extends well behind the legs (as in Black Wheatear rather than as in the black *opistholeuca* morph of Eastern Pied). The black feathers bordering the undertail coverts are broadly tipped white. The wings are dark brownish-black with no pale tips to the coverts. The flight-feathers are worn, but paler terminal fringes to the inner primaries and secondaries remain, the latter also showing an off-white notch; the outer webs of p6–p8 (numbered outwards from innermost) are emarginated. The upperwing is dark, with slightly paler bases to the inner webs of the primaries and secondaries (much less extensive than in typical Mourning Wheatear). The underwing is off-white, becoming silvery on the primary- and secondary-tips (not as clean white or as extensive as in typical Mourning). The underside of the small outermost primary (p10) is all dark (white-based in typical Mourning). The underwing coverts are black. The tail is worn, except for three (apparently) partly grown outer tail-feathers on the left side only. A broad black terminal band to the tail has worn remnants of a white tip (up to 4 mm wide on the new feathers on the left). The central tail-feathers (t1) are black, the basal 8 mm being covered by the longest uppertail covert. The maximum extent of black in the

tail is as follows: t1 39 mm, t2 23 mm, t3 19/15 mm (outer/inner web), t4 16/14 mm, t5 15·5/15·5 mm, t6 19/17·5 mm. Approximate measurements: bill (to nostril) 10 mm, bill (to skull) 18·5 mm, tail 65 mm, wing 97 and 99 mm, tarsus 27 mm.

Specimen 678 (Plates 1–2), also a male, and collected with the previous one, is similar in all respects but for a white tip to the tail-feathers grading from 2 mm wide on the outer feathers to zero on the central pair.

Plates 1–2. Specimen (no. 678, Jordan Natural History Museum) of black morph Mourning Wheatear *Oenanthe lugens*, As Safawi (Jordan), January 1985. (*Ian J. Andrews*)

IDENTIFICATION

The detailed descriptions given above, personal field observations, and a review of the available literature show that the characteristics of the basalt wheatears are consistent and, in detail, unlike any other west Palearctic wheatear species or morph, although their basic plumage pattern is most similar to black morph Eastern Pied and to Black Wheatear. They differ from Eastern Pied Wheatear in wing pattern in flight, in having fewer primary emarginations (Cramp 1988), and in having more extensive black on the rear belly (see Clement 1987). Black Wheatear can be excluded due to its large-headed appearance, slightly bulkier size, and longer bill and tarsus (Wallace 1983); it also has p5–p8 emarginated (like Eastern Pied Wheatear) (Cramp 1988) and less white on the rump. In addition, both these species have duller and browner female plumages, while the basalt wheatears show no sexual dimorphism.

In direct comparison the basalt wheatears resemble typical Mourning Wheatear in structure (including the emargination of only p6–p8) but they differ in having a black crown, nape, rump, breast, and belly (white in typical Mourning), white under tail-coverts (salmon-pink in typical Mourning), less extensive white in the extended upper- and underwing, and a slightly wider terminal black tail-bar.

Plates 3–4. Black morph Mourning Wheatear *Oenanthe lugens*, As Safawi (Jordan), December 1990. (*Ian J. Andrews*)

DISTRIBUTION

The black morph Mourning Wheatears are essentially restricted to the outcrop of Al Harra basalt flows (Figure 1), but they are neither common nor ubiquitous. Most sightings come from the Azraq to Ar Ruwayshid road, where they frequent road cuttings, boulder piles and abandoned telegraph poles in addition to natural bluffs and the sides of wadis. Other observations are plotted on Figure 1. The birds are generally absent from the featureless, rolling, boulder fields, and none were seen at Ghadir Burqu', Umm al Jimal, or on a 100-km transect from Azraq to Ar Ruwayshid south of the main road (the route taken by R. Meinertzhagen in October 1922). Another species typical of this stony habitat is the dark Desert Lark *Ammomanes deserti annae*, while Bar-tailed Desert Lark *A. cincturus*, Thick-billed Lark *Rhamphocoris clotbey*, Temminck's Horned Lark *Eremophila bilopha*, and Hoopoe Lark *Alaemon alaudipes* were found specifically on the sandy and silty wadi fills between the boulder fields. Desert Wheatear *O. deserti* and Trumpeter Finch *Bucanetes githagineus* are also present.

There are two records of presumed non-breeding black morph birds on the southwest margin of the basalt: at Shaumari in February–March 1976 (Clarke 1981) and east of the Azraq–Umari road on 6 March 1992 (pers. obs.).

The range of the typical morph in Jordan (Figure 1) includes a population on low limestone escarpments and wadis in central Jordan and an isolated cluster of observations in limestone and flint country east of Azraq. Records of typical morph birds on the basalt outcrop are rare (6 out of a total of 31 personal sightings of Mourning Wheatears) and comprise four singles between Ar Ruwayshid and As Safawi on 22 September 1991 and a pair at Wadi Rajil on 19 April 1992 (pers. obs.).

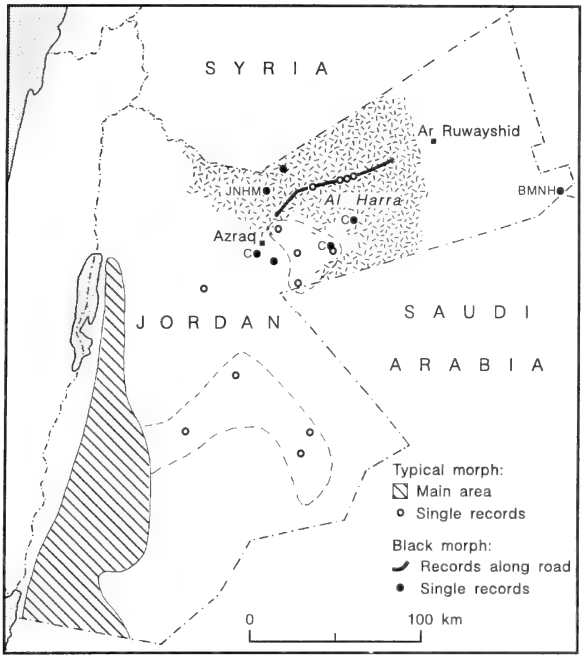

Figure 1. Distribution of Mourning Wheatear *Oenanthe lugens* in Jordan. The typical morph is mapped from personal observations during 1989–92. The black morph distribution is supplemented by records from Clarke (1981) (labelled C), the Jordan Natural History Museum specimens (labelled JNHM), and the British Museum specimen (labelled BMNH).

No mixed pairs (or intermediate morph birds) were observed, and interbreeding between morphs documented by L. Cornwallis (in Cramp 1988), which forms the basis of the argument for 'morph' status, may therefore be rarer than suggested.

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First records of Long-tailed Shrike *Lanius schach* in Israel and Turkey

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Summary An adult male Long-tailed Shrike *Lanius schach*, of the western race *erythronotus*, was identified on 26 January 1983 at Sede Boqer, southern Israel, having probably been present through the winter. A first-winter Long-tailed Shrike collected on 24 September 1987 near Birecik in south-east Turkey resembled *erythronotus*, but may have been from an undescribed population. Both records are the first for their countries and the second and third for the west Palearctic. Identification is discussed and a description (from skins) of the westernmost race is given.

AN ADULT MALE Long-tailed Shrike *Lanius schach* was located in Israel on 26 January 1983 at Sede Boqer Environmental School in the Negev mountains. Amir Ben Dov and YG were unable to identify the bird on the spot but described it over the telephone to Oz Horin who found a painting of Long-tailed Shrike in Woodcock (1980). This, together with the verbal description, enabled identification of the bird. It remained until the third week of February, being seen by many birdwatchers, and a number of photographs were taken. It appeared that the bird had been observed in the same place by birdwatchers from the school since November 1982, but was passed off as a strange-looking Red-backed Shrike *L. collurio*, possibly of an unknown race, until at last reported as such to ABD (Ben Dov and Golan 1983; Golan 1983). The following field description was compiled.

Plate 1. Adult male Long-tailed Shrike *Lanius schach erythronotus*, Sede Boqer (Israel), January 1983. (*Shachar Navot*)

Size and structure. A large shrike, comparable in size and structure to Lesser Grey Shrike *L. minor* and Great Grey Shrike *L. excubitor*. Tail longer in proportion to the body, and more graduated. Bill proportionately thicker, thus appearing slightly shorter than in those species. Wings shorter and more rounded with shorter primary projection (about half length of tertials). Nostrils round or slightly elliptical, large enough to allow light through both nostrils when seen in profile.

