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ERRATA

Page 11, line 19. For "SURLEW" read "CURLEW".

Page 31, line 11. Delete and read instead "I found a pair at
Zawiyah on 8 May 1957. By 12 May they" etc.

Page 31, line 31. Delete and read as follows:

"CHAFFINCH (*Fringilla coelebs*)

Fairly common in gardens and orchards in the
Baghdad area from November to March. Flocks contain
both males and females.

GOLDFINCH (*Carduelis carduelis*)" etc.



FIELD NOTES ON SOME OF THE BIRDS OF IRAQ.

LEE R. JOHNSON

(Received May 10, 1958)

This paper is a summary of the notes I have made on the birds I have seen in Iraq during my three periods of residence there: December 23-29, 1953; October 13, 1956, to November 20, 1957; and March 1 to May 1, 1958. As I have had only scant opportunity to visit the north and south of Iraq, most of these notes are of birds of the central region, that is, in the area between Khanaqin and Felluja, and especially around Baghdad.

The birds of Iraq have only recently begun to be intensively worked on, and there are many details of distribution and migration routes and dates which are still unknown. I hope that these notes on 202 of the 357 species of Iraqi birds will be of value to future ornithologists when the time comes for a full revision of the ornithology of Iraq.

I have also included a few notes on the identification of a few species and subspecies whose field characters have not been published in easily accessible publications. I have only recently become interested in the problem of identifying subspecies in the field, but I am beginning to believe that it is possible in more cases than some authors would have one believe. But not all individuals are identifiable, and my notes refer only to those that were seen well and were very typical.

SYSTEMATIC LIST

LITTLE GREBE (*Colymbus ruficollis*).

Common on the Bund Pools (behind Baghdad North Railway Station) throughout the summer of 1957. It bred there, and young birds were seen in August. On 4 April 1958, I saw 30 or 40 on a reedy pond just outside Ba'quba. These were doubtless migrants. It was also common on the Washash Drain during April 1958. I have no winter records for this bird.

CRESTED GREBE (*Colymbus cristatus*).

Only twice recorded: two on the Tigris at Mosul, 28 Dec. 1953, and one on the Euphrates at Felluja, 27 Jan. 1957.



DALMATIAN PELICAN (*Pelecanus crispus*).

There were several in the marshes at Ezra's Tomb (Al-'Uzair) on 2 Feb. 1957. All that were on the water and identifiable were this species. But large skeins of pelicans seen overhead were whiter, and probably *P. onocrotalus*.

COMMON CORMORANT (*Phalacrocorax carbo*).

Twice recorded: one on the Euphrates at Felluja, 27 Jan. 1957, and one on the Lesser Zab at Altun Kopri, 6 Oct. 1957.

PYGMY CORMORANT (*Phalacrocorax pygmeus*).

They were very common in the marshes at Ezra's Tomb on 2 Feb. 1957. There were a few on the Tigris the day before, but this cormorant much prefers the marshes to the river banks.

AFRICAN DARTER (*Anhinga rufa*).

One flew over our boat in the Ezra's Tomb marshes on 2 Feb. 1957.

GREY HERON (*Ardea cinerea*).

A common migrant in central Iraq, most abundant in March. I have a winter record from Felluja, on 25 Dec. 1956. Often seen in flooded fields, but also on permanent pools or rivers.

PURPLE HERON (*Ardea purpurea*).

I have not found this heron very common. Among my other records are a few seen in the Ezra's Tomb marshes on 2 Feb. 1957, and an immature, very rufous bird on the Bund Pools on 15 Sept. 1957.

SQUACCO HERON (*Ardeola ralloides*).

I first saw them on the Bund Pools on 28 March 1957. They were common there through August, and apparently bred, as I saw young birds in July. During August and early Sept. 1957, I frequently saw them on roadside pools along the Kut road, south of Baghdad. These may have been migrants, but they may have come there from breeding sites elsewhere in the vicinity because of dry conditions. They were also very common on the Washash Drain during April, 1958.

CATTLE EGRET (*Bubulcus ibis*).

One was seen riding a buffalo near a reed village in the Ezra's Tomb marshes on 2 Feb. 1957. There are few records of this species from Iraq in winter.

LITTLE EGRET (*Egretta garzetta*).

A migrant which I saw at the Bund Pools during April, 1957. A flock of six flew over the orchards in the Zawiyah section of Baghdad on the 28th of that month. I have not found it common.

BLACK-CROWNED NIGHT-HERON (*Nycticorax nycticorax*).

I saw two immature birds on the bank of the Shatt ul-Arab south of Qurnah, 1 Feb. 1957.

LITTLE BITTERN (*Ixobrychus minutus*).

One bird was seen in a marshy roadside pool near Felluja on 5 June 1957. This is late for a migrant.

WHITE STORK (*Ciconia ciconia*).

Very common and breeding from the north, south to Karbala and the Diala River. The birds form large flocks for migration in September and October. By the end of March they have paired and commenced building or repairing nests, which are placed on mosques, electricity transmission towers, telegraph poles, or trees; there is a tree nest near the Bund Pools. Females were already incubating at Karbala on 25 April 1958.

ROSEATE FLAMINGO (*Phoenicopterus ruber*).

On 24 March 1957 I saw a party of about a dozen in a salty pool near Abu Ghraib. They are probably regular in central Iraq on migration, but not common and passing through quickly. These were gone a week later.

GREY LAG-GOOSE (*Anser anser*).

A common goose, which I first saw in a flock of 20 or 30 in a field near Ctesiphon on 2 Dec. 1956. The farthest north I have seen them was in a field about half-way between Baghdad and Khan Bani Sa'ad later in the same month. They often flock with Ruddy Sheld-Ducks, but less often with ducks of other kinds. I saw a flock of some 20 birds on the Euphrates

at Felluja on 25 Dec. 1956, the only time I have seen them on the water. Not seen after the end of Feb. 1957.

GREATER WHITE-FRONTED GOOSE (*Anser albifrons*).

Several flocks, each of about 30-40 birds, flew over a field near Ctesiphon on 21 Nov. 1956. I saw one bird with a flock of Greylags in the same locality on 24 Dec. 1956. It is not common in the Baghdad area.

RUDDY SHELD-DUCK (*Casarca ferruginea*).

I first saw them in a flock of 20-30 birds in a field about half-way between Ctesiphon and Aziziyah on 25 Nov. 1956. They are fairly common in winter near Baghdad, and are frequently seen with Greylags.

COMMON SHELD-DUCK (*Tadorna tadorna*).

One flew by our boat in the Ezra's Tomb marshes on 2 Feb. 1957. Not, apparently, a common bird.

MALLARD (*Anas platyrhynchos*).

One was seen on 13 Oct. 1956 far out in the desert, some 100 km. west of Ramadi. It was obviously lost, but it indicates that some birds cross the desert. Throughout the winter of 1956-1957 it was common, seen at such places as Felluja, Ctesiphon, Ba'qubah, Shahraban, and the Ezra's Tomb marshes. Some remained till the middle of April (both 1957 and 1958) near Ctesiphon.

GARGANEY (*Anas querquedula*).

I have not found it a very common duck. I have seen it on the Euphrates at Felluja, 24 March 1957; in marshy ground near Shahraban, 14 April 1957; and in marshy fields near Ctesiphon, 26 March 1958.

COMMON TEAL (*Anas crecca*).

A common duck, which I first saw on the Euphrates at Felluja on 25 Dec. 1956. It remains common through April, often associating with other ducks (especially Pintail and Shoveler), and preferring marshy ground to pools and rivers.

GADWALL (*Anas strepera*).

Several were on the Euphrates at Felluja on 25 Dec. 1956. I saw it only there, but it was not uncommon during Dec. 1956, and Jan. 1957.

PINTAIL (*Anas acuta*).

I found this duck very common through the winter of 1956-1957, and in March 1958. It remains until April, and is one of the commoner ducks of Iraq.

WIGEON (*Mareca penelope*).

First seen on 30 Dec. 1956 on the Euphrates near Felluja, and two birds in the same place two days later. Last seen on April 4, 1957, and April 6, 1958, near Ctesiphon. It is not very common.

SHOVELER (*Spatula clypeata*).

This is one of the commonest ducks in Iraq. It was always abundant during the winter and early spring of 1956-1957. In March 1957 I saw nearly a hundred on the pool near Abu Ghraib. Also common during March and early April 1958.

COMMON POCHARD (*Aythya ferina*).

There were several on the Shatt ul-Arab and Tigris between Basra and Ezra's Tomb on 1 Feb. 1957. I also saw some on the Euphrates at Felluja on March 24 1957. Evidently this duck likes to winter in the south, and is chiefly a migrant in the central regions.

TUFTED DUCK (*Aythya fuligula*).

Recorded precisely as for the Pochard, but it seems to be less common.

BLACK KITE (*Milvus migrans*).

This is a very common winter visitor from Mosul to Basra, often in large flocks. A few birds arrive in August, it becomes common in September and October, and leaves in April, a few birds lingering till May. The two races are often distinguishable in the field: *M. m. migrans*, which is by far the commoner, is very dark, and *M. m. lineatus* is larger and paler, especially about the head, so that the dark ears stand out more.

This eastern race is not uncommon near Baghdad, and is more frequently seen alone than the common race.

LONG-LEGGED BUZZARD (*Buteo rufinus*).

A common winter visitor. My earliest record is of three near Altun Kopri on 6 Oct. 1957, and my latest is of a single bird near Ctesiphon, 6 April 1958. Almost all the ones I have seen have been very pale and rusty; very few have been dark enough to cause suspicion of being *B. buteo*.

STEPPE BUZZARD (*Buteo buteo*).

I saw one bird referable to this species about half-way between Altun Kopri and Arbil on 1 Oct. 1957. It was very dark, with no hint of rufous anywhere, and with a clearly barred tail. It is doubtful if even a dark juvenile *B. rufinus* would be this typically *B. buteo*.

BONELLI'S EAGLE (*Hieraetus fasciatus*).

On 3 March 1957 I saw a pair of these eagles in a wadi in the Jebel Hemrin near Shahraban; from their actions I suspected they were going to breed, but though I saw them a week later I have not seen them since. It would be surprising if they did not breed in those hills, as they appear exactly to satisfy their requirements.

IMPERIAL EAGLE (*Aquila heliaca*).

A common winter visitor, but far more common in the north. On a rail trip from Mosul to Tel Kotchek on 29 Dec. 1953 I must have seen fifty. I saw two magnificent adults a few miles south of Baghdad on 11 Oct. 1957.

TAWNY EAGLE (*Aquila rapax*).

A common visitor in the Baghdad area from October to March, my latest record being 22 March 1958. On 21 Nov. 1956, near Ctesiphon, I saw a small, coffee-colored eagle with a clear white rump. I believe this was *A. r. raptor*, as the commoner race, *A. r. orientalis*, does not usually show this mark.

GREATER SPOTTED EAGLE (*Aquila clanga*).

This is the commonest eagle in central Iraq. My records

run from early October to late February. This species is noticeably larger than the Tawny when seen on the ground, but soaring eagles are seldom identifiable.

WHITE-TAILED SEA-EAGLE (*Haliaeetus albicilla*).

One seen on a sandbank in the Euphrates at Felluja, 25 Dec. 1956.

GRIFFON VULTURE (*Gyps fulvus*).

On 31 March 1957 there were large flocks amounting to several hundred birds in the Jebel Hemrin near Shahraban and Khanaqin, on migration. I have also seen them in the Rowanduz Gorge (3-5 Oct. 1957) and at Altun Kopri (6 Oct. 1957), but I have never seen them near Baghdad. However, I found them common in the desert at Al-Ukhaidhir on 25 April 1958.

EGYPTIAN VULTURE (*Neophron percnopterus*).

In March and April I have seen single birds of this species over the Jebel Hemrin, where it doubtless breeds. I have also seen them in the desert at Al-Ukhaidhir on 25 April 1958. In late July and late Sep. 1957, I saw large flocks at the Bund Pools and at Kirkuk respectively. These were probably migrant flocks. I think that many if not most of these birds leave Iraq in winter. They are timid birds and cannot stand competition with the kites. I have seen an Egyptian Vulture waiting on the ground a few yards from where some kites were feeding on a carcass, evidently not daring to join them.

