THE ROYAL AIR FORCE

ORNITHOLOGICAL SOCIETY

JOURNAL

BRIEF DETAILS OF THE SOCIETY

The Royal Air Force Ornithological Society was formed in October, 1965, primarily to fill the need within the Service for an organisation wherein those interested in the study of birdlife could communicate and co-operate with each other, and publish the results of their activities.

The objects of the Society are:-

1. To bring together, both at home and abroad, members of the RAF their dependants, and ex-serving members interested in birdlife.

2. To arrange for the circulation of members current addresses, information on local ornithological societies, and a list of literature required for given areas.

3. To publish periodical reports and articles on the field activities of members.

4. To promote systematic observation at more isolated localities at home and abroad, and to assist in local ringing schemes and other field enquiries.

5. To stimulate interest in the study and protection of birds.

6. To build up a postal reference library.

Apart from individual studies and research, work on such aspects of ornithology as the Bird Strike problem particularly suited to RAF ornithologists and of paramount importance in Airfield safety, is actively encouraged. Regular expeditions are organised by the Society, the first being to Cyprus to ring pulli Eleanora's Falcon.

Full membership is open to all serving and ex-serving members of the Royal Air Force and their dependants and persons serving with or employed by the Royal Air Force; annual subscription £1.

Associate membership (without voting rights) may be offered to anyone interested in the work of the Society at an annual subscription of 50p; and affiliated membership at £2 annually is available to other interested groups or societies.

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FOREWORD

At last! And I can almost hear many of you saying, "And not before time too." The reason for the absence of a Journal for some 3 years are legion and I do not propose to go over a well trodden path again. Suffice to say that efforts to produce a Journal at no cost to the Society have failed. This omnibus edition has cost our Society £313.

Nevertheless, I have achieved my main ambition during my time as Chairman. The backlog of articles is incorporated in this Journal. Future, smaller editions will again be produced at no cost and, as explained at the 1979 Annual General Meeting, many scientific articles will appear in the new style Newsletter. Expedition reports etc. will appear as single article Journals.

Sadly, I shall have to resign from the post of Chairman in the Autumn. I am posted to HQ Allied Forces Central Europe, Brunssum, The Netherlands! I should like to take this opportunity to thank all members for the excellent support which I have enjoyed. Please continue to work hard to keep our Society vibrant and in the forefront of ornithology.

Fleet
Hampshire
27 May 80

A C CURRY
Gp Capt
Chairman

THE ROYAL AIR FORCE ORNITHOLOGICAL SOCIETY

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A BIRD CENSUS OF THE TROODOS/MT OLYMPUS AREA IN CYPRUS - APR 75 TO JAN 76

R L MASON

When I was informed that I was to be stationed at RAF Troodos for an unaccompanied 9 month tour, I naturally tried to find out as much as possible about the bird life I would be likely to encounter. I approached Frank Walker (RAFOS) and Dennis Crassweller (RAFOS) who were as helpful as possible, although neither of them had spent long in the area. It soon became apparent that although quite a few people had carried out work in the area, notably Laurie Tucker (ex RAFOS), Wilf Corris (RAFOS) and members of the Cyprus Ornithological Society (COS), there had been no chance of sustained effort in conducting an "in depth" census. The geographical location of the area obviates anything more than odd visits and the occasional Field meeting by the COS. Taking Cyprus as a whole, it appears that the distinctive topography of the Troodos area has been neglected compared with the amount of study directed towards other more accessible parts of the Island.

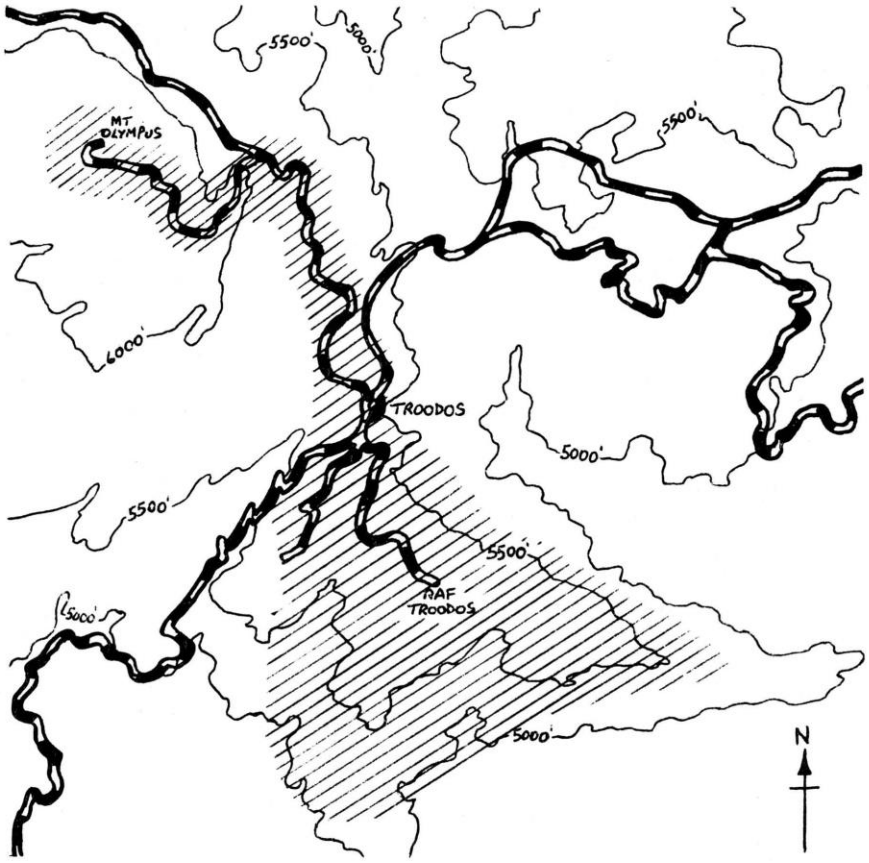
With such an apparent dearth of ornithological data for Troodos, my choice of work was easy to make. The basic aim would be to establish an up to date list of birds likely to be seen at different times of the year. With such a broad aim, detailed study of individual species or behaviour would have detracted from the overall result. In effect, I hope to have created a skeleton on which other ornithologists may add some meat at a later date!

The area studied is shown on the Map, and was chosen for its great variety of terrain. It might be noticed that the area chosen is relatively free of contour lines; the reasons being that it is difficult to undertake extensive climbing in the rarified air of the "mile-high" mountain. The terrain includes dense coniferous forest, open areas of Golden Oak and Juniper, small streams and pools edged with relatively lush vegetation and deciduous trees, scree slopes and all possible mixtures of each. Fresh water was available during all seasons, this fact obviously having a great effect on the bird distribution in the heat of the summer. The Mt Olympus area was not studied in as much detail, but as my place of work was right on the peak, I had the opportunity of regular sightings.

During the first month of the census I made a point of exploring the whole area in order to gain an impression of the general features and ascertain the bird's favoured locales. A number of different routes were worked out to cover all known important parts of the area, and by alternating between these routes, every part was covered at least once in every three days.

Although at variance with the basic aim of the census a hide was used on a few occasions, mainly to observe the nesting behaviour of Hoopoes. The temptation to use it too much was removed by some unpleasant gentlemen with a predilection for "pickled passerines" - they destroyed the hide. No doubt all bird lovers will be aware of the serious problem in the Mediterranean area of people placing Limesticks across small streams and other places favoured by migrating passerines. Members of RSPB will recall the gruesome article on this subject in the Autumn 76 issue of "Birds". On countless occasions I had to travel along narrow streams destroying literally hundreds of liming sticks which had been placed across them. This "mini-war" continued for quite some time, but luckily the enemy "got the message" and surrendered just before the main Autumn movement. Unfortunately, British personnel have to maintain a very low profile when having any dealings with Cypriots which could have slight political implications. Pavlos Neophytou (COS) is under no such restriction, and is fighting a continual war against these people who place themselves outside the Cypriot law. He has achieved great success in Bird Conservation in Cyprus by constant lobbying of the Cypriot Ministry of Agriculture.

TROODOS/Mt OLYMPUS AREA



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Tarmac Roads

Area under study

During the period 18th to 28th September, the important Raptor count and migration ringing programme at Akrotiri Salt Lake and Bishop's Pool had to take precedence over the census. During my absence, the census was kept "ticking over" by Dick Cozier, who although primarily an expert on the flora, is a member of RAFOS with sufficient ornithological knowledge to continue the work.

Although perhaps not really germane to this report, use was made of Radar equipment on Mt Olympus to observe the migration of Crane species and Flamingos. Unfortunately, the security aspect obviates publishing detailed results, but general patterns of routes are noted in the bird report.

The sightings chart shows all birds seen in or over the area, numbers being mentioned where relevant in the bird report. As the chart shows daily observations, some migration patterns can be clearly seen.

Trapping and ringing operations were carried out on a few occasions during summer and autumn in the Troodos area. A significant result was the trapping of two Olivaceous Warblers (hippolais pallida) at the same time in the same net. Whilst they were being ringed it was obvious that the two birds differed in the length of their bill. Deeper investigation showed the birds to be of two different subspecies, namely elaeca and opaca.

One of the most obvious results of the survey was the extreme shyness of the resident birds compared with their counterparts in Western Europe. I think the blame for this may be placed squarely on the so called "Hunters" in Cyprus. It is difficult to imagine what thrill there can be for a man with a shotgun to hunt such a bird as a Goldfinch.

Although only about 200 metres separate Troodos and Mt Olympus in elevation, there was a marked difference in the respective bird populations. Some birds were seen at both sites, but others were only ever seen at one or the other. It is unfortunate that the existence of a non-British military establishment near the peak of Mt Olympus inhibited a more thorough census of this area, but it was obvious that a large Hirundine colony was present on or near the television mast.

As expected, most Finches and allied genera formed into flocks in the autumn. During late autumn and early winter, the periods of bad weather affected all birds except perhaps Certhiidae and Paridae, and caused small temporary migrations to a lower altitude.

The number of Alpine Swifts (apus melba) seen was much lower than had been expected. At this stage it is not known if there has been a general decrease in overall numbers on the Island or if certain breeding areas in the Troodos range have been deserted.

A possible addition to the Cyprus List as a result of the census was the Red Tailed Wheatear (Oenanthe xanthoprymna) seen at Mt Olympus during August and September. A sighting of Pine Bunting (Emberiza leucocephala) at Troodos on 4th November is believed to be only the second sighting in Cyprus, the first also being from the Troodos area in 1973.

An unusual aspect of the sightings of Blackbirds (Turdus merula) was the fact that only adult males were ever seen. This observation obviously requires further investigation to ascertain if there is an upper limit in altitude to the distribution of females in winter.

During the whole period, only three different mammals were seen. Two hares, one rat and a bat which was seen in full sunlight hunting over a pool. There was an abundance of lizards up to 45 centimetres in length, but no snakes were seen.

It is realised that the period from April to January is not the best period over which to conduct a census, but unfortunately the choice of dates was not mine. At some future date there will almost certainly be another RAFOS member stationed at RAF Troodos, who I feel sure would be only too willing to carry on with the work. Hopefully his tour of duty would not cover the same period of the year.

There are some large gaps in the work I have carried out which could be filled in by any ornithologist willing to make a few trips up the mountain. Time did not allow me to conduct a comprehensive nesting census, the nests found usually being as a direct result of observed behaviour patterns of breeding birds.

I would be particularly interested to see the results of observations at Mt Olympus on Nightjars (Caprimulgus europaeus). Pavlos Neophytou tells me that the birds are common autumn migrants whereas my observations and information from other interested persons gives the impression that they could appear immediately after breeding. Laurie Tucker reports that breeding birds were common in the Platres area during May - July 1971, which is only about 900 metres lower down the mountain.

Looking back on the whole period, there were a few difficulties to be overcome. Watching birds in coniferous woods is always difficult, but in Cyprus it is even more so due to their inherent shyness. Dennis Crassweller would frequently phone with news of the "avian exotica" to be seen on the south coast. This news was not always welcomed when I was engaged in the relatively mundane task of counting such birds as Chaffinches.

If this report proves to be of use or interest, the credit must be shared by many of my friends, some of whom are mentioned below. I thank them all for their valued advice, help and support, without which, the task of producing this report would have been far more arduous.

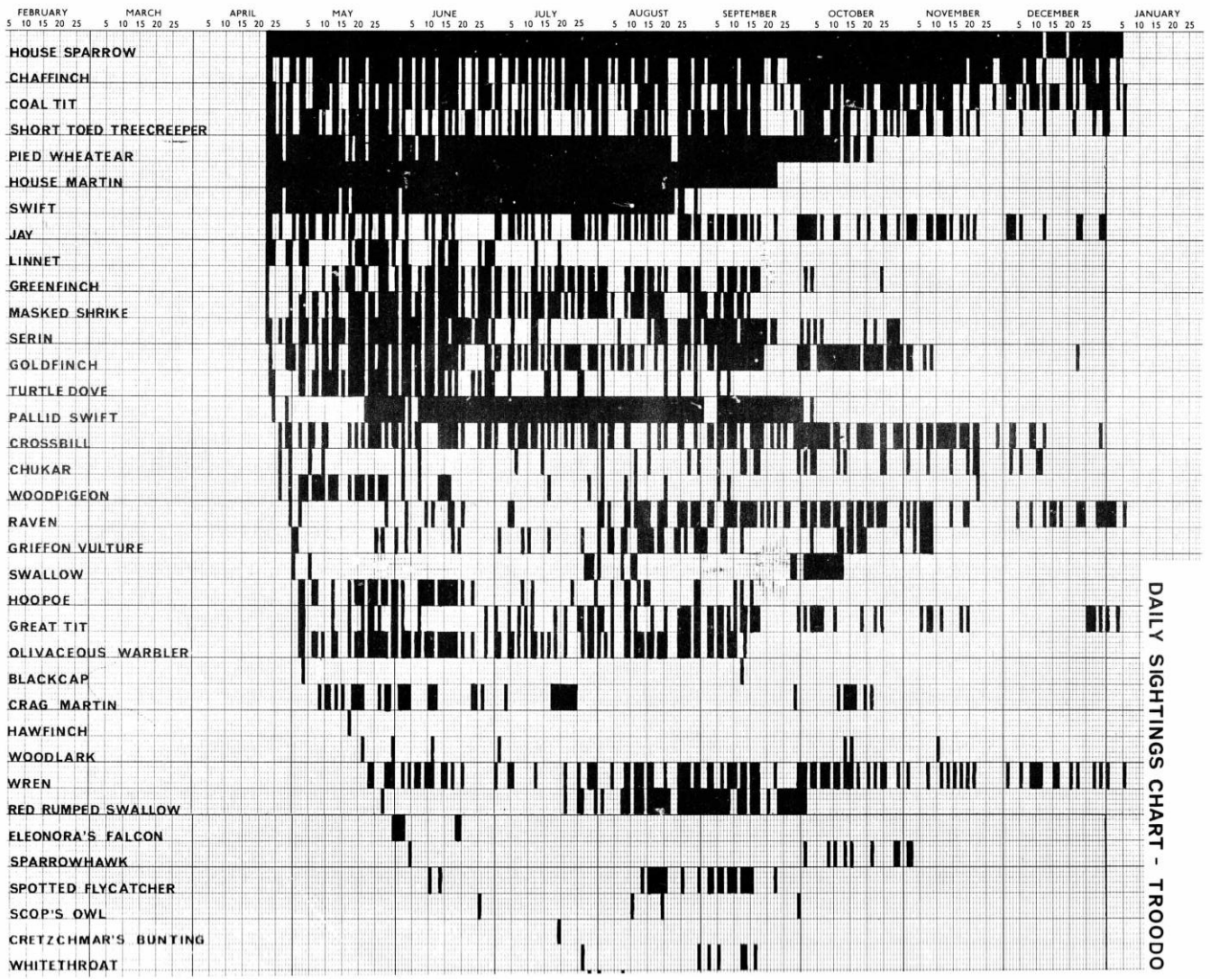
R COZIER (RAFOS)
D CRASSWELLER (RAFOS)
M KOMULAINEN (COS)
P NEOPHYTOU (SEC COS)
ET AL

LIST OF BIRD SPECIES RECORDED

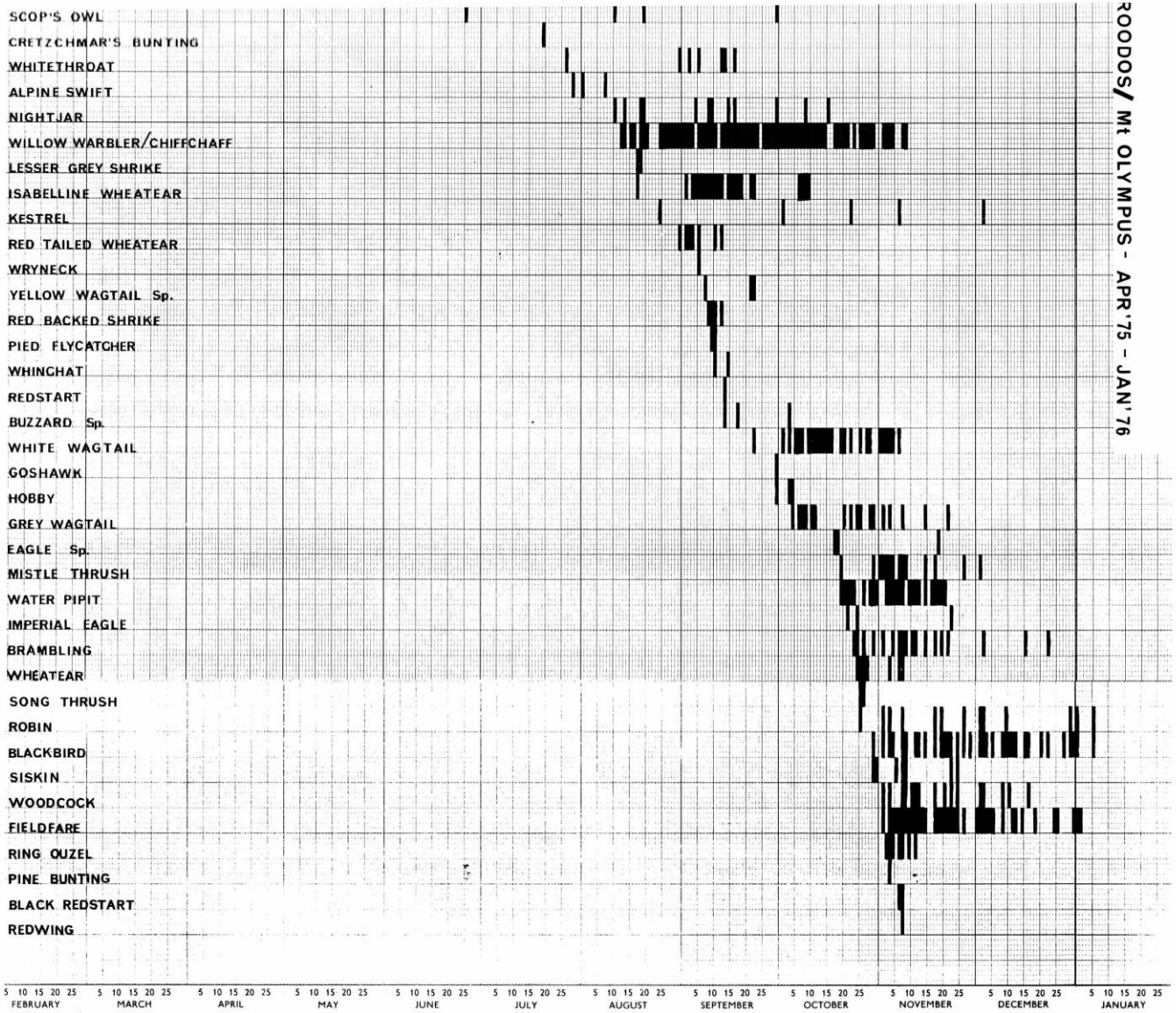
This list follows the sequence and scientific nomenclature of "List of Recent Holarctic Bird Species", (VOOUS, 1977).