Head. Black mask through lore and ear coverts, together with grey crown, recalled adult Lesser Grey Shrike, but black forecrown narrower (about two-thirds of bill depth) with mask extending very slightly above eye. Black forecrown thinly edged pale sandy-grey at border with grey crown. Overall impression intermediate between

Lesser and Great Grey Shrikes. Crown, hindneck, and upper mantle grey. Chin whitish, tinged pale rufous. Throat white.

Underparts. Breast, belly, and vent white, suffused pinky- (or creamy-)buff. Light pinkish-cinnamon suffusion to breast-sides, becoming darker on flanks to side of vent and undertail coverts.

Upperparts. Grey hindneck and mantle, gradually merging through deepening shade of rufous-brown into dark rufous scapulars and back, becoming reddish-brown on rump. Pattern thus created was a dark horseshoe (or V) partially surrounding grey mantle, without clear-cut borders. Folded flight-feathers brownish-black, perhaps slightly faded through wear, narrowly edged rufous-brown. Secondaries tipped with faded russet 3–4 mm wide, creating relatively broad trailing edge to wing. Tertials dark brown, broadly fringed off-white. Small rectangular white patch at base of folded primaries, appearing in flight as clear white band across primaries. Underwing, seen only briefly in flight, appeared creamy-white on coverts and axillaries.

Tail. Uppertail black, narrowly fringed sandy-rufous. Central pair of feathers black, tipped sandy-rufous; all others greyer with distinct sandy-rufous edges and tips.

Bare parts. Bill, legs, and feet black. Iris black.

On 24 September 1987, while HS was studying *Sylvia* warblers in eastern Turkey, he trapped and collected a first-winter male Long-tailed Shrike in a wadi near Birecik in the south-east of the country. The skin now resides in the British Museum (Natural History) at Tring, specimen no. 1988.23.1, and is described as follows.

Size and structure. Similar to Israel bird.

Head. Mask through lore and ear-coverts grey-brown, not sharply demarcated, nor extending above eye. Narrow blackish line connecting lores above base of upper mandible. Crown pale grey but forehead paler and whiter, hindneck even paler grey. White extending from side of forehead as indistinct supercilium over ear-coverts. Chin, throat, and lower cheeks creamy-white.

Plate 2. First-winter Long-tailed Shrike *Lanius schach* (race undetermined), Birecik (south-east Turkey), September 1987. (*Hadoram Shirihai*)

Underparts. Predominantly creamy-white with some pale orange-buff on flanks and vent.

Upperparts. Pale grey hindneck and upper mantle, merging into paler tawny/buffy-grey on lower mantle and scapulars and becoming brighter orange-buff on back and rump. Some scapulars and lower mantle feathers showed narrow, pale brown subterminal bars. Folded flight-feathers moderately worn and bleached. Indistinct pale tips to inner primaries and narrow buff-brown fringes to secondaries. Tertials dark grey-brown, broadly edged buff. Lesser coverts dark brown and fresh, while primary coverts (of the same colour) were worn. Moderately worn median and greater coverts grey-brown with dark subterminal bars and pale sandy fringes, producing typical scaly juvenile pattern. Alula grey-brown, heavily worn and bleached. Very small whitish patch visible at base of primaries, just below longest primary covert. Underwing coverts and axillaries creamy-grey.

Tail. Central pair of feathers dark brown; others rufous-brown, inconspicuously edged and tipped pale buff.

Bare parts. Legs blackish. Culmen and tip of bill black. Cutting edges and about three-quarters of lower mandible pinkish-flesh. Iris and orbital ring dark brown.

Measurements and wing formula. Wing 89·5 mm, bill (to skull) 23 mm, bill depth 8·3 mm, tarsus 25·9 mm, tail 105 mm. Wing-tip p4; p2 equal to p7 and p8.

Both records constitute the first and, thus far, the only records for their countries, and there has been only one other in the west Palearctic—in Hungary on 21 April 1979 (Cramp and Perrins 1993). Elsewhere in the Middle East (excluding Iran, where breeding occurred in the past) the species has been recorded only in Oman: in February 1983 and 1984 at Salalah (Gallagher 1986), 31 December 1992 to 2 January 1993 on Masirah, and 21 January to 3 February 1994 at Al Khod (per Oman Bird Records Committee). Bundy *et. al.* (1989) mention an unconfirmed report from the Eastern Province of Saudi Arabia which may have been a Long-tailed Shrike. A record from the United Arab Emirates, previously under consideration (Richardson 1990), has now been rejected (J. Bannon pers. comm.).

The west Palearctic records lie 1,800–3,000 km west of the known breeding range which extends from south-central Kazakhstan and Turkmenia eastward through India and China to Indo-Malaya and New Guinea. Migrant northern populations winter in India, Burma, and Indochina, where some populations are largely resident (Cramp and Perrins 1993).

The Sede Boqer bird was an adult male, distinguished by its striking, bright, full adult plumage (with no immature feathers) including the distinct white patch on primary-bases and the diagnostic adult tail pattern; the primaries were only slightly worn, even during late winter, when a first-year would be heavily worn.

The bird from Birecik, in contrast, was a first-winter retaining some juvenile feathers (all greater and median coverts and some upperpart feathers); the tail and bill were also typical of a juvenile/first-autumn bird. It was considered a male, being relatively strongly coloured: first-winter females are usually less pure grey and bright rufous, tending to display juvenile features.

GENERAL IDENTIFICATION

Long-tailed Shrike is an unmistakable, large shrike (20–23 cm long), with short, rounded wings, but distinctly long, strongly graduated and narrow tail when

spread. Other west Palearctic *Lanius* can be ruled out by the combination of large size, structural features, and rufous on back and scapulars (chiefly in first-winter and onwards) reaching to uppertail coverts and (in varying degree) tail feathers. Subsidiary features include the short, deep bill and the white wing-patch restricted to the base of the primaries.

Description from specimens

The westernmost race, central Asian *erythronotus*, is described in the following.

Adult. Clear black facial mask extending onto forehead and above eye in male. Crown and nape grey. Upperparts rufous-orange (chiefly on scapulars and lower mantle to uppertail coverts). Wing-feathers are generally fresher and much blacker than the (much worn, faded, and browner) wing-feathers of any first-winter/summer at the same time of year. Small whitish patch at base of primaries and distinct black and rufous pattern on tail feathers (see description of Sede Boqer bird). Underparts whitish-cream with orange-buff/brown wash chiefly on flanks to undertail coverts. Female as male (sometimes inseparable), but black forehead usually narrower or absent; mask browner and less sharply defined or slightly mottled; general plumage rather less deep rufous, while wings and tail are relatively duller black. Both sexes may show diffuse pale grey/whitish supercilium. Bill largely black.

Juvenile. Easily distinguished, being much duller (predominantly brownish-grey) above. Less extensive and generally more indistinct mask (usually showing fulvous forehead and lores, and brownish ear-coverts). Dark subterminal bars and pale fringes to upperwing coverts and tertials. Underparts predominantly creamy with light fulvous chevrons on chest and flanks. Flanks often irregularly barred pale brown. No obvious pale patch at base of primaries. Tail mainly light rufous-brown, except for darker brown central feathers. Bill usually extensively flesh-pink on lower mandible.

First-winter. Acquired by head and body moult, begun at fledging and usually completed by late September. Wing much as juvenile, but worn and slightly faded. Rest of plumage approaches adult to variable extent, but mask browner and less complete (typically little or no black on forehead), also less rufous above, and scapulars and mantle may show some juvenile-like feathers. Bill as juvenile. For details of typical first-winter, see description of Birecik bird.

First-summer (one-year-old). Plumage becomes adult-like, acquired by moult of head, some or most wing coverts, and sometimes all tertials (similar to pre-breeding moult of adult). Many first-summer birds moult the tail and to a lesser extent the flight-feathers. In most cases, they can be separated from adults by retention of juvenile feathers (much worn but still exhibiting juvenile pattern), although more advanced birds show rather fresher feathers than do adults, contrasting with old ones.

The Sede Boqer bird was typical *erythronotus* which breeds from the Aral Sea to the Alma-Ata area, south through south-east Turkmenistan and the Pamirs to north-east Iran, Afghanistan, north and west Pakistan, and north-west India. This subspecies is migratory or partially migratory within much of its central and southern breeding range. The most closely related race is *laniceps* (Pakistan, India, and Sri Lanka), which in comparison is generally marginally larger, with paler grey of crown extending to lower mantle, and the rufous of mantle and scapulars very restricted. The remaining races (there are about ten others) are usually larger and/or have black extending onto the crown and sometimes onto the upper mantle; rufous on the mantle can also be more extensive.