HEN HARRIER (*Circus cyaneus*).

I saw one south of Tuz Khurmatu, very typical, on 28 Sept. 1957. Much care has to be taken with this species; it is well known that the Pallid Harrier can be as dark as the Hen, but it is not so well known that the Hen Harrier can be as pale as the Pallid. Wing shape is probably the best mark.

PALLID HARRIER (*Circus macrourus*).

I have recorded this harrier in every month from October to March. It is the commonest winter harrier, and probably most female harriers belong to this species.

MONTAGU'S HARRIER (*Circus pygargus*).

Two males, both clearly showing the black wing-bar, flew over the Zawiyah orchards, 27 April 1958.

MARSH HARRIER (*Circus aeruginosus*).

Seen at the Bund Pools from April to Sept. 1957. It probably breeds there. It may be breeding on the Washash, where I have seen birds carrying frogs into the reeds. One, probably a migrant, was seen at Al-Ukhaidhir on 25 April 1958, a most unlikely place for a Marsh Harrier. It is common, but I seem to see females far more often than males.

OSPREY (*Pandion haliaetus*).

One flew over the Tigris in the Hindiyah section of Baghdad on 16 Oct. 1956.

SAKER FALCON (*Falco cherrug*).

Common between Mosul and Tel Kotchek on 29 Dec. 1953. It is less common farther south, but fairly frequently met with near Baghdad in winter. On 21 Oct. 1956, I saw a bird with a very buffy crown near Ctesiphon; it looked very like the Lanner Falcon (*F. biarmicus*), which Meinertzhagen says breeds in Iraq.

PEREGRINE FALCON (*Falco peregrinus*).

Twice recorded: from the Kut road a few miles south of Baghdad, 21 Oct. 1956, and from the Bund Pools, 28 March 1957.

MERLIN (*Falco columbarius*).

Several were seen during October and November 1956 on the bund in the Hindiyah section of Baghdad.

LESSER KESTREL (*Falco naumanni*).

Very common during April and May, 1957, especially between Baghdad and Khanaqin. Four were flying around the ruins of Al-Ukhaidhir on 25 April 1958; they looked as if they were planning to breed there. On 6 Oct. 1957, I saw a very bright Kestrel near Altun Kopri, but could not confirm it as this species.

COMMON KESTREL (*Falco tinnunculus*).

This is the commonest raptor in Iraq, especially during migration. Recorded from early September to late May.

SEE SEE PARTRIDGE (*Ammoperdix griseogularis*).

I saw a pair in a wadi in the Jebel Hemrin on 3 March 1957, and frequently saw them there thereafter, always in pairs. They doubtless breed there, though I have not found a nest despite much search. They are commoner in the north, where I saw flocks of 10-30 birds in the valley of the Lesser Zab near Altun Kopri on 30 Sept. 1957.

CHUKAR PARTRIDGE (*Alectoris graeca*).

I saw a flock of about 25 in the early morning of 5 Oct. 1957 near Salahuddin.

BLACK PARTRIDGE (*Francolinus francolinus*).

They are still quite common around Baghdad, where I have seen them frequently. During March and April, the males get up on the banks of irrigation ditches and give their calls throughout most of the day.

COMMON GALLINULE (*Gallinula chloropus*).

There were two adults on the Bund Pools in May 1957, and juveniles were seen in the same place during July and August. They probably bred there. Also seen on the Washash Drain in March and April 1958.

EUROPEAN COOT (*Fulica atra*).

There were enormous numbers in the Ezra's Tomb marshes on 2 Feb. 1957; there must have been more than a thousand in a few square miles of marsh. In March and April 1957, I saw them on the Bund Pools and on the Euphrates at Felluja, and on 4 April 1958 at Ba'qubah.

SPUR-WINGED PLOVER (*Hoplopterus spinosus*).

I found this bird common during 1957, especially in September. As there are few records of this bird from Iraq, I give mine in detail. Two records from Felluja are interesting:

- 1 July. One seen. He was rather shy.

- 21 July. Six birds, including a very young one. The latter could not have been long out of the nest, though it could fly. It may have been a migrant, but this area should be checked during the breeding season, as it may well breed here.

The following records are all from the Bund Pools:

- 1 April. Four.
- 4 April. Seven.
- 5 July. Six.
- 30 July. One.
- 2 September. Eleven.
- 7 September. Fifteen.
- 14 September. Twenty.
- 21 September. Thirty-six (high for the year).
- 7 October. One.

All these birds were doubtless migrants, with the possible exception of the birds seen on the 5th of July. This is rather early for migrants, and it is possible that they may breed in the vicinity of the Pools. If so, it seems to have extended its range greatly in the last few years.

RED-WATTLED LAPWING (*Lobivanellus indicus*).

A very common and resident plover. I have seen it at Mosul on 28 Dec. 1953, and it is abundant at all seasons around Baghdad. I frequently have heard it call late on moonlit nights. There were two young birds at the Bund Pools on 14 Sept. 1957; this is late, and may be the result of a second laying.

SOCIABLE PLOVER (*Chettusia gregaria*).

I have seen them only once, a flock of about 15 in a marshy field near Ctesiphon on 10 Nov. 1957. They were with White-tailed Plovers, and most were in winter dress, though some had the remains of breeding plumage.

WHITE-TAILED PLOVERS (*Chettusia leucura*).

Very common and resident, especially around Baghdad, from Felluja to Shahraban.

GREEN LAPWING (*Vanellus vanellus*).

Not very common. I saw them near Shahraban in Nov.

1956 and April 1957, and on the Shatt ul-Arab on 1 Feb. 1957.

RINGED PLOVER (*Charadrius hiaticula*).

An uncommon plover. Met with only during March and April 1957 near Shahraban.

LITTLE PLOVER (*Charadrius dubius*).

Common and resident. I have no special records, though I have seen it many times.

KENTISH PLOVER (*Charadrius alexandrinus*).

Common and resident. In immature and winter plumage, in which it appears from August till February, it is rather nondescript.

COMMON SNIPE (*Capella gallinago*).

Fairly common from late August to March. On 1 March 1957 a party of four birds was seen at the Bund Pools feeding in the open at least 30 feet from the nearest cover. Their feeding motion reminded me forcibly of a Dowitcher, the "sewing-machine" movement of the head being identical. The snipe seldom feeds on open shores. These were exceptional.

EUROPEAN SURLEW (*Numenius arquata*).

Only once met with: three in a marshy field near Ctesiphon, 28 March 1958.

BAR-TAILED GODWIT (*Limosa lapponica*).

One seen on a mud-bank in the Euphrates at Felluja, 27 Jan. 1957.

SPOTTED REDSHANK (*Tringa erythropus*).

One of the less common *Tringa*. First met with near Abu Ghraib, 14 April 1957; there were about a dozen birds. They were there till early May. Also seen south of Baghdad on 14 April 1958; there were six birds.

COMMON REDSHANK (*Tringa totanus*).

A common winter visitor, found from July to April. There are probably three races in Iraq: *totanus* (?), *eurhinus*, and *terrignotae*. If *totanus* occurs, it is not separable in the field

from *eurhinus*, but *terrignotae* is easily recognizable. It is much paler and longer-billed than the former, and reminds one of a Spotted Redshank in winter plumage. *Terrignotae* and *eurhinus* apparently occur in about equal numbers.

MARSH SANDPIPER (*Tringa stagnatilis*).

This species seems to be less common than it formerly was, to judge from the literature. I have found it from September to April, but seldom in any numbers. In winter plumage it is much paler and rather longerlegged than its congeners.

GREENSHANK (*Tringa nebularia*).

A common winter visitor, from August to April. It is less common than the Redshank and the Green and Common Sandpipers, but commoner than other *Tringas*.

GREEN SANDPIPER (*Tringa ochropus*).

A very common winter visitor, the commonest member of its genus. Found from July to April.

WOOD SANDPIPER (*Tringa glareola*).

Not very common. Met with in pools along the Kut road on 24 Oct. 1956 and 8 July 1957 (single birds), and 14 April 1958 (several). Also seen at the Bund Pools, where it was fairly common on 27 July and 2 Sept. 1957.

COMMON SANDPIPER (*Tringa hypoleuca*).

A common winter visitor, found from early July to early May.

LITTLE STINT (*Erolia minuta*).

A common winter visitor. My earliest record is 16 July 1957. It is somewhat commoner than Temminck's.

TEMMINCK'S Stint (*Erolia temminckii*).

A common winter visitor.

DUNLIN (*Erolia alpina*).

I have not found it quite as common as other observers. Seen near Kut, 25 Nov. 1956; the Bund Pools, during Sept. 1957; and near Ctesiphon, 7 Oct. 1957.

CURLEW SANDPIPER (*Erolia testacea*).

Four were seen at the Bund Pools on 27 July 1957, and four more on 14 Sept. The July birds were in breeding plumage, the others in winter plumage.

BROAD-BILLED SANDPIPER (*Limicola falcinellus*).

I saw a single bird of this species with a flock of Little Stints at the Bund Pools on 15 Sept. 1957. It resembles a Little Stint except for the differently shaped bill, but was slightly larger. The legs are shorter than the Dunlin's.

RUFF (*Philomachus pugnax*).

A common migrant during March and April. One bird seen near Abu Ghraib on 16 March 1958 had an almost completely white face and throat. Females seem to be much commoner than males.

COMMON STILT (*Himantopus himantopus*).

A very common bird, which, however, I do not seem to have recorded from November to February. But by March it is common, and by April abundant. I saw two very young birds with adults south of Baghdad on 8 July 1957.

RED-NECKED PHALAROPE (*Phalaropus lobatus*).

Met with only once: two birds in a roadside pool south of Baghdad on 6-7 Sept. 1957. They were in winter plumage, and pumped their heads while swimming.

CREAM-COLORED COURSER (*Cursorius cursor*).

One pair seen in the desert between Rutbah and Ramadi, 13 Oct. 1956; one pair between Kut and Aziziyah, 25 Nov. 1956; and about a dozen near Ctesiphon, 11 Aug. 1957. This is the only time I have seen more than two together, and it is noteworthy that the soil here is alluvial farm-land for miles in all directions.

COMMON PRATINCOLE (*Glareola pratincola*).

It is most common as a migrant in Iraq, where it is most frequent in April. Some stay to breed; I have seen them in June and July near Abu Ghraib. A newly fledged young bird was seen with adults south of Baghdad on 8 July 1957.

BLACK-WINGED PRATINCOLE (*Glareola nordmanni*).

There were a few of these birds with a large flock of *pratincola* near Ctesiphon on 3-4 April 1957, and again in the same place in late April 1958. Probably most large flocks of migrant Pratincoles contain a few Black-Wings. Meinertzhagen's theory that *nordmanni* is only a color phase of *pratincola* is not yet proven, but it may well be correct.

COMMON GULL (*Larus canus*).

I have found it quite rare, and have only seen it once, on the Shatt ul- Arab near Qurnah, 1 Feb. 1957. I believe that many sight records are due to confusion with the yellow-legged races of the Herring Gull, which resemble it closely. The only really good mark for this species is the unmarked bill; the smaller size is a most unreliable mark.

HERRING GULL (*Larus argentatus*).

No two authors seem to agree on the classification of the races of the Herring Gull, nor are they agreed on which races occur in Iraq. Meinertzhagen's treatment, in "Birds of Arabia", cannot be correct, as he says that all races in Arabia have yellow feet. This is not so. Ticehurst's treatment may prove to be wrong, as there appear to be three, not two, races in Iraq, and it is doubtful if *cachinnans* is one of them. Much more collecting will have to be done before the races of this gull in Iraq can be sorted out. Meanwhile I give my field notes on the three types of Herring Gull. I follow Alexander's classification, except that I consider *argentatus* and *cachinnans* conspecific.

L. a. antelius: Large and heavy-bodied, with flesh-colored or greenish-yellow feet. It resembles the Herring Gull of Europe except that the mantle is darker. It is common, though much less so than the next race.

L. a. heuglini: As large as the foregoing, but more slender of body, appearing more graceful, especially in flight, and with bright yellow feet. Mantle as the foregoing. Very common, often seen in large flocks on migration.

L. a. birulai: Smaller and apparently slightly paler than *heuglini*, also with yellow feet. These small birds look

rather like the Common Gull, but they have a red spot on the bill that that bird lacks. I am not at all sure they are *birulai*, but if they are not it is a question what they are. Possibly they are only small *heuglini*. This type is fairly common.