Greater Flamingo (Phoenicopterus ruber)
Griffon Vulture (Gyps fulvus)
Goshawk (Accipiter gentilis)
Sparrowhawk (Accipiter nisus)
Buzzard species
Imperial Eagle (Aquila heliaca)
Eagle species
Kestrel (Falco tinnunculus)
Hobby (Falco subbuteo)
Eleonora's Falcon (Falco eleonorae)
Chukar (Alectoris chukar)
Demoiselle Crane (Anthropoides virgo)
Woodcock (Scolopax rusticola)
Woodpigeon (Columba palumbus)
Turtle Dove (Streptopelia turtur)
Scops Owl (Otus scops)
Nightjar (Caprimulgus europaeus)
Swift (Apus apus)
Pallid Swift (Apus pallidus)
Alpine Swift (Apus melba)
Hoopoe (Upupa epops)
Wryneck (Jynx torquilla)
Woodlark (Lullula arborea)
Crag Martin (Hirundo rupestris)
Swallow (Hirundo rustica)
Red Rumped Swallow (Hirundo daurina)
House Martin (Delichon urbica)
Water Pipit (Anthus spinoletta)
Yellow Wagtail species
Grey Wagtail (Motacilla cinerea)
White Wagtail (Motacilla alba)
Wren (Troglodytes troglodytes)
Robin (Erithacus rubecula)
Black Redstart (Phoenicurus ochruros)
Redstart (Phoenicurus phoenicurus)
Whinchat (Saxicola rubetra)
Isabelline Wheatear (Oenanthe isabellina)
Wheatear (Oenanthe oenanthe)
Pied Wheatear (Oenanthe pleschanka)
Red Tailed Wheatear (Oenanthe xanthoprymna)
Ring Ouzel (Turdus torquatus)
Blackbird (Turdus merula)
Fieldfare (Turdus pilarus)
Song Thrush (Turdus philomelos)
Redwing (Turdus iliacus)
Mistle Thrush (Turdus viscivorus)
Olivaceous Warbler (Hippolais pallida)
Whitethroat (Sylvia communis)
Blackcap (Sylvia atricapilla)
Chiffchaff (Phylloscopus collybita)
Willow Warbler (Phylloscopus trochilus)
Spotted Flycatcher (Muscicapa striata)

Pied Flycatcher (Ficedula hypoleuca)
Coal Tit (Parus ater)
Great Tit (Parus major)
Short Toed Treecreeper (Certhia brachydactyla)
Red Backed Shrike (Lanius collurio)
Lesser Grey Shrike (Lanius minor)
Masked Shrike (Lanius nubicus)
Jay (Garrulus glandarius)
Raven (Corvus corax)
House Sparrow (Passer domesticus)
Chaffinch (Fringilla coelebs)
Brambling (Fringilla montifringilla)
Serin (Serinus serinus)
Greenfinch (Carduelis chloris)
Goldfinch (Carduelis carduelis)
Siskin (Carduelis spinus)
Linnet (Acanthis cannabina)
Crossbill (Loxia curvirostra)
Hawfinch (Coccothrustes coccothraustes)
Pine Bunting (Emberiza leucocephala)
Cretzschmar's Bunting (Emberiza caesia)



DAILY SIGHTINGS CHART - TROODO


TROODOS/ Mt OLYMPUS - APR '75 - JAN '76
SCOP'S OWL
CRETZCHMAR'S BUNTING
WHITETHROAT
ALPINE SWIFT
NIGHTJAR
WILLOW WARBLER/CHIFFCHAFF
LESSER GREY SHRIKE
ISABELLINE WHEATEAR
KESTREL
RED TAILED WHEATEAR
WRYNECK
YELLOW WAGTAIL Sp.
RED BACKED SHRIKE
PIED FLYCATCHER
WHINCHAT
REDSTART
BUZZARD Sp.
WHITE WAGTAIL
GOSHAWK
HOBBY
GREY WAGTAIL
EAGLE Sp.
MISTLE THRUSH
WATER PIPIT
IMPERIAL EAGLE
BRAMBLING
WHEATEAR
SONG THRUSH
ROBIN
BLACKBIRD
SISKIN
WOODCOCK
FIELDFARE
RING OUZEL
PINE BUNTING
BLACK REDSTART
REDWING
5 10 15 20 25
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
JANUARY

SICHTINGS SUMMARY

GREATER FLAMINGO - Phoenicopterus ruber

No sightings were made, but the December movement was observed using Radar equipment at Mt Olympus. Large numbers were seen heading due south from Turkey. What is perhaps unusual leaving Cyprus heading due east at the same time. No doubt the migration flying patterns of Flamingoes are well known and observations at Akrotiri Salt Lake would show if birds "turned left" and carried on, or if birds stayed for a rest before leaving for the east.

GRIFFON VULTURE - Gyps fulvus

Regularly seen over Troodos and Mt Olympus, usually not more than 3 birds each day. Obviously the birds preferred clear hot weather, and more were seen during August and early September than at any other time. Usually the birds arrived overhead between 0930 and 1000 hrs from a southerly direction. On 4 November, 21 birds were seen at 0930 hrs which was the largest number seen at one time. Seventeen of these arrived from the Morphou Bay area; and although not certain, I would suggest these birds could be part of a movement from Turkey or the Northern Mountain range. Birds were observed on occasions being mobbed by House Martins from the Olympus colony. On 14 August a single bird was soaring in company with 14 Ravens, and was completely ignored by them; but on 16 August one from a group of 7 Ravens persistently mobbed a nearby Griffon.

GOSHAWK - Accipiter gentilis

A pair was seen on 30 September at Troodos heading slowly south. They were being stooped at by the male of a pair of Hobby's, also heading south. The aerial combat did not appear to be serious, as on occasions, the Hobby's stooped at each other as did the Goshawks. It was noticed that on no occasion did a Goshawk stoop at a Hobby.

SPARROWHAWK - Accipiter nisus

One early summer sighting was made at Troodos on 5 June when a solitary female was seen flying slowly over tree tops. Many autumn sightings were made, the great majority being in the Troodos area. Single birds were seen from 2 October, the last sighting being a solitary bird at Olympus on 3 November. During the autumn sightings, hunting was observed on a few occasions. Birds attacked included Grey Wagtail, White Wagtail, Mistle Thrush and Fieldfare. On 22 October a bird was seen being mobbed by a Raven.

BUZZARD SPECIES

Very few Buzzards appear to cross the high mountains during migration, the only sightings being listed below:

7 September - Characteristic "mew" call heard, but bird not sighted.
14 September - 6 birds heading south at 1525 hrs, estimated at 2000 feet above Troodos.
18 September - Solitary Honey Buzzard flying low over Pines, heading south at 1600 hrs.
4 October - Two birds came from south westerly direction and alighted in tall Pines. The birds did not move before darkness, so are presumed to have roosted overnight.

IMPERIAL EAGLE - Aquila heliaca

22 October - 2 Imperial Eagles.	Very good view. White shoulder marks clearly seen. Solitary Raven mobbed both birds.
25 October - Imperial Eagle.	Solitary bird disturbed from perch on dead tree.
23 November - Imperial Eagle.	Solitary bird flying low over valley in misty rain.

EAGLE SPECIES - Aquila heliaca et al

All sightings were made in the Troodos area as below:

18 October	Species ?	Single bird seen from side and above. Very light coloured head, yellow feet, plumage appeared uniform dark brown with no obvious distinguishing markings. Similar size to Imperial Eagle.
19 October	Species ?	Single bird flying very high. Two-tone underwings with dark leading edge, light trailing edge. Possible Bonelli's Eagle.
19 November	Species ?	Solitary bird flying high. Uniform dark brown, no special markings.

KESTREL - Falco tinnunculus

Birds were only seen during the autumn. First sighting was on 25 August of a solitary female at Troodos heading towards Mt Olympus. There were 2 sightings during October of single birds, one at Troodos and one at Olympus. Last sighting was of a solitary male hunting at Mt Olympus on 7 November.

HOBBY - Falco subbuteo

Only three sightings were made, all during the autumn and all at Troodos. On 30 September 1 male and 1 female were flying south with a pair of Goshawks. On 4 October 3 separate birds were seen heading slowly south. Last sighting was of a solitary bird heading south on 5 October.

ELEONORA'S FALCON - Falco eleonorae

Birds were seen hawking insects at Troodos and Olympus from 31 May to 20 June. Maximum number was 19 at Olympus on 3 June. On 31 May 2 falcons were mobbed by House Martins from a nesting site at Troodos. After this date, the falcons were ignored by Hirundine and Apus species, even though they were very near to large nesting colonies of both.

FALCO SPECIES

Two autumn sightings were made of unidentified Falco Sp. overflying Troodos. On 19 October one was drifting slowly south, very high at 1030 hrs. On 9 November, 2 birds with generally brown plumage and darker wing tips were circling and drifting slowly south.

CHUKAR - Alectoris chukar

Birds were present in variable numbers from April to December. Estimate not more than 3 pairs bred in Troodos area. On 8 July an adult was disturbed with c12 young a few days old. On 2 August c15 freeflying juveniles were seen. Post breeding flocks usually consisted of c15 birds. The birds

seemed unaffected by low temperatures, but with the onset of deep snow in December, the birds left for lower altitudes. Last sighting was of 5 birds on 12 December.

DEMOISELLE CRANE - Anthropoides virgo

No actual sightings were made, but during the main migration period for this species, checks were made using Radar equipment at Mt Olympus. By comparing information from the radar and south coast observers it can almost definitely be stated that the bird plots from Olympus were in fact this species. By collating information gained over a period of about a week, the following approximate timetable for flights was arrived at. The birds passed over the Turkish coast at about 1730 hrs, usually in groups of about 12 birds. They headed almost due south, which would take them straight to the Nile Delta. When these birds were about 20 miles west of Paphos at 1930 hrs smaller groups of birds left the Cyprus coast at Larnaca and Akrotiri. The Cyprus birds headed out to sea on a bearing of 185 to 190 degrees, thus also heading to the Nile Delta. Most birds were flying at a speed of about 35 knots and at heights ranging from 6000 to 11000 feet. Main flights took place when the wind was blowing from their starboard side. This preference for migrating in side winds has been reported from other parts of the world with various species of birds. A few birds which crossed the Turkish coast later in the evening headed towards Cyprus and did not cross the south coast. It must be assumed that they landed at the salt lakes and took off again at dawn. This early morning departure has been observed from Akrotiri at about 0430 hrs.

WOODCOCK - Scolopax rusticola

First sighting was of 2 birds on 2 November. Birds were seen regularly in the Troodos area until the last sighting of a single bird on 17 December. Birds were never seen more than about 5 metres away from small streams or pools. Birds moved to lower altitudes when their feeding areas were frozen.

WOODPIGEON - Columba palumbus

Birds were common during April and May, sometimes in groups of up to 20. From the end of May to mid June, numbers reduced to odd ones or twos. No sightings from mid June till mid July when once again odd birds were seen until 9 September. No birds were seen after this date until 23 November when c12 birds were seen in thick fog; this was the last sighting.

TURTLE DOVE - Streptopelia turtur

Birds were common during April and May, sometimes in groups of up to 12. Numbers reduced at the end of May, and only 2 or 3 birds were seen regularly till the last sighting on 9 September. A pair were seen copulating on 31 May, but no definite signs of nesting were seen.

SCOPS OWL - Otus scops

From April onwards, birds were heard calling every evening. From the number of birds heard, I would estimate c6 birds in the immediate vicinity of Troodos Camp. First actual sighting was of 2 birds at Troodos chasing each other through trees at 1830 hrs on 26 June. All other sightings were at Mt Olympus during August and September, the last sighting being made on 30 September. Birds were not heard calling after July. Birds seen at Mt Olympus were always within a few metres of Nightjars.

NIGHTJAR - Caprimulgus europaeus

First sighting was of 3 birds at Mt Olympus on 11 August. It was established that the birds had been present in the area for at least a week prior to this date after questioning personnel who work on Olympus every night. Two birds were seen regularly until the last sighting on 16 October. Usually the birds appeared at about 1930 hrs, but on more than one occasion, the birds were seen hunting before sunset. On one occasion a male was diving at 2 females perched on a wire, when one of the birds uttered a strange "screech call". The birds always perched on wires very close to bright lights and hawked large moths which were attracted to the area. The birds still used the wires as a perch in high winds, even though they obviously had great difficulty perching again after a flight.

SWIFT - Apus apus

c40 birds were present when the census commenced, but the population reduced to c6 during heavy snow on 25 to 28 April. Numbers built up again after the thaw to c40. Breeding took place over quite a large area and detailed study of nesting activities was not possible. From mid August, numbers gradually diminished, and the last sighting was of 2 birds on 30 August.

PALLID SWIFT - Apus pallidus

c12 birds were seen on 25 April and 2 on the 29. They did not mix with the Swifts already present in the area. No further sightings were made until 24 May when c20 arrived. Territorial behaviour was noticed immediately, and I was mobbed when within 30 metres of their proposed nesting sites. I would estimate that the birds came to within 12 inches of my head although nesting activity had not seriously started. The birds around the Troodos area built up to a quantity of about 40 birds. From mid August, numbers gradually reduced until by 1 September c6 birds were only arriving in the evening to roost. The last sighting was of a single bird on 4 October. Pallid Swifts seemed to feed generally at a lower level than the Swifts, sometimes even among dense trees.

ALPINE SWIFT - Apus melba

Small numbers were seen on only three occasions. On 29 July 4 birds were circling the white Dome on Mt Olympus and were mobbed constantly by c30 House Martins from the local colony. Three birds were seen on 1 August and 2 on 8 August. All sightings were at Mt Olympus around the Dome.

HOOPOE - Upupa epops

Birds were heard occasionally from 23 April, but the first actual sighting was on 3 May when 6 birds were seen at Troodos. Birds were seen regularly until the last sighting on 16 September. The only sighting away from the Troodos area was of a solitary bird at Mt Olympus on 15 August. From sightings made during the nesting season, I would guess that 3 pairs bred but only 2 nests were found. One nest was too difficult to observe but the other was 2 feet above ground in the hollow centre of an Arbettus Pine. On 13 May, a pair were seen courting. On 20 May, a female was seen sitting on an unknown number of eggs and on 29 May at least one egg was in the process of hatching. By 8 June, adults were feeding young at intervals of about half an hour, but by 16 June, the young were receiving food about every 3 minutes. The type of food could not be identified, but appeared to be Coleoptera about ¾" in length. By 24 June all young had left the nest and the juveniles were never seen.

WRYNECK - Jynx torquilla

Only 1 sighting made. Solitary bird was seen in a Golden Oak tree at Troodos on 6 September. The bird appeared either very tame or afraid to leave the relative safety of the tree.

WOODLARK - Lullula arborea

First sighting was on 22 May, when display flight and song were observed. Birds were often heard throughout the summer, but very rarely seen. Maximum number was 9 at Troodos on 16 October. Last sighting was of 2 birds on 11 November. Only 1 sighting was made in the Olympus area on 14 October.

CRAG MARTIN - Hirundo rupestris

First sighting was of 2 birds at Mt Olympus on 9 May. Although 3 birds were seen on 2 occasions, only one pair was seen regularly, and bred on Mt Olympus. Birds were gathering mud in company with House Martins on 14 May. The nest was about 3 metres up under overhanging concrete, part of a building on Olympus. It was little more than a mud platform appearing to have only a shallow depression. When Pullus were well grown, they appeared in danger of falling from the nest. The juveniles were seen flying on 21 July and all birds had left the area by 25 July. On 29 September, the autumn movement started. Small groups of birds were seen at Olympus until the last sighting of c12 on 22 October. Birds were only seen at Troodos on 2 occasions. Each time 2 birds were seen in company with Swallows.

SWALLOW - Hirundo rustica

Prior to the breeding season, 2 sightings were made; c12 at Troodos on 1 May and 6 at Mt Olympus on 6 May. No further sightings were made until 28 July when c12 were seen perching on overhead wires at Mt Olympus. c12 birds were seen until mid August when sightings stopped until 29 September. It is possible that this gap in sightings indicates the departure of local breeders and the arrival of overseas migratory birds. Numbers built up to a peak of c50 birds, and the last sighting was of c30 at Troodos on 13 October.

RED RUMPED SWALLOW - Hirundo daurica

First sighting was of 2 birds swooping over a woodland pool at Troodos on 28 May. Although large numbers were known to be breeding a few hundred feet below Troodos, no sightings were made again till 22 July. Post breeding birds were seen from this date, maximum numbers being c50. Only odd birds were ever seen on Mt Olympus. Numbers remained relatively static at Troodos, birds arriving in the early morning and feeding all day amongst the tops of Pine trees. From 21 September, numbers gradually diminished until the last sighting of c10 birds on 2 October.

HOUSE MARTIN - Delichon urbica

Birds were present when the census commenced and nestbuilding had started. Two main nesting areas were noted, one at Troodos Camp consisting of c100 pairs, and one at Mt Olympus of c50 pairs. On 6 May a bird was killed by a cat and was found to have a COS ring on its leg. After consulting Mr P Neophytou it was established that the bird had been ringed two years previously at the same site by Wilf Corris (RAFOS). On 30 May the same cat killed another bird and was immediately mobbed by c20 birds.

On 31 May birds were seen mobbing an Eleonora's Falcon which was about ¼ mile away from the Troodos colony. By the 11 June, most nests appeared to have pullus old enough to be seen at the nest entrance holes. On 29 July c30 birds were mobbing 4 Alpine Swifts near the Olympus colony. From 5 August onward strange aerobatic flights were seen taking place. Birds in groups of about 50 to 100 would be seen acting quite normally, usually above the top of Mt Olympus, when they would suddenly dive down a mountainside in a high speed and very erratic flight. No Raptors or other signs of danger were ever seen at such times, and it is assumed that the action was simply a "play flight" and had no other purpose. From 18 August birds from all local areas spent the day at Olympus and returned to their roosting areas at dusk. From 15 September, numbers reduced until the final sighting of 2 at Troodos on 23 September.

WATER PIPIT - Anthus spinoletta

First sighting was of c12 birds on 20 October. Birds were only ever seen on the peak of Mt Olympus. Numbers built up to a peak of c20 birds during the first week in November then gradually reduced. The last sighting was of 2 on 21 November. Birds were always very tame, and seemed oblivious of human activity within 20 metres.

YELLOW WAGTAIL SPECIES

Three sightings only were made during the autumn migration period. Single birds were seen at Mt Olympus on 8, 22 and 23 September.

GREY WAGTAIL - Motacilla Cinerea

First sighting was of 3 birds on 5 October. Birds were only ever seen at Troodos, always feeding in the Pools on Mosquito larvae and other delicacies. One bird was once seen with what appeared to be a Leech about 1½" long. The bird had great difficulty in dealing with the object, but eventually swallowed it. All birds followed the same feeding pattern; 10 minutes active feeding followed by about 5 minutes rest. One bird was attacked by a Sparrowhawk, but managed to escape in dense foliage at the edge of a pool. One or 2 birds were seen regularly till the last sighting on 22 November.

WHITE WAGTAIL - Motacilla alba

A substantial autumn movement took place, birds being seen at Troodos and Mt Olympus. First sighting was of a solitary bird at Olympus on 23 September. Numbers built up to a maximum of 15 at Troodos on 11 October. From this date, numbers gradually reduced to the final sighting of 2 birds at Troodos on 7 November.

WREN - Troglodytes troglodytes

First sighting was on 24 May, but birds were heard singing from the start of the census. It is estimated that c6 pairs were resident in the Troodos area. Nesting sites were found and adults were seen feeding juveniles on 6 July. Two or 3 birds were being seen regularly until the end of the census.

ROBIN - Erithacus rubecula

First sighting was of 2 birds on 26 October. Birds were only seen in the Troodos area, usually very near to water. Estimate c6 birds wintering in the area. Birds were still present when the census ended.

BLACK REDSTART - Phoenicurus ochruros

There appeared to be only a small autumn movement on Mt Olympus. A single bird was seen on 7 November and 2 on 8 November.

REDSTART - Phoenicurus phoenicurus

Only one sighting of a solitary bird at Troodos in trees overlooking small pools, on 14 September.

WHINCHAT - Saxicola rubetra

Only 2 sightings of solitary birds; Troodos on 11 September and Mt Olympus on 15 September.

ISABELLINE WHEATEAR - Oenanthe isabellina

Solitary bird first seen at Mt Olympus on 18 August. Birds were present until 10 October, the maximum number being 3 on 12 September. The species was only ever seen on the top of Mt Olympus. Very aggressive towards any other birds nearby, especially other species of Wheatear. Unlike other species, was always seen on the ground and never perching on large rocks or fences.

WHEATEAR - Oenanthe oenanthe

First seen at Troodos on 25 October. Odd birds were then seen at Troodos and Olympus until the last sighting on 8 November. Birds were much tamer than other wheatear species seen.

PIED WHEATEAR - Oenanthe pleschanka

c12 birds were present when the census commenced. Courting and nestbuilding was observed on 8 May and the breeding population of the Troodos area was estimated to be c20. Only odd birds were seen in the Olympus area, mainly after the breeding season. On 11 June adults were seen with juveniles just out of the nest. The adults were very nervous and attacked any other bird which approached. The juveniles were very inquisitive, even to the extent of following me at a distance of about 4 metres. By the 28 June most young birds had left the nest. By mid August juveniles appeared to be independant of adults, who, by now had started the abrupt change of plumage for winter. In mid September, the number of birds present gradually diminished until the last sighting of a solitary bird at Troodos on 22 October.