Although the Birecik bird generally approached *erythronotus* in size and colour,

the wings, tail, and tarsus were quite notably shorter than the minimum range found among other specimens examined at the BMNH. The bill was obviously longer than in most other races while the plumage did not perfectly match any of the specimens at the BMNH, although this collection is rather small and does not fully cover the known variation within *erythronotus*. The possibility remains, however, that this bird represents an undescribed population of *erythronotus* or perhaps even a distinct, undescribed race. For comparisons, see Dementiev and Gladkov (1954), Vaurie (1959), and Cramp and Perrins (1993).

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Diurnal and nocturnal activity patterns of semi-captive Houbara Bustards *Chlamydotis undulata*

KARIM ANEGAY

Summary The diurnal and nocturnal activity patterns of a male and a female Houbara Bustard *Chlamydotis undulata* in a 4-km² enclosure in the Mahazat As Said Reserve of western Saudi Arabia were studied, over four full days, using activity transmitters. Bouts of activity occurred in the morning and late afternoon; during full-moon nights there was also a third major period of activity. The male was active for longer than the female during both day and night.

THE BIOLOGY of the Houbara Bustard *Chlamydotis undulata* is poorly known, and the continuing decrease in some populations of the species makes field observation increasingly difficult. In Saudi Arabia, the National Commission for Wildlife Conservation and Development started a captive breeding programme in 1986, and several studies have been carried out on the biology of this endangered species, mainly at the National Wildlife Research Center in Taif and in the reserve of Mahazat As Said. This report provides the first published data on the nocturnal activity of the Houbara.

METHODS

Four adult birds, caught in Pakistan in 1989, were released on 26 May 1991 into a 4-km² enclosure in the Mahazat As Said Reserve in west-central Saudi Arabia. They were pinioned to prevent them from leaving the fenced enclosure. The two birds involved in the study, a male and a female, were fitted with solar-powered transmitters (range 2 km) equipped with an activity module comprising a mercury switch which changes the pulse frequency of the transmitter depending upon the animal's activity. A resting bird produces a steady low signal (long pulse interval), but when it is moving the mercury switch is activated and irregular pulses with shorter intervals are

Plate 1. Male Houbara Bustard *Chlamydotis undulata* displaying, semi-captive, Taif (southwest Saudi Arabia). (*Xavier Eichaker*)

transmitted. Just outside the perimeter fence, a 10-m-high observation tower was equipped with a null-peak antenna system for radio-monitoring. Visual observations from this tower in parallel with signal analysis showed the irregularity of impulses to be a reliable indicator of the birds' feeding or running activity. Low-intensity activities such as slow walking could, however, be missed as this did not activate the back-mounted mercury switch.

Activity was recorded, during four 24-hr periods, by listening for one minute for the signal from one bird, then switching to the other bird for another minute, and so on. A slow regular signal during the whole minute was recorded as inactivity, whereas an irregular signal for several seconds in the minute was recorded as activity. The times of first and last recorded activity were based always on periods of at least ten minutes continuous activity; isolated signals were ignored.

Records were collected during four complete nights from just before sunset to the following morning (19.00–07.00 hrs). Day-time activity was also recorded during two 6-hr periods (07.00–13.00 hrs and 13.00–19.00 hrs); these were within one day of the night-time observations in order to have the same weather conditions and moon cycle (Table 1). Two full-moon nights and two dark nights were recorded. During each day of the study air temperatures were recorded by an automatic weather station.

Table 1. The four recording periods, with dates of data collection and state of the moon.

		Full moon		Dark night	
Night	19.00–07.00	1 July	28 July	5 August	11 August
Morning	07.00–13.00	3 July	27 July	4 August	11 August
Afternoon	13.00–19.00	30 June	29 July	6 August	12 August

RESULTS

There were two activity periods during daylight on each day of recording: in the morning just after sunrise and in the afternoon until just before nightfall. During full moon there was a third, night-time, period of activity (Table 2, Figures 1–2). Observations carried out in parallel with the monitoring showed that the diurnal activity consisted mostly of feeding.

Table 2. Activity and temperatures during the morning, afternoon and night-time activity periods of two semi-captive Houbara Bustards *Chlamydotis undulata*. Data are ranges over the two full-moon and two dark-night study periods (see text and Table 1).

	Morning		Afternoon		Night (full moon only)	
	Male	Female	Male	Female	Male	Female
Time of first recorded activity	05.02–05.18	05.01-05.38	16.17–16.52	16.54–16.57	21.46, 22.18	21.52
Time of last recorded activity	08.53–09.29	09.07–09.36	19.45–20.12	18.54–19.42	01.54, 02.35	01.58
Duration of activity (min)	190–211	102–146	125–164	36–68	129, 202	20, 62
Air temp. at first activity	23–27°C	23–27°C	37–41°C	37–41°C	29, 34°C	28°C
Air temp. at last activity	30–34°C	30–35°C	33–35°C	33–37°C	25, 28°C	25°C

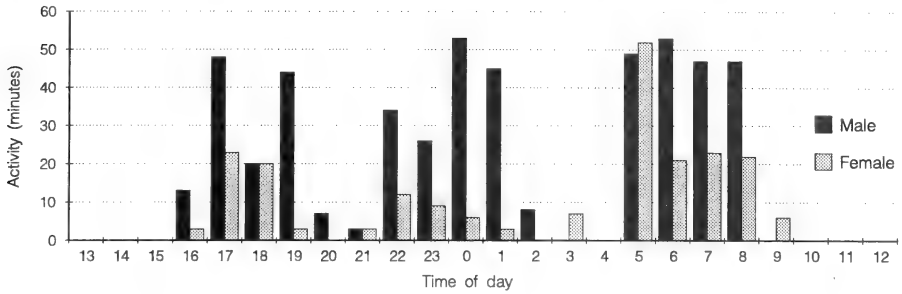

Figure 1. Activity pattern of two semi-captive Houbara Bustards *Chlamydotis undulata* during a 24-hr full-moon period. Data are hourly activity totals averaged over two full-moon periods (see text and Table 1).

Morning activity

Activity started almost exactly with the first morning light (judged as the time at which reading by daylight became possible): from 1 minute before to 3 minutes after, except on 11 August when the female started 20 minutes after first light. In the male there was no obvious difference in the duration of activity over the four morning study periods, though the female was less active on 3 July (102 minutes) compared with other days (123–146 minutes). The total duration of activity was lower for the female (average of 125 minutes) than for the male (average 200 minutes). In both birds, activity ceased when temperatures reached 30–35°C, well below the maximum values reached on the days of recording (37–41°C).

Afternoon activity

After the temperatures had passed their daily peak (reached between 14.53 and 15.48 hrs), activity started again at about 16.30 hrs and continued until darkness (about 19.50 hrs, judged as the time at which reading by daylight became impossible). Air temperatures at the beginning of this activity bout were still less than

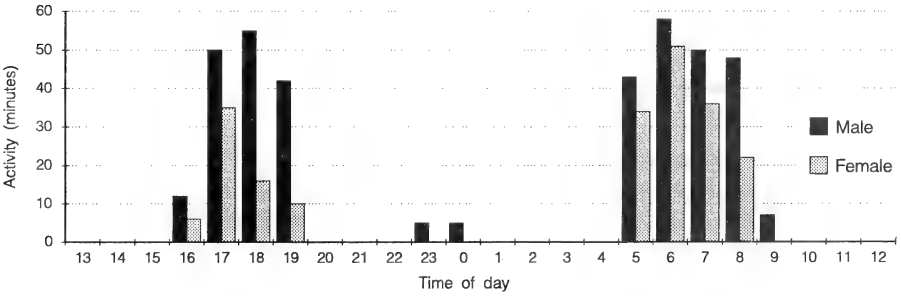

Figure 2. Activity pattern of two semi-captive Houbara Bustards *Chlamydotis undulata* during a 24-hr dark-night period. Data are hourly activity totals averaged over two dark-night periods (see text and Table 1).

Plate 1. Male Houbara Bustard *Chlamydotis undulata*, semi-captive, Taif (south-west Saudi Arabia). (*Xavier Eichaker*)

1°C below the maxima reached on the days of recording (38–42°C). The female's activity bouts were not all of similar length: on 30 June she was active for about half as long as on the other days. The male showed no obvious difference in the duration of his periods of afternoon activity and, again, the total activity time was substantially greater (approximately three times longer) in the male than in the female.

Nocturnal activity

On dark nights very little movement was recorded from either bird (a maximum total value of 20 minutes for the male on 5 August); no continuous activity of more than five minutes occurred.

The male's activity increased on full-moon nights, and the total duration of activity recorded on 1 July was the second-longest of all recorded periods. On 1 July he became active exactly as the moon rose (22.18 hrs), while on 28 July his activity started 13 minutes after moonrise (which was at 21.33 hrs).