All races of *argentatus* are winter visitors to Iraq, and are most common during September, October, March and April. The three types are frequently found together. Immature birds are not separable in the field.

LESSER BLACK-BACKED GULL (*Larus fuscus*).

An uncommon gull. Four were seen on the Euphrates at Felluja, 22 Sep. 1957.

GREAT BLACK-HEADED GULL (*Larus ichthyaetus*).

I saw one bird with an almost complete dark head on the Shatt-ul-Arab south of Qurnah on 1 Feb. 1957. This is the second record in Iraq.

BLACK-HEADED GULL (*Larus ridibundus*).

The commonest gull in Iraq. They begin to appear in October, and by November they are abundant. Large flocks are found in Baghdad in winter, sitting on buildings by the riverside and searching the Tigris for food. A bird seen on 14 March 1958 was still in full winter plumage. In the Mediterranean, most birds have reacquired the black head by the end of February. They leave Iraq by April.

SLENDER-BILLED GULL (*Larus genei*).

First seen at Felluja, 24 March 1957. Thereafter they were common till July. I do not think they winter in Iraq; I have not seen it at Felluja in winter nor did I find it on the Shatt ul-Arab on 1-2 Feb. 1957.

WHISKERED TERN (*Chlidonias hybrida*).

I have not found it common. Seen on a pond near Ba'qubah, 3 March 1957, and in a marshy field near Ctesiphon, 20 April 1958.

WHITE-WINGED TERN (*Chlidonias leucoptera*).

First seen at the Bund Pools on 24 July 1957. Thereafter I often saw them there and south of Baghdad on roadside

pools. Apparently they do not breed around Baghdad. My last record is from the Bund Pools on 10 Oct. 1957, a very late date for this species.

GULL-BILLED TERN (*Gelochelidon nilotica*).

My earliest date for central Iraq is 24 March 1957, at Felluja. I saw them there many times thereafter until October. Apparently they do not winter in the central region, but I saw a few on the Shatt ul-Arab on 1 Feb. 1957.

COMMON TERN (*Sterna hirundo*).

Fairly common on the Shatt ul-Arab on 1 Feb. 1957. I also saw a few on the Bund Pools during June, July, and August, where they probably bred.

LITTLE TERN (*Sterna albifrons*).

From the end of March to the end of Sept. 1957, this tern was common on the Bund Pools, where it doubtless bred. It is a common migrant during April and May.

PIN-TAILED SAND-GROUSE (*Pterocles alchata*).

Recorded only in September, October and April, but often in vast numbers. Seen in the desert between Rutbah and Ramadi, 13 Oct. 1956, 20-30 birds; south of Baghdad in flocks of 50-500, all during Oct. 1956; flock of 40-50 north of Deltawah, 8 April 1957; about 300 south of Tuz Khurmatu, 28 Sept. 1957; 2000 or more near Ctesiphon, 7 Oct. 1957, the largest flock I have seen; and about 100 coming to water near Ctesiphon on April 2 and 6 1958, at 4:00 p.m. and 11:00 a.m. respectively.

ROCK PIGEON (*Columba livia*).

Very common, but I believe they are tame or feral in the plains. Wild birds are found in the mountains; I have seen them in the Rowanduz Gorge and near Shaqlawa, and in the Jebel Hemrin, where they breed.

WOOD PIGEON (*Columba palumbus*).

Common and resident around Baghdad. It probably breeds in the Zawiyah orchards.

COLLARED TURTLE-DOVE (*Streptopelia decaocto*).

Abundant and resident wherever there is cultivation or human habitation.

TURTLE-DOVE (*Streptopelia turtur*).

From March to September this dove is common in orchards, especially at Zawiyah, Baghdad. I have no winter records, and my earliest spring record is 16 March 1957.

ROSE-RINGED PARAKEET (*Psittacula krameri*).

Four were seen at the Alwiyah Club, Baghdad, on 13 April 1957, and again in May.

EUROPEAN CUCKOO (*Cuculus canorus*).

Only once met with: one sitting on the bank of an irrigation ditch near Ctesiphon, 30 March 1958.

BARN OWL (*Tyto alba*).

Twice recorded. One flew over the Mansur Club, Baghdad, in the late evening of 31 July 1957. Two more were seen sitting on a bridge some 20 miles south of Kirkuk on 28 Sept. 1957. They allowed a close approach, and, seen in the car headlights, appeared quite pale.

EGYPTIAN NIGHTJAR (*Caprimulgus aegyptius*).

I first saw it on 10 Aug. 1957 on the Kut road. During August and September it was common and easily seen when driving that road at night. It is very much paler and sandier-looking than the European Nightjar.

ALPINE SWIFT (*Apus melba*).

Several flocks of 20-30 birds were migrating up the line of the Jebel Hemrin near Shahraban on 31 March 1957.

COMMON SWIFT (*Apus apus*).

Only once seen, at Zawiyah, Baghdad, on 19 April 1958. Except at very close quarters this swift looks entirely black in the field.

PALLID SWIFT (*Apus pallidus*).

There were about a hundred of these swifts with the

Alpine Swifts in the Jebel Hemrin on 31 March 1957. I have also seen them at Baghdad, over the Washash Drain on 21 April 1958. These birds are much paler than the Common Swift.

PIED KINGFISHER (*Ceryle rudis*).

Common and resident, and widely distributed. I have seen it at Mosul, Shahraban, Baghdad, and Babylon. It is less common than the White-Breasted Kingfisher.

COMMON KINGFISHER (*Alcedo atthis*).

Only once seen, on a rail trip between Baghdad and Samarra, 27 Dec. 1953.

WHITE-BREASTED KINGFISHER (*Halcyon smyrnensis*).

Common and resident. Seen at Baghdad, Babylon, Kirkuk, Shahraban, Ctesiphon, etc. I think it is breeding at Zawiyah, but I have not found a nest.

EUROPEAN BEE-EATER (*Merops apiaster*).

Only seen on migration in April and October: 14 April 1957, a small flock in the Jebel Hemrin; 20 April 1958, five or six near Ctesiphon; 15 Oct. 1956, a large flock in the Hindiyah (Masbah) section of Baghdad; 2 Oct. 1957, a few birds near Salahuddin.

BLUE-CHEEKED BEE-EATER (*Merops superciliosus*).

My earliest record is 28 March 1957; in 1958 they did not return till 4 April. They are astonishingly abundant in central Iraq, found everywhere from the residential section of Baghdad to the middle of the desert between Baghdad and Felluja. I have seen it as far north as Arbil, and one bird between Arbil and Salahuddin, 1 Oct. 1957.

EUROPEAN ROLLER (*Coracias garrulus*).

Common in the Baghdad area from April to October. They prefer open fields and deserts, being less often found in gardens. I have seldom found them in the city, like *M. superciliosus*.

INDIAN ROLLER (*Coracias benghalensis*).

Two seen in date palms along the Shatt ul-Arab near Qurnah, 1 Feb. 1957.

HOOPOE (*Upupa epops*).

Fairly common on migration in central Iraq, but recorded only during March and April. I found one bird near Altun Kopri on 28 Sept. 1957.

WRYNECK (*Jynx torquilla*).

Once seen, on the grounds of the American Embassy, 28 March 1958.

SYRIAN WOODPECKER (*Dendrocopos syriacus*).

Seen at Shaqlawa and the Spilik Pass, 3-5 Oct. 1957. It did not call much, and was rather inconspicuous. My notes confirm Moore and Boswell's observation that it prefers self-contained copses.

DESERT LARK (*Ammonanes deserti*).

Seen at Samarra on 27 Dec. 1953 and in the desert between H-4 and Rutbah, 12 Oct. 1956. These birds were on completely barren ground. They are also resident in the Jebel Hemrin, where they are found on barren ground or among grass and low scrub. I found a nest under construction on 21 April 1958 in one of the wadis there. It was in a cleft in the side of a dry water-course, and partly concealed by overhanging vegetation.

BIFASCIATED LARK (*Certhilauda alaudipes*).

Twice recorded: in the desert west of Rutbah, 12 Oct. 1956; and in the desert between Baghdad and Felluja, 27 Jan. 1957.

LESSER SHORT-TOED LARK (*Calandrella rufescens*).

On 25 Nov. 1956, flocks of *Calandrella* were common between Baghdad and Kut. remained common through December, but I saw none thereafter. Some of them may have been *C. cinerea*, but all I could identify certainly were *rufescens*. Some birds showed both the neck-patches of *cinerea* and the streaks of *rufescens*. I do not know what they were; possibly immature birds.

CALANDRA LARK (*Melanocorypha calandra*).

Common south of Baghdad from December to February,

1956-1957. My last date is of a single bird seen near Tel Aswad (south-west of Baghdad) on 3 April 1958. All I have seen were *calandra*, though I looked carefully for *bimaculata*.

HORNED LARK (*Eremophila alpestris*).

Four seen in the desert about 75 km. east of Rutbah, 13 Oct. 1956.

CRESTED LARK (*Galerida cristata*).

Resident and extremely abundant in cultivated areas, less so in deserts and mountains. But I have seen it in the desert between Rutbah and Ramadi, 13 Oct. 1956, and near Shaqlawa, 2-5 Oct. 1957.

SKY-LARK (*Alauda arvensis*).

Common winter visitor around Baghdad, from November to March. It seems to prefer wetter ground than other larks, and often associates with pipits.

SAND MARTIN (*Riparia riparia*).

I have not found it very common except during the fall migration. Flocks of 5-20 birds frequented the Bund Pools during August and Sept. 1957, and on 30 Sept. 1957 there were several hundred hawking for insects over the Lesser Zab, southwest of Altun Kopri.

CRAG-MARTIN (*Ptyonoprogne rupestris*).

There were about half a dozen at Al-Ukhaidhir on 25 April 1958.

BARN SWALLOW (*Hirundo rustica*).

My first record is from near Basra on 1 Feb. 1957, and my first from Baghdad is on 1 March. They become common by the end of March, and leave at the end of September.

RED-RUMPED SWALLOW (*Hirundo daurica*).

During April and May 1957 it was common between Ba'quba and Khanaqin. These were mostly migrants, but there were always a few in some of the wadis in the Jebel Hemrin, where it nests. I found an old nest in one of these wadis. Seen again in the same wadis on 4 and 21 April, 1958.

HOUSE MARTIN (*Delichon urbica*).

Fairly common at Ba'quba during April 1957, and at Al-Ukhaidhir on 25 April 1958. I have not seen them elsewhere.

GOLDEN ORIOLE (*Oriolus oriolus*).

From 28 April to 14 May 1957 it was seen at Zawiyah, Baghdad. Most of them seemed to be females. It did not seem to be uncommon, but it is a retiring bird.

MAGPIE (*Pica pica*).

Common and resident at Baghdad. Seen also at Abu Ghraib, Ctesiphon, Babylon, Shahraban, and Kirkuk, but not at Salahuddin or in the south.

RED-BILLED CHOUGH (*Pyrhcorax pyrrhcorax*).

A large flock was seen in the steep-sided valley west of the Spilik Pass, and a few more in the Rowanduz Gorge, 3-5 Oct. 1957. It seems to be common and is apparently resident.

JACKDAW (*Corvus monedula*).

Not very common in the plain in winter, but found in small numbers. It probably breeds in the Jebel Hemrin, where I found six birds on 31 March 1957 and thereafter, and in the Harir and Rowanduz Gorges, where I found them on 2-5 Oct. 1957.

ROOK (*Corvus frugilegus*).

Common in central Iraq from November to early April. A flock I saw between Ba'quba and Shahraban on 4 April 1958 had a characteristic habit of walking around with their beaks hanging open. Rooks often do this, but I have not noted the habit in other species of *Corvus*.

NORTHERN RAVEN (*Corvus corax*).

Ravens are fairly common birds in the mountains, whence they wander in winter to the foothills. I have seen them at Shahraban, 3 March 1957; in the Jebel Hemrin, 31 March 1957; and at Kirkuk, 28 Sept. 1957, as well as other places in the mountains. These were probably all *laurencei*. But on 13 Oct. 1956 and 27 Jan. 1957, I saw ravens in the desert between

Rutbah and Ramadi and between Baghdad and Felluja respectively, and they were common at Al-Ukhaidhir on 25 April 1958. They were more likely to have been *ruficollis*.