RED TAILED WHEATEAR - Oenanthe xanthoprymna

First seen on 31 August, but not identified until after research and collaboration with other RAFOS members and Hon Sec COS. Single bird was present at Mt Olympus until 13 September, 2 birds were seen on 3 and 13 September. Birds were feeding in same area as Pied and Isabelline Wheatears. These sightings have caused minor disagreements with experts on Cyprus birds. I leave full notes with Hon Sec COS and bow gracefully out of any argument.

RING OUZEL - Turdus torquatus

A substantial movement was observed on Mt Olympus commencing on 3 November with a sighting of c6 birds. Numbers built up to a maximum of c20 on 7 November and the last sighting was of c6 birds on 12 November. Birds were only seen on the peak of Mt Olympus, usually feeding on Juniper bushes.

BLACKBIRD - Turdus merula

Birds were first seen on 30 October at Troodos. Birds were never seen at Olympus, and those at Troodos were usually in the vegetation at the edge of streams or pools. Estimate c15 birds in the Troodos area, sometimes in groups of up to 6 birds. Only adult males were ever seen, this fact obviously requiring further study to ascertain if there is an upper limit to the altitude to which wintering females are present. Birds were still present when the census ended.

FIELDFARE - Turdus pilaris

First sighting was of c12 birds in the Troodos area on 2 November in company with Mistle Thrushes. Largeflocks were seen regularly after this date at Troodos and Mt Olympus. Largest numbers were in mid-November when c75 were seen in the Troodos area. After being "hunted" continually and with worsening weather, numbers gradually reduced. Flocks of up to 20 birds were seen occasionally up till the end of the census. It is thought that the birds did not roost in the area, as on many occasions, flocks were seen arriving from the south at sunrise.

SONG THRUSH - Turdus philomelos

Only a very small movement was seen in the Troodos area. Twelve birds were observed arriving from an easterly direction on 26 October. On 27 October, c12 birds were seen on a football pitch at Troodos Camp, this being the final sighting.

REDWING - Turdus iliacus

Only one sighting of a solitary bird in company with Ring Ouzels at Mt Olympus on 8 November.

MISTLE THRUSH - Turdus viscivorus

A considerable movement was observed, birds being seen in the Troodos area and at Mt Olympus. First sighting was of a single bird at Olympus on 20 October. Numbers gradually built up to a maximum of c50 on 4 November, often being seen in company with Fieldfares and Ring Ouzels. Birds were very nervous of Sparrowhawks in the area, but mobbed Jays whenever they were seen. Last sighting was of 2 birds on 2 December at Troodos.

OLIVACEOUS WARBLER - Hippolais pallida

First seen on 3 May when 3 birds were seen in the Troodos area. Numbers built up gradually to a maximum of 12 birds only ever seen at Troodos in the immediate vicinity of water. Nestbuilding was observed on 13 May. A different nest was found on 29 May with a complete clutch of 4 eggs, the eggs hatching on 9 June. By 28 June, the young had left the nest. All nests found were in thorn bushes thought to be of the Cerberus family. Numbers gradually diminished from mid July, with some days showing odd eruptions possibly indicating a movement through the area. On 30 August, netting and ringing revealed the presence of Elaieca and Opaca sub-species. The two types were caught in the same net at the same time so are presumed to mix freely together. The last sighting was of 2 birds on 14 September.

WHITETHROAT - Sylvia communis

Sightings were few and sporadic, but they indicated a movement during the first part of September. First sighting was on 27 July when a bird was netted and ringed by P Neophytou et al at Troodos. Next sighting was on 31 August when the autumn movement commenced. Birds were seen until the last sighting on 17 September, this being the only sighting at Mt Olympus.

BLACKCAP - Sylvia atricapilla

Sightings of this bird were restricted to one in each migration period. A solitary female was seen at Troodos on 4 May, and a pair were seen in the same area on 13 September. The pair had exceptionally well marked plumage and showed no sign of moult.

WILLOW WARBLER/CHIFFCHAFF - Phyloscopus trochilis/collybita

First sighting was of 2 birds at Troodos on 13 August. As I am more used to the Western race, it was obvious from the relatively bright yellow colouring that the birds were of the Eastern race. Numbers built up quickly and by 26 August there were c50 birds present. Feeding took place mainly in the high tree tops, the birds only descending to drink and bathe in the pools. From about mid September, numbers gradually reduced. I would estimate that Willow Warblers were replaced by Chiffchaffs in mid October as the call note was thought to be slightly different after this time and the plumage did not appear so bright. A freshly dead bird was found at Mt Olympus on 30 October, a check of the wing formula showing it to be a Chiffchaff. Last sighting was of 4 birds on 9 November. Although very few birds were seen at Olympus, more were seen in October than previously. This could either indicate that Chiffchaffs are more amenable to that type of terrain, or simply that there was a shortage of their food at Troodos.

SPOTTED FLYCATCHER - Muscicapa striata

Solitary birds were seen at Troodos on 11 and 14 June. The autumn movement commenced in mid August and lasted to mid September. The June sightings could possibly be of a non-breeding vagrant. Maximum number seen on one tour was 5 on 4 September, but most sightings were of 2 or 3 birds. The last sighting was a solitary bird at Troodos on 23 September. Birds were seen very rarely at Mt Olympus.

PIED FLYCATCHER - Ficedula hypoleuca

Solitary female seen at Troodos on 10 September. Solitary male seen on the same tree on 11 September. Both birds were feeding overlooking a small pool, probably intrigued by the thousands of Mosquito larvae hatching out.

COAL TIT - Parus ater

Common in the Troodos area during the period of the census. Estimate c50 birds resident in the area of study. Breeding activities were seen from the end of April, most juveniles being seen during late May. Bad weather did not cause any noticeable migration to lower altitudes although dead birds were found in early January after particularly cold weather.

GREAT TIT - Parus major

Although the first sighting was not until 3 May, it is thought that small numbers were probably present from the start of the census. Numbers fluctuated throughout the period from 1 or 2 to c12. Breeding activities were noticed from 24 May when adults were observed feeding juveniles. On 28 June an adult bird was seen performing a "shivering display". Whether it was meant as a threat display to me is not known, but no other birds or forms of danger were noticed in the immediate vicinity. When the census ceased, numbers had reduced to only the odd bird or so.

SHORT TOED TREECREEPER - Certhia brachydactyla

Birds were present in relatively constant numbers throughout the period. Estimate c30 birds resident in area of study. A pair were seen nest building on 27 April. On 3 May at a different nest a male was observed feeding a female at a nest crevice. On 13 May both adults were seen feeding pullus at this nest. About 6 nests were found, varying in height from the ground from 1 to 10 metres. On 17 June, adults were seen with juveniles.

RED BACKED SHRIKE - Lanius collurio

Only a small autumn movement was observed in the Troodos area. Single birds were seen on 9, 10 and 11 September, and 3 birds on 13 September which was the last sighting. The 3 birds were together and seemed to be very antagonistic towards each other, quite serious fighting was observed.

LESSER GREY SHRIKE - Lanius minor

Only 2 sightings were made. Single birds were seen at Mt Olympus on 18 and 19 August.

MASKED SHRIKE - Lanius nubicus

Odd birds were seen from 23 April onwards, maximum daily sightings usually c4. Birds were solitary until 8 May when birds were first seen together. On 21 May a female was seen incubating eggs in a nest about 10 metres up a young Arbettus Pine tree. A male bird fed the female at the nest, each visit evoking a display from the female. Other nests seen were all at comparable heights from the ground. On 7 June, both parents were seen

feeding the young at the nest. From 28 June, many juvenile birds were seen, which made the daily sighting about 12 birds. From 18 July numbers gradually reduced to c4 each day. First bird seen at Mt Olympus was on 11 August and from 5 September the only sightings were from this area. Last sighting was a solitary bird on 15 September.

JAY - Garrulus glandarius

One pair was present in the Troodos area from the start of the census. The birds obviously bred successfully because they were seen feeding 4 juveniles on 16 June. The 6 birds were seen regularly until the autumn, from this time till the end of the census, only odd birds were seen. On 2 August, c10 birds were seen fighting in a wild apple tree. It is assumed that birds were attracted from a neighbouring area by the plums and apples present at this time. On 18 September, birds were seen "swearing" at a Honey Buzzard passing overhead.

RAVEN - Corvus corax

Birds were seen in variable numbers throughout the census. The main feeding, breeding and roosting area was around the Amiandos mine, but birds often moved to the area under study. Birds were observed mobbing Griffon Vultures, Sparrowhawks and Imperial Eagles. During summer, birds were often seen soaring over Mt Olympus, sometimes in company with Vultures.

HOUSE SPARROW - Passer domesticus

Birds were present in variable numbers throughout the census. Estimate c60 around Troodos and c30 at Mt Olympus. Nests were in buildings and a number in House Martin nests after the rightful owners had been forcibly ejected. Birds formed into flocks in the autumn and numbers reduced considerably, indicating a movement to lower altitudes.

CHAFFINCH - Fringilla coelebs

Birds were present throughout the period of the census, being seen in the Troodos area and on Mt Olympus. Estimate c100 birds present until late October, when numbers reduced to c12. Most birds seemed to have eggs during May, but some very young juveniles were seen in August. The autumn moult was completed by first week in October.

BRAMBLING - Fringilla montifringilla

First sighting was of 2 birds in company with Chaffinches at Mt Olympus on 24 October. Birds were seen at Mt Olympus and in the Troodos area, usually with Chaffinches but occasionally in flocks of their own. Maximum number was c15 at Troodos on 9 November. Last sighting was of a solitary bird at Troodos on 23 December.

SERIN - Serinus serinus

c12 were present in April, and the population remained fairly static until the end of June. Although courtship display was seen, no definite signs of breeding could be established. Numbers reduced to odd birds only during July and the first half of August, and it is safe to assume that birds dispersed to other areas for breeding. At the latter end of August numbers

increased sharply to c30, and juveniles were common. Only post breeding flocks were seen at Mt Olympus, the first sighting in that area occurring on 18 August. Numbers reduced from the end of September until the last sighting of c10 on 30 October.

GREENFINCH - Carduelis chloris

c6 were present from the start of the census. After bad weather at the end of April, large numbers were seen passing through the Troodos area. On 30 April there were c100 with an equal number of Goldfinches. By 10 May the movement had ceased, leaving a resident population of c12. Breeding is assumed to take place over a lengthy period of time. Adults were seen feeding juveniles on 22 May and a pair were seen copulating on 19 June. On 9 August juveniles were seen, apparently just out of the nest. Numbers gradually reduced and the last sighting of a solitary bird was on 25 October.

GOLDFINCH - Carduelis carduelis

Birds were present at the start of the census in small numbers. The last 2 days in April and the first week in May saw a substantial increase in numbers as an obvious movement took place. Up to 100 were seen moving through the Pines in company with equal numbers of Greenfinches. Numbers reduced by mid May to c20, and remained static at this level until the end of July when numbers dropped further to c6. Numbers built up again from the first week in September till the first week in October which probably indicates an autumn movement. Numbers then again gradually reduced until the last sighting on 23 December at Troodos. No definite signs of breeding could be established, although large numbers of juveniles were present from the end of May. Birds were always seen at Troodos, but there were no sightings at Mt Olympus until the beginning of August.

SISKIN - Carduelis spinus

A small movement took place during autumn, birds being seen in the Troodos area and on Mt Olympus. First sighting was of 2 birds at Troodos on 30 October and the last sighting was of 2 birds at the same site on 25 November. Maximum number was c12 at Troodos on 8 November. Birds were very tame and were often seen around buildings at Troodos Camp.

LINNET - Acanthis cannabina

c6 were present from the start of the census. Numbers never increased above c12. Most birds seen had very pale rumps so were probably the BELLA subspecies. Sightings were very sporadic, the last sighting being on 20 July. Birds were usually seen in relatively treeless areas of Troodos.

CROSSBILL - Loxia curvirostra

Birds were present in variable numbers throughout the census. Estimate c25 birds present during most of the period, but numbers reduced to c6 from December onwards. Birds usually seen in small flocks feeding in the top branches of coniferous trees. Occasionally odd birds were seen feeding on fallen fir cones on the ground, sometimes carrying the cone up into a tree. During May, birds were seen mobbing Jays, but all other birds were ignored at all other times.

HAWFINCH - Coccothraustes coccothraustes

Only one sighting was made in the Troodos area on 18 May. A male and female were perched in dense conifers near a pool. They made no movement or sound and appeared to be resting, probably after a migration flight.

PINE BUNTING - Emberiza leucocephala

Only one sighting was made of this species when a pair was observed in the Troodos area on 4 November. The birds were feeding on weeds at the edge of a narrow mountain track; when disturbed they perched in a nearby Arbettus Pine for a few minutes. When the birds flew, the flight was slightly undulating and a "twittering" flight call was heard.

CRETZSCHMAR'S BUNTING - Emberiza caesia

Single sighting only of a solitary male on 20 July, although it is thought that other birds were heard on a few occasions.

SOME BRIEF NOTES ON THE BIRDS OF NORTHERN DHOFAR, SULATANATE OF OMAN

F J WALKER

These notes cover three short working visits to the Dhofar during the period 18 Oct - 1 Nov, 20 Nov - 4 Dec 75, and 27 Feb - 5 Mar 77.

I was based at Thumrait (5202E-1740N) for the above periods, and was able to make several brief sorties along the Thumrait/Salalah road, that crosses the southern part of the great gravel plain of central Oman, an area that is flat and featureless, with a few shallow wadis and squat buttes. There is some camel thorn and scrub, but no water. The road climbs the Jebal al Qara escarpment, climbing to 2650 feet at Ravens Roost, then crosses the great rolling hills, that are watered by the summer monsoons, covering them with evergreen trees, bushes and scrub. The road then dips suddenly to the Salalah plains.

Water is the focal point for birds, and the overflows from the al Hatab water tower and the cattle troughs at Ravens Roost attract fairly large numbers of passerine with their attendant predators. At Thumrait, the sewer settling pools and the extensive rubbish tips provide plenty of feeding for both migrants and residents.

In 1975 I caught the tail end of the autumn migration, and watched with interest the movement south of small passerine during the cooler parts of the day, flitting from bush to bush, feeding as they went, but always moving south. As the temperatures rise, so the birds day-roost (they get temperatures of 45C in the summer at Thumrait).

In view of the paucity of records from the Thumrait areas, I have listed all species recorded during my visits.

Phalacrocorax carbo — COMMON CORMORANT

16 at Salalah on 3 Mar 77.

Milvus migrans — BLACK KITE

2 over Salalah on 3 Mar 77.

Aquila rapax — TAWNY/STEPPE EAGLE

A maximum of 14 birds present at Thumrait tip between 20 Nov and 2 Dec 75. 2 there on 3 Mar 77.

Aquila clanga — SPOTTED EAGLE

Single birds at Thumrait between 29 Oct and 1 Nov 75.

Aquila heliaca — IMPERIAL EAGLE

Up to 4 birds at Thumrait tip between 26 Nov and 2 Dec 75, one there on 27 Feb and 1 Mar 77.

Aquila chrysaetos — GOLDEN EAGLE

An immature low over Thumrait village, 21 Nov 75.

Neophron percnopterus — EGYPTIAN VULTURE

A maximum of 6 between 18 Oct and 28 Nov 75 in the Thumrait area. A few daily at al Hatab same period. An adult at Thumrait on 2 Mar, and an immature on the Salalah plains on the 3 Mar 77.

Aegypius monachus — BLACK VULTURE

Up to three birds daily at Thumrait tip between 18 Oct and 28 Nov 75. Possibly 2 high over Thumrait on 1 Mar 77.

Gyps fulvus — GRIFFON VULTURE

A maximum of 12 at al Hatab between 18 Oct and 4 Dec 75. Up to 7 at Thumrait between 24 Oct and 26 Nov 75. One at Thumrait on 1 Mar 77.

Circaetus gallicus — SHORT-TOED EAGLE

One at Ravens Roost on 28 Feb 77.

Circus Sp ? — RING-TAILED HARRIER

Single ring-tails quartering the Jebal al Qara on 25 Nov 75 and 28 Feb 77.

Falco concolor — SOOTY FALCON

A single bird put up out of shade at al Hatab on 28 Nov 75.

Falco tinnunculus — KESTREL

Up to three over the Jebal between 25 Nov and 1 Dec 75. Five drifting north-west over Jebal on 28 Feb 77, one at Thumrait on 27 Feb 77.

Charadrius dubius — LITTLE RINGED PLOVER

One at Thumrait sewer pools on 2 Mar 77.

Charadrius alexandrinus — KENTISH PLOVER

Up to 7 birds at Thumrait between 23 Nov and 2 Dec 75. Up to seventeen at Thumrait pools between 27 Feb and 2 Mar 77.

Charadrius sp ? — SANDPLOVER

One, probably C. mongolus, was recorded at a water overflow at Thumrait on 25 Oct 75.

Calidis minuta — LITTLE STINT

One at Thumrait 18 to 25 Oct 75. Up to 7 at Thumrait pools 27 Feb to 4 Mar 77. Three birds climbed out of sight on a north-west heading until out of sight on 4 Mar 77.

Tringa ochropus — GREEN SANDPIPER

Up to 2 daily at Thumrait between 21 Oct and 1 Nov 75.

Tringa glareola — WOOD SANDPIPER

One at Thumrait on 18 Oct 75.

Tringa hypoleucos — COMMON SANDPIPER

One at Thumrait 18 to 25 Oct 75.

Gallinago gallinago — COMMON SNIPE

One at Thumrait pools 25 Oct 75 and 28 Feb 77.

Larus sp ? — HERRING/LESSER BLACK BACKED GULL

An immature bird at Thumrait pools at dawn on 1 Mar 77, climbed almost vertically until lost to sight.

Pterocles coronatus — CROWNED SANDGROUSE

A maximum of fifty-eight recorded at Thumrait between 24 Oct and 4 Dec 75. Many heard overhead there on 5 Mar 77.

Pterocles exustus — CHESTNUT-BELLIED SANDGROUSE

Two at Thumrait pools at dawn on 27 Feb 77.

Columba livia — ROCK DOVE

Two at Ravens Roost on 28 Feb 77.

Streptopelia senegalensis — PALM DOVE

Seven at al Hatab on 1 Dec 75. Two at Ravens Roost on 28 Feb and 1 there on 2 Mar 77.

Merops apiaster — BEE EATER

Two at al Hatab on 31 Oct 75.

Upupa epops — HOOPOE

One at al Hatab on 27 and 31 Oct 75, one at Thumrait tip 3 and 4 Mar 77.

Hirundo obsoleta — PALE CRAG MARTIN

Small numbers at al Hatab 18 Oct - 4 Dec 75. Two at Ravens Roost on 2 Mar 77.

Hirundo rustica — SWALLOW

A small southerly trickle through Thumrait area, maximum four, between 19 Oct and 4 Dec 75. Three at Thumrait tip 1 to 3 Mar 77.

Eremopterix nigriceps — BLACK-CROWNED FINCH-LARK

Up to 12 together from Thumrait tip between 27 Feb and 3 Mar 77.

Ammomanes deserti — DESERT LARK

A few birds present in the desert around Thumrait 18 Oct and 4 Dec 75.

Ammomanes cinctus — BAR-TAILED DESERT LARK

Up to six birds at Thumrait tip 18 Oct to 4 Dec 75. A single bird on the 4 Mar 77, collected a bill full of insects at the Thumrait tips, and then flew out into the desert, perhaps feeding young.

Alaemon aludipes — HOOPOE LARK

Up to 3 birds present at Thumrait tip 19 Oct to 2 Dec 75, up to 6 birds there between 27 Feb - 4 Mar 77.

Calandrella cinerea — SHORT-TOED LARK

A flock of ca fifteen at Ravens Roost on 28 Feb 77.

Calandrella rufescens — LESSER SHORT-TOED LARK

Ten plus at al Hatab water on 28 Nov 75.

Galerida cristata — CRESTED LARK

A party of ca forty at water at Ravens Roost on 1 Dec 75. Widespread on Jebal al Qara late Feb/early Mar 77. Not recorded from Thumrait.

Anthus campestris — TAWNY PIPIT

One at Thumrait pools 27 Feb to 4 Mar 77, one at Ravens Roost on 28 Feb and 2 Mar 77.

Anthus simlis — LONG-BILLED PIPIT

Three pairs or more in song flight, territory chasing on the Jebal al Qara on 2 Mar 77.