The female was much less active than the male, showing an increase in activity on only one of the two full-moon nights (28 July), though this was equivalent to only about half of the shorter of the male's full-moon activity periods.

DISCUSSION

Several sources indicate that the Houbara Bustard is, during both spring and summer, active in early morning and late afternoon with a long resting period during

the hot midday hours (Glutz von Blotzheim *et al.* 1973; Collins 1980; Ponomareva 1983; Paz 1987; Symens 1987; Hinz and Heiss 1989; Launay 1990; Launay and Paillat 1990; Gaucher 1991). Surahio (1985) described the Asian race *macqueenii* as crepuscular, and Mian and Surahio (1983) even claimed it to be nocturnal in summer, though no reliable observations seem previously to have been made on the night-time activity of the species.

In this study, light and temperature appeared to be the main factors determining whether or not the Houbaras were active. There was a striking coincidence between the birds' activity and both the onset of daylight and the existence of moonlight. The little activity that occurred on dark nights may have corresponded to comfort behaviour such as preening. Although the birds' midday rest period included the hottest hours, activity resumed when temperatures had barely fallen (and were still as high as 41°C), although they decreased quite rapidly as evening approached.

Overall the male was active for almost twice as long as the female, but the present data give no reason for supposing that the observed difference was other than a reflection of individual variation rather than being due to any consistent sexual factors.

Both the number of birds and the duration of observations in this study preclude definitive conclusions. Further work would benefit from automatic activity monitoring, allowing a representative number of birds of both sexes to be followed through a full seasonal cycle.

ACKNOWLEDGEMENTS

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• *Paul Goriup has commented as follows.*

Other bustards known to be active at night include Crested Bustard *Eupodotis ruficrista* and Black Bustard *E. afra* of Africa (mainly males vocalizing), and Little Bustard *Tetrax tetrax* (displaying). Others, such as Denham's Bustard *Neotis denhami* and Great Indian Bustard *Ardeotis nigriceps*, seem never to have been seen moving at night, despite the existence of some good studies on them. The migratory populations of Houbara in Asia certainly move by night.

NOTES

Two breeding records of Alpine Swift *Apus melba* in Arabia

MICHAEL C. JENNINGS

ALPINE SWIFTS *Apus melba* have been recorded from all parts of Arabia but regularly only from the highlands of western Saudi Arabia and Yemen (where the species is presumed to be a widespread breeding bird) and from the granite regions of north-central Saudi Arabia (Figure 1). Despite breeding being widely suspected in western Arabia, there appears until now to have been no confirmed breeding record from anywhere in Arabia. This is probably due to the poor accessibility and patchy observer coverage of the western Arabia highland areas at the time Alpine Swifts are likely to be breeding.

During a survey for the *Atlas of the Breeding Birds of Arabia* (ABBA) in central Saudi Arabia in May 1990 (Jennings *et al.* 1992) I was surprised to find Alpine Swifts at two sites showing activity indicative of breeding. On 7 May 1990 at a granite inselberg near Kabshan (24°48·69′N 43°16·93′E), about 100 km west of Dawadimi, north of the Zalim road, I found them noisily entering and leaving a horizontal rock crevice protected by a slight overhang, situated about 20 metres above ground level on the sheer side of the inselberg. (Co-ordinates given here with minutes to two decimal places have been recorded on a long-range navigation device; other co-ordinates are estimated from maps.) I camped for the evening at

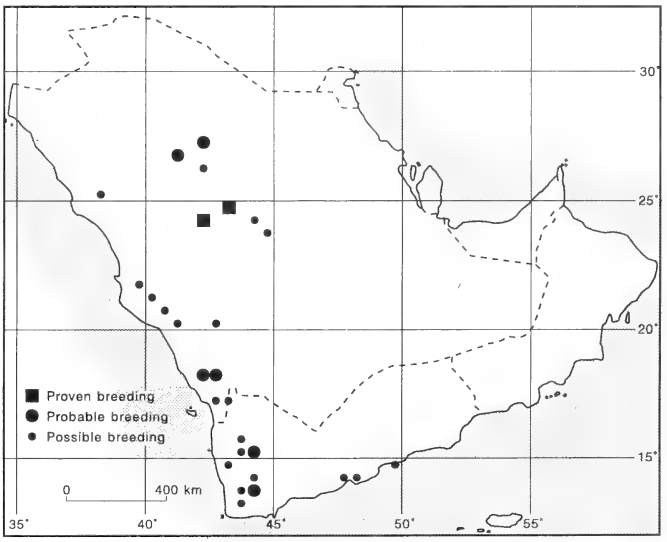

Figure 1. Breeding distribution of Alpine Swift *Apus melba* in Arabia (data from the *Atlas of the Breeding Birds of Arabia* in prep., mapped on the basis of half-degree squares). The records described in this note are shown as the only two squares with proven breeding.

the rock and had the nest site under observation from about 16.30 hrs until dusk and from dawn the next day until 08.00 hrs. I estimated that about 20 pairs were present, and individuals regularly entering and leaving the crevice suggested that they were feeding young. The colony was especially noisy when settling in to roost and before dawn.

On 9 May at another granite inselberg at Jabal Juthum (24°21·37′N 42°26·42′E), a second presumed nesting colony was discovered, of about eight pairs. It was similarly situated at a horizontal crevice with an overhang, about 40 metres above ground level on the sheer rock face. This colony was sharing the nesting crevice with Pallid Swifts *Apus pallidus* which also appeared to be breeding. Mixed colonies of these two species are mentioned by (Cramp 1985). Using a pocket altimeter, the base of both jabals was measured as being at an altitude of about 1,150 m.

The only other Alpine Swifts seen during the next 15 days of the survey were a presumed pair at Uglat as Suqur in Wadi Rima (25°48′N 42°12′E). During an ABBA survey the following year I saw a single bird at Ruwayidah (23°48′N 44°46′E) on 3 May (Jennings *et al.* 1992), and the only other record for this region of central Arabia is a single bird near Dawadimi (24°29′N 44°27′E) in May 1977 (pers. obs.). In addition there are a number of records from further north at Jabal Selma and Jabal Aja near Hail (pers. obs.). There have been no regular sightings to the east of these central regions, and sightings for eastern Arabia are mainly of single birds, probably migrants and stragglers but possibly including wintering birds from Iranian or other northerly populations. Records have come from the United Arab Emirates in April–May, August, and October (Richardson 1990), Oman in March and October (Gallagher and Woodcock 1980), eastern Saudi Arabia in January–April and September (Bundy *et al.* 1989), Bahrain in February–April (Nightingale 1984–90), and the Riyadh area in March–April and July–October (Stagg in prep).

The 1990 records are a minimum of 450 km north-east of the nearest place the species was previously assumed to be breeding in the western highlands. It seems that areas of Arabia producing regular observations of Alpine Swifts during the months of April to June deserve closer scrutiny, as diligent searching of suitable rocky sites may yield new breeding records.

ACKNOWLEDGEMENTS

I am grateful to the National Commission for Wildlife Conservation and Development for sponsorship of the ABBA project and logistic help during my field surveys. My thanks also go to other ABBA observers whose records have been used in the compilation of Figure 1.

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Nocturnal flight activity of Alpine Swift *Apus melba*

MICHAEL C. JENNINGS

NOCTURNAL activity away from roost sites is an aspect of the biology of Alpine Swift *Apus melba* which appears to be little studied, and the only reference I have traced is that they have been reported feeding at night on moths attracted to lights (Cramp 1985). That source also indicates that there is no evidence for aerial roosting (as is known for, e.g., Swift *A. apus*).

I have had three experiences of Alpine Swifts at night which I have taken to be feeding activities, and from this it would seem that in the south-west Arabian highlands they may, on occasion, be as active feeding at night as they are during the day. My first observation was on 12 March 1985 during a survey for the *Atlas of the Breeding Birds of Arabia* (ABBA) in the Asir province of Saudi Arabia near Suk al Ithnayn (18°02′N 42°44′E). Camping at the top of the Asir–Hedjaz escarpment, which lies at about 2,000 m at this point, beside a sheer cliff of approximately 80 m, I heard distinctive wing-beats and other flight sounds from just after dusk and during the night as unidentified birds flew over the edge of the cliff against a breeze. The sounds had a vibrating resonance and were clearly from a rapid and powerful wing-beat. Intermittent glides had an audible 'whooshing' quality and often produced a long whining sound at about the same pitch as the wing-beat of Mute Swan *Cygnus olor*. At this time I was not sure that these sounds were caused by Alpine Swifts, or even birds, but they were clearly too powerful for any bat and too noisy and frequent for any night predator such as an owl or nightjar. I suspected that Alpine Swifts were responsible as other swifts in the area were not known to me to have such powerful flight sounds. The audibility of their wing-beats was such that it seemed to me that the birds were certainly no more than 20 m above me, and probably much less, and flying at their normal (fast) feeding speed. At times birds flew over every few seconds and often several came together, or with gaps of a few minutes. The sounds continued to be heard in more or less total darkness for much of the night. No Alpine Swifts were to be seen in the area either at sunset or in the early morning.