HOODED CROW (*Corvus cornix*).

The northern races (*sharpei* and *sardonius*) are at least as common in central Iraq in winter as the resident *capellanus*, which appears to withdraw in part to the southern portion of the country. I have unfortunately paid insufficient attention to the arrival and departure dates of the northern races. I prefer to keep *cornix* a species separate from *corone*. There are other birds which interbreed to produce fertile hybrids. They are merely examples of birds which have diverged without losing the power to interbreed, as is the general rule. The same consideration applies to *Lanius collurio-cristatus* and *Emberiza melanocephala-bruniceps*. The best, because the most extreme, example is the American warbler pair *Vermivora chrysoptera-pinus*.

SOMBRE TIT (*Parus lugubris*).

Seen on the Spilik Pass and in the Rowanduz Gorge, 3-5 Oct. 1957. They kept close to the ground and were mainly seen in scrub oak.

GREAT TIT (*Parus major*).

Common from Salahuddin to the Rowanduz Gorge, 2-5 Oct. 1957. Generally in scrub oak, but at Shaqlawa also in poplars and nut-trees.

GREATER ROCK-NUTHATCH (*Sitta tephronota*).

Common in the Jebel Hemrin. On 14 April 1957 I heard this nuthatch singing. It has a different call from the Lesser, which I have heard in Lebanon: it consists of a musical "tory-tory-tory-tory", instead of the harsh "wick-wick-wick-wick" of the smaller species. Collecting should be done to find out if the Greater ever calls like the Lesser, and whether the difference in the calls is a valid field distinction. I also saw one quite large bird on the Spilik Pass, 5 Oct. 1957.

LESSER ROCK-NUTHATCH (*Sitta neumayer*).

Among the nuthatches seen and heard on 14 April 1957

were a few that looked a little smaller and gave the typical "wick-wick-wick" call that I have heard the Lesser Rock-Nuthatch give in Lebanon. I have referred these birds to *neumayer*, but that may not be correct.

WHITE-CHEEKED BULBUL (*Pycnonotus leucogenys*).

Common and resident in the Baghdad area. I have also seen them at Ba'quba and Shahraban in Diala liwa. On 29 Sept. 1957 I saw three birds at Kirkuk, whence they have not been previously reported, though they have been found in Mosul. It appears that this bird has extended its range in the last dozen years, as Moore and Boswell had no records from the north as late as 1944.

WREN (*Troglodytes troglodytes*).

One seen in the Public Gardens, Mosul, on 28 Dec. 1953.

SONG THRUSH (*Turdus ericetorum*).

From Nov. 1956 to Feb. 1957 it was fairly common in gardens and orchards at Baghdad.

BLACKBIRD (*Turdus merula*).

I have only seen it in the Public Gardens, Mosul, where it was fairly common on 28 Dec. 1953.

BLUE ROCK-THRUSH (*Monticola solitaria*).

One male seen west of the Spilik Pass, 5 Oct. 1957.

WHEATEAR (*Oenanthe oenanthe*).

Seen on migration at Baghdad, Oct. 1956 and April 1957, and on 20 April 1958 near Ctesiphon. Some of the chats I saw in the desert on 12-13 Oct. 1956 were of this species, but most were *isabellina*. This is the commonest chat in the Baghdad area.

BLACK-EARED CHAT (*Oenanthe hispanica*).

Seen near Baghdad and in the Jebel Hemrin during April 1957.

ARABIAN CHAT (*Oenanthe finschii*).

A few were seen in the desert near Rutbah, 12-13 Oct.

1956, and one in the Jebel Hemrin, 22 Nov. 1956. Between Arbil and Shaqlawa from 1-5 Oct. 1957 this was the commonest chat.

ISABELLINE CHAT (*Oenanthe isabellina*).

Fairly common in the desert between H-4 and Ramadi, 12-13 Oct. 1956. Fall birds are difficult to distinguish from female *O. oenanthe*, but are usually sandier and look longer-legged.

HUME'S CHAT (*Oenanthe albinigra*).

This bird is common and resident locally in many of the wadis of the Jebel Hemrin, where I have seen it in November, January, March, April, May, and August. In April 1957 and 1958, I saw birds carrying nest material and (later) food in their beaks, but I have been unsuccessful in finding the nest. On 21 April 1958 I saw several juvenile birds there. Juveniles have the black upperparts dull instead of glossy, the white breast slightly spotted with black, pale legs, and yellow bills. In adult birds the bill and legs are black. These birds cannot have been long out of the nest.

WHINCHAT (*Saxicola rubetra*).

Seen near Ctesiphon in October and Nov. 1956, and at Felluja and Baghdad in April and early May 1957 and 1958. It is a fairly common bird.

STONECHAT (*Saxicola torquata*).

A common migrant and probably remaining through the winter, though I have records from October, November, February, March and April only. I have paid insufficient attention to the problem of subspecific identification in this species.

COMMON REDSTART (*Phoenicurus phoenicurus*).

A common migrant, for which I have records from October and Nov. 1956 and April and May 1957 and 1958.

BLACK REDSTART (*Phoenicurus ochruros*).

A winter visitor, which I first saw on 22 Nov. 1956, in the Jebel Hemrin. During the winter of 1956-1957 it was fairly

common around Baghdad. I saw a very dark female in a garden in south Baghdad on 2 March 1958.

COMMON NIGHTINGALE (*Luscinia megarhynchos*).

From 26 April to 15 May 1957 it was common in the Zawiyah section of Baghdad. Many were in full song and may well have been breeding, but nests are almost impossible to find in that tangle. Heard again on 31 March and 19 April 1958. A bird I saw on the latter date looked rather grey.

THRUSH NIGHTINGALE (*Luscinia luscinia*).

A bird of this species flew into a low tree at Zawiyah not twenty feet from me on 12 May 1957, giving me an excellent view of its strongly mottled breast. How many other Thrush Nightingales were there it is impossible to say; I have usually got only brief glimpses of nightingales.

BLUETHOAT (*Luscinia suecica*).

One seen in scrub on the bank of the Euphrates at Felluja, 25 Dec. 1956.

ROBIN (*Erithacus rubecula*).

On 28 Dec. 1953 I saw several in the Public Gardens, Mosul, and it was common in gardens and orchards around Baghdad during the winter of 1956-1957.

PERSIAN ROBIN (*Irania gutturalis*).

One was seen in a bushy tree about 20 miles west of Khanaqin on 14 April 1957. This was the only tree for 200 yards, and the bird was reluctant to leave it. It seemed rather sluggish, and not shy.

CHIFFCHAFF (*Phylloscopus collybita*).

Chiffchaffs are common migrants and winter visitors, which I have recorded from September to May. I have seen pale, dull, olive, and brownish Chiffchaffs, and it might be possible for someone who knows the bird well and has access to a reference collection to identify the subspecies in the field, at least in spring.

WILLOW WARBLER (*Phylloscopus trochilus*).

Apparently only a migrant; my records are from April nad May only. They are less common than the Chiffchaff, and like reeds and sedge, less often in trees.

GREAT REED-WARBLER (*Acrocephalus arundinaceus*).

A fairly common migrant, which I have so far seen only in April. One I saw in Zawiyah on 28 April 1957 was very dark (*zarudnyi*?) and another seemed rather smaller and paler (*griseldis*?). Also seen on the Washash Drain on 20 April 1958.

LESSER REED-WARBLER (*Acrocephalus scirpaceus*).

Several were in reeds in the Washash Drain on 20 April 1958. They looked rather dark.

UPCHER'S WARBLER (*Hippolais languida*).

On 24 Aug. 1957 I saw one in a tree at Zawiyah with a House Sparrow, and on 30 April 1958 there were two in a tree outside my office window in Baghdad, where I was able to watch them at a distance of not more than ten feet. This bird closely resembles the Olivaceous Warbler, but is larger and very slightly darker. The color is not reliable for identification, however, and the size is misleading unless both birds are together or it is with another bird of known and comparable size. The Olivaceous Warbler is smaller than a sparrow, the Upcher's the same size. At close range the pale edgings of the primary feathers make streaks on the wing of the Upcher's. The Upcher's has a low, churring alarm note (given by the April birds): a soft "bzzht, bzzht" with a slightly rising inflection. The Olivaceous has this call replaced by a quiet ticking. The Upcher's can best be described as a very brown edition of the Olive-Tree Warbler (*H. olive-torum*), which is figured in Peterson's "Field Guide", and which does not occur in Iraq.

OLIVACEOUS WARBLER (*Hippolais pallida*).

A very common bird around Baghdad in summer, frequenting orchards. My earliest record is 19 April 1958. They sing throughout the summer, at any time of day.

BARRED WARBLER (*Sylvia nisoria*).

A common migrant at Zawiyah during the last two weeks of April and the first two weeks of May, 1957. It was less common on return passage in September.

BLACKCAP (*Sylvia atricapilla*).

I have not found it at all common, and in fact have only seen it once, at Zawiyah on 30 April 1958.

GARDEN WARBLER (*Sylvia borin*).

Seen at Shaqlawa and the Rowanduz Gorge, 2-5 Oct. 1957.

GREATER WHITETHROAT (*Sylvia communis*).

During late April and early May 1957 it was fairly common in the Baghdad area. It is less common than the Lesser Whitethroat.

LESSER WHITETHROAT (*Sylvia curruca*).

One of the commonest migrant warblers in the Baghdad area. My earliest record is 31 March 1958. It is common from mid-April to mid-May.

SARDINIAN WARBLER (*Sylvia melanocephala*).

I have only found them in the weedy fields near the orchards at Zawiyah, where they are common from early April on. They are bad skulkers, more often heard than seen. The ones I have seen all seem to be *mystacea*.

RUFOUS WARBLER (*Agrobates galactotes*).

A very common warbler in the Baghdad area from April to October. I have an early record from Zawiyah, 6 April 1958. Like *Prinia*, they do not mind the heat.

GRACEFUL WREN-WARBLER (*Prinia gracilis*).

A very common and resident warbler, which sings the year round. I saw one carrying nesting material in its beak at Zawiyah on 6 April 1958. These warblers do not seem to mind the heat, and are active and singing even in the furnace-like atmosphere of an August afternoon.

FAN-TAILED GRASS-WARBLER (*Cisticola juncidis*).

Common and apparently resident; I saw several in riverside scrub at Felluja on 1 Jan. 1957. They are most easily

seen in their distinctive spring songflight in April and early May. I have seen this south of Baghdad.

LONG-TAILED BABBLER (*Turdoides caudata*).

I have not often seen this bird, owing chiefly to my having looked in the wrong places. It prefers scrub in rather open localities, but I have twice seen it near the Zawiyah orchards, once on 8 May 1957 and once on 6 April 1958. I have never seen it in palm-groves.

MESOPOTAMIAN BABBLER (*Turdoides altirotis*).

I saw several in the reedbeds at Ezra's Tomb on 2 Feb. 1957. This bird is often considered a race of *T. caudata*, but it seems to me to be distinct. It is dark brown above, slightly lighter below, without noticeable streaks, and with a more arched bill. Ticehurst's party claims to have found it at Khanaqin, apparently breeding, along with the former species. If both these records are correct the birds should not be considered conspecific.

SPOTTED FLYCATCHER (*Muscicapa striata*).

Common on passage in April, May, August and Sept., 1957.

PIED FLYCATCHER (*Muscicapa hypoleuca*).

One female was seen on the grounds of the American Embassy on 19 April 1958. As females are indistinguishable in the field, this could have been *M. h. hypoleuca*, *M. h. semitorquata*, or *M. albicollis*. The great probability, however, is that it was *M. h. semitorquata*.

HEDGE-SPARROW (*Prunella modularis*).

One was seen in the Public Gardens, Mosul, on 28 Dec. 1953.

PIED WAGTAIL (*Motacilla alba*).

Very common from October to March. My latest record is 2 April 1958. I have unfortunately paid no attention to racial identification.

YELLOW WAGTAIL (*Motacilla flava*).