Anthus trivialis — TREE PIPIT

Up to 6 birds at al Hatab water on 28 Nov and 1 Dec 75. Many parties of up to 20 birds feeding under larger trees on Jebal al Qara between 28 Feb and 2 Mar 77.

Anthus cervinus — RED-THROATED PIPIT

Two at al Hatab on 28 Nov and 1 Dec 75.

Motacilla flava — YELLOW WAGTAIL

One at al Hatab on 1 Dec 75, one at Thumrait 19 to 30 Oct 75.

Motacilla f. feldegg — BLACK-HEADED WAGTAIL

Three in summer plumage at Thumrait tip 1 to 4 Mar 77.

Motacilla alba — WHITE WAGTAIL

A pre roost count of 150+ at Thumrait on 29 Nov 75, up to 20 daily at al Hatab 17 Oct - 2 Dec 75. Ten at Thumrait pools 4 Mar, 3 or more Ravens Roost on 28 Feb 77.

Lanius c. collurio — RED-BACKED SHRIKE

A male and probably 2 females at Thumrait on 21 Nov 75.

Lanius c. phoenicuroides — RED-TAILED SHRIKE

2 at Thrumrait on the 19 Oct,4 on 21 Oct 75. One on 1 and 3 Mar 77, showed the characteristics of L.c. Speculigerus.

Lanius excubitor — GREAT GREY SHRIKE

One at Thumrait tip on 1 and 2 Mar 77.

Oxygognathus tristramii — TRISTRAM's GRACKLE

Found to be common and tame on the northern al Qara escarpment, fewer along the Hatab/Salalah road. Pair found nesting there 28 Feb 77.

Corvus ruficollis — BROWN-NAPED RAVEN

Recorded daily at Thumrait in 75, with a maximum of ca 60 on 24 Oct. A single bird there on 27 Feb 77 only record during spring visit.

Corvus rhipidurus — FAN-TAILED RAVEN

Up to ca 300+ on the northern al Qara escarpment in 75. Ca 60 at al Hatab 28 Feb 77, 8 on Jebal al Qara on 2 Mar 77.

Pycnonotus barbatus — COMMON BULBUL

Fairly common throughout the Jebal al Qara 75/77.

Acrocephalus sp? — REED WARBLER

One at Thumrait on 19 Oct 75.

Sylvia communis — WHITETHROAT

One on 19 Oct, two on 21 Oct 75 at Thumrait.

Sylvia curruca — LESSER WHITETHROAT

Two very dark birds at Thumrait on 19 and 20 Oct 75.

Sylvia minula — DESERT LESSER WHITETHROAT

One at Thumrait on 18 Oct 75.

Sylvia nana — DESERT WARBLER

One at Thumrait on 19 Oct 75.

Phylloscopus — WILLOW/Chiff

One at Thumrait 19 Oct 75 (leg and flank taken from Red-tailed Shrike, probably Chiff Chaff) 2 at al Hatab on 31 Oct 75. One at Thumrait on 28 Feb, 1 at Salalah on 3 Mar 77.

Prinia gracilis — GRACEFUL WARBLER

A few plain greyish unstreaked birds calling and singing on the Jebal al Qara on 28 Feb and 2 Mar 77 were possibly of this species. (Upper parts unstreaked grey brown, underparts pale grey, deeper on flanks).

Scotocerca inquieta — STREAKED SCRUB WARBLER

Heavily streaked birds were recorded on the Jebal al Qara in Oct/Nov 75 and were probably of this species, not recorded in same area in 77.

Muscicapa striata — SPOTTED FLYCATCHER

Four at Thumrait on 19 Oct and one there on 22 Oct 75.

Oenanthe oenanthe — WHEATEAR

Two at Thumrait on 18 Oct, one at al Hatab 23 Oct 75.

Oenanthe pleschanka — PIED WHEATEAR

Up to 4 recorded daily from Thumrait 27 Feb to 4 Mar 77.

Oenanthe lugans — MOURNING WHEATEAR

In small numbers along the north escarpment of Jebal al Qara Oct-Nov 75, and Feb-Mar 77.

Oenanthe deserti — DESERT WHEATEAR

Common at Thumrait 18 Oct - 4 Dec, few at al Hatab same period. Four at Ravens Roost 28 Feb, 10+ at Thumrait tip 27 Feb - 4 Mar 77.

Oenanthe isabellina — ISABELLINE WHEATEAR

One at Thumrait 19 to 25 Oct, one 22 Nov 75. Up to 12 at Thumrait pools and tip between 27 Feb - 4 Mar 77.

Monticola saxatilis — ROCK THRUSH

A female or immature at Thumrait on 19 Oct 75.

Phoenicurus ochruos — (INDIAN) BLACK REDSTART

One at Thumrait on 5 Mar 77 only record.

Zosterops abyssinicus — ARABIAN WHITE-EYE

A party of circa 20 birds at Ravens Roost on 28 Feb 77.

Passer domesticus — HOUSE SPARROW

No House Sparrows were recorded from Thumrait in 75 or 77, my previous records were entered in error.

Lonchura m. orientalis — SILVERBILL (BLACK-RUMPED MUNIA)

Many small parties at Ravens Roost and across the Jebal al Qara in 75 and 77.

Rhynchostrusthus socotranus — GOLDEN-WINGED GROSBEAK

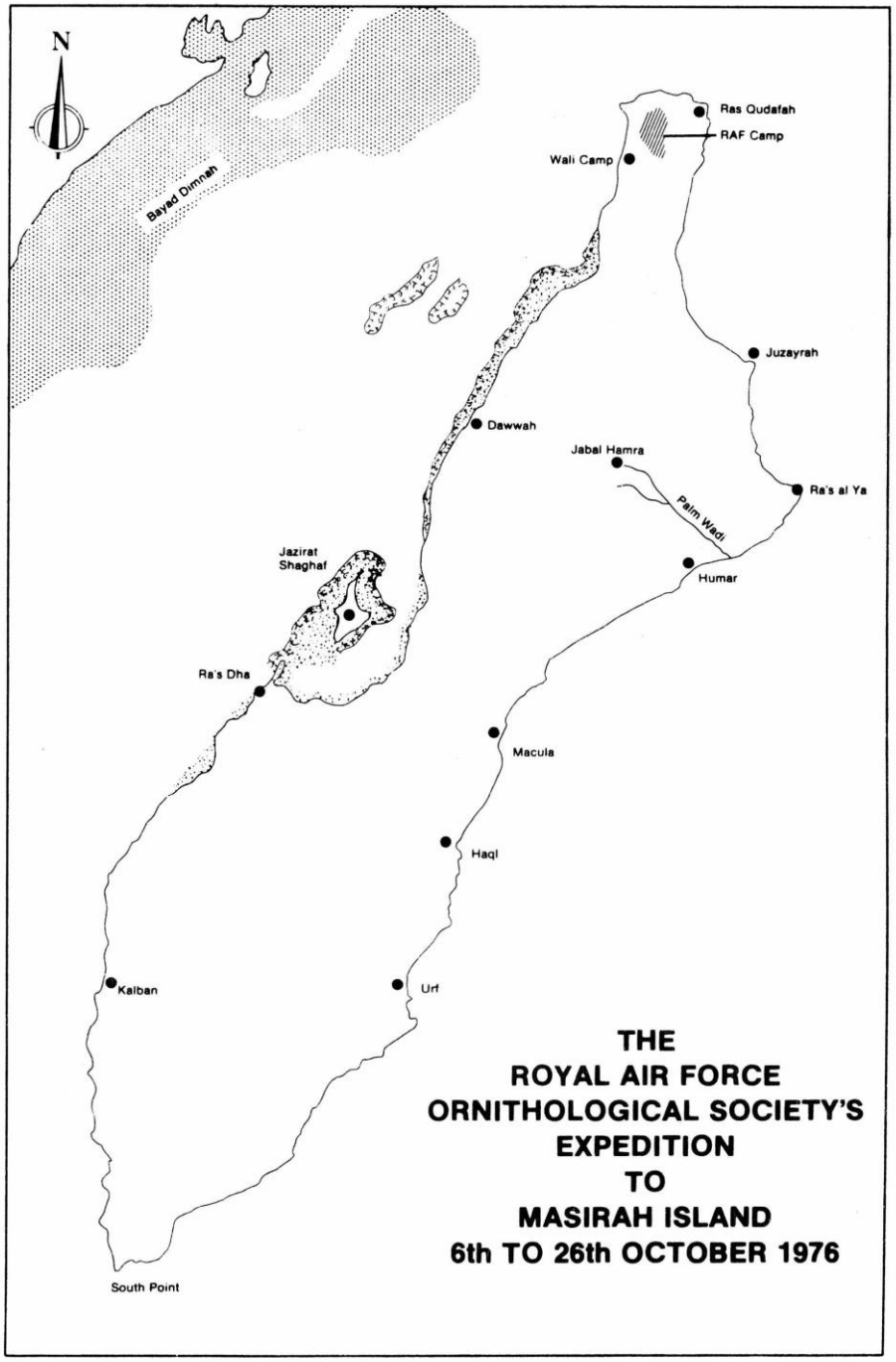
Two at al Hatab cattle troughs on 2 Mar 77.

Emberiza tahapisi — CINNAMON-BREASTED ROCK BUNTING

Common in Nov/Dec 75, Feb/Mar 77 on the Jebal al Qara, singing birds concentrated around the water at al Hatab and Ravens Roost.

Emberiza striolata — HOUSE BUNTING

Few at al Hatab water 28 Nov and 1 Dec 75, and between 28 Feb and 2 Mar 77.


N
Bayad Dimnah
Ras Qudafah
RAF Camp
Wali Camp
Juzayrah
Dawwah
Jabal Hamra
Ra's al Ya
Palm Wadi
Humar
Jazirat
Shaghaf
Ra's Dha
Macula
Haql
Kalban
Urf
South Point
THE
ROYAL AIR FORCE
ORNITHOLOGICAL SOCIETY'S
EXPEDITION
TO
MASIRAH ISLAND
6th TO 26th OCTOBER 1976

Foreword

This ornithological expedition took some 9 months to plan and 19 days to execute. Sadly, the writing of the report took 16 months, and the typing, photographing, proof-reading and printing a further eight months. However, I am of the opinion that this report remains the most up-to-date and authoratative document on the autumnal migration of birds through Masirah Island.

Leaving aside our ornithological sightings and findings, I believe that all members of the expedition would agree that the highlight of our visit was the excellent relations enjoyed with the indigenous population in the centre and south of the Island.

Since our visit the Island has been ravaged by a severe hurricane which caused many deaths and wide spread damage. This natural disaster will not have helped the fundemental problem of the Island which is the slow but sure de-population of the villages and settlements to the south of the Wali Camp and former Royal Air Force station. At the time of our visit the villages of URF and KALBAN were found to be deserted and settlements at HUMER and in PALM WADI had not been worked for some time. One wonders what the situation is now. Certainly if the de-population of much of the Island continues, the ornithological life will undergo a marked change.

Plans are afoot to return to the Island in the October of 1979 or 1980. I am confident that there will be no shortage of volunteers.

A C Curry
Group Captain
Expedition Leader

RAF Northolt
21 October 1978

TEAM MEMBERS

Wg Cdr	A C	CURRY	(3511822)	16 Para Bde
Wg Cdr	D B D	HAMLEY	(303882)	MOD (DFS)
FS	R G	HEWETT	(Y0574942)	RAF HIGH WYCOMBE
Ch Tech	P G	BEAN	(N4161147)	RAF GATOW
Ch Tech	D W	BODLEY	(J5075366)	RAF NORTH COATES
Ch Tech	J C	JENNER	(Y4168944)	RAF MARHAM
Ch Tech	A M	SMITH	(B0682820)	RAF NORTH LUFFENHAM
Sgt	P	BRANWHITE	(W0593046)	RAF WATTISHAM
Sgt	V S A	COZENS	(U1936289)	RAF MARHAM
Sgt	D H	CRASSWELLER	(E4203272)	RAF HIGH WYCOMBE
Sgt	P L	TITHECOTT	(B3518638)	RAF BRAWDY
Cpl	B	ETHERIDGE	(G4280118)	RAF KINLOSS
Cpl	A	JOYCE	(R1948965)	RAF DIGBY
Cpl	A S	MORGAN	(E1942333)	RAF LOCKING
Cpl	F E	NAYLOR	(F4188567)	RAF WITTERING

Occasional Members:

Sqn Ldr	R	FOERS	(5037515)	RAF AKROTIRI
			7 - 10 Oct	
Maj	M D	GALLAGHER		MUSCAT
			19 - 25 Oct	

NB: All ranks and stations are as at the time of the expedition

R.A.F.O.S. MASIRAH EXPEDITION, 8 - 26 OCTOBER 1976

CHECK LIST OF BIRDS RECORDED

The systematic list which follows includes all species of birds recorded by the Royal Air Force Ornithological expedition to Masirah and its offshore islands from the 8th to 26th October, 1976.
For each species the previous known status is briefly summerised. (For migrants the spring data is generally excluded). The two important references were:

G & R: C.I. Griffiths and T.D. Rogers. 1975. An interim list of the Birds of Masirah Island, Oman. Duplicated.

FEW: F.E. Warr. 1976. Birds Recorded in the Sultanate of Oman (excluding Dhofar, Masirah and Masandam). Duplicated.

In a few cases where there were no previous records reference was made to the following:

F.E. Warr. 1977. Birds Recorded in the Arabian Gulf States. (Kuwait; E. Province of Saudi Arabia including Dhahran; Bahrain; Qatar; and the United Arab Emirates including its eastern coast.) Duplicated.

Abbrieviations:- (are those used in the references)
RES Resident
BR Breeding proved
WV Winter visitor
SV Summer visitor
PM Passage migrant
ST? Status not yet understood

The order, scientific and common names generally follow that used in Heinzel, Fitter and Parslow. 1972. The Birds of Britain & Europe with North Africa and the Middle East. Collins. London.

Shearwater (probably Little). *Puffinus (assimilis)*
G & R: SV. Apparently numerous. Late April - Early November.
FEW: Status? Small numbers. Mid June - Early November.
A total of 162 small shearwaters were counted flying north and 50 flying south during a three hour sea-watch in the early morning of the 16th at the south point. In addition 6 flew south off Haql on the 19th.
In contrast no shearwaters were seen in co-ordinated sea-watches totalling 9½ hours at Haql and Ra's Qudafah on the 12th.

Wilson's Petrel *Oceanites oceanicus*
G & R: SV. Fairly common. Early July - Early November.
FEW: SV. Common. Late May - Early November.
Surprisingly scarce during east coast sea-watches. One on the 10th and two on the 19th were the only records.

Masked Booby. *Sula dactylatra*
G & R: SV. WV. A few each month.
FEW. RES? Occasional. Mid May - Early December.
An immature booby, probably this species, off Ra's Dha on the 16th was the sole record.

White Pelican. *Pelecanus onocrotalus*
G & R: Not recorded.
FEW: ST? One record of 4 birds. Early April.
A pelican, almost certainly this species, resting on the sea off the Wally Camp on the 8th is the first record for the island.

Socotra Cormorant. *Phalacroconax nigrogularis*
G & R: PM? Uncommon. Early August - Early November.
FEW: ST? Small numbers. Late Oct - Early March.
Two birds on the north coast on the 11th was the only sighting.

Grey Heron. *Ardea cinerea*
G & R: WV. Fairly numerous. Mid Aug - Mid April.
FEW: WV. PM. Upto 40 noted in autumn.
Recorded daily. On the east coast in small parties upto 6. More abundant on West coast south to Ra's Dha especially in the Sur Masirah area. High tide counts were 21 at Sur Masirah on the 11th, 52 at Ra's Dha on the 14th, and 45 on Jazirat Shaghaf on the 22nd.

Purple Heron. *Ardea purpurea*
G & R: PM. Nine records. Late Aug - Late October.
FEW: PM. Small numbers. Early July - Mid September.
One record, at the RAF camp on the 12th a single bird.

Great White Egret. *Egretta alba*
G & R: PM. Two records late September - Mid November. Once Feb.
FEW: WV. Small numbers. Early September - April.
One photographed at Haql on the 20th, and another at Jazirat Shaghaf on the 21st.

Reef Heron. *Egretta gularis*
G & R: WV. Common. September - April
FEW: RES? WV. PM. Fairly common in winter. Throughout year.
The most numerous heron species. Found on all coasts in groups of 30 or more, and particularly abundant in the Sur Masirah area with high tide roosts of 109 at Ra's Dha on the 14th and 59 on Jazirat Shaghaf on the 23rd. Marked variations in the colour phase ratio at Haql and Sur Masirah throughout the expedition period would seem to indicate continuing passage of birds, and several small parties were recorded flying south out to sea off the east coast during sea-watches on many dates.
Of 383 individuals where the colour phase was noted the dark phase outnumbered the white phase to the exact ratio of 4:3.

Squacco Heron. *Ardeola ralloides*
G & R: PM. Small numbers Early October - Mid November.
FEW: PM. Several Mid September - Late January.
Ten records between the 9th and 26th involving at least 6 individuals at Haql and the RAF camp only.

Green-backed (Little Green) **Heron.** *Butorides striatus.*
G & R: Recorded. Status unknown.
FEW: RES. BR? Very local.
On Jazirat Shaghaf only with one on the 21st and two the next day.

Night Heron. *Nycticorax nycticorax*
G & R: PM. A few. Mid August - Early November.
FEW: PM. WV? Several. Late June - Early January.
A single record of one at Haql on the 9th.

Glossy Ibis. *Plegadis falcinellus*
G & R: PM. 3 records of 6 birds. Late September - Late December.
FEW: PM. Very small numbers. Mid Aug - Late Oct.
A single immature at Haql on the 14th later flew off south.

Greater Flamingo. *Phoenicopterus ruber*
G & R: WV. PM. Upto 200 on occasions. Throughout year.
FEW: WV. PM. Small parties. Mid July - Mid May.
Recorded only at Ra's Dha in small numbers with a maximum of 9 on the 14th and 15th.

Mallard. *Anas platyrhynchos*
G & R: PM. WV. Generally a scarse visitor. Mid Oct - Late Nov.
FEW: PM. WV. Small numbers. Early Oct - March.
A female on the North coast on the 12th was the only record.

Baikal Teal. *Anas formosa*
G & R: No records.
FEW: No records Oman. Doubtful Abu Dhabi Island. September - November 72.
At Haql three immatures/females on our arrival on the 9th were still present when we departed on the 23rd. A fourth bird appeared from the 12th-16th, and one of these was mist-netted on the 15th. A further three birds were located on the sea off Sur Masirah on the 15th.
These are believed to be the first records for the Arabian sub-continent of this migratory eastern asian duck which has been recorded as a straggler to India but no further west. European records are generally considered escapes from captivity. (Identification confirmed by M. A. Ogilvie of the Wildfowl Trust).

Pintail. *Anas acuta*
G & R: PM. Small numbers. Mid October - Early November.
FEW: PM. Regular. Mid Sept - Late Nov. A few winter.
Along the North coast only with three probables on the 11th and one definite on the 12th.

Shoveler. *Anas clypeata*
G & R: PM. WV. Regular from Mid Sept. A few winter.
FEW: PM. Regular from Mid Aug. A few winter.
One record of a dead bird on the North coast on the 12th.

Osprey. *Pandion haliaetus.*
G & R: WV. Common all coasts. Scarce May - July.
FEW: RES. WV. Mainly coastal. More present winter months.
Found along all coasts of the island, but particularly in the Sur Masirah area and about the RAF camp. Counts from widely scattered areas gave a minimum total of 36 individuals.

Booted Eagle. *Hieraeetus pennatus*
G & R: PM. One record. Early November.
FEW: PM. Five birds. Late Sept - Mid Feb.
A possible bird near Haql on the 15th.

Steppe Eagle. *Aquila rapax.*
G & R: PM. Two records. Late Oct - Early Nov.
FEW: WV. Small numbers. Mid Oct - Mid March.
Excellent views were obtained of an immature in Haql Wadi on the 11th. It was seen again on the 16th.

Egyptian Vulture. *Neophron percnopterus*
G & R: RES. BR. Estimate of 12 pairs.
FEW: RES. BR. WV. Common. Possible increase in winter.
Fairly regular around native villages, but not recorded south of a line drawn from Sur Marisrah to Haql. From many counts in widely separate areas the population was considered to be not in excess of 50 individuals of which around 24 were in adult plumage. This compares very favourably with G & R's estimation of 12 pairs. Six adults over Jabal Hamra were the only sightings away from human habitation.

Marsh Harrier. *Circus aeruginosus*
G & R: WV. PM. Small numbers. Mid Oct - Mid March.
FEW: WV? PM. Occasional Mid Sept - Early May.
An immature or a female at Ra's Dha on the 21st was the only record.