I heard exactly the same flight sounds in total darkness during another ABBA survey (Jennings and al Salama 1989) on 4 July 1988 near Suq ar Rubu (20°45′N 40°50′E) in the southern Hedjaz and the next night near Jabal Ibrahim (20°28′N 41°05′E). On the third occasion birds were identified visually as dawn broke, streaming over my campsite and coming down to only 2 m above the ground.

All these observations were at or near the lip of the escarpment which runs north to south through south-west Arabia. Although the birds could not be seen when flying at night it seems that in each case the flight-path involved swooping down from some height behind the cliff, passing perhaps only 3–4 m above its edge, and continuing down from the cliff-top at the same angle of flight. No vocal sounds were heard during any of these observations, and only occasionally were Alpine Swifts seen in the localities before dusk or after dawn.

ACKNOWLEDGEMENT

I am grateful to the National Commission for Wildlife Conservation and Development for sponsorship of the ABBA project and logistic help during my field surveys.

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Notes on a feral population of Indian Silverbill *Euodice malabarica* in western Saudi Arabia

BRIAN S. MEADOWS

INDIAN SILVERBILL *Euodice malabarica* is an established introduced breeder in Arabia, mainly in the east of the peninsula (Figure 1). The industrial city of Yanbu al-Sinaiyah (24°N 38°20′E) on the Red Sea coast of Saudi Arabia was the first town in western Arabia at which a feral colony was reported (Baldwin and Meadows 1988), and subsequently a population has also become well established in Jiddah (pers. obs.) 350 km south of Yanbu. At Yanbu the population soon spread to the town of Yanbu al-Bahr, and birds also colonized at least five palm oases in the local hinterland of Yanbu al-Nahkl. This note summarizes various casual observations made in the Yanbu area since 1984.

Indian Silverbills do not occur in the adjacent *Acacia* steppe of the Tihamah, but appear to be restricted entirely to landscaped areas (gardens, mini-parks, tree shelter-belts) and cultivated land (open fields, palm oases). This is in contrast to the indigenous African Silverbill *E. cantans*, now also known to be present at Yanbu al-Nahkl (*Orn. Soc. Middle East Bull.* 25: 46), which occurs in both man-made and natural habitats. However, to date only Indian Silverbills have been found to penetrate deep within palm oases.

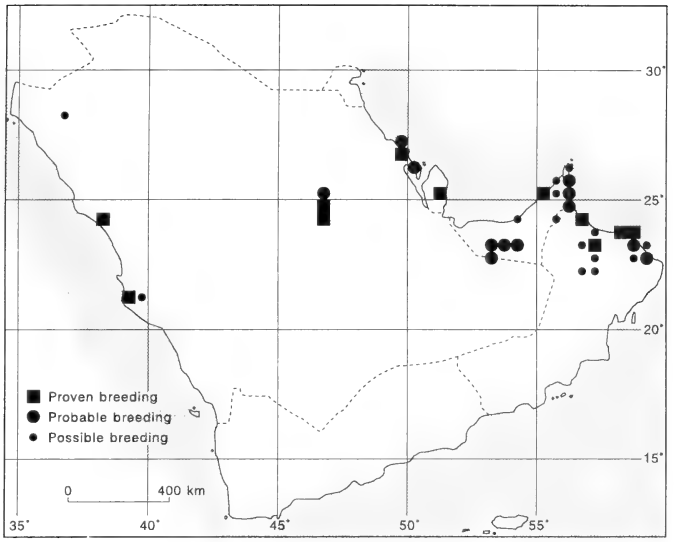

Figure 1. Breeding distribution of Indian Silverbill *Euodice malabarica* in Arabia (data from the *Atlas of the Breeding Birds of Arabia* in prep., mapped on the basis of half-degree squares).

During 1985–93 all the nests I have found have been in bushes or trees; none has been in crevices of buildings. A variety of trees is utilized, but the most favoured are *Eucalyptus camaldulensis*, *Casuarina cunninghamiani*, and *C. equisetifolia*. The last two are used as wind breaks and all of 16 nests found in these trees have been at a height of over 3·5 m. Other trees used include date palm *Phoenix dactylifera* and badamier *Terminalia catappa*. One low nest (1·5 m) in an evergreen shrub was in the central reservation of a busy road. The ball-like nests are usually built from pinnules of *Acacia* leaves, grass heads, and strips of palm fibre. Some nesting activity has been observed in all months of the year but breeding seems to peak during May–July and November–January.

Birds have been observed feeding on the heads of the grass *Cynodon dactylon* which is common beneath the canopy of palms, and which often grows profusely where mint is cultivated. Flocks often visit fields with grain crops, and birds visiting the local sewage oxidation pond regularly feed on seeds of reed *Phragmites*. In the community of the city they also visit bird tables.

From records of a distinctive partial albino bird within the landscaped area of the industrial city a home-range of

Plate 1. Indian Silverbill *Euodice malabarica*, Yanbu al-Sinaiyah (Saudi Arabia). (*R. Beltz*)

3 km^2 was estimated, but rural populations must range much more widely than this to judge from the flight-lines which birds can be seen taking. Birds normally use palms for roosting and most start to arrive within 30 minutes before sunset. They often roost in association with House Sparrows *Passer domesticus*. On one occasion I found birds roosting in an old nest, though most nests fall soon after use due to the frequent strong winds. Typical flock sizes differ between town and rural birds, flocks in Yanbu al-Sinaiyah rarely exceeding about 15 individuals (presumably family parties), while at Yanbu al-Nahkl flocks of 40–70 are not uncommon, especially at fields of rain-fed millet or on recently sown areas. Birds in flocks frequently use a 'zip-zip' call (Hollom *et al.* 1988) which is far less strident than the similar call of African Silverbill.

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First record of Lesser Flamingo *Phoenicopterus minor* in Egypt

P. A. LASSEY

ON 27 November 1992, J. M. Pearson, I. J. Willoughby and I were exploring the western shore of Lake Nasser, a few kilometres north of Abu Simbel, in southern Egypt. At 11.00 hrs a flamingo was located, and examination with a 30 × tripod-mounted telescope revealed it to be a Lesser Flamingo *Phoenicopterus minor*, a species new to Egypt (Goodman and Meininger 1989). The bird was watched in bright sunlight at a range of 200 m, and the following details were noted.

Size and structure. An obviously small flamingo, appearing proportionately shorter in both neck and legs than Greater Flamingo *P. ruber*. Bill shape differed subtly from that species, being shorter and deeper with a stronger downward curve to the upper mandible.

Plumage. Generally whitish, with faintest of dirty pink tinges. Upperwing coverts, largely concealed at rest, were seen to be blotchy pink when the bird preened. Black of the flight-feathers could also be seen on the closed wing.

Bare parts. At the distance involved the bill appeared uniformly dark/blackish, this colour extending onto the face as a narrow wedge. Legs appeared greyish with a pink tinge.

While feeding, it appeared more purposeful than its larger relative, skimming the water surface with sideways motions of neck and bill, likened by JMP to the action of Avocet *Recurvirostra avosetta*; the neck was never wholly submerged. A thorough search of the Abu Simbel area next day did not relocate the flamingo.

The bird clearly lacked the full pink tones of a typical adult, and at the time we concluded that it was a near-adult. Juvenile Lesser Flamingo is quite dark, becoming progressively whiter with age, before assuming the full pink coloration; immatures have a purple-brown bill with black tip. Subsequent research indicated worn adults can appear white, and this possibility cannot be discounted. Consideration was given to the unlikely possibility of an escaped species, but all other flamingos are larger, with a contrasting bill pattern of black tip and either a pink or orange basal area, although immature Greater Flamingo has a largely grey bill with a black tip.

Lesser Flamingo breeds principally in central and eastern Africa, although it has been found nesting in Mauritania. Birds disperse within the Rift Valley after breeding, and it is presumably from these populations that this individual originated. In Arabia, flocks of up to several hundred birds are regularly recorded at Aden and Hodeidah (Yemen), and the species is a vagrant to southern Oman (OBRC 1994). The problem of escaped birds obscures the situation in Europe, but records from Spain in 1966 and 1972, Mallorca in 1988, and France in 1989 are considered to be of genuine vagrants (Cramp and Simmons 1972; *Brit. Birds* 1990, 83: 9, 223).