This species is common on passage in March, April, and

early May, and on return passage in August and September. The races are not distinguishable in fall, but in spring they can be identified when seen well. My notes are:

M. f. flava: Blue-grey head; conspicuous eye-stripe starting from bill. Uncommon and chiefly seen in late March or early April. Also noted in August at the Bund Pools.

M. f. dombrowskii: Blue-grey head; eye-stripe starts from eye (but sometimes has indistinct line before eye, though never as distinct as in *flava*). After *feldegg* this is the commonest race. Seen from March to late April.

M. f. thunbergi: Grey crown, blackish cheek, no eye-stripe. Not as common as other races, but commoner than *flava*. I saw three in a large mixed flock near Ctesiphon on 22 March 1958.

M. f. lutea: Greenish crown; looks yellow-headed. Usually later than the other races, but fairly common when it does come. My first record this year is 20 April.

M. f. feldegg: Black crown and cheek. This is the commonest race, and about half or a little less of all Yellow Wagtails in Iraq are this subspecies. Seen throughout the migration period.

TAWNY PIPIT (*Anthus campestris*).

Only once seen, at Al-Ukhaidhir on 25 April 1958.

MEADOW PIPIT (*Anthus pratensis*).

Seen in various places (Ctesiphon, Shahraban, Felluja) from Nov. 1956 to Feb. 1957. Not uncommon, but much less common than the Tree Pipit.

TREE PIPIT (*Anthus trivialis*).

Fairly common in the Baghdad area and Felluja from October 1956 to April 1957. On 22 March 1958 I saw several with Yellow Wagtails and Water Pipits near Ctesiphon. It is less common than the Water Pipit.

RED-THROATED PIPT (*Anthus cervinus*).

Twice seen: a flock of about twenty near Ctesiphon on 10 Nov. 1956, and six or eight with some Yellow Wagtails in the same place on 20 April 1958.

WATER PIPIT (*Anthus spinoletta*).

This is the commonest pipit in Iraq, and can be seen in every month from October to April.

GREAT GREY SHRIKE (*Lanius excubitor*).

Three times met with: south of Baghdad, Dec. 1956; near Shahraban, 3 March 1957; and at Zawiyah, Baghdad, 11 Aug. 1957. The last was an immature bird.

LESSER GREY SHRIKE (*Lanius minor*).

Common during early May 1957 between Baghdad and Khan Bani Saad. First seen this year on 20 April, and it began to be common from 25 April on.

WOODCHAT SHRIKE (*Lanius senator*).

I have seen these birds chiefly at Zawiyah, where they are fairly common in April, May, August and September.

MASKED SHRIKE (*Lanius nubicus*).

Fairly common at Zawiyah during the last two weeks of April and the first two weeks of May 1957. First seen this year near Karbala, 25 April.

RED-BACKED SHRIKE (*Lanius collurio*).

This is the commonest shrike in Iraq. In April, May, August, September, and October it is common in the Baghdad area. Also seen at Felluja and in the Jebel Hemrin in April 1957 and 1958 respectively, and at Salahuddin in Oct. 1957.

RED-TAILED SHRIKE (*Lanius cristatus*).

One, apparently *isabellinus*, was seen just south of Baghdad on 2 Nov. 1956. Another bird was seen near Shaqlawa on 2 Oct. 1957. It resembled *collurio* except for its rufous tail.

STARLING (*Sturnus vulgaris*).

Common and widely distributed from November to April. They are usually in rather smaller flocks than I have seen them in Europe and the United States. The largest flock I have seen was near Ctesiphon in early April 1957, and contained about 200 birds. The races of the Starling are not distinguishable in the field. Apparently some races are not distinguishable in the hand either.

DESERT ROCK-SPARROW (*Petronia brachydactyla*).

I found this sparrow for the first time in the Jebel Hemrin on 4 April 1958. There was a loose flock of from 20 to 40 birds. By 12 April they had mostly gone; I could find only half a dozen. They have a brown tail with a dark sub-terminal bar and white tips, and a peculiar call: a wiry trill more like the song of an insect than a bird and reminding the listener of a cicada. They also have a number of sparrow-like chirping notes.

YELLOW-THROATED ROCK-SPARROW (*Petronia xanthocollis*).

I first met with this bird at Felluja on 30 Dec. 1956, where had commenced building a nest, which was in a hole in a palm tree about fifteen feet from the ground. I often saw them thereafter.

HOUSE SPARROW (*Passer domesticus*).

Very common and resident. They sometimes build their nests on the cross-bar of a telephone pole, and some are apparently nesting in the base of a stork's nest at Za'afaraniyah.

SPANISH SPARROW (*Passer hispaniolensis*).

I first met with this bird at Felluja on 30 Dec. 1956, where there was a flock of 20-30 birds. I saw it in March 1957 at Shahraban, and on 28 March 1958 I saw an enormous flock south of Baghdad. There were at least 500 birds, and possibly as many as 1000.

SCRUB or DEAD SEA SPARROW (*Passer moabiticus*).

During April and May 1957 and April 1958 they were common at Zawiyah. They breed there, and in late April 1958 they were busily building or repairing nests. But I do not think they had started to lay yet.

CHAFFINCH (*Carduelis carduelis*).

On 3 March 1957 I found it common at Shahraban, in weeds and scrub. It was with Corn Buntings and Spanish Sparrows. Also common at Shaqlawa on 2 Oct. 1957, where large flocks came to roost in the poplars in the evening. Fairly common in March 1958 at Zawiyah.

LINNET (*Acanthis cannabina*).

One female was seen in the Jebel Hemrin on 3 March 1957.

CORN BUNTING (*Emberiza calandra*).

In most seasons of the year this is the commonest bunting in Iraq, though in migration large flocks of other species are often found. During March and April 1957 and 1958 it was common between Ba'qubah and the Jebel Hemrin. I think it may breed in that area. I have only one record from the central plain: one seen near Ctesiphon on 31 March 1958.

ORTOLAN BUNTING (*Emberiza hortulana*).

On 21 April 1958 this bunting was common from Baghdad to the Jebel Hemrin. Our car passed flock after flock. I also saw it at Felluja in April 1957, but not in such numbers.

CINEREOUS BUNTING (*Emberiza cineracea*).

Only once seen, in a wadi in the Jebel Hemrin near Shah-raban on 4 April 1958. It had olive upper-parts and breast-band, and yellow throat and belly. This was certainly *E. c. semenowi* on its way to Kurdistan.

**FIELD NOTES ON AUTUMN MIGRATION IN THE
KHANAQIN AREA IN 1958**

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(Received Oct. 20, 1958)

INTRODUCTION

The area covered by these notes is mainly that in the immediate vicinity of the Alwand Refinery which is situated 4 miles east of the town of Khanaqin in Diala Liwa, and about 90 miles north-east of Baghdad. The refinery stands some 600 feet above mean sea level in what is geographically termed the desert foothills region of the Jebel Hemrin mountain range. The horizon to the north and east is bounded by the towering heights of the Kurdish and Pusht-i-ku Mountains. The Persian frontier is only 6 miles distant. Some observations made at Naft Khaneh on the Ab-i-Naft River, some 22 miles south-east of Khanaqin, are also included, a few odd records from localities on the road between Khanaqin and Baghdad are given for the sake of completeness.

There are two rivers near the Alwand Refinery which seem to have a considerable influence on migration. The Alwand River which even in the summer is quite deep and wide rises in the Pusht-i-ku Mountains and flows through Khanaqin from the E.N.E. and eventually joins the Diala River. The second river is the perennial Khirr-i-Pika which approaches the refinery from almost due east and joins the Alwand River just west of the refinery. Throughout the summer and autumn this river is almost entirely a shallow stony bed with isolated stretches of water, many of the wader records are from this river. Both these river valleys are followed by migrating hirundines and other birds, details of which appear in the systematic list. It is probable that the birds passing down these valleys have in point of fact travelled south along the line of the Kurdish and Persian mountains and turned off into these river valleys which are easily followed physical features leading in the approximate desired direction. The observer at Khanaqin therefore receives the impression that migrants are coming from more or less due east when in fact many of them probably commenced their journey north of Iraq.

Migrating birds are no doubt also attracted to these river valleys because of the greater abundance of food in the vicinity of water as compared to the relatively barren surrounding desert. There is a wealth of insect life by and above the water, and most of the stretches of water in the Khirr-i-Pika teem with small fish attractive to terns. By the River near the refinery there is a certain amount of riverain scrub and a small piece of marsh which has proved very attractive to herons. The refinery gardens with many Oleander bushes and Eucalyptus and other trees provide cover and food for various species.

These notes cover the period July to September 1958, but there are also a few records relating to late June at which time some early autumn migrants appeared. The term "migrant" as used here embraces all those species recorded in the area as non-breeding; species which bred in the area and later migrated, *i.e.* Rufous Warbler; and species which breed elsewhere in Iraq but did not appear in the Khanaqin area until after the breeding season, *i.e.* Squacco Heron, these are referred to as local migrants.

In the systematic list which follows I have adopted the scientific nomenclature used by Col. R. Meinertzhagen in his *Birds of Arabia* (1954) as this is now the standard work on the avifauna of this area. Binomial names only are used except in cases where the subspecies is identifiable in the field, the races occurring in Iraq can be ascertained by reference to the *Avifauna of Iraq* by Bashir E. Allouse (1953).

SYSTEMATIC LIST

HERON. *Ardea cinerea* L.

One by the Khirr-i-Pika on 24th August; two by the Alwand River on 2nd and 4th September, and single birds there on 17th, and 27th September.

PURPLE HERON. *Ardea purpurea* L.

A local migrant first recorded on 17th August when an immature bird was seen fishing in the Alwand River. Two flew down the Alwand on 24th August and disappeared to the west. One by this river on 31st August. On 9th September there were three by the Alwand River and one by the Khirr-i-Pika. A flock of 10 were

feeding by the Alwand on the afternoon of 12th September and later roosted in an adjacent date palm garden; what was presumably the same flock had increased to 16 by 17th September, but were not seen thereafter.

SQUACCO HERON. *Ardeola ralloides* (Scopoli).

Another local migrant, the first record of which was a flock of eight birds by the Alwand River on 28th August; there were 14 in the same spot on 31st August; 7 on 4th September, and 20 on 12th September; last record, three on 17th September. There were no adults in any of these flocks.

LITTLE EGRET. *Egretta garzetta* (L.)

A local migrant; single birds seen by the Alwand River on 28th August and 12th and 17th September, and by the Khirr-i-Pika on 3rd September.

NIGHT HERON. *Nycticorax nycticorax* (L.)

A local migrant of which a flock of 6 adults and 25 immature birds were seen by the Alwand River on 12th September. One immature bird was seen in the same place on 21st September. Chapman and McGeoch (*Ibis* 1956:580) comment on the high proportion of immature birds in flocks seen at Habbaniya.

WHITE STORK. *Ciconia ciconia* (L.)

A flock of about 300 individuals, accompanied by three Black Kites, drifted over the refinery from the N.N.E. at 10.45am on 10th September. They entered a thermal current and slowly spiralled to a great height, finally drifting off southwards.

GLOSSY IBIS. *Plegadis falcinellus* (L.)

One flying over the Alwand River on 15th July, and two on 25th July.

GARGANEY. *Anas querquedula* L.

A female on the Alwand River on 28th August.

TEAL. *Anas crecca* L.

Three on the Alwand River on 27th September.

MARbled DUCK. *Anas angustirostris* Menetries.

One on the Alwand River on 17th September.

BLACK KITE. *Milvus migrans* (Boddaert).

First noted on 14th August when between 50 and 60 passed over the refinery from N.E. to S. at 6.30pm; variable numbers were present in the area thereafter. There were 30 in a thermal at 6pm. on 28th August. On 9th September there were 90 on the ground or in the air by the Khirr-i-Pika River. A great many were passing over the refinery from N. to S. on the morning of 10th September.

STEPPE BUZZARD. *Buteo buteo vulpinus* (Gloger).

There were six circling over the refinery at varying heights with other raptors on the morning of 10th September.

IMPERIAL EAGLE. *Aquila heliaca* Savigny.

One over the refinery on 10th September, and another in a tree in the refinery gardens on the evening of 20th September.

GRIFFON VULTURE. *Gyps fulvus* (Hablizl).

Seen more frequently during August and September than during the preceding months and some were definitely moving south.

EGYPTIAN VULTURE. *Neophron percnopterus* (L.)