Ring-tailed Harrier. *Circus sp.*
(Females and immatures of Hen, Pallid and Montagu's Harrier).
G & R: WV. PM. Ring-tails recorded Late Aug - Early May.
FEW: PM. Several. August - Early May.
At least 16 individuals were seen throughout the expedition period mainly around the R.A.F. camp. A definite Montagu's Harrier *C. pygargus* was seen on the 9th and Pallid Harrier *C. macrourus* on the 21st.

Saker. *Falco cherrug.*
G & R: Recorded but status not known.
FEW: PM? 8+ records. Early Sept - Late March.
One at the R.A.F. camp on the 9th. Another hunting at Ra's Dha on the 20th was either this species or a Lanner. *F. biarmicus.*

Peregrine. *Falco peregrinus*
G & R: WV. PM. Regular. Late October - Mid April.
FEW: WV. PM. A few. Mid Oct - March.
12 sightings involving at least 6 different birds. Noted on most days at Haql from the 8th and watched regularly stooping at small waders, sandgrouse, and terns. Other records from the RAF camp and Ra's Dha

Hobby. *Falco subbuteo*
G & R: PM. Regular. Late Sept - Early Dec.
FEW: PM. 7 records. Mid Sept - Late Dec.
The only record was a single bird at the RAF camp on the 11th.

Lesser Kestrel.*Falco naumanni*
G & R: PM. WV? Five records - all males. Late Nov-Late March.
FEW: PM. One or two. Early Oct.
Nine birds seen from the 11th - 25th, (including three together on the 20th), at Haql, Dawwah, Palm Wadi and the RAF camp. All were immature and/or females. (compare G & R above).

Kestrel. *Falco tinnunculus*
G & R: RES. BR.WV. small numbers throughout year. More in winter.
FEW: RES. BR. WV. PM? Fairly regular. Late Sept - April.
Recorded regularly throughout the expedition period with 22 sightings of single birds at widely scattered localities from Haql northwards. Mainly inland.

Quail. *Coturnix coturnix*
G & R: PM. Autumn passage only. Mid Sept - Late Nov.
FEW: PM. WV. Mainly in autumn. Mid Sept - Mid Oct.
Three records. One at Haql on the 15th, an exhausted bird at the RAF camp on the 24th and another, killed by a cat, there on the 26th.

Corncrake. *Crex crex*
G & R: PM? One fairly certain. Late Sept.
FEW: PM? One collected N. Oman in 1874.
Two exhaused birds were caught by hand and ringed, one at Haql on the 9th, and the other at the RAF camp on the 18th. These are the first definite records for Masirah, and the only Northern Oman record is over 100 years old!

Crab Plover. *Dromas ardeola.*
G & R: RES. BR. WV. PM. 20 pairs breed offshore island. Flocks of 300 or more locally west coast, Autumn & Winter.
FEW: PM. Mainly small numbers. Autumn. Locally upto 400.
Found only at the Sur Masirah area. Roosting flocks at Ra's Dha fluctuated with 850 on the 11th, 500+ on the 14th, 210 on the 16th, 500 on the 21 and 760 on the 22nd. Many of the adult birds in the flocks were still feeding accompanying juveniles. On Jazirat Shaghaf on the 23rd two separate breeding colonies were located. Although no birds were present these comprised of 65 and 45 burrows each. Comparison with previous data would indicate a large increase in recent years.

Oystercatcher. *Haematopus ostralegus*
G & R: WV. Locally abundant. Winter flocks 400 or more.
FEW: PM. WV. Small flocks on coast. July - April.
Although found scattered along all coasts in small flocks it was only in the Sur Masirah area where they were abundant. Roost counts at Ra's Dha were 800 on the 11th, 700+ on the 14th, falling to 230 on the 23rd.

Ringed Plover. *Charadrius hiaticula*
G & R: WV. PM. Uncommon. Late Aug - Late May.
FEW: WV. PM. Small numbers. Mid Sept - April.
Recorded daily on most beaches, but mainly in singles or pairs. The peak counts of 20+ on the 8th, and 13 on the 10th were both made near Ra's Qudafah.

Little Ringed Plover. *Charadrius dubius.*
G & R: PM. WV. More frequent than Ringed Plover. Mid Aug - April.
FEW: (Per comm) PM. SV? BR. In small numbers. Autmn passage to Mid Nov.
Seven records of 11 birds on the 9th, 10th, 12th and 19th. Apart from two at Haql all were seen around the R.A.F. camp and north coast beaches.

Kentish Plover. *Charadrius alexandrinus.*
G & R: WV. RES. BR. Occasional flocks of 100. Nov-April.
FEW: PM. WV. RES? Recorded all months and frequent during passage.
Common in small parties (up to 10) on all coasts. In the Sur Masirah area more numerous but population difficult to assess due to the species tendency to mix with other waders, particulary dense flocks of sandplovers. Several hundred at Ra's Dha roost on the 21st was the best estimation.

Greater Sand Plover. *Charadrius leschenaultii*
G & R: WV. PM. Locally abundant. Late Aug - Mid May. Counts 2000+
FEW: WV. PM. Fairly common. July - April.
Abundant only in the Sur Masirah area where over 1000 counted at the Ra's Dha roost on several dates between the 11th and 23rd. With the inclusion of other scattered roosts on Jazirat Shaghaf and near Sur Masirah village the total population for the area was considered to be in excess of 2,000 birds. Found in small parties only along other coasts.

Lesser (Mongolian) Sand Plover. *Charadrius mongolus.*
G & R: WV. PM. Abundant. Flocks of 5000 in winter.
FEW: WV. PM. As Greater, but more common.
More numerous and widespread along coasts than *C. Leschenaultii*, especially the north coast beaches and the Sur Masirah area. Numbers were difficult to assess because of the large dense mixed flocks in frequented when roosting. An estimation of 2-3,000 for the north and west coasts would be fair.

Lesser Golden Plover. *Pluvialis dominica*
G & R: WV. PM. Regular upto 30 birds. Mid Aug - Mid May.
FEW: PM. WV. Small numbers. Aug-Feb.
Recorded on most days at several localities. Mainly single birds were seen but there were flocks of 11 on the 11th, 14 on the 19th, 30 on the 22nd and 11 on the 24th.

Grey Plover. *Pluvialis squatarola*
G & R: WV. Locally abundant, occasionally 2000+. Mainly Aug - April.
FEW: WV. PM. Fairly common. End July - Mid April.
Regular in small flocks (less than 10) at many localities around the coast, but abundant in the Sur Masirah area with peak counts at high tide of 1600 at Ra's Dha on the 11th, and 221 on Jazirat Shaghaf on the 21st.

Turnstone. *Arenaria interpres.*
G & R: WV. Fairly common, occasionally flocks 500. July - Mid May.
FEW: PM. WV. Small parties from late July.
Common along all coasts, e.g. 60 at north coast on 8th and 45 Haql on 14th, but as with most wader species the largest numbers occurred in the Sur Masirah area on the west coast where 400 were at the Ra's Dha roost on the 11th, 500 there on the 21st with 33 on Jazirat Shaghaf.

Broad-Billed Sandpiper. *Limicola falcinellus.*
G & R: PM. Small numbers. Mid Aug - Late Nov.
FEW: PM. Small numbers. Late July - Early Nov.
Four records only. Two birds, possibly more on the north coast on the 8th, and singles at Haql on the 9th and 15th, and Shinzi on the 24th. Almost certainly overlooked in the Sur Masirah area amongst the large mixed wader flocks.

Curlew Sandpiper. *Calidris ferruginea.*
G & R: PM. WV. Quite common, upto 200. Aug - Sept. Fewer over winter.
FEW: PM. Small parties. Late July - Early Nov.
A common wader, recorded daily and found at several coastal localities. Marked fluctuations in numbers clearly indicated that passage was still much in evidence. On the north coast upto 17 recorded during the period 8th-11th. At Haql upto 40 present from the 9th-23rd, but on several dates there were only a few. Larger numbers occurred on the west coast, with 160 at the Ra's Dha roost on the 11th. High tide counts peaked on the 21st with a c.500 at Ra's Dha and 110 on Jazirat Shaghaf.

Dunlin. *Calidris alpina.*
G & R: WV. Locally abundant flocks 500+. Late Aug - Early June.
FEW: WV? PM. Regular in flocks of 50-60. Sept - Early Nov.
Fairly common away from the Sur Masirah stronghold and recorded at Haql; generally less than 10 but 46 on the 14th, on the north coast; maximum of 20 on the 8th, and Shinzi; 5 on the 24th. Counts in the Sur Masirah area produced an estimated 500 at Ra's Dha on the 11th and 21st, with an additional 217 roosting birds on Jazirat Shaghaf on the latter date.

Temminck's Stint. *Calidris temminckii.*
G & R: PM. WV. Small numbers (upto 9 together). Late Aug - Late Oct.
FEW: WV. PM. Small numbers (upto 10 together). Late July - Oct.
At Haql one or two daily around the fresh water pools in the wadi, but 20 on the 15th coincided with a marked influx of other small calidris waders. A single bird trapped at night at Ra's Dha on the 14th was the only record away from Haql, but gave an indication that the species was probably much overlooked amongst the large wader flocks on the west coast.

Little Stint. *Calidris minuta.*
G & R: WV. Fairly common from mid August. Roost counts upto 200.
FEW: WV. PM. Fairly common. Mid July - Mid April.
More numerous than the Curlew Sandpiper, with which it showed a clear association being found along many beaches. Counts included 33 at Ra's Qudafah on the 10th, between 20 and 50 daily at Haql, and at the Ra's Dha roost several hundred on the 14th and c. 500 on the 21st with 100 on Jazirat Shaghaf on the 23rd. Marked fluctuations in numbers at several localities gave indications of continuing passage.

Sanderling. *Calidris alba.*
G & R: WV. PM. Fairly common, flocks of 200. Aug - May.
FEW: WV. Fairly common. Late July - Late May.
Widespread in small flocks along most coastal beaches, but not found south of Haql or Ra's Dha. Peak counts were 32 on the north coast on the 8th, 25 at Haql on the 9th, 67 at Ra's Dha roost on the 11th, and 51 on Jazirat Shaghaf on the 21st.

Red-Necked Phalarope. *Phalaropus lobatus.*
G & R: PM. Regular in small numbers. Aug-Sept. Occasional in winter
FEW: WV. PM. Off coast late July - May. Thousands at sea Aug - Sept
Scarce single birds recorded on nine days between the 9th and 20th on the north coast and at Haql Lagoon. Several of these were picked up in very poor condition.

Terek Sandpiper. *Tringa cinereus*
G & R: PM. WV. Mid July - Nov. Upto 40 during Oct-Nov. A few winter.
FEW: WV. PM. Mid July - April. Fairly common autumn passage.
Rather uncommon. Mainly at Ra's Dha where up to 12 counted between the 11th and 21st but probably more present as frequently heard calling in this area at night. Other records were 8 along the north coast on the 9th, 6 at Jazirat Shaghaf on the 22nd, and 2 at Shinzi on the 24th.

Redshank. *Tringa totanus.*
G & R: PM WV. Abundant. 1,000 or more. July - Early Nov.
FEW: WV PM. Common. Mid July - Mid May.
Abundant only in the Sur Masirah area with roost counts at Ra's Dha of 1070 on the 11th and 1000+ on the 14th but numbers fell to 139 by the 21st with 115 on Jazirat Shaghaf. Recorded at other areas daily in smaller numbers, maximum counts being 27 along the north coast and 8 at Haql on the 9th, and 14 at Shinzi on the 11th.

Greenshank. *Tringa nebularia.*
G & R: WV. PM. Fairly numerous, occasionally flocks of 30. Mid July - May.
FEW: WV. PM. Small numbers. Mid July - Late April.
Widespread around the coasts in small flocks. The peak counts were 7 on the 9th along the north coast, 40+ on the 14th at Ra's Dha with 30+ on the 21st and 22nd, and 20+ on Jazirat Shaghaf on the 23rd.

Marsh Sandpiper. *Tringa stagnatilis.*
G & R: Recorded but status not known.
FEW: PM. Occasional (max. flocks of 10). Sept - Oct.
Recorded around the north coast daily between the 8th and 12th, with 10+ on the 8th, 4 on the 9th and therafter single birds.

Common Sandpiper. *Tringa hypoleucos.*
G & R: WV. PM. Fairly numerous from Mid July, decreasing Sept a few over winter.
FEW: WV PM. Common Mid July - Mid May.
Recorded daily in small numbers (max. 6) from many localities particulary around the north coast, the RAF camp and Haql, where on several dates small parties observed departing at dusk. In contrast with the majority of other wader species most records were along the eastern seaboard, the only records coming from the west coast were 5 on Jazirat Shaghaf on the 21st and 22nd.

Wood Sandpiper. *Tringa glareola.*
G & R: PM. Small numbers. mostly of single birds. Early Aug - Late Oct.
FEW: PM. WV? Small Numbers. Late July - Late Oct.
Local and uncommon. Apart from two birds on the north coast on the 9th found only in the fresh water pools at Haql where it was recorded daily between the the 10th and 16th and again on the 19th. This gave a total of 15 individual records with a maximum of only four birds on the 16th.

Green Sandpiper. *Tringa ochropus.*
G & R: PM. More frequent than Wood Sandpiper. Late July - Late Nov.
FEW: WV. PM. Fairly common Mid July - Sept, with small numbers through to April.
Scarce. Thirteen birds recorded on six dates from the 10th to 22nd. Mostly at Haql, but there were 5 on the north coast on the 12th and one on Jazirat Shaghaf on the 22nd.

Ruff. *Philomachus pugnax.*
G & R: PM. WV. Passage Late July - Late Aug. Upto 36 at Haql in Sept.
FEW: PM. Small parties. Late July - Late Oct.
Found in only two localities, Haql where six single birds were recorded between the 10th and 20th, and the R.A. F. camp where upto 5 were regularly seen around the saline water run-off and the adjacent rubbish dump.

Curlew. *Numenius arquata.*
G & R: WV. PM. Fairly common, upto 500+. Late July - Mid April.
FEW: WV. PM. Regular in small numbers. Late June - Mid Oct.
Abundant on the Sur Masirah mudflats, with counts at the Ra's Dha roost of 1100 on the 11th, 1000+ on the 14th, 250 on the 16th, and 900 on the 21st. At other localities around the north point and down the eastern seaboard only in very small numbers (less than 5) apart from 42 at Ra's Qudafah on the 8th.

Whimbrel. *Numenius phaeopus.*
G & R: WV. PM. Fairly common, flocks 500+. Mid July - Dec.
FEW: WV. PM. Regular in small numbers. Early July - Oct.
Recorded daily around the whole coastline in small parties mostly less than five together. Peak counts were 10+ at Ra's Dha on the 14th, 24 on Jazirat Shaghaf on the 21st with 30 on the 23rd, and 11 at Shinzi on the 24th. There was an unusual record of three perched on a low rocky hill inland at the head of Haql Wadi on the 11th.

Black Tailed Godwit. *Limosa limosa.*
G & R: PM. One record. Sept.
FEW: PM. WV? Occasional late July - Mid Oct.
A party of 3 on the north coast on the 10th was the only record.

Bar-Tailed Godwit. *Limosa lapponica.*
G & R: WV. PM. Locally abundant, 3000 on passage. July - May.
FEW: PM. Passage July - Oct with some large flocks recorded.
Abundant only on the west coast with counts at the Ra's Dha roost of 1530 on the 11th and 2400 on the 21st. Upto 50 recorded at other coastal localities, but 100 were noted around the north coast on the 12th.

Snipe. *Gallinago gallinago.*
G & R: PM. Small numbers. Late Aug - Mid Dec.
FEW: WV. PM. Small numbers. Late Aug - Early April.
At Haql 4+ exhausted birds on the 9th with 8 on the 15th and 10 on the 16th. Singles at the R.A.F. camp on the 10th and 11th. An unusual haunt was Ra's Dha where scattered birds were found ½ mile out on the sant flats at low tide with shore waders. On the 14th there were 50+, but probably many more were present as only a relatively small area was covered.

Arctic Skua. *Stercorarius parasiticus.*
G & R: PM. WV. SV. Autumn passage west coast. Late July - Oct.
FEW: PM? A few in spring & autumn.
One dark-phase during a sea-watch at the north coast on the 12th was the only record.

Slender-Billed Gull. *Larus genei.*
G & R: WV. Fairly common from Late Sept, Occasional flocks 1000.
FEW: WV. Fairly common. Mid Aug - May.
Seen daily in small numbers of upto 12 at all coastal sites visited. An apparent influx at Ra's Dha on the 22nd when 150 were present.

Sooty Gull. *Larus hemprichii.*
G & R: RES. BR. SV? Abundant. 5000 pairs Jazirat Shaghaf breeds Aug - Oct.
FEW: RES. BR. Common throughout year. Pairs with young late Oct.
Abundant along all coasts. Several large feeding movements. noted with 800 feeding at Macula on the 11th, and at Haql on the 14th 3000 flew south in one hour with a further 1,000 feeding in the bay. On the 16th, again at Haql, at least 4000 were attracted to the area by large shoals of small fish close inshore.
The main breeding colony on Jazirat Shaghaf was visited on 21st-23rd where it was estimated 4000 pairs were present. Only seven nests were found containing eggs, but there were numerous young (661 ringed) varying in age from a few days to fledged and flying juveniles. A disturbing feature was the "harvesting" of flightless chicks, for later sale in the villages on Masirah. Juzarah on the east coast was visited on the 24th and although about 100 pairs were present most of the young had fledged.

Herring Gull. *Larus argentatus.*
G & R: WV. Abundant. Sept - March
FEW: PM. WV. Fairly common on coast. Late July - April.
Common around all coasts with upto 200 noted on several dates at different localities. All were adults, and it was not until the 19th that immatures of either this species or *L. fuscus* were noted when 10 were recorded on the north coast with another 30 at Ra's Dha on the 22nd.

Lesser Black-Back Gull. *Larus fuscus.*
G & R: WV. "Decidely scarce". Adults (upto 10 together) from Late July - Late April
FEW: WV. PM. Small numbers. Late July - April. Immatures common.
Flocks of adults were noted daily resting along beaches in several localities. Most flocks were from 10-100 but maximum counts were 280 on North coast on the 12th, 140 at Ra's Dha on the 14th, 200 at Haql on the 16th and 230 near Shinzi on the 24th. For immatures see *L. argentatus.*
These records are in sharp contrast to previous Masirah and Oman counts.

Gull-Billed Tern. *Gelochelidon nilotica*
G & R: PM. WV. Rather uncommon, usually less than 10 together. From Mid July
FEW: PM. Generally scarce.
Roosting flocks at Ra's Dha were 80 on the 11th, 450 on the 14th falling to 40 on the 21st. Elsewhere regular only at Haql with counts of 30 on the 16th and 15 on the 18th and 19th.

Caspian Tern. *Hydroprogne tschegrava.*
G & R: WV. Numerous, often 100, west coast. Late Aug - Mid May.
FEW: WV. PM. In small groups coast. Late July - Early May.
Fairly common only at the Ra's Dha roost with 42 on the 11th 35 on the 17th, and 100 on the 22nd. Elsewhere, at Haql 7 were seen on the 9th, and around the north coast between 3 and 10 were noted daily from 8th-12th.

Swift Tern. *Sterna bergii*
G & R: RES. BR. Abundant. 400 pairs breed off-shore islets.
FEW: PM. WV. Common coast, Nov-May. Small numbers. June-Oct.
Common off-shore especially down the east coast. Peak counts here 50+ at Ras Qudufah on the 9th, 90 near Macula on the 14th, 300 on the south point on the 16th, 50 at Haql on the 19th and 300 roosting on Juzarah Island over high tide on the 24th. The latter visit also revealed evidence of earlier breeding attempts with several long dead adults and chicks, nest scrapes and egg shell fragments.

Lesser Crested Tern. *Sterna bengalensis.*
G & R: WV. PM. Fairly common, Sept - May. Occasional flocks 500+
FEW: WV. PM. Fairly common, Nov - April.
Numerous off-shore with large movements recorded down the eastern seaboard in the early mornings and late afternoon. These daily movements were assumed to be birds departing from and flying to night roosts, but may have involved some migration as the main direction was south during both periods. Refer to Fig. 1.
Flocks nesting on beaches were 190 at Macula on the 14th, 150 at Kalban on the 16th and 400 near Shinzi on the 24th. In addition many thousands were present at the Ra's Dha roost each evening.

Sandwich Tern. *Sterna sandvicensis*
G & R: WV. SV. Surprisingly common throughout year. Winter flocks 1000+
FEW: SV. WV. PM. Common throughout year. Largest numbers. - Aug.
Generally numerous but numbers seen daily off-shore fluctuated markedly from a few to many hundreds and possibly reflected feeding conditions. Resting flocks were 200 at Haql and 700 near Macula on the 14th and 150 at South Point with 150 at Kalban on the 16th. Large numbers roosted at Ra's Dha and daily at dusk at Haql upto 350 were noted flying high overland in a north-west direction.