In view of the geographical location of Abu Simbel and its increasing list of Afrotropical species, the occurrence of Lesser Flamingo is perhaps not unexpected.

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First record of Velvet Scoter *Melanitta fusca* in Kuwait

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ON 10 January 1992, at Jahra Pool in Kuwait, we had been watching a variety of waterbirds including several species of ducks (Shelduck *Tadorna tadorna*, Mallard *Anas platyrhynchos* and Shoveler *A. clypeata*) and waders. As we proceeded along the road that runs along the east side of the Reserve towards the reed bed a large duck took off very heavily from a small pool to our left, which was hidden by the reeds. The bird was seen in good light for only a minute or so and was soon lost to view because of the tall vegetation. It was thickset and about the size of a Mallard, an assessment of which we were confident, having been observing large ducks immediately beforehand. It appeared all-black except for a striking white panel on the wing formed by the secondaries, as follows.

Head. Looked all-black and rather heavy.

Upperparts. All-black apart from brilliant white elongated rectangle on the upperwing, confined to the secondaries. Tail short.

Underparts. Breast, belly, flanks, underwing, and undertail appeared black.

Bare parts. Colour of legs and feet not seen, nor was that of the bill.

As the bird disappeared from view a second one took off from the same spot, the sound of it getting airborne attracting our attention. This individual was the same general shape and size but was more grey-brown in colour. It too showed the brilliant white panels formed by the secondaries, though the high reeds again soon blocked it from view.

Head. Blackish-brown.

Upperparts. Very dark blackish-brown except for white wing panel as in first bird.

Underparts. Breast, belly, and flanks appeared mottled: whitish admixed with grey-brown.

Bare parts. Again, colour of legs and feet not seen, but bill was all dark (blackish).

We identified the first individual as a male Velvet Scoter *Melanitta fusca* and the second as a female or immature of the same species. Freshwater pools on the coast are not atypical habitat for lone or small groups of Velvet Scoter during winter. The nearest breeding areas of Velvet Scoter are in eastern Turkey and Armenia with some populations wintering in eastern parts of the Black and Caspian Seas (Cramp and Simmons 1977; Harrison 1982). There are records of this species and of Common Scoter *M. nigra* from Iran, both probably only as vagrants (Scott 1993). There are no confirmed records from the Arabian peninsula but an old and probably unreliable record of 'mass migration' on Bahrain in 1963 was listed by Strickland and Gallagher (1969). Elsewhere in the Middle East the species has been recorded as a vagrant in Israel and Egypt. There are four records from Israel, the most recent being in December 1992 (*Orn. Soc. Middle East Bull.* 30: 43), whilst from Egypt there are several, mainly old records from the Red Sea, the last having been at Suez in February–March 1982 (Goodman and Meininger 1989).

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We wish to thank the Assistant Editor, Guy Kirwan, for his helpful comments and for advising us of additional literature.

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First record of White-breasted Waterhen *Amaurornis phoenicurus* in Yemen

GUY KIRWAN

EARLY MORNING of 29 March 1993 found the OSME Yemen Expedition performing transect surveys at Wadi Hajr (14°10′N 48°45′E) on the south coast between Aden and Al Mukalla. I was scanning an area of cultivated ground north of a small dam when I noted a movement on the opposite side of the river below the dam. Suspecting a crake I was surprised to find that it was an adult White-breasted Waterhen *Amaurornis phoenicurus*, a species I was familiar with from the Indian subcontinent. The bird disappeared almost immediately under a large *Prosopis* tree but soon re-emerged in a small patch of *Typha* and I compiled a swift description. I soon summoned Keith Morton and Ken Shaw but by then the bird was no longer visible. In seeking to coax it back into view from the *Prosopis* where it was spending most of its time the bird was flushed across the river into much denser vegetation, affording KM and KS brief but conclusive views. It was not seen again. The following description is from my own notes with some additional comments from KM and KS.

Size, structure, and behaviour. Size about as Moorhen *Gallinula chloropus*, but appearing longer necked though otherwise of similar shape and bulk with tail often slightly cocked. Movements consisted of swift darting runs into vegetation (and along the open wadi edge). Escape flight short and rather fluttering, on short, rounded and comparatively deep-based wings.

Plumage. Upperparts, including nape, and rear of ear coverts to peak of crown, dark slate. Forecrown, face, and underparts down to upper belly clean white; rear flanks dark slate, rest of belly buffish merging into chestnut-red vent, richest on undertail coverts (noticeable on the ground and in flight).

Bare parts. Iris appeared all dark but not seen well. Bill similar in shape and size to Moorhen; very pale, slightly yellowish, with small red spot near tip, largely confined to lower mandible. Legs and feet quite long, yellowish-green, projecting well beyond tail in flight.

This is the first Yemeni record of this species, whose range extends west from Pakistan across the lowlands and foothills of south-east Asia east to Indonesia. The northern populations appear to move south for the winter, and perhaps in consequence there are a number of previous records from Arabia, comprising at least 13 from Oman (including five different birds between 25 October 1990 and 7 January 1991: *Orn. Soc. Middle East Bull.* 26: 62) and one from the United Arab Emirates (12 November to 6 December 1992: *Orn. Soc. Middle East Bull.* 30: 46).

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First Record of Oriental Pratincole *Glareola maldivarum* in Cyprus

J. A. ROWLANDS

DURING a birdwatching tour of Cyprus, myself, Mark Finn, and nine others were birding the Akrotiri/Phasouri area, south-west of Limassol, on 23 April 1993. At 11.30 hrs near the flooded grazing marsh and pools at Phasouri reedbed I located a flock of pratincoles *Glareola*, about 750 m away, descending from the sky. The birds continued to hawk insects over the marsh, and by the time we got closer they were also alighting on the edge of the water. MF located a Black-winged Pratincole *G. nordmanni* among the 15+ Collared Pratincoles *G. pratincola* present. Shortly afterwards MF also found another individual which initially appeared to be Black-winged, but as it flew directly in front of us it clearly showed reddish-brown underwing coverts. As we had all commented on the short-tailed appearance of this bird prior to seeing the underwing, I suggested that it could be an Oriental Pratincole *G. maldivarum*. The upperparts, however, appeared closer in tone to those of the Black-winged Pratincole, and at the time I believed Oriental Pratincole to be paler than this (from previous experience in Asia and the United Kingdom).

With the knowledge that Black-winged and Collared Pratincoles had hybridized (Cramp and Simmons 1983), and in view of the extreme rarity of Oriental Pratincole in the west Palearctic (Burns 1993), we were cautious of making an identification without access to further literature. The following description was taken.

Size and structure. Typical pratincole, with long, angular wings and graceful, buoyant flight. In direct comparison with Collared it was slightly smaller, with marginally shorter wings and much shorter tail. Overall more compact than Collared.

Upperparts. Crown, mantle, and upperwing coverts dark beige-brown, approaching tone of Black-winged and thus visibly darker than Collared. Coverts merged into blackish flight-feathers. Rump white. Tail showed broad black band and clear fork (not as deep as Collared).

Underparts. Typical pratincole throat pattern; creamy-buff throat surrounded by black line. Breast khaki-beige, extending to belly where merging into white vent. Underwing appeared uniformly black from many angles, but in direct light showed dark, deep, rusty-orange coverts (similar to Collared), contrasting with black flight-feathers and leading edge to wing. No white tips to secondaries/inner primaries. With light behind the wing, inner primaries looked slightly paler greyish-black, forming conspicuous 'window'. No bare part colours recorded.

The bird was watched down to about 50 m, feeding alone or in the company of Collared Pratincoles. After about ten minutes it towered into the sky with several Collareds and was not seen again.

On return to the UK, I realized from Hayman *et al.* (1986) that the bird had shown all the characteristics of Oriental Pratincole. The combination of short tail with shallower fork than Collared, the dark upperparts, rusty-orange underwing, and lack of white trailing edge to the secondaries confirmed the identification and ruled out a hybrid. The appearance of paler inner primaries may suggest that these were worn, retained juvenile feathers, suggesting that the bird may have been one year old. Subsequently (22 May 1993) I saw the Oriental Pratincole at Gimmingham, Norfolk, UK, and this appeared identical to the Cyprus bird.