The remarks made under the preceding species also apply here, but this was a much more numerous species and was recorded almost daily during September. On 12th September there were 14 in a more or less compact bunch circling and drifting slowly to the south over the refinery.

HARRIERS:

There was a constant passage of harriers from late August onwards, mostly from north to south or south-west. The majority of the birds seen were females or immatures, the precise field identification of which is practically impossible. Sufficient identifications were made, however, to show that three species were involved. The field identification of female and immature harriers seen in Iraq is rendered difficult by the fact that four species are known to occur, and of these only the Marsh Harrier (*Circus aeruginosus* (L.)) is distinctive enough in all plumages to be readily identifiable. The remaining three species, Hen, Montagu's and Pallid Harriers, present the following problems in the field identification of females and immature birds:—

Hen Harrier — The female is to all intents and purposes indistinguishable in the field from the female Montagu's or Pallid Harrier, but individuals with extensive clear white rump patches can tentatively be accepted as Hen Harrier. The juvenile can be separated from the juvenile Montagu's or Pallid Harrier by having streaked instead of unstreaked underparts, but generally cannot be distinguished from the female of its own species, and in consequence not from the female Montagu's or Pallid Harrier either.

Montagu's Harrier — Female generally indistinguishable from the female Hen or Pallid Harrier or juvenile Hen Harrier, but there is a melanistic variety which is quite distinctive. The juvenile differs from the juvenile Hen Harrier by having unstreaked rufous underparts but cannot be separated from the juvenile Pallid Harrier which has similar underparts.

Pallid Harrier — The female is indistinguishable in the field from the female Hen or Montagu's Harrier. The juvenile is separable from the juvenile Hen Harrier by the unstreaked rufous underparts but does not differ from the juvenile Montagu's.

HEN HARRIER. *Circus cyaneus* (L.)

Single females or immature birds with strikingly large white rump patches seen at close quarters near the refinery on 9th and 15th September were considered to be of this species.

PALLID HARRIER. *Circus macrourus* (Gmelin).

A male in perfect plumage seen hunting along the Khirr-i-Pika River on 3rd September.

MONTAGU'S HARRIER. *Circus pygargus* (L.)

A female of the melanistic variety, with completely dark chocolate brown plumage, seen by the Khirr-i-Pika on 21st August. I am not aware of the occurrence of a melanistic variety in the Hen or Pallid Harrier, and for this reason accepted this bird as being of the present species.

PALLID/MONTAGU'S HARRIER

Juveniles with unstreaked rufous underparts were recorded as follows — one by the Khirr-i-Pika on 3rd September; one with brilliant rufous underparts near the Alwand River on 21st September, and another with less brilliant plumage in the same place on 27th September.

HARRIER sp.

Two flew low over the refinery on 9th September.

SAKER FALCON. *Falco rusticolus cherrug* Gray.

An adult and a juvenile by the Khirr-i-Pika River on 24th August.

LESSER PEREGRINE FALCON. *Falco peregrinus brookei* Sharpe.

An adult seen by the Alwand River on 28th August.

HOBBY. *Falco subbuteo* L.

One on a ploughed field near the Khirr-i-Pika on 9th September was apparently very tired as it was most reluctant to fly.

LESSER KESTREL. *Falco naumanni* Fleischer.

Meinertzhagen (1954) states "The migration of this bird from Asia to Africa is obscure and the solution of passage probably is

to be found in Arabia". The only known autumn records from Iraq were of passage at Baghdad during the first ten days of October 1917 (see C.B. Ticehurst in *Survey of Iraq Fauna* p. 308), and one at Badrah on 21st October, 1943. On 24th September eight flew over the refinery to the south, and shortly after at 5.30pm. about 60 came in from the E.N.E. and after hawking over a date palm garden adjacent to the refinery they eventually roosted in a tall eucalyptus tree. These birds were accompanied by about a dozen Kestrels which remained behind when the Lesser Kestrels left the next day.

CRANE. *Grus grus* (L.)

A large number were heard passing over the refinery at 10pm. on 9th September apparently heading southwards. On the evening of the previous day (8th September) and on the evening of the 9th some 200 were seen near Balkana 18 miles N.N.W. of Naft Khaneh, as they could not be located thereafter it is evident that these were migrants passing through the area.

Migration on this scale so early in the autumn does not seem to have been recorded very often by previous observers. Meinertzhagen (*Ibis* 1924:624) did not notice them in numbers until late November 1922; Moore and Boswell (*Iraq nat. Hist. Mus. Publ. No. 9: 61-62*) do, however, mention seeing flocks of 150 and 200 at Seramadia in early September 1944 passing due south.

RINGED PLOVER. *Charadrius hiaticula* L.

One by the Khirr-i-Pika river on 21st August, and two on 27th August.

LITTLE RINGED PLOVER. *Charadrius dubius* Scopoli.

This species bred in the Khanaqin area, but flocks of nine and 18 by the Khirr-i-Pika on 12th and 30th July respectively were probably migrants.

KENTISH PLOVER. *Charadrius alexandrinus* L.

An immature bird by the Khirr-i-Pika river on 27th August.

REDSHANK. *Tringa totanus* (L.)

Single birds by the Khirr-i-Pika on 26th June, 30th July, 3rd September, and 15th September.

MARSH SANDPIPER. *Tringa stagnatilis* (Bechstein).

Two by the Khirr-i-Pika on 20th June. Three by the Alwand River on 7th July. Single birds by the Khirr-i-Pika on 12th July, and by the Alwand River on 15th August.

GREENSHANK. *Tringa nebularia* (Gunnerus).

All the records refer to birds seen by the Khirr-i-Pika. Two on 9th July, at least four on 8th August, three on 21st August, two on 24th August, one on 3rd September and one on 15th September.

GREEN SANDPIPER. *Tringa ochropus* L.

A common species, first recorded by the Khirr-i-Pika on 26th June when there were four present. Three by this river on 30th July, and thereafter recorded constantly here or by the Alwand River. Maximum numbers seen at any one time, five on 24th August, eight on 27th August, and five on 27th September.

WOOD SANDPIPER. *Tringa glareola* L.

Three by the Khirr-i-Pika on 24th August, and single birds on 27th and 31st August. One by the Alwand River on 17th September.

COMMON SANDPIPER. *Tringa hypoleucos* L.

Three by the Khirr-i-Pika on 9th July, one on 12th and two on 30th July. A flock of 14 by the Alwand River on 13th July, and another of five on 17th and 31st August.

COMMON SNIPE. *Capella gallinago* (L.)

Single birds seen by the Alwand River on 27th July, and 17th and 31st August.

WOODCOCK. *Scolopax rusticola* L.

One flew over the Alwand Refinery on 30th September.

DUNLIN. *Calidris alpina* (L.)

Three by the Khirr-i-Pika on 24th August, and four on 27th August. A flock of 16 were feeding by the Alwand River on 31st August.

BLACK-WINGED STILT. *Himantopus himantopus* (L.)

A local migrant. Three by the Alwand River on 15th August; six males and five females on 17th August, and three on 31st August.

STONE CURLEW. *Burhinus oedicnemus* (L.)

Although scattered pairs bred in the Khanaqin area it seems probable that the majority of the birds seen were migrants from elsewhere. A flock of 11 on an area of stony ground by the Alwand River on 13th July had increased to 12 by the 25th July, 14 by 12th August and 22 on 15th August. They were not seen again after the latter date.

WHISKERED TERN. *Chlidonias hybrida* (Pallas).

A flock of 15 seen along the Khirr-i-Pika on 25th June, and five on 26th June, were presumably wanderers from a breeding site elsewhere in Iraq.

COMMON TERN. *Sterna hirundo* L.

Two adults and two juveniles over the Khirr-i-Pika on 9th July may have been local breeding birds, but two juveniles over the Alwand River on 15th August and an adult on 17th September appeared to be migrants.

LITTLE TERN. *Sterna albifrons* Pallas.

One fishing in the Alwand River on 13th September.

TURTLE DOVE. *Streptopelia turtur* (L.)

A flock of 12 over the Alwand Refinery on 28th August. Flocks of 23, 12, 35 and 40 flying down the Khirr-i-Pika on 3rd September. On 15th September a total of 85 passed down this river between 5.30pm and 5.45pm.

NIGHTJAR. *Caprimulgus europaeus* L.

One in a garden at Alwand Refinery on 13th September was very tired and allowed a close approach.

EGYPTIAN NIGHTJAR. *Caprimulgus aegyptius* Lichtenstein.

Not noticed in the area during the breeding season, so that single birds seen on stony ground by the Alwand River on 13th July and 17th September were presumably migrants.

SWIFT. *Apus apus* (L.)

Very few recorded. Six over the refinery on 12th August and 12 on 19th August.

EUROPEAN BEE-EATER. *Merops apiaster* L.

Although scattered pairs breed in the Khanaqin area it would seem to be much more numerous on migration. A flock of 20 was seen over the Alwand River on 31st August. Between 15 and 20 roosted in a poplar tree in the refinery grounds on the evening of 1st September and for several subsequent evenings. At 5pm. on 4th September a flock of 20 came in very high from the N.N.E. and dropped down to the river. There were 24 on telegraph wires in the refinery on 8th September; 40 on 13th September, and at least 80 on 14th September. About 60 birds roosted in a eucalyptus tree in the refinery gardens on 21st September, and 35 on 30th September.

HOOPOE. *Upupa epos* L.

A common passage migrant, the first noticed being two near the the refinery on 25th July. During August and September it was recorded almost daily, with maxima of five on 13th September. There were five at Naft Khaneh on 22nd August.

WRYNECK. *Jynx torquilla* L.

One in a garden at the refinery and another by the Alwand River on 31st August. Single birds seen in the refinery area on 8th, 18th, 22nd and 25th September.

SHORT-TOED LARK. *Calandrella cinerea* (Gmelin).

A party of about six near Kani Masi on the Naft Khaneh road on 19th September.

SAND MARTIN. *Riparia riparia* (L.)

The first indications of autumn passage were a few over the Alwand River on 17th August, and along the Khirr-i-Pika on the 21st and 24th August. Between 6pm. and 7pm. on 28th August about 250 passed down the Alwand Valley. On 3rd September there was an extremely large scale movement down both the Alwand River and the Khirr-i-Pika heading S.W., many hundreds of birds were involved. Passage of this species continued on a reduced scale throughout the remainder of September.

SWALLOW. *Hirundo rustica* L.

Common, both as a breeding species and passage migrant.

GOLDEN ORIOLE. *Oriolus oriolus* (L.)

A female in scrub by the Alwand River on 4th September, and a female or immature bird in the refinery gardens on 9th September.

JACKDAW. *Corvus monedula* L.

Flocks seen near the refinery as follows — 12 on 3rd September, 15 on 12th September, 10 on 15th September, 13 on 19th and 21st September, and 14 on 22nd September.

WHEATEARS :

Wheatears commenced to appear in the area in early August, and rapidly became numerous. The field identification of wheatears in autumn plumage is not always easy, particularly in an area where several species may be expected to occur. In the Khanaqin and Naft Khaneh areas many more wheatears were seen than were specifically identified and listed below. The following records are of definite identifications based on satisfactory views, in all cases the tail pattern, which is an important character, was seen and noted. Fortunately this character shows to advantage when the bird is flying away from the observer.

WHEATEAR. *Oenanthe oenanthe* (L.)

At least three by the Khirr-i-Pika on 8th August; about 10 on 21st August, and four on 27th August. A number present in the Naft Khaneh area on 22nd August.

DESERT WHEATEAR. *Oenanthe deserti* (Temminck).

One seen in the desert east of the refinery on 28th July, and three near the Khirr-i-Pika on 30th July. Thereafter up to two were seen in the same area on 3rd September, 9th September and 15th September.

BLACK-EARED WHEATEAR. *Oenanthe hispanica* (L.)

A male in transitional plumage seen near the Khirr-i-Pika river on 9th September; one in the same area on 10th September, and two near Kani Masi on the Naft Khaneh road on 10th September.

ISABELLINE WHEATEAR. *Oenanthe isabellina* (Temminck and Laugier).

Two near the refinery on 14th and 21st August. At least three at Naft Khaneh on 22nd August. Single birds near the refinery on 3rd and 9th September, one at Naft Khaneh on 10th September, and one near Khanaqin on 15th September.