Common Tern. *Sterna hirundo.*
G & R: PM? Small numbers in spring. Possibly overlooked at other times
FEW: PM. A few records each month, most in spring.
Uncommon but probably overlooked amongst the similar White-Cheeked Terns. The only definite record was 41 birds amongst a large mixed tern flock roosting near Ras Qudufah on the 11th.

Roseate Tern. *Sterna dougallii.*
G & R: SV. BR. Present Late April - Mid Sept. 160 breeding pairs.
FEW: PM. Occasional Mar - Aug.
There were two late records, two birds on the 9th and one on the 10th, both at Ras Qudufah.

White-Cheeked Tern. *Sterna repressa.*
G & R: RES? BR. SV. 1,200 pairs off shore islands. 10,000+ on passage Sept-Oct. Small numbers over winter.
FEW: PM. BR. SV. Common. April - Mid Oct.
Very abundant. The most numerous tern species off-shore forming the bulk of the large mixed flocks met with both in movements and roosting. In contrast it was not found in feeding assemblies as several of the other terns were and from observations at the huge Ra's Dha roost, where at least 70,000 arrived from the S. W. each evening and departed high back to the S.W. at dawn, the feeding grounds were possibly in the shallow waters and lagoons along the Oman mainland to the South-west of Masirah. Another substantial roost site was suspected somewhere down the east coast south of Haql from where daily in the last hour before dusk 1500-6000 birds in a continuous ribbon like stream were noted flying south close inshore. Other flocks, all resting on the shore, were 5,000 north coast on the 9th, 500 Ras Qudufah on the 11th, 505 Macula on the 14th, with 150 South Point and 150 Kalban on the 16th. See Fig. 2.

Saunder's Little Tern. *Sterna saundersi*
G & R: RES? BR. SV. PM. 250 breeding pairs. Marked passage Sept - Nov.
FEW: PM? Frequent. Marked increase in Oct.
Away from the Ra's Dha roost scarce with only twenty individual sightings down the east coast, but possibly over-looked amongst the flocks of White-cheeked Terns. At Ra's Dha 20-100 were noted roosting on many occasions, and on Jaziirat Shaghaf on the 21st several long dead partial fledged chicks were found. These records may include some Little Terns *S. albifrons* as the two closely related species were not differentated.

Bridled Tern. *Sterna anaethetus.*
G & R: SV. BR. WV? 15,500 pairs breed. Mid April - Mid Nov. Once in winter.
FEW: SV. BR. PM. Breeds off-shore islands. Recorded April - Oct.
Daily in very small numbers (one or two) with maximum counts of 20 near Ras al Ya on the 10th and 10 at Ra's Dha on the 14th. Surprisingly no birds were noted after the 16th when small numbers were recorded off the south point. Checks on the islands of Shaghaf and Juzarah revealed many long dead adults and chicks remaining from earlier breeding activities.

Common Noddy. *Anous stolidus*
G & R: SV. Small numbers arrive with SW monsoon, Late May - Late Oct.
FEW: SV? Very scarce (but a record of 200) Mid May - Early Sept.
Two on the beach at Ras Qudufah on the 12th was the only record.

White-Winged Black Tern. *Chlidonias leucopterus*
G & R: PM. Scarce. Late Aug - Early Oct.
FEW: PM. Scarce. Mid July - Early Oct.
A possible bird on the north coast on the 9th.

Crowned Sandgrouse. *Pterocles coronatus.*
G & R: RES. BR? Small numbers Haql area.
FEW RES. BR. Fairly common in rocky foothills.
Two birds coming into drink with other sandgrouse at Haql on the 9th were the only birds of this species seen at this favoured locality. A party of 8 in a wadi near Shinzi on the 24th was the only other record.

Chestnut-Bellied Sandgrouse. *Pterocles exustus.*
G & R: RES. BR. 200 pairs in 1974-75.
FEW: RES. BR. Commonest sandgrouse in plains.
Common at Haql arriving daily between 08.00 and 10.00 hours in small flocks to drink. On the 9th and 10th over 200 birds were noted, but thereafter daily totals were down to 80-90 possibly because of the close proximity of the R.A.F.O.S. campsite. At Palm Wadi 120 were counted coming to drink on the 19th, and elsewhere in the interior met with regularly in small flocks upto 12.

Collared Dove. *Streptopelia decaocto.*
G & R: WV. Small numbers. Mid Sept - Mid April.
FEW: RES. BR. WV? PM? Apparently resident cultivated belt. More widespread in winter.
Two at Haql on the 9th, and one at the RAF camp on the 17th were the only records.

Turtle Dove. *Streptopelia turtur.*
G & R. PM. Fairly numerous. Late Aug - Early Nov.
FEW SV. PM. Small numbers, Batinah plain. April - Mid Oct.
A total of six birds at Haql between the 15th and 19th were, surprisingly, the only records.

Rufous Turtle Dove *Streptopelia orientalis*
G & R: WV? 2 records in Nov and March - April
FEW: Late Sep - Oct. (pers comm) PM. Scarce.
At Macula one on the 8th and two on the 11th, and at the RAF camp 3 on the 17th and two on the 25th.

Palm (Laughing) Dove. *Streptopelia senegalensis*
G & R: RES. BR. WV. PM? Upto 10 pairs breed RAF camp, Winter roost upto 70 birds.
FEW: RES. BR. Common.
Common around the RAF camp with upto 22 seen together and newly fledged young on the 24th. Elsewhere only at Haql where fluctuating numbers probably reflect migration, 1 on 11th, 2 on 13th, 3 on 16th, 1 on 18th, 9 on 19th and 6 on 20th.

Cuckoo *Cuculus canorus.*
G & R: PM. Eight autumn records. Mid Aug - Late Oct.
FEW: PM. Four autumn records. Late July - Mid Sept.
Four sightings all of single immatures, at the R.A.F. camp on the 9th and 11th, at Haql on the 16th, and Shinzi on the 24th.

Barn Owl. *Tyto alba.*
G & R: RES? One R.A.F camp July 74 - April 75.
FEW: RES. BR. Quite common, Batinah plain.
One heard calling during the early hours of the 8th around the R.A.F. camp may possibly have been the same individual from 1975.

Nightjar. *Caprimulgus europaeus.*
G & R: PM. Fairly common. Mid Sept - Early Nov.
FEW: PM. Several single records. Early Sept - Dec.
Four single birds seen at Haql on the 20th, Ra's Dha on the 21st, Jazirat Shaghaf on the 22nd, and Juzarah Island on the 24th.

Egyptian Nightjar. *Caprimulgus aegyptius.*
G & R: ? Two records. Nov.
FEW: WV? PM. Several. Mid Sept - Mid Nov. Few in winter.
Four birds seen. At Haql on the 19th with a second bird on the 20th, and two on the 24th, at Shinzi and on Juzarah Island. These birds, the first for October, treble the island's acceptable records.

Swift. *Apus apus.*
G & R: PM. Small numbers. Mid Aug - Late Sept.
FEW: WV. PM. Regular. Mid Oct - April.
A single dead bird at the R.A.F. camp on the 11th was the only record.

Bee-Eater. *Merops apiaster.*
G & R: PM. Scarce 4 records. Mid Aug - Early Sept.
FEW: PM. SV. BR. RES? Batinah coast from March - Oct.
One at the Dawwah tree on the 21st. A bird at the Wally camp on the 23rd was either this species or Blue-Cheeked.

Blue-Cheeked Bee-Eater. *Merops superciliosus.*
G & R: PM. Regular Late Sept - Mid Nov.
FEW: SV. BR. PM. Common SV. Passage Mid July - Early Oct.
Only one record of two at Haql on the 9th.

Roller. *Coracias garrulus.*
G & R: PM. Small numbers. Mid Sept - Mid Nov.
FEW: PM. Small numbers. Mid July - Mid Oct.
Not uncommon. 14 individuals seen between the 11th and 24th at Macula, Haql, Humer, Palm Wadi and Shinzi, with a maximum of 5 on the 18th.

Kingfisher. *Alcedo atthis.*
G & R: WV. Usually 10 or more winter. Perhaps some passage.
FEW: WV. Widespread near water. Mid Aug - Late April.
A total of 16 seen from the 9th. The majority were at Haql where passage was certainly in progress. On the 10th three birds were trapped including a bird which flew into a mist-net at midnight.

Hoopoe. *Upupa epops.*
G & R: PM. Not uncommon. Early Aug - Mid Nov.
FEW: PM. WV. SV. BR. Widespread in small numbers. Early Aug - Oct.
Eight records, all of single birds from the 10th to the 25th, at Haql and the R.A.F. camp only.

Wryneck. *Jynx torquilla.*
G & R: PM. WV. Small numbers. Early Sept - Mid Nov.
FEW: PM. Small numbers. Mid Sept - Late Nov.
One at Haql on the 19th and another at the RAF camp on the 26th.

Black-Crowned Finch Lark. *Eremopterix nigriceps.*
G & R: RES. BR? Small flocks of less than 20.
FEW: RES. BR? Widespread.
In the Haql area upto 5 seen on several dates. Elsewhere, infrequent, with 20 at Al Qurin on the 12th, and a single bird at the RAF camp on the 17th the only other records.

Hoopoe Lark. *Alaemon alaudipes.*
G & R: RES. BR. Breeds May - August.
FEW: RES. BR. Widely but thinly distributed.
Regularly met with throughout the island in sandy areas and especially along desert tracks. Always the sightings were of single birds.

Short-Toed Lark. *Calandrella cinerea.*
G & R: PM. WV. Frequent. Mid Sept - Early May. Flocks upto 60 winter.
FEW: PM. WV? Flocks recorded Aug - Sept and Feb.
Two records only. At Haql two birds on the 11th, and a single one at Ra's Dha on the 21st.

Crested Lark. *Galerida cristata.*
G & R: RES. BR. 50 pairs in northern plain.
FEW: RES. BR. WV? Common in plains in flocks upto 50.
Found to be very common on low ground especially around the RAF camp, and in Haql Wadi. With 136 individual sightings it would appear recent rains with the resultant flush of vegetation has been beneficial to this ground species.

Swallow. *Hirundo rustica*
G & R: PM. Regular. Autumn passage Early July - Early Dec.
FEW: PM. Widespread in small numbers. Mid July - Mid Dec.
A continuous light southerly passage was recorded everyday during the expedition, both along the west and east coasts and through the interior. On the 19th a more prominent movement was apparent when birds were noted as numerous at both Haql and along Palm Wadi.

Sand Martin. *Riparia riparia.*
G & R: PM. Autumn passage Mid Aug - Late Dec. Peak Sept - Oct.
FEW: PM. Autumn passage Late Aug - Mid Nov.
Upto 16 a day moving south with Swallows. Noted on most days but not after the 19th. At Ra's Dha on the 14th movement was described as steady but light all day.

House Martin. *Delichon urbica.*
G & R: PM. Rather scarce. Mid Aug - Early Nov (but no definite October records).
FEW: PM. Scarce, Early July - Oct.
At the RAF camp one on the 8th and four on the 9th. At Haql single birds flying south on the 9th and 10th. These are the first October records for Masirah.

Tree Pipit. *Anthus trivialis.*
G & R: WV. PM. Regular Early Sept. onwards, small numbers winter.
FEW: WV? PM?
Very common, upto 30 seen a day. Marked diurnal migration south over Haql from the 10th to the 20th. Although only a few may be present in the wadi at one time, birds were continually arriving and departing from dawn to dusk. Also common around the RAF camp and on the 17th thirteen were counted roosting in a small bush by the Airmens' Mess.

Red-Throated Pipit. *Anthus cervinus.*
G & R: PM. WV? Regular only in spring. Possibly in winter, from Nov.
FEW: PM. WV. From Early Oct - Mid April.
There were four definite records all of single birds, at the RAF camp on the 11th, 19th and 25th, and on Jazirat Shaghaf on the 21st.

Tawny Pipit. *Anthus campestris.*
G & R: WV. Small numbers. Late Aug - Early April.
FEW: WV. Early October - Early April.
On the 8th, two at the RAF camp with two again the next day plus seven in the Haql area. Finally on the 12th one flew south at Haql.

White Wagtail. *Motacilla alba.*
G & R: WV. PM. Fairly common. Late Sept - Early April.
FEW: WV. Fairly common. Early Oct - Early April.
First noted on the 13th when two were present at Haql. Thereafter in slowly increasing numbers especially around the RAF camp when by the 24th about 20 were roosting at the laundry.

Grey Wagtail. *Motacilla cinerea.*
G & R: PM. Upto 6 birds at roosts Late Aug - Early Nov.
FEW: WV. From Late August.
A total of 20 birds were seen on five days between the 9th and 20th in parties upto 5.

Yellow Wagtail. *Motacilla flava*
G & R: PM. WV. Fairly common. Mid Aug - Mid Nov. Occasional over winter.
FEW: PM. Small numbers. Mid Aug - Mid Oct. Occasional over winter.
Fairly common. The water hole at Macula was the favourite haunt with upto 20 birds present. Elsewhere, widespread but in small numbers, generally 2 or 3. No sub-specific identification was attempted.

Great Grey Shrike. *Lanius excubitor.*
G & R: WV. PM. Rather scarce. Late July - Mid March. Evidence of passage in Sept - Nov.
FEW: RES. BR. WV. Common and widespread.
Four records in widespread localities. Three at Al Qurin on the 12th, two at Haql wadi on the 15th, one in the Dawwah tree on the 21st, and finally two in a wadi near Shinzi on the 24th.

Red-Backed/Red-Tailed Shrike. *Lanius collurio.*
G & R: PM. Regular in small numbers. Early Sept - Late Oct.
FEW: PM. Five records. Late Sept - Early Nov.
Surprisingly there were no definite records of the nominate race though juvenile "Red-backs" may have been overlooked and recorded as *Rufous.*

Rufous Shrike. *L. c. phoenicuroides.*
G & R: PM. WV. Commonest shrike in autumn from Late Aug.
FEW: PM. Small numbers. Late Aug - Mid Oct.
Common with upto 14 recorded daily at widespread localities. Favourite haunt was the fences around the RAF camp when on the 17th twelve birds were counted on adjacent posts.

Isabelline Shrike. *L. c. isabellinus.*
G & R: PM. Only two in autumn. Both Sept
FEW: PM. Seven birds. Late Aug - Mid Nov. Mainly Oct.
There were five sightings of this well defined sub-species, two on the 10th, one on the 15th, and two on the 18th. These more than treble previous autumn records for Masirah and are the first for October.

Reed Warbler. *Acrocephalus scirpaceus.*
G & R: PM. Small numbers. Early Sept - Late Oct.
FEW: PM. Three records. Mid Sept - Mid Oct.
Single birds caught in the reeds at Haql on the 10th and the 17th were the only definite records, but a further 15 unstreaked *acrocephalus* warblers mainly at Haql, including five there on the 15th, were either this species or Marsh Warblers. *A. palustris.* The latter species has not previously been recorded in autumn at Masirah.

Sedge Warbler. *Acrocephalus schoenobaenus.*
G & R: PM. Scarce but regular. Late Sept - Late Oct.
FEW: PM. One record. Mid Sept.
Two single birds, both trapped, at Haql on the 11th and the 12th, were the only records

Olivaceous Warbler. *Hippolais pallida.*
G & R: PM. Fairly common. Mid Aug - Late Oct.
FEW: PM. Late Aug - Mid Sept.
Eleven sightings, all of single birds at Haql between the 11th and the 19th.

Upcher's Warbler. *Hippolais languida.*
G & R: PM. Regular. Early Aug - Late Sept.
FEW: PM. Two autumn records. July and Sept.
Four late migrants were around the RAF camp between the 8th and 10th are the first Masirah records for October.

Common Whitethroat. *Sylvia communis.*
G & R: PM. Fairly common. Mid Aug - Early Dec.
FEW: PM. A few. Early Sept - Nov.
Seven single birds recorded upto the 25th, but an influx on the 17th when about ten were present in a garden on the RAF camp.

Desert Lesser Whitethroat. *Sylvia minula.*
G & R: Status? Suspected Nov. 74 - Jan 75.
FEW: PM. WV. Small numbers. Mid Sept to March. (May incl some *S. curruca*)
A total of five were recorded at the RAF camp between the 9th and 11th, a further 13 at Haql from the 11th to the 19th, and finally two were at Dawwah on the 21st. These would appear to be the first definite records for the island, though it may have been overlooked in the past.

Lesser Whitethroat. *Sylvia curruca.*
G & R: PM. WV? Regular. Mid Sept - Early Nov.
FEW: PM. Not differentiated from *S. minula.*
A common migrant recorded daily at widespread localities. With around 80 sightings this was the most numerous warbler recorded by the expedition.

Garden Warbler. *Sylvia borin.*
G & R: PM. Once. 1st Oct 1974.
FEW: No records in Oman. Recorded in Arabian Gulf States.
A single bird at Macula on the 11th was only the second record for Masirah and Oman.

Menetries' Warbler. *Sylvia mystacea.*
G & R: PM. WV? Small numbers. Late Sept - Mid Nov.
FEW: WV. PM Regular. Mid Sept - March.
Only two records, singles at the RAF camp on the 8th and in Palm Wadi on the 19th.

Desert Warbler. *Sylvia nana.*
G & R: WV. Regular in small numbers. Late Sept - Mid March.
FEW: WV. Widespread in small numbers. Mid Oct - Mid March.
Three together in a wadi near Shinzi on the 24th was the only sighting.

Willow Warbler. *Phylloscopus trochilus.*
G & R: PM. Less than a dozen each passage. Late Sept - Mid Oct.
FEW: PM. No autumn records. Only one in Spring.
One trapped at Haql on the 12th and another calling at the RAF camp on the 26th were the only definite records. See also under Willow/Chiff.

Chiffchaff. *Phylloscopus collybita.*
G & R: WV. PM. Upto 22 a day on autumn passage. Mid Oct - Late March. A few over winter.
FEW: WV? PM. Small numbers. Mid Oct - Late March.
On the 18th a single bird calling in Palm Wadi was the only definite record, but see under Willow/Chiff.

Willow/Chiff. *Phylloscopus trochilus or collybita.*
Apart from the above three records Willow Warblers and Chiffchaffs were not distinguished and were grouped under the general heading of Willow/Chiffs.
In total there were 39 birds recorded on most days upto the 26th, but the majority of the sightings (30) came in the five days between the 9th and 13th.

Wood Warbler. *Phylloscopus sibilatrix.*
G & R: PM. No autumn records. Four birds in spring.
FEW: No records in Oman. Recorded Arabia Gulf States.
Surprisingly, considering the previous scarcity of this species and the lack of autumn records, there were 27 sightings during the expedition periods between the 9th and 25th. Most were at Haql where five birds were trapped and ringed, but there were also records from Macula and the RAF camp.

Green Warbler. *Phylloscopus nitidus.*
G & R: Status unknown. Recorded.
FEW: No records in Oman. Recorded Bahrain and eastern Saudi Arabia.
A single bird at Haql on the 10th.

Spotted Flycatcher. *Muscicapa striata.*
G & R: PM. Common. Late Aug - Early Dec.
FEW: PM. Late Aug - Late Nov.
Common and widespread throughout the island with upto 11 birds recorded in a day. Over a hundred individual records made this one of the most familiar passerine migrants during the expedition period.

Red-Breasted Flycatcher. *Ficedula parva.*
G & R: PM. Four birds recorded. Late Oct - Early Nov. One bird in Dec.
FEW: PM. Two birds recorded. Late Oct and Late Nov.
There were five records of probably four individuals. Single birds at Dawwah on the 10th and 21st, at the RAF camp on the 12th, and at Haql on the 19th and 20th.

Whinchat. *Saxicola rubetra.*
G & R: PM. No autumn records. One spring record only.
FEW: PM. Four autumn records. Mid Sept - Mid Nov.
There were single birds at Haql on the 10th and Dawwah on the 23rd.

Rock Thrush. *Monticola saxatilis.*
G & R: PM. WV Regular. Mid Sept - Late Oct. Occasional in winter.
FEW: PM. Several in Oct.
Only one bird seen, at the RAF camp on the 12th.

Wheatear. *Oenanthe oenanthe.*
G & R: PM. No autumn records. Uncommon in spring.
FEW: PM. A few. Early Oct - Early Nov.
A bird at Urf on the 9th is the first autumn record for Masirah Island.