This record is the third in the west Palearctic. Singles were recorded in the UK in Suffolk/Essex, June–October 1981, and in Kent, June–October 1988 (*Brit. Birds* 82: 521), and there is also the subsequent 1993 UK record. A bird was reported at Tenth Ramadan Sewage Ponds, Egypt, in April 1993, but no further details have been forthcoming. One was present in the United Arab Emirates in November 1992 (*Orn. Soc. Middle East Bull.* 30: 46). Oriental Pratincole breeds from India to eastern China, wintering from India to north-west Australia; eastern populations are more migratory than those in the west of the range (Hayman *et al.* 1986).

ACKNOWLEDGEMENTS

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First record of Black-winged Pratincole *Glareola nordmanni* in Yemen

C. D. R. HEARD

DURING a line transect on the Yemeni Tihamah at Al Qutay, between Bajil and Hodeidah, on the evening of 16 April 1993, three Black-winged Pratincoles *Glareola nordmanni* were observed by Alan Brown and myself. They appeared to arrive from the east before circling fairly low over some damp, bunded fields (the area was mostly dry cultivation) and then departing northwards. The birds were watched for about five minutes at ranges down to *c.* 100 m and for much of the time were sidelit, enabling both upper- and underwing patterns to be confidently established. Both observers had previous experience of Black-winged Pratincole, Collared Pratincole *G. pratincola*, and Oriental Pratincole *G. maldivarum*.

Structure and plumage. Typical pratincole appearance with white rump, forked black and white tail and long pointed wings. Upperparts very dark brown with no contrasts on the upperwing, and definitely no white trailing edge (on upper- or underwing). Underwing always appeared wholly black (even when the birds were circling at eye-level and when sidelit against a dark background), but not totally uniform, showing slightly paler bases to the primaries compared to the solidly black underwing coverts. Belly and vent whitish but breast washed grey-brown; buff throat patch sometimes detectable.

This is the first published record for Yemen. G. Simantel (*per* F. E. Warr) listed the species as a migrant or winter visitor for the country but supplied no details.

Black-winged Pratincole is described as a rare migrant in Saudi Arabia by Jennings (1981), and only seven records for the Eastern Province are given by Bundy *et al.* (1989). Elsewhere in Arabia there are six records for Oman (OBRC 1994), one recent record in Bahrain (Hirschfeld 1992), and the species is regarded as a scarce passage migrant in both Kuwait and Qatar (F. E. Warr pers. comm.).

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Occurrence and breeding of Malachite Kingfisher *Alcedo cristata* in Yemen

DAVID FARROW

AT about 07.00 hrs on 29 March 1993, while involved in the OSME Survey of Southern Yemen, I was walking down the east side of Wadi Hajar (14°10′N 48°45′E) just to the south of the main coast road from Aden to Al Mukallah, through an area of *Prosopis juliflora* trees. I noticed a small bird fly past across open ground, and before it disappeared among the trees I was able to identify it as a small kingfisher, perhaps Pygmy Kingfisher *Ceyx pictus* or Malachite Kingfisher *Alcedo cristata* as it had deep purplish-blue upperparts, rich orange underparts, and a reddish-orange bill. I searched the area for a better view of it, eventually locating it down on the edge of the river. The trees here were about 5 m high in places, very dense and thorny, making access to the river difficult. Eventually I had to wade into the river and was rewarded with close views of a Malachite Kingfisher.

Size and structure. About 75% of the size of Kingfisher *A. atthis*, but similarly proportioned. Bill at least as long as head. Legs and feet short. Tail was frequently pumped.
Upperparts. Mantle, rump, tail, and wings concolorous cobalt-blue. Crown and nape were the same colour with a series of bars composed of turquoise specks. Crown feathers appeared shaggy although the crest was not seen to be raised. Lore, supercilium, and cheek down to the shoulder was rich chestnut-orange. Rear part of supercilium reaching to nape was white, forming bright patches which almost met on nape.
Underparts. Breast to vent rich chestnut-red, washed out on central and lower part of breast. Neat white triangular patch on chin and throat.
Bare parts. Bill bright red with orange-red tint. Legs and feet bright red.

I returned to the site with other members of the expedition two hours later. A pair of Malachite Kingfishers was bringing food into the area but no nest was

found even though the birds appeared to be waiting to enter a nest and feed young. Perhaps disturbed by the presence of observers and passing farmers, one of the birds sat with a fish in its bill for more than five minutes before eating it. Possibly a hole was being excavated, as there was a small entrance 4 cm across in the sandy bank, 1 m above the waterline and below a thick tangle of *Prosopis*. At least one bird returned frequently to an overhanging bush that obscured part of the bank which may have held a nest.

This record is the first documented evidence of the occurrence of the species in Yemen, and the first evidence of breeding in the Arabian peninsula. Although Bates (1938) mentions a specimen collected by Boscawen at Wadi Kuhn, east of Tarim, on 16 February 1932, F. E. Warr (*in litt.*) suspects that a mistake may have occurred in labelling of Boscawen's East African and Arabian collections, which were never written up. A sight record north of Hodeidah on 4 April 1985 was reported without details by Mache *et al.* (1985).

The species occurs throughout the Afrotropics, excepting arid regions of the east and south. It is frequently recorded as far north as 15°N but does not reach the Red Sea coast (Fry and Fry 1992). In Somalia it is 'Locally very common presumed resident on southern inland wetlands below 3°N; one curious but certain record in NE' (Ash and Miskell 1983); the latter record comes from an area of Somalia which lies almost directly opposite the Hadramaut in Yemen.

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First record of Olive-backed Pipit *Anthus hodgsoni* in Iran

DEREK A. SCOTT

In January and February 1992, Michael Smart and I spent three weeks visiting wetlands in Iran as part of the monitoring programme of the Ramsar Convention Bureau. A summary of the more interesting ornithological observations of this survey has already been presented (*OSME Bull.* 29: 38–9). One of the main objectives was to visit the extensive wetlands of the Seistan basin in south-east Iran, on the border with Afghanistan, and in this area we spent 19–20 January visiting the wetlands surrounding Zabol, in company with personnel of the Iranian Department of the Environment.

In the early morning of 21 January MS and I birdwatched for an hour in Zabol's municipal park near the outskirts of the town (31°00′N 61°31′E). This garden of

c. 1 ha contains the largest stand of tall trees in a large area of open fields, marshes, and lakes surrounded by inhospitable sandy deserts and rocky hills. The nearest comparable area of tall trees is in a similar park in the city of Zahedan, *c.* 190 km to the south-south-west. Both areas are known to provide resting and foraging areas for substantial numbers of migrants in spring and autumn, and to attract a number of wintering species far outside their normal ranges. I recorded a variety of unusual species in both areas during numerous visits in the early 1970s, including Striated Scops Owl *Otus brucei*, Long-eared Owl *Asio otus*, Black-throated Accentor *Prunella atrogularis*, Eversmann's Redstart *Phoenicurus erythronotus*, Dark-throated Thrush *Turdus ruficollis*, Paddyfield Warbler *Acrocephalus agricola*, and Yellow-browed Warbler *Phylloscopus inornatus*. Additional species recorded by others in the 1970s included Woodcock *Scolopax rusticola* and Crossbill *Loxia curvirostra* (Lindon Cornwallis pers. comm.).

Unfortunately, it soon became apparent that the garden in Zabol had been much reduced in size and in attractiveness to birds by the construction of a netball court and children's playground. Most of the tall trees still stood, but many of the shrubby areas, lawns, and flowerbeds had disappeared. It was clear that the garden was receiving much more human use than in the 1970s. The only notable birds present were about ten Chiffchaffs *Phylloscopus collybita*, a female Eversmann's Redstart, and a pipit *Anthus*. Initially, the pipit proved shy and elusive, and because of constant disturbance from passers-by it was some time before prolonged views could be obtained of it on the ground. By then, however, it had become obvious that it was an Olive-backed Pipit *Anthus hodgsoni*, a species not hitherto recorded in Iran.

The bird was watched at close range on a number of occasions for about thirty minutes, in various conditions of light and shade. On the ground it favoured damp areas under trees or at the base of shrubs and generally avoided open ground. It was extremely flighty, flushing at the least disturbance and flying up to perch high in a tall tree. When flushed, it uttered the characteristic 'sreee' call of *A. hodgsoni*—slightly less harsh than the flight-call of Tree Pipit *A. trivialis*, but not as thin as that of Red-throated Pipit *A. cervinus*. When perched it gave an incessant thin 'sip'. It constantly wagged its tail up and down with a rhythmic pumping, when both feeding and at rest. Plumage details noted at the time included a very boldly streaked breast, white belly, creamy-buff face and throat, creamy-white supercilium, conspicuous black spot and whitish patch at the rear of the ear-coverts, and prominent whitish fringes to the median coverts on otherwise rather plain wings. The most striking feature was the distinctly olive cast to the mantle and back, with only a very faint indication of darker streaking on the mantle.