WHINCHAT. *Saxicola rubetra* (L.)

One by the Alwand River on 31st August.

STONCHAT. *Saxicola torquata* (L.)

A pair near the refinery on 28th August.

REDSTART. *Phoenicurus phoenicurus* (L.)

One in the refinery gardens on 14th September; two on 16th September; one from 17th-20th September, and at least three on 21st September.

THRUSH-NIGHTINGALE. *Luscinia luscinia* (L.)

One in the refinery gardens on 30th September.

BLUETHROAT. *Luscinia svecica* (L.)

One at Naft Khaneh on 20th August, and two near the Alwand River on 28th August.

CHIEF-CHAFF. *Phylloscopus collybita* (Vieillot).

One at Naft Khaneh on 10th September.

WILLOW WARBLER. *Phylloscopus trochilus* (L.)

A single bird in the refinery gardens on 25th and 27th July, and two on 28th July. At least six in a garden at Naft Khaneh on 22nd August.

CETTI'S WARBLER. *Cettia cetti* (Temminck).

First recorded on 27th September when there were at least four in irrigation ditches near the Alwand River. They may well have been present before this date as their skulking habits make them difficult to locate.

REED WARBLER. *Acrocephalus scirpaceus* (Hermann).

Single birds in reeds by the Alwand River on 31st August and 4th September.

UPCHER'S TREE WARBLER. *Hippolais languida* (Hemprich and Ehrenberg).

A single bird believed to be of this species was seen in a garden at Naft Khaneh on 22nd August. I am not aware of any character, apart from that of song, by which this species may be distinguished in the field from the Olivaceous Warbler *Hippolais pallida*, a species which was present in the Khanaqin area during the breeding season but was absent from Naft Khaneh. The bird under discussion was examined at close quarters, and apart from some minor plumage differences compared with Olivaceous Warblers seen at Khanaqin earlier in the year, this bird was larger than that species, being probably about the size of a Garden Warbler *Sylvia borin*.

SARDINIAN WARBLER. *Sylvia melanocephala* (Gmelin).

This species was not found in the Khanaqin area at all during the breeding season despite the existence of suitable habitat. A female seen in scrub by the Alwand River on 27th September is the only record.

LESSER WHITETHROAT. *Sylvia curruca* (L.)

One in a garden at Naft Khaneh on 22nd August.

SPECTACLED WARBLER. *Sylvia conspicillata* Temminck.

One in a garden at Naft Khaneh on 22nd August. This individual was discovered in a small patch of a cushion-type plant no

more than four inches in height, and it did not leave this cover until almost trodden on. It was flushed from this situation on several occasions during the afternoon. This close skulking habit is a characteristic of the species.

This appears to be only the second record of the Spectacled Warbler for Iraq, the first being a bird obtained by Col. R. Meinertzhagen near Baghdad on 11th January, 1923 (*Ibis* 6 (4): 614).

RUFOUS WARBLER. *Erythropygia galactotes* (Temminck).

This is a common breeding species in the Khanaqin area, but virtually all had deserted the area by late August.

SPOTTED FLYCATCHER. *Muscicapa striata* (Pallas).

At least single birds present in the refinery gardens from 30th August to the end of September; on 17th September there were at least five present.

YELLOW WAGTAILS:

The Yellow Wagtails are a group that have been a headache to taxonomists and field ornithologists alike for many years. Among field ornithologists there are two schools of thought, at one extreme are those who say that these birds should just be called "Yellow" Wagtails and nothing more, at the other are those who profess to be able to identify at least some of the subspecies in the field. The truth, to my mind, is that in the field identification of this group one cannot be too dogmatic. Undoubtedly many of the subspecies in their typical state, particularly the males, are readily identifiable in the field, the females and immature birds are certainly very difficult and in many cases impossible to place subspecifically. It is also an undisputable fact that the Yellow Wagtails are a highly variable group, and as a result the field observer will periodically encounter individuals which just cannot be assigned to any particular subspecies and must merely be recorded as "Yellow" Wagtails. So far I have not had the misfortune to encounter any of these misfits in Iraq. My records to date cover the subspecies listed below, but many other wagtails were seen flying over but could not be named.

GREY-HEADED WAGTAILS. *Motacilla flava dombrowskii*
(Tschusi).

An adult male with a party of *M. f. feldegg* by the Alwand River on 31st August. Four adult males and a probable female by the Khirr-i-Pika on 3rd September. One male with four *M. f. feldegg* by the Alwand River on 4th September.

Motacilla flava thunbergi Billberg.

A male by the Khirr-i-Pika on 27th August, and another in the same place with five *M. f. dombrowskii* on 3rd September.

YELLOW WAGTAIL. *Motacilla flava lutea* (Gmelin).

One near the refinery on 12th September. Three feeding among donkeys near the Khirr-i-Pika on 15th September. Two or three nearly always present on lawns in the refinery grounds from 16th to 30th September.

BLACK-HEADED WAGTAIL. *Motacilla flava feldegg* Michahelles.

A party of two males and four females by the Alwand River on 31st August, and four in the same place on 4th September. Two at Naft Khaneh on 11th September. Three in the refinery grounds on 16th September.

GREY WAGTAIL. *Motacilla cinerea* Tunstall.

Single birds by the Alwand River on 31st August and 17th September.

TREE PIPIT. *Anthus trivialis* (L.)

One in the refinery grounds on 30th August, and five in the vicinity of the Alwand River on 12th September.

GREAT GREY SHRIKE. *Lanius excubitor* L.

One near the Khirr-i-Pika on 15th September.

LESSER GREY SHRIKE. *Lanius minor* Gmelin.

Three at Naft Khaneh on 22nd August. One near the Khirr-i-Pika on 24th August. Single birds in the refinery gardens on 30th August, and 2nd and 3rd September. One near the refinery on 9th September. One at Naft Khaneh on 10th September, and two by the Khirr-i-Pika on 15th September.

WOODCHAT SHRIKE. *Lanius senator* L.

Single birds recorded as follows:— near the refinery on 17th August, at Naft Khaneh on 22nd August, by the Alwand River on 31st August, and one killed by flying into telegraph wires near the refinery on 6th September.

MASKED SHRIKE. *Lanius nubicus* Lichtenstein.

An adult in the refinery gardens on 30th August; one in the refinery and another near the Alwand River on 31st August. Three immature birds in the refinery gardens on 4th September. From 8th-17th September one or two birds were present in the refinery gardens almost daily.

RED-BACKED SHRIKE. *Lanius cristatus collurio* L.

A male near the refinery on 15th August. A pair in a garden at Naft Khaneh on 22nd August. Two immature birds and an adult male in the refinery gardens on 26th August; a pair on 29th August, and a male on 30th August. One by the Alwand River on 31st August and 4th September. Two near the refinery on 17th September. One by the Alwand River on 21st September, and two on 27th September.

ISABELLINE SHRIKE. *Lanius cristatus isabellinus* Hemprich and Ehrenberg.

An adult female in a garden at Naft Khaneh on 10th September.

PALE (DESERT) ROCK SPARROW. *Petronia brachydactyla* (Bonaparte).

A flock of about 250 on a large stubble field near the junction of the Naft Khaneh/Baghdad road on 11th July.



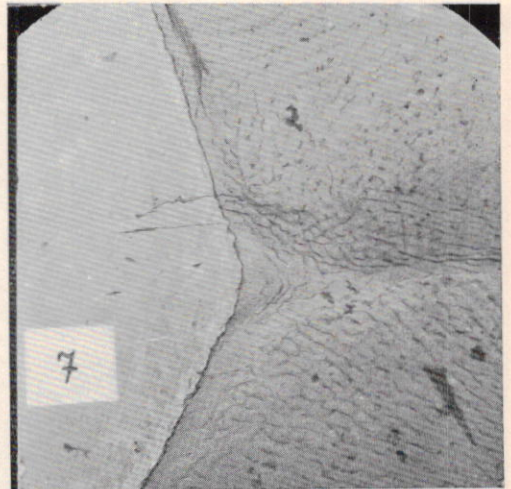
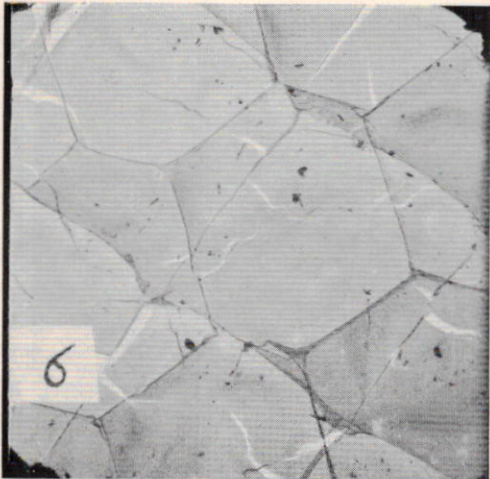
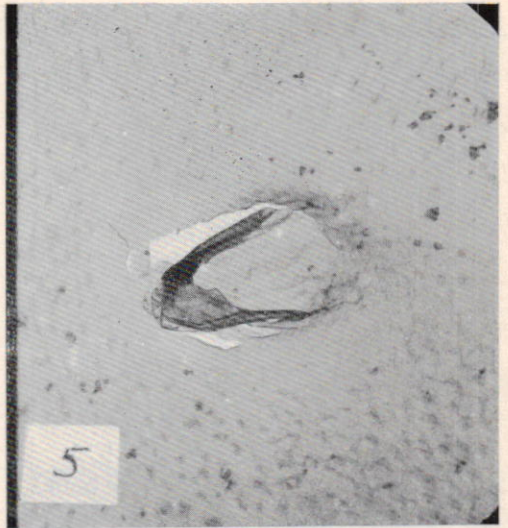


PLATE II.

Shadowed replicas of the Cuticle of the fly *Sarcophaga*.

- (4) Upper surface of wing (X 1200).
- (5) Upper surface of wing (X 7200).
- (6) The surface of the compound eye (X 1200).
- (7) The surface of the compound eye (X 7200).

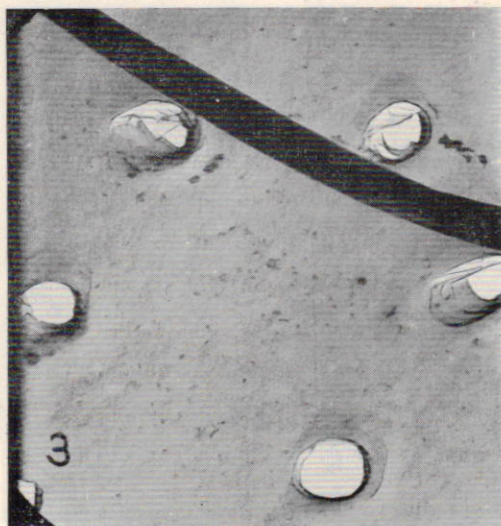
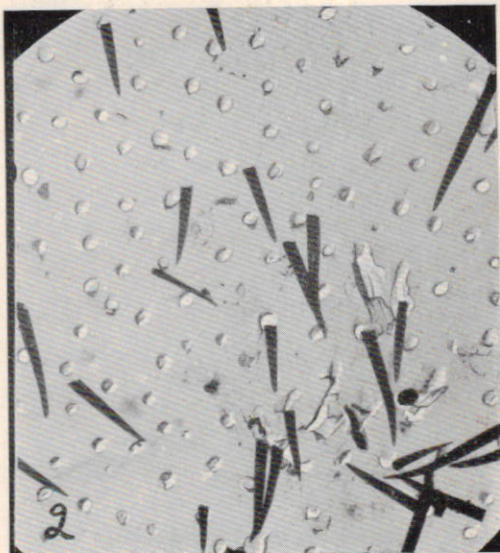


PLATE I.

Shadowed replicas of the Cuticle of the fly *Sarcophaga*.

- (1) and (2) Dorsal surface of abdomen (X 1200).
(3) Dorsal surface of abdomen (X 7200).