Desert Wheatear. *Oenanthe deserti.*
G & R: WV. PM. Numerous on passage. Early Sept - Late March.
FEW: WV. PM. Fairly common. Late Sept - March.
Met with everyday and particularly widespread especially on rocky ground in the interior. There were 134 individual sightings, and of those which were sexed 71 were males but only 11 females.

Red-Tailed Wheatear. *Oenanthe xanthoprymna.*
G & R: WV. Regular. Mid Sept - Late March.
FEW: WV. Common. Mid sept - Late March.
Only four sightings all of single birds. On the 19th in Palm Wadi and the RAF camp, on the 20th near the RAF camp and on the 24th near Shinzi.

Black-Eared Wheatear. *Oenanthe hispanica.*
G & R: No records.
FEW: PM. Several. Late Oct - Nov.
On the 11th one at Haql, and on the 18th three at the RAF camp, two at Haql and one at Palm Wadi. These seven birds are the first records for Masirah Island. All were males.

Mourning Wheatear. *Oenanthe lugens.*
G & R: No records
FEW. No records N Oman but recorded in Arabian Gulf State and resident in the Dhofar, S. Oman
Two males in Palm Wadi on the 18th are the first records for N Oman and Masirah.

Red-Rumped Wheatear. *Oenanthe moesta.*
G & R: No records.
FEW: No records in Oman but one record Dhahran.
A wheatear, almost certainly a female Red-Rumped, was seen in the rocky hills above Palm Wadi on the 19th. This species has not been previously recorded from Masirah or the Oman.

Black Redstart. *Phoenicurus ochruros.*
G & R: WV. PM. Regular. Late Oct - Mid March.
FEW: WV. Late Oct - Mid March.
On the 19th a male in Palm Wadi and a female at Haql. A third bird was seen on the RAF camp on the 25th.

Bluethroat *Luscinia svecica.*
G & R: PM. WV. Small numbers. Mid Oct - Late March.
FEW: WV. Small numbers. Mid Oct - Late March.
Two immatures together in a garden on the RAF camp on the 25th was the only record.

Nightingale. *Luscinia megarhynchos.*
G & R: PM. One record. Late Sept - early Oct.
FEW: PM. One record. Mid Aug.
Two birds were present at Haql on the 17th, one of which was trapped, and a third was seen the following day at the RAF camp, These records more than double previous Oman and Masirah records.

Rufous Bushchat. *Cercotrichas galactotes.*
G & R: PM. Fairly common. Mid Aug - Early Oct.
FEW: PM. SV? A few in autumn. Late Aug - Early Oct.
Two late migrants. Singles in Haql wadi on the 13th and 18th.

Ortolan Bunting. *Emberiza hortulana.*
G & R: PM. Three records, all immatures. Early Oct - Early Nov.
FEW: PM. Two records. Sept.
One record of an immature in the gardens of the RAF camp on the 10th.

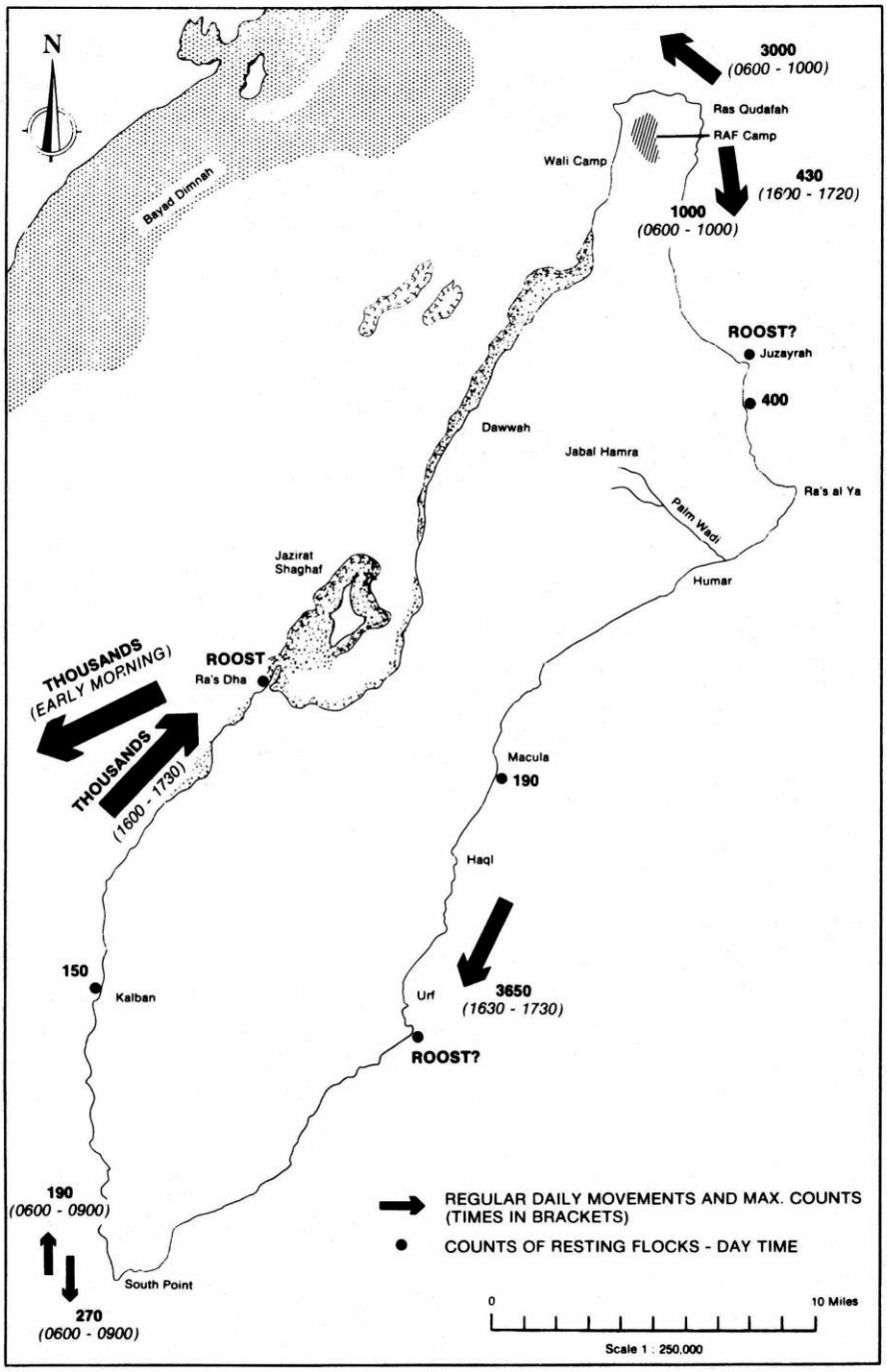
Common Rosefinch. *Carpodacus erythrinus.*
G & R: PM. Fairly common. Early Sept - Early Nov.
FEW: No records in Oman. Recorded Arabian Gulf States.
Fairly common but local. Over fifteen individuals records from Haql between the 12th and 19th, and seven records from the RAF camp gardens on the 9th - 11th and 25th. All birds were immatures.

Rose-Coloured Starling. *Sturnus roseus.*
G & R: PM. Fairly numerous. Mid Aug - Mid Oct.
FEW: PM. Several. Early Aug - Mid Sept.
Three sightings, all of immatures, at Macula on the 8th, Haql on the 9th, and the RAF camp on the 11th.

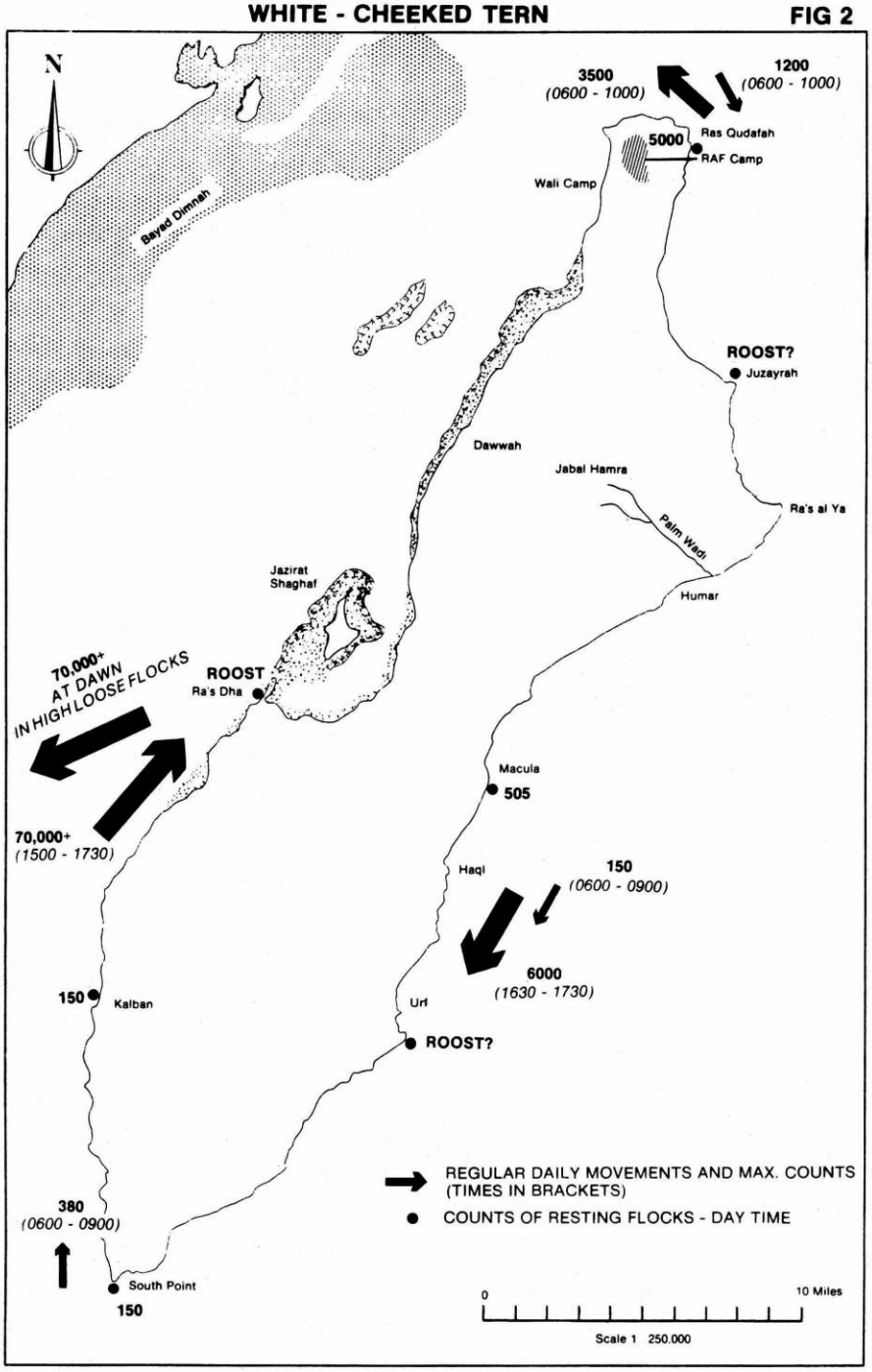
Golden Oriole. *Oriolus oriolus.*
G & R: PM. Regular. Late August - Late October.
FEW: PM. A few. Mid August - Early October.
Recorded only in the gardens of the RAF camp, on five dates between the 8th and 17th. Apart from two on the 11th, all were single birds and all were in immature or female plumage.

Brown-Necked Raven. *Corvus ruficollis.*
G & R: RES. BR. One pair with three juveniles. 1974-75.
FEW: RES. BR? Widespread and common.
Upto five birds seen together near the RAF camp between the 8th and 13th, and a single bird appeared at Haql from the 18th to the 20th.

LESSER - CRESTED TERN **FIG 1**



WHITE - CHEEKED TERN **FIG 2**



R.A.F.O.S. Masirah Island Expedition 1976, Ringing Report. by B. Etheridge.

Wader Ringing.

Trapping methods and localities.

155 waders were ringed by the expedition (see Table 4). Most were trapped in mist-nets set in the evenings around the saline lagoon in the Haql wadi. Three attempts were made to trap samples of waders at the large roost on the tidal sand-flats of Ra's Dha but combinations of either bright moonlight, neap high tides or strong winds resulted in only a very few birds being caught in this important area. In addition a few waders were trapped by dazzle-netting at both localities. All were ringed during the period 8th-21st October, 1976.

Processing methods.

After extraction from the nets waders were processed under artificial light at the nearby campsite. After identification birds were ringed, their wing length measured by the maximum chord method to the nearest millimetre (Spencer 1976) and their weight recorded in grammes using a "pesola" spring balance. All birds were released within one hour of capture back at the lagoon.

Weights.

A noticeable feature of the waders on the Haql lagoon was that although numbers were very much smaller than on the west coast tidal flats, a large proportion appeared to be in an exhausted condition and several were picked up by hand being too weak to fly. It is believed that these birds were newly arrived on the island having undergone severe weight loss during their southward migration.

Because very few weights were available from areas on the west coast no valid comparison could be made with the Haql data. However, despite the many thousands present, no exhausted birds were seen at Ra's Dha on the several occasions that it was visited, and flocks were unapproachable in contrast to the "tameness" of some of the Haql parties. The reason for this apparent segregation of habitat between "weak" and "stronger" waders is not known. In Mauritania Dick (1975) noted that exhausted juvenile Knot *Calidris canutus* were found principally in marginal habitats such as small lagoons while the older and heavier birds formed the large gregarious flocks on the open mudflats, a very similar situation to that in Masirah for waders in general.

Moult

All birds caught were examined for moult in the primary wing feathers. Only two waders were found in moult, a Crab Plover (For scientific names of species named in text see the species account on table 4.) and a Grey Plover, both caught at Ra's Dha. All other birds appeared to be in fresh plumage. Details of the moulting individuals are given in the species account, using the standard method of recording (Snow 1967).

Ageing.

The examination of the birds was done by the light of hurricane lamps by any one of five different ringers. It was considered that too many possible errors and inconsistencies were present to attempt seperate analysis of the different age classes and for most species the data has been lumped together.

Results.

Weights and wing-lengths of the waders processed on Masirah Island are summarised in Table 1. Comparisons with existing data from other localities are made under the species heading.

TABLE 1 SEE NEXT PAGE

Table 1

WEIGHTS AND WINGLENGTHS OF WADERS TRAPPED ON MASIRAH ISLAND, OMAN, in OCTOBER 1976.

	WING LENGTH (mm)				WEIGHT (g)			
	n	RANGE	MEAN	s.d.	n	RANGE	MEAN	s.d.
Crab Plover Adult	1	214			1	299		
Crab Plover Juvenile	2	211-214	212.5		2	374-381	377.5	
Kentish Plover	10	105-115	109.5	2.9	10	31.7-39.0	36.0	2.4
Greater Sandplover	2	138-145	141.5		1	87		
Lesser Sandplover	32	120-129	125.9	2.1	32	40-63	49.6	4.4
Grey Plover	2	199-200	199.5		2	179-202	190.5	
Turnstone					1	70		
Broad Billed Sandpiper	1	102			1	23		
Curlew Sandpiper	18	124-136	131.0	3.0	18	35-60	45.3	3.6
Dunlin	8	112-124	119.8	4.2	8	35-55	44.2	6.2
Temminck's Stint	7	99-103	100.7	1.4	7	15.5-21.5	18.1	2.1
Little Stint	50	93-105	98.4	3.7	52	14.4-29.0	20.5	4.3
Sanderling	1	125			1	55		
Red-Necked Phalarope	3	106-110	108.3		3	21.5-25.5	23.2	
Terek Sandpiper	2	134-138	136.0		2	85-100	92.5	
Redshank	2	153-163	158.0		2	76-94	90	
Common Sandpiper	4	107-115	111.0	3.3	4	29-58	45.3	14.5
Whimbrel	1	243			1	347		
Bar-Tailed Godwit	2	187-201	189-0		2	169-170	169.5	
Snipe	1	138			1	59		

Dromas ardeola. **CRAB PLOVER.**
All three were dazzle-netted at Ra's Dha, one adult and two juveniles. The adult, caught on 21st October was in active wing and tail moult, and had a primary moult score of 37. The recorded wing and tail moult was:-

Body	3333333555	5555555200
	secondaries	primaries

Right Wing

2233	3322

Tail

Moult in this species is slow and protracted, lasting from late May to Late January (Prater et al 1977). The above individual fits well into this strategy. That the two juvenile weights were over 25% higher than the adult is perhaps not surprising. Parental feeding of accompanying juveniles was noted on many occasions at Ra's Dha during the expedition period and this combined with the annual moult may depress an adult birds weight. Conversely, juveniles may be at their maximum weights prior to becoming independent of the parent birds. The wing lengthss recorded fall within the range given in Prater et al (1977), but there is no available weight data for comparison.

Cont

Charadrius alexandrinus. **KENTISH PLOVER**

Both the wing-lengths and weights recorded are similar to that recorded in Mauritania (Dick 1975) and in Sharjah, United Arab Emirates (Etheridge, 1971). The Crab Plover and the Kentish Plover are the only wader species known to breed on Masirah Island (Griffiths and Roger 1975). The extent to which this sample refer to resident or migrants is not known.

Charadrius leschenaultii. **GREATER SANDPLOVER.**

The two caught were both at Haql. The only comparable biometric data is a sample of wintering birds from Sharjah (Etheridge 1971), which was very similar to the Masirah data.

Charadrius mongolus. **LESSER SANDPLOVER.**

31 birds were caught at Haql and one at Ra's Dha. Etheridge (1971), for a wintering sample from Sharjah, gives an almost identical wing length range of 120-130mm. average 126. Sharjah weights were about 20% higher, averaging 59g (51-68) indicating that the Masirah sandplovers may have been newly arrived migrants with depleted body reserves.

Pluvialis squatarola. **GREY PLOVER**

Two birds. an adult and a juvenile, were processed, the juvenile having the lighter weight of the two. The wing lengths and weights are similar to larger samples from Mauritania (Dick 1975) and Morocco (Pienkowski 1972)
The adult caught on the 15th October was replacing its primary wing feathers, and had a moult score of 31. This score is very close to a sample of moulting Grey Plover in October from Mauritania (Dick 1975).

Arenaria interpres. **TURNSTONE.**

One adult at Haql had a very low weight. The autumn mean weight from Mauritania (Dick 1975) was over 40% higher at 100.8g.

Limicola falcinellus. **BROAD-BILLED SANDPIPER**

A single first-year bird was netted at Haql. This individual is considerably lighter than twelve December birds from Sharjah (Etheridge 1971) which had a weight range 31-41g, average 38g, and may have been a newly arrived migrant.

Calidris ferruginea. **CURLEW SANDPIPER.**

All birds were trapped on the Haql lagoon. The mean weight of 45.3g is only slightly lower than means of larger samples on autumn passage in Morocco (Pienkowski 1972) and Mauritania (Dick 1975) and is close to the mean of 47.3g for wintering birds in Kenya (Pearson, et al 1970). All these birds are probably at or close to lean fat-free weight. Curlew Sandpipers fattening in Britain for continued autumn passage increase their weights to at least 75g before departure (Stanley and Minton 1972) with some as high as 97g, nearly 180% higher than the lightest Masirah bird.
The wing-length data collected is almost identical to that given in Prater et al (1977).

Calidris alpina. **DUNLIN**

Birds wintering in Arabia are thought to be comprised of the northern Eurasian race *C.a. alpina* (Meinertzhagen 1954), and as expected the biometrics are similar to a sample of early winter Dunlin at Sharjah (Etheridge 1971). However autumn and winter *alpina* trapped on the Wash, England (Minton 1975) average upto 13g (30%) heavier. Dick (1975) considered this latitudinal difference in the amount of fat and other body reserves laid down as possibly associated with variations in climatic stress, this being lower in the tropics. Conversely the mean weight of the Masirah birds may have been depressed by the inclusion in the sample of newly arrived migrants with depleted fat reserves. The large standard deviation would suggest this.

Calidris temminckii. **TEMMINCK'S STINT.**

Six were caught at Haql and one of at Ra's Dha. The mean weight (18.1 g) of the small Masirah sample was low and must have included newly arrived individuals. Little comparable data exists. Prater et al (1977) gives breeding season mean weights of 24.3g for males and 27.8g for females, 34-53% heavier than the expedition birds, with wing-length data very similar

Cont

Calidris minuta. **LITTLE STINT.**

Apart from two at Ra's Dha, all were caught at Haql. The Masirah mean weight is very similar to autumn and winter weights from Kenya (Pearson et al 1970), Mauritania (Dick 1975) and Sharjah (Etheridge 1971). The weight range is extensive, the heaviest being twice that of the lightest, indicating the sample included both newly arrived individuals and birds fattening for further migration.
Retraps: Half the total ringed (27) were caught at Haql during the period 9th - 12th October, and of these, 12 (44%) were retrapped between one and six days later. Although a few of these retraps showed slight weight loss (an exceptional bird lost 16% of its weight in two days), most showed weight gains of 1%-6% per day averaging overall 3.5% per day. Further analysis of Little Stints caught during 9th - 12th showed that the mean *initial* weight of the 12 retraps was 17.9g. The mean weight of the other 15 birds caught during the same period, and not retrapped was 30% heavier at 23.3g, the difference being highly significant. The majority of birds in the latter group were in the weight range 20-29g and from the data it would appear that Little Stints in this weight range moved rapidly away, but those below 20g were required to "stop-over" until lost body and fat reserves were replenished.