I was familiar with *A. hodgsoni*, having spent some considerable time in south and east Asia during the previous five years, and having seen the species in India, Nepal, Bangladesh, Myanmar, Japan, Hong Kong, Vietnam, and Thailand. My most recent experience had been of birds on their breeding grounds in Sichuan (China) in June 1991. I consider *A. hodgsoni* to present far fewer identification problems than are implied by some recent authors, e.g. Alström and Colston (1991).

While the main wintering areas of *A. hodgsoni* are in peninsular India and south-east Asia, the species breeds as far west as the Ural mountains (at the same longi-

tude as the Seistan basin), and vagrants have occurred widely in Europe. Up to the end of 1989 there were over 130 records in western Europe, principally in Britain (72); most records have been in September–November, but there are a few spring records and wintering has occurred in Britain and the Netherlands (Cramp *et al.* 1988; Alström and Colston 1991; Hooijmans 1993). In the Middle East, the species has been recorded in Cyprus, Israel, eastern Saudi Arabia, Turkey, and the United Arab Emirates; UAE has six records, November–April (Hollom *et al.* 1988; Richardson 1990; *OSME Bull.* 27: 46; Kirwan in press). Thus, even though there are no published records from Pakistan (Roberts 1992), an occurrence in Iran is hardly unexpected, and it seems likely that the bird arrived as a lost migrant in autumn and stayed on through the winter.

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First record of Pied Stonechat *Saxicola caprata* in Saudi Arabia

GRAHAM RAMSAY

THE AL-KHOBAR corniche in Saudi Arabia's Eastern Province is a regularly irrigated area of short grass on the town's seafront which is attractive to migrants. On the afternoon of 17 October 1993 while watching a large group of Pied Wagtails *Motacilla alba* and Yellow Wagtails *M. flava* I noticed an unfamiliar passerine and took the following description.

Size and structure. Similar to Stonechat *Saxicola torquata*, but rather slimmer and more elongated, with longer legs and longer, slightly forked tail.

Head and upperparts. All black excepting white rump and wing-patches, both very obvious in flight. The wing-patch seemed to vary in size with each flick of the wings.

Underparts. All black apart from white belly and undertail coverts. The demarcation between the black breast and white belly formed a ragged W when seen head on.

Bare parts. Thin, all-black bill. Dark eye and long, steel-grey legs.

Behaviour and voice. Typical chat-like behaviour of flicking wings and tail. Utilized a small bush as a lookout, and from it pursued and caught large insects. No calls were heard.

The bird was observed with 8 × 42 binoculars from as close as 3–4 m. After about 20 minutes it flew over the nearby road and was not seen again. After consulting the literature I identified the bird as an adult male Pied Stonechat *S. caprata*, a partial migrant which breeds from eastern Iran and the Transcaspian region east to New Guinea and the Bismark archipelago, with more northerly populations wintering to the south of its breeding areas (Sibley and Munroe 1990). There is one previous record from Arabia: a male collected at Khasab, Musandam (Oman) on 10 April 1983 (Colston and Gallagher 1984). There has also been a subsequent occurrence: a male at the Emirates Golf Course, Dubai (United Arab Emirates) on 7 May 1994 (Colin Richardson *in litt.*). Elsewhere in the Middle East it is listed as a vagrant to Iraq (Hollom *et al.* 1988).

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First record of Bearded Tit *Panurus biarmicus* in Kuwait

B. WRIGHT

JAHRA POOL, a small nature reserve in Kuwait, is largely overgrown by reeds, fed by waste-water run-off. On 11 February 1994 I closely observed there a pair of Bearded Tits *Panurus biarmicus*, being initially attracted by the diagnostic and distinctive, metallic 'pinging' call. The male was subsequently observed and videotaped, it also being viewed astride two reed stems in typical pose. The female was seen only briefly, but I was able to note the unmarked plain, rufous head; the lack of dark markings on lores and back precluded the possibility of it being an immature male.

Size and structure. Similar to accompanying Penduline Tits *Remiz pendulinus*, except for the very long graduated tail.

Plumage of male. Crown, forehead, and nape delicate 'powdery' blue-grey. Short, stubby yellow bill, with attendant long, loose moustachials, culminating in sharp tufts. Partial black

surround to yellow orbital ring. Mantle, back, rump, and uppertail rufescent tawny-orange, as were the tail-feathers. Undertail coverts black. Closed wing displayed alternate white, rufescent, and white pattern, with the outermost edge black. Most secondaries, greater and median coverts centred black (or dark), the former with broad white fringes. Dark-centred alula and primary coverts, fringed white. Scapulars white, creating striking pattern. Belly and flanks washed greyish-pink, rest of underparts whitish. Legs and feet appeared black.

The area is well watched by other observers, but the pair was seen only once subsequently, again by myself, on 25 February. Both prior to and since these observations I have caught the sound of distant Bearded Tit calls, so it is probable that the birds' stay was longer than just the two observations would suggest. The reedbed at Jahra has also been recently colonized by Purple Gallinules *Porphyrio porphyrio*, whilst other semi-irruptive species such as Penduline Tit and Siskin *Carduelis spinus* occurred in the area concurrently. This is the first record for Kuwait and for the Arabian peninsula. Within the Middle East the species is known to breed only in Turkey (Cramp and Perrins 1993).

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First record of Cinereous Bunting *Emberiza cineracea* in Oman

ECKHARD MÖLLER and COLIN RICHARDSON

ON the afternoon of 30 March 1993 we were birdwatching in Wadi Abulle (24°25′N 56°05′E) in the Wilayat of Mahdah, an area accessible from the United Arab Emirates, although actually in Omani territory north of Buraimi. The wadi, which feeds onto the wide gravel plain east of Mahdah, is about 200 m wide at this point and holds running water for most of the year. There are a number of old date plantations around an old fort adjacent to the abandoned village of Abulle. Sparsely vegetated, ophiolitic mountains rise on both sides to about 700 m. The water has worn through the softer cretaceous shale on the valley floor to form an attractive area of falajs (man-made water channels) and rock pools.

Feeding in one corner of a small stubble field was a bunting which we watched closely for several minutes before its identification was confirmed. Then the bird suddenly flew up to the branches of a small tree and was joined by a second individual. After about half a minute both took off and could not be relocated. We took the following description of the first bird.

Size and structure. As Ortolan Bunting *Emberiza hortulana*.

Head. Greyish, with yellow tones around face and cheek; no supercilium or eye-stripe. Very

conspicuous yellowish-whitish orbital ring. Chin and throat pale yellow, unstreaked. Brownish malar stripe and pale yellow submoustachial stripe. Hindneck greyish.

Upperparts. Greyish with brownish streaks on mantle. Rump colour not noted. Grey-brown wings with two pale wing-bars, the upper (tips of median coverts) well marked, the lower (tips of greater coverts) indistinct. Tail greyish; very conspicuous white in outer tail in flight.

Underparts. Indistinct greyish breast-band. Lower breast/belly pale yellow. When the bird was sitting on a tree facing us, we could see a large clear whitish spot on the lower half of the undertail just short of the tip.

Bare parts. Bill shiny grey. Legs brownish.

Voice. No calls heard.

The first bird had all the characteristics of a male Cinereous Bunting *E. cineracea*, of the eastern race *semenowi*, as diagnosed by the distinctive pale yellow belly. The second bird was seen for less than a minute: similar to the first but considerably duller and with a finely streaked breast, it was presumed to be a female, but the observation was too brief for certainty. These birds have been accepted as a first record for Oman by the Oman Bird Records Committee (OBRC 1994).

In the UAE, where the species occurs more regularly than in neighbouring Gulf states, there were just 11 records up to the end of 1993, including reports a few days before the present observation: 25–26 March at Merawah Island and 29 March at Al Ain Zoo (30 km south of Abulle). Five of the others were between 21 March and 18 April, and two in May; the single confirmed autumn record was a female in Dubai on 20 September 1990 (Richardson and Richardson 1991); one reported on Das Island 30 September 1993 awaits assessment. The species is a vagrant in Bahrain and Qatar where all records, but for one in Bahrain, are in spring.

Of UAE records scrutinized since 1991 most observers made particular note of the characteristics of *semenowi* which breeds in south-west Iran (Zagros mountains) and is possibly also the race breeding in south-east Turkey (Cramp and Perrins 1994). De Knijff (1991) summarizes the species' poorly known migration routes and winter distribution based on the surprisingly few records: the winter quarters appear to lie in Eritrea, the Red Sea province of Sudan, and south-west Arabia, but it is not clear whether the two races remain separate in winter or combine.

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