THE ELECTRONMICROSCOPY OF THE CUTICLE OF THE FLY SARCOPHAGA⁽¹⁾

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(Received Oct. 25, 1958)

Material And Methods

This is another part of a series of electronmicroscope studies of insect cuticle carried out by the present author. For this, the replica technique was applied as described in a previous work⁽²⁾. It is here summarised as follows:—

The impressions were made on triafol rectangles moistened with acetone. The replicas were then shadowed in high vacuum, both at an angle and vertically, with SiO vapour. A thin layer of paraffin was then formed on the shadowed surface. The triafol dissolved in methyl acetate. The proper size of the paraffin block was then placed on the specimen screen, shadowed surface downwards, and the paraffin dissolved in toluol, leaving the shadowed film only on the screen. The electronmicroscope used was Siemens and Halske, type 100B.

The dimensions of structures in the micrographs can be estimated, given that each centimeter is approximately equal to 1.2 microns in X 7200 and 8 microns in X 1200.

Observations.

The dorsal surface of the abdomen is crowded with huge numbers of microtrichia, each about 15 microns long (Fig. 1). In this micrograph the hairs have no light shadows. They were torn off the cuticle and embedded completely in the triafol, therefore causing no shadows for they were not projecting on the surface of the replica. On dissolving the triafol, however, those hairs continued to be attached to SiO film and appeared dark under

(1) This study was made in the laboratories of **Forschungsgruppe für Mikromorphologie im Fritz-Haber Institut, Berlin.**

(2) Khalaf, K. T. Electronmicroscope study of the cuticle surface of the Cockroach. Iraq nat. Hist. Mus. Publ. No. 14: 4-7.

the electronmicroscope. Figs. 2 and 3 show a region of SiO film from which most of the hairs dropped off on dissolving the triafol, leaving nodules or holes instead. The nodules in the replica represent small indentations in the surface of the cuticle at the base of the trichia. When the hairs were severed, on dissolving the triafol, those nodules are often torn, partially or completely. In the latter case, only holes are left. A similar situation was encountered in the surface of the thorax and wing (Figs. 4 and 5).

In this study, impressions for the compound eyes were also prepared. The facets are hexagonal (Fig. 6). They are separated from each other by grooves (Fig. 7). The last micrograph shows that the general surface of the cornea is not smooth. On the contrary, it is marked by microgrooves.

ADDITIONS TO THE MUSEUM'S MAILING LIST.

Since the publication of our mailing list in No. 14 of this series, a number of museums and institutions expressed their desire to exchange their scientific publications with our series, or accepted our offer to do so. Their addresses are inserted below, together with the titles of their publications. Certain corrections to our previous list are also indicated.

Institution's name	Publications received in exchange
<p>CHINA Academia Sinica, 117 Chao Yang Men St., Peking.</p>	<p><i>Scientia Sinica.</i> <i>Acta Zoologica Sinica.</i> <i>Acta Botanica Sinica.</i></p>
<p>CZECHOSLOVAKIA Slovenska Akademia Vied, Klemensova 27, Bratislava.</p> <p>Krasjé Vlastivédné Museum Z. Nejedlého, Hradci Králové.</p> <p>Societas Zoologica Bohemoslo- venica, Vinicna 7, Prague II.</p> <p>Societas Entomologica Bohemo- slovenica, Vinicna 7, Prague II.</p>	<p>Publication on the fauna and flora of Slovenia.</p> <p><i>Acta Musei Reginaehradecensis.</i></p> <p><i>Acta Soc. Zoologica Bohemoslo- venicae.</i> (Corrected from the previous list)</p> <p><i>Acta Soc. Entomologicae Cechoslo- veniae.</i> (Corrected from the previous list)</p>
<p>FRANCE Office de la Recherche Scientifique et Technique d'Outre-Mer, 20 Rue Monsieur, Paris VII.</p>	<p><i>Bull. Signalétique d'Entom. Medi- cale et Veterinaire.</i></p>

Additions to the Museum's mailing list.

<p>GERMANY Zoologisches Staatsinstitut u. Zool. Museum, Bornplatz 5, Hamburg 13.</p> <p>Zoologisches Forschungsinstitut u. Museum A. Koenig, Koblenzer Strasse 150-164, Bonn.</p> <p>Zoologische Sammlung des Bayerischen Staates, Menzinger Strasse 67, München.</p> <p>Staatl. Museum für Naturkunde, Schloss Resenstein, Stuttgart (14-A), O.</p>	<p><i>Mitt. Zoologisches Museum u. Institut.</i></p> <p><i>Bonner Zoologische Beiträge.</i></p> <p><i>Veröff. der Zoologischen Staats- sammlung München. Opuscula Zoologica.</i></p> <p><i>Stutt. Beiträge zur Naturkunde.</i> (Added to the previous list)</p>
<p>HOLLAND Rijksmuseum van Natuurlijke Historie, Leiden.</p> <p>SPAIN Universidad de Madrid, San Bernardo 49, Madrid.</p>	<p><i>Zool. Verhandelingen.</i> (Added to the previous list)</p> <p><i>Revista de la Univ. de Madrid.</i></p>
<p>UNITED ARAB REPUBLIC (Egypt). National Research Center of Egypt, Dokki, Cairo.</p> <p>Entomological Society of Egypt, P. O. Box 430, Cairo.</p> <p>University of Alexandria, Faculty of Science, Alexandria.</p>	<p><i>Documentation Bulletin.</i> <i>Egyptian Journal of Geology.</i> <i>Egyptian Journal of Botany.</i></p> <p><i>Bull. Soc. Entomologique d'Egypte.</i></p> <p>Papers by members of staff.</p>

PUBLICATIONS
OF
THE IRAQ NATURAL HISTORY MUSEUM

No.

1. General Report, 1946-1949. (In Arabic, with an English summary) 1950. (Out of print and no other reports were issued).
2. A handlist of the birds of Iraq. By *Bashir E. Allouse*, 64pp. 1950.
3. The Avifauna of Iraq. By *Bashir E. Allouse*, 164pp. 1953.
4. A bibliography on the vertebrate fauna of Iraq and neighbouring countries. I. Mammals. By *Bashir E. Allouse*, 32pp. 1954.
5. A bibliography on the vertebrate fauna of Iraq and neighbouring countries. II. Birds. By *Bashir E. Allouse*, 46pp. 1954.
6. A bibliography on the vertebrate fauna of Iraq and neighbouring countries. III. Reptiles & Amphibians. By *Bashir E. Allouse*, 24pp. 1955.
7. A bibliography on the vertebrate fauna of Iraq and neighbouring countries. IV. Fishes. By *Bashir E. Allouse*, 32pp. 1955.
8. A bibliography on the invertebrate fauna of Iraq and neighbouring countries. I. Molluscs. By *Bashir E. Allouse*, 40pp. 1956.
9. Field observations on the birds of Iraq. I. Podicipidae — Laridae. By *H. J. Moore & C. Boswell*, Pp. 1-109. 1956.
10. Field observations on the birds of Iraq. II. Pteroclididae — Timaliidae. By *H. J. Moore & C. Boswell*, Pp. 111-213. 1956.
11. Six new fleas from Iraq. By *C. Andresen Hubbard*, 16pp. 1956.
12. Field observations on the birds of Iraq. III. Muscicapidae — Fringillidae, Appendix, index & map. By *H. J. Moore & C. Boswell*, Pp. 215-299. 1957.
13. Autumn flowering on the gypsum deserts of Baghdad. By *R. Wheeler Haines*, Pp. 1-12. 1957.
Diptera from Iraq. By *Kamel T. Khalaf*, Pp. 13-15. 1957,
A preliminary note on four birds which appear to be new to the Iraq list. By *C. Boswell & P. Naylor*, p. 16. 1957.
On a recent ornithological excursion in Iraq made by Dr.

Makatsch (May 28 — June 9, 1957). By *Bashir E. Allouse*, Pp. 17-21. 1957.

14. Some Hymenoptera and Coleoptera from Iraq. By *Kamel T. Khalaf*, Pp. 1-3. 1958.

Electronmicroscope study of the cuticle surface of the Cockroach. By *Kamel T. Khalaf*, Pp. 4-6, with 2 pls. 1958.

Observations at Habbaniya (Iraq) from 24th October to 30th November 1957. By *A. S. Norris*, Pp. 7-19. 1958.

Two ringed birds shot in Iraq. By *Bashir E. Allouse*, p. 20. 1958.

Current research and publication (in quotes) projects of the Department of Botany, College of Arts & Sciences. By *N. Polunin*, Pp. 21-25. 1958.

Museum Activities: Exchange of publications program, Pp. 26-40. 1958.

15. Fleas and Plague in Iraq and the Arab World. By *C. Andresen Hubbard*. Part I., Pp. 1-55. 1958.

The above mentioned publications are available for exchange with other museums, universities and learned societies. Please address your enquiries to the *Director, Iraq Natural History Museum, Baghdad, Iraq*, stating the title, or titles, of publications offered in exchange.



CORRIGENDA

Mr. A. S. Norris, now stationed at Cyprus, has sent us on 7th July, 1958, the following correction to his "Observations at Habbaniya (Iraq) from 24th October to 30th November 1957" published in No. 14 of our series (April 1958, pp. 7-19):

"I have received expert information which leaves me in no doubt that my notes on the Turmpeter Bullfinch are a case of mistaken identity on my part, the species in question being in fact, Desert Finch, *Rhodopechys obsoleta*."

Interested ornithologists are kindly asked to make the necessary correction in page 19 of the above-mentioned article.

Editor.

دراسة بالمجهر الالكتروني لكيوتكل الذبابة التابعة للجيس (*Sarcophaga*)

بقلم : الدكتور كامل خلف

هذه حلقة أخرى من سلسلة الابحاث التي قام بها الكاتب في برلين مستعملا المجهر الالكتروني لدراسة الحشرات اتبع فيها المؤلف طريقة الربليكا (replica) ، فوضح فيها وجود شعيرات دقيقة على جسم الذبابة لا يمكن توضيحها جيدا بالميكروسكوب الضوئي كما شمل البحث أيضا دراسة لسطح العين المركبة . وتوضح الصور السبع المنشورة مع المقال التفاصيل الدقيقة للتراكيب التي تناولها الفحص المجهر الالكتروني . ان في تفسير هذه التصاوير الالكترونية تمرين على حل بعض المشاكل المتعلقة بمظاهر الصورة الالكترونية .

معاهد ومتاحف اضيفت الى قائمة التبادل

تزداد علاقة المتحف الثقافية بالمتاحف والمؤسسات العلمية الاجنبية وقد أدت هذه الاتصالات الى اتساع قائمة التبادل وشمولها لعدد آخر من المؤسسات . ويتلقى المتحف باستمرار طلبات لتبادل المطبوعات من مختلف الجهات توليها الادارة اهتماما كبيرا وتلبي تلك الطلبات عادة بأسرع ما يمكن . وقد نشرنا في صحيفتي ٥٣ و٥٤ قائمة بالنشرات التي أصدرها المتحف منذ تأسيسه حتى الان لفائدة المعاهد التي تهمها الابحاث التي تناولتها تلك النشرات .

جامعة بغداد

كلية العلوم



نشرة رقم (١٦) : كانون الاول ١٩٥٨

خلاصة البحوث المنشورة في هذا العدد

ملاحظات حقلية عن بعض الطيور العراقية

بقلم : لي آر. جونسون

سجل الكاتب في هذا المقال ملاحظاته عن ٢٠٢ من طيور العراق صادفها في المنطقة الوسطى ، بين خانقين والفلوجة وخاصة حوالي مدينة بغداد ، اثناء وجوده في المنطقة في الفترات الثلاث : ٢٣ - ٢٩ كانون الاول ١٩٥٣ ، ١٣ تشرين الاول ١٩٥٦ الى ٢٠ تشرين الثاني ١٩٥٧ ، و ١ آذار الى ١ ايار ١٩٥٨ .

ملاحظات حقلية عن الهجرة الخريفية للطيور في منطقة خانقين في سنة ١٩٥٨

بقلم : بريان ل. سيج

عالج الكاتب في هذا المقال هجرات الطيور في منطقة خانقين بلواء ديالى حيث كان يعمل في شركة نפט خانقين ، وسجل فيه ٧٧ نوعا من انواع الطيور التي شوهدت في تلك المنطقة في الفترة الواقعة من اواخر حزيران الى نهاية ايلول ١٩٥٨ ابان الهجرة الخريفية .



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متحف التاريخ الطبيعي العراقي

نشرة رقم (١٦)

(كانون الاول ١٩٥٨)

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