Phalaropus lobatus. **RED-NECKED PHALAROPE**

The three birds caught were all in poor condition with one dying soon after. As this species is known to winter in large numbers at sea in the Persian Gulf and off Arabia, its occurence at coastal sites must be as a result of ill-health or adverse weather.

Tringa cinereus. **TEREK SANDPIPER**

Both were caught at Ra's Dha. The only comparable data are five early winter birds from Sharjah (Etheridge 1971). The Masirah birds fall outside the Sharjah range of 71-77g and may have been laying down weight for further migration. The 100g individual was noticeably fat when in the hand.

Tringa totanus. **REDSHANK**

Both birds were picked up exhausted and their low weights are unlikely to be representative of the large flocks present. Autumn weights of Redshank in England are 140-150g (Minton 1975), average 121g in Sharjah (Etheridge 1971) and around 110g in Mauritania (Dick 1975)
The 76g bird with a noticeable leg deformity was still alive two days later when, although apparently still rather weak, it would fly off when approached. Its recovery from its initial low weight and state of exhaustion is worthy of documentation

Tringa hypoleucos. **COMMON SANDPIPER**

Of the four birds weighed two were near normal weight at 57g and 58g, but the other two were in poor condition at 29g and 37g. The lightest bird entered one of the tents and was too weak either to fly or feed and died after 24 hours presumbly from irreversible weight loss after migrating.
A sample of 78 early autumn Common Sandpipers from Scotland (pers obs) had a weight range 42-78g, mean 58.7g, with birds over 55g carrying visible fat deposits. The mean wing length of the birds at 112.4 is very close to the Masirah sample.

Limosa lapponica. **BAR-TAILED GODWIT**

The two birds caught, singles from Ra's Dha and Haql, were both juveniles and probably males on wing length. Both were very much lighter than means of samples of males from Mauritania at 211g (Dick 1975), and The Wash, England at 280g. (Minton 1975).

Gallinago gallinago. **COMMON SNIPE**

At 59g the single bird handled was in an extremely lean condition when picked up by hand at Haql. Surprisingly it was still alive three days later and appeared to be making a recovery as it eluded recapture. Davies (1977), for wintering Snipe in England gave a December mean weight of 126.3g falling to 114g in February, double the weight of the Masirah individual.

Other Ringing.

Almost all the species listed in Tables 2 and 3 were caught at Haql in mist-nets either set around the lagoon or at the native village in small "gardens" of scattered date palm and acacias. The latter sites afforded the only shade and shelter in the region.
There were no noticeable falls of migrants during the expedition period, the weather generally being hot and cloudless with fresh onshore winds during the day, and clear and calm at night. In such weather few land-bird migrants except those tired, weak or disorientated would be expected to make land-fall on Masirah.Of those which do, it is likely only wheatears, and shrikes, would find conditions suitable for survival, both families being adapted to arid and desert haunts.
One should bear in mind when comparing data given in Table 2 that it is not known to what extent the samples presented are representative of the main body of migrants traversing the areas concerned. Only the two Corncrakes, at 72g each, were picked up by hand too weak to fly. Both were visibly in an extremely emaciated condition and the birds were only half the mean weight of spring and autumn samples on Fair Isle.

TABLE 2 and TABLE 3 SEE NEXT PAGE

Table 2. **WEIGHTS OF LAND-BIRD MIGRANTS ON MASIRAH ISLAND, OMAN, OCTOBER 1976, COMPARED WITH AUTUMN DATA FROM OTHER LOCALITIES.**

	MASIRAH ISLAND								
	n	mean	range	n	mean	range	n	mean	range
Corncrake	2	72.0		10	141.6	117.5-189.3(a)	22	136.6	119.3-161.2(a) spring
Hoopoe	1	48.5		36	60.3	46.0-80.0(b)			
Swallow	1	14.8		23	17.0	15.2-19.1(c)	57	19.4	13.0-24.0(k)
Tree Pipit	11	18.4	15.0-22.5	30	21.35	(d)	2	14.9	14.8-15.0(j)
Grey Wagtail	1	15.5		12	18.8	17.1-20.1(e)			
Rufous Shrike	4	30.3	27.0-33.5	24	26.1	23.7-29.1(f)			
Reed Warbler	2	9.5	9.1-10.1	29	10.4	8.6-12.5(g)	13	10.4	8.7-13.0(j)
Sedge Warbler	2	9.8	9.5-10.2	7	11.3	(c)	2653	11.46	7.0-21.0(l)
Olivaceous Warbler	1	10.5		26	10.6	9.1-12.3(g)	12	9.2	(f)
Desert Lesser Whitethroat	2	9.5		4	10.3	9.8-10.6(h)			
Lesser Whitethroat	3	11.1	10.5-11.8	48	12.6	9.5-15.5(i)	28	11.4	10.1-12.9(g)
Willow Warbler	1	6.4		43	9.25	7.1-11.1(i)	25	8.3	6.7-9.5(c)
Wood Warbler	5	7.8	7.0-8.6	48	8.2	6.7-10.1(g)			
Spotted Flycatcher	4	13.4	13.0-14.0	39	16.5	12.4-20.2(i)	4	12.9	12.5-13.3(j)
Desert Wheatear	1	22.5		1	16.6	(j)			
Nightingale	1	20.4		24	22.6	20.0-26.9(i)	8	21.6	19.7-23.7(f)
Common Rosefinch	4	20.3	18.7-23.5	50	23.2	17.3-28.3(a)			

(**a**) Fair Isle (R.Broad in Att.) ; (**b**) Morocco (spring) in Moreau (1969) ; (**c**) Uganda in Pearson (1971) ; (**d**) Nigeria in Smith (1966) ; (**e**) Scotland (pers. obs., unpubl.) ; (**f**) Kenya in Pearson & Backhurst (1976) ; (**g**) Lake Chad in Dowsett & Fry (1971) ; (**h**) Sharjah, U.A.E. (pers. obs.,unpubl) ; (**i**) Eygpt in Moreau (1969) ; (**j**) Mauritania in Dick (1975) ; (**k**) Cyprus in Moreau (1969) ; (**l**) England in Sitters (1972).

Table 3 **WING LENGTHS AND WEIGHTS OF CERTAIN NON-PASSERINE SPECIES ON MASIRAH ISLAND, OCTOBER 1976**

	Age	n	Wing(mn)	Weight (g)
Squacco Heron	Immature	1	198	191
Baikal Teal	F.G.(Female)	1	191	200
Slender-billed Gull	Adult	1	315	276
Sooty Gull	Second Year	1	280	399
White-Cheeked Tern	Adult	2	260	86;105*
Little Tern	Adult	1	170	38
Palm Dove		1	127	88
Kingfisher		4	78.5 (77-80)	30.7 (28.7-34.0)

(*This bird was in active wing moult and had a primary score of 30)

Retraps and Recoveries

A Common Rosefinch and a Wood Warbler were the only passerines later retrapped. Both showed weight increases, the rosefinch increased from 19.5g to 20.5g in three days, and the warbler from 7.7g to 8.3g in only 34 hours.
To date two recoveries have been notified, both of pullus Sooty Gulls ringed at the Jazirat Shaghaf colony on the 22nd October. Full details are given below.

EB.89035. Sooty Gull. *Pullus*. 22.10.76. Jazirat Shaghaf, (Masirah, OMAN). 20°27'N 58°45'E. Caught alive in fish-net, being held. Spring 1977. Nr. Mutrah, (Muscat, OMAN). ca. 350Km. N. (ca. 23°45'N 58°30'E).

EH.24488. Sooty Gull. *Pullus*. 22.10.76. Jazirat Shaghaf, (Masirah, OMAN). 20°27'N 58°45"E. Shot, being held alive. 14.7.77. Muscat, OMAN. 345Kn.m. N. (ca. 23°37'N 58°39'E).

Both gulls were still in their first year, at an age when many young gulls disperse furthest from the natal colonies, and neither could be expected to return to breed for several years (assuming maturity in three to four years). There is a strong bias present in the cause and locality of recovery. Both were shot or trapped by man and both were in an area of relatively high human population for the south-western Arabian coast. The distance and direction given in the recovery details is the shortest, direct and overland. It is more likely that the young Sooty Gulls followed the coast via Ra's al Hadd, a distance of around 450 kilometres.

Table 4 **RINGING TOTALS LIST**

SCIENTIFIC NAMES	FULL-GROWN	PULLUS	TOTAL RINGED
Egretta gularis REEF HERON	1		1
Ardeola ralloides SQUACCO HERON	1		1
Anas formosa BAIKAL TEAL	1		1
Crex crex CORNCRAKE	2		2
Dromas ardeola CRAB PLOVER	3		3
Charadrius alexandrinus KENTISH PLOVER	10		10
Charadrius leschenaultii GREATER SANDPLOVER	2		2
Charadrius mongolus LESSER SANDPLOVER	32		32
Pluvialis squatarola GREY PLOVER	2		2
Arenaria interpres TURNSTONE	1		1
Limicola falcinellus BROAD-BILLED SANDPIPER	1		1
Calidris ferruginea CURLEW SANDPIPER	20		20
Calidris alpina DUNLIN	8		8
Calidris temminckii TEMMINCK'S STINT	7		7
Calidris minuta LITTLE STINT	52		52
Calidris alba SANDERLING	1		1
Phalaropus lobatus RED-NECKED PHALAROPE	3		3
Tringa cinereus TEREK SANDPIPER	2		2
Tringa totanus REDSHANK	2		2
Tringa Hypoleucos COMMON SANDPIPER	4		4
Numenius phaeopus WHIMBREL	2		2
Limosa limosa BAR-TAILED GODWIT	2		2
Gallinago gallinago COMMON SNIPE	1		1
Larus genei SLENDER-BILLED GULL	2		2

Table 4 Ringing Totals List (cont)

RINGING TOTALS LIST (Cont)

SCIENTIFIC NAMES	FULL GROWN	PULLUS	TOTAL RINGED
Larus hemprichii SOOTY GULL	1	661	662
Sterna repressa WHITE-CHEEKED TERN	2		2
Sterna saundersi SAUNDER'S LITTLE TERN	1		1
Streptopelia senegalensis PALM DOVE	1		1
Alcedo atthis KINGFISHER	4		4
Upupa epops HOOPOE	1		1
Galerida cristata CRESTED LARK	1		1
Hirundo rustica SWALLOW	1		1
Anthus trivialis TREE PIPIT	11		11
Motacilla cinerea GREY WAGTAIL	1		1
Lanius collurio phoenicuroides "RUFOUS" SHRIKE	4		4
Acrocephalus scirpaceus REED WARBLER	2		2
Acrocephalus schoenobaeus SEDGE WARBLER	2		2
Hippolais pallida OLIVACEOUS WARBLER	1		1
Sylvia minula DESERT LESSER WHITETHROAT	2		2
Syvia curruca LESSER WHITETHROAT	3		3
Phylloscopus trochilus WILLOW WARBLER	1		1
Phylloscopus sibilatrix WOOD WARBLER	5		5
Muscicapa striata SPOTTED FLYCATCHER	4		4
Oenanthe deserti DESERT WHEATEAR	1		1
Luscinia megarhynchos NIGHTINGALE	1		1
Carpodacus erythrinus COMMON ROSEFINCH	4		4
GRAND TOTAL	**216**	**611**	**877**

ZOOLOGICAL SPECIMENS

A small collection of insects, fish and crustaceans was made on an opportunity basis by members of the expedition. In addition birds found freshly dead or dying were preserved by injection of formalin solution. The complete collection was presented to the Royal Scottish Museum upon the expedition's return to the United Kindom.

Table 5 is a catalogued list received from the R.S.M. of all birds collected by the expedition.

Table 5 **LIST OF BIRDS COLLECTED ON MASIRAH ISLAND, BY THE 1976 RAFOS EXPEDITION**

REG. No.	BIOCODE	SPECIES	SEX	DATE	LOCALITY	FATE
1977.27.01	40.057.03.12.	Charadruis alexandrinus		11 Oct 76	Haql	Skin
-	40.058.11.02.	Phalaropus lobatus	F	16 Oct 76	Haql	Pickle
-	40.058.07.02	Tringa hypoleucos		9 Oct 76	North coast	Pickle
1977.27.02	40.058.18.07.	Calidris minuta		11 Oct 76	Haql	Skin
1977.27.03	40.062.03.05	Larus hemprichii		22 Oct 76	Jazirat Shaghaf	Skin
-	40.062.03.05	Larus hemprichii	chick	22 Oct 76	Jazirat Shaghaf	Pickle
1977.27.04	40.062.03.15	Larus fuscus	juv M	15 Oct 76	Haql	Skin
1977.27.05	40.062.03.36.	Larus genei		17 Oct 76	Haql	Skin
1977.27.06	40.062.12.11.	Sterna repressa	F	11 Oct 76	Ra's Dha	Skin
1977.27.07	40.062.12.16.	Sterna anaethetus		10 Oct 65	North coast	Skin
1977.27.08	40.062.13.07	Sterna sandvicensis		11 Oct 76	North coast	Skin
1977.27.09	40.057.03.22.	Charadrius leschenaultii		21 Oct 76	Ra's Dha	Skeleton

REFERENCES

DAVIES, M. 1977. Wintering Snipe in Middlesex. *Ringing and Migration* 1: 173-177

DICK, W.J.A. 1975. *Rep Oxford and Cambridge Mauritania Expedition.* Cambridge

DOWSETT, R.J. & FRY, C.H. 1971. Weight losses of Trans-Saharan migrants. *Ibis* 113: 531-533.

ETHERIDGE, B. 1971. Weights and Measurements of waders in the Trucial States, Arabia. *Wader Study Group Bull* 3: 5-7

GRIFFITHS, C.I. & ROGERS, T.D. 1975. *An interim list of the birds of Masirah Island, Oman.* Duplicated.

MEINERTZHAGEN, R. 1954. *Birds of Arabia.* Edinburgh. Oliver & Boyd.

MINTON, C.D.T. 1975. Scientific Study G - The Waders of the Wash - Ringing and Biometric Studies. *Wash Feasibility Study Ecological Report.*

MOREAU, R.E. 1969. Comparative weights of some Trans-Saharan migrants at intermediate points. *Ibis 111*— 621-624

PEARSON, D.J. 1971. Weights of some Palaearctic migrants in southern Uganda. *Ibis* 113: 173-184.

PEARSON, D.J., & BACKHURST, G.C. 1976. The southward migration of Palaearctic birds over Ngulia, Kenya. *Ibis* 118: 78-105

PEARSON, D.J., PHILLIPS, J.H. & BACKHURST, G.C. 1970. Weights of some Palaearctic waders wintering in Kenya. *Ibis* 112: 199-208

PIENKOWSKI, M.W. 1972. *University of East Anglia Expedition to Morocco 1971 Report.* Norwich.

PRATER, A.J. MARCHANT, J.H. & VUORINEN, J. 1977. *Guide to the Identification and Ageing of Holarctic Waders.* British Trust for Ornithology Field Guide Seventeen. Tring.

SITTERS, H.P. 1972. The Sedge Warbler at Slapton Bird Observatory. *Devon Birds xxv: 2-20*

SMITH, V.W. 1966. Autumn and Spring weights of some Palaearctic migrants in Central Nigeria. *Ibis* 108: 492-512.

SNOW, D.W. 1967. *A Guide to moult in British Birds.* British Trust for Ornithology Field Guide Eleven. Tring.

SPENCER, R. 1976. *The Ringers' Manual.* British Trust for Ornithology. Tring.

STANLEY, P.I. & MINTON, C.D.T. 1972. The unprecedented westward migration of Curlew Sandpipers in autumn 1969. *Br. Birds* 65: 365-380

SPECIMENS COLLECTED BY THE RAFOS MASIRAH EXPEDITION 1976

Compiled by Michael Gallagher

INVERTEBRATES

1. **Ringed Worms (Annelida) - Marine Bristle-Worms (the Polychaeta).**
(Collected on rocks on the east coast on 24 October, 1976 and identified by Dr. J. David George, British Museum (Natural History)).

Rag-worms (Nereidae)

Perinereis nuntia var. **typica** (Savigny). Two specimens.

Red thread-worms (Cirratulidae)

Cirriformia filigera (Delle Chiaje). One specimen.

Fire-worms (Amphinomidae)

Eurythoe complimanata (Pallas). One specimen; this worm can inflict a stinging pain by its calcareous 'harpoon' setae.

Scale-worm (Polynoidae)

One unidentified specimen.

2. **Flat worms (Platyhelminthes) - Creeping worms (Turbellaria)**

(Collected on rocks on the east coast on 24 October, 1976 and identified by Mr. R.A. Bray, British Museum (Natural History)).

Marine forms (the Plolyclads)

Planocera reticulata (Stimpson, 1856)
Paraplanocera marginata Meyer, 1922

3. **Mollusca**

A small collection of molluscs was made, which is under examination by Dr June Chatfield, Cardiff University Museum, and Mrs K.R. Smythe. A preliminary report by Mrs Smythe is at page *38* .

4. **Jointed animals (Arthropoda) - Scorpions, etc. (Arachnida, Embolobranchiata()**

Scorpions (Scorpionidae)

(Identified by Prof. Dr. Max Vachon, Museum National d'Histoire Naturelle, Paris).

Leiurus qinquestriatus. One immature female from the wadi bed at Rassier (east coast). "A very dangerous and venomous species" (M.V.).

VERTEBRATES

5. **Cordata - Bony Fishes (Pisces)**

(Two specimens found amongst rocks off Rasier at very low tide on 24 October, 1976; identified by Dr. Whitehead, British Museum (Natural History)).

Amblyapistus binotatus

Ostorhynchus endekataenia - the first specimen of this species to be received into the National collection.

REPTILES. (Identified by Dr. E.N. Arnold, British Museum Natural History)

6. **Amphibians (Amphibia) - Frogs and toads (Salientia)**

Toads (Bufonidae)

Bufo dhufarensis. Nocturnal. Originally described from Dhofar and now found very locally near Muscat, Ras al Khaimah (UAE) and Ruus al Jibaal.

Cont

7. **Lizards (Reptilia, Squamata)**

Geckoes (Gekkonidae)

Bunopus spatalurus. A nocturnal species.

Pristurus minimus. A rare, diminutive, south Arabian endemic, found inland at Wadi Haql.

Pristurus carteri carteri. The most common lizard on Masirah.

Hemidactylus turcicus. Found near Oman's coasts very occasionlly, where it may have been spread by human agency. Somewhat similar to the Yellow-bellied House Gecko.

Hemidactylus homoeolepis. A rare form, originally described from Socotra and now known from a few places in S.E. Arabia.

Agamids (Agamidae)

Agama sinaita. A widespread agamid of wadi beds and rocks near them.

Larcertids (Lacertidae)

Acanthodactylus sp. A juvenile from Jazirat Shaghaf of an apparently undescribed form, and therefore of exceptional interest. It was first obtained on Masirah in 1975 and on the mainland in the 1930's.

Eremias adramitana. A widespread species of level and hard or dusty ground.

8. **Snakes (Serpentes)**

Colubrids (Colubridiae)

Telescopus dhara guentheri. A 930mm (36½ in.) example of this reddish coloured snake, with orange irides, near the camp near Umm Rusays.

Psammophis schokari. A rather pale form of the back-fanged Sand-snake, captured by day on Jazirat Shaghaf.

Vipers (Viperidae)

Echis carinatus. A medium sized specimen of this venomous viper, encountered after dark in a wadi near Umm Rusays.

9. **Birds (Aves)**

Remains of birds for the skeleton collection of the British Museum (Natural History), Sub Department of Ornithology, Tring, Hertfordshire, were obtained from deserted colonies on Jazirat Shaghaf and comprised:

Gulls and terns (Laridae)

Larus hemprichii. Sooty (Hemprich's or Aden) Gull.

Sterna bergii. Crested (or Swift) Tern.

Sterna saundersi. Saunders' Little Tern.

Note: We are indebted to the persons named for identifying this material.

MOLLUSCA

By
Mrs K R Smythe

An important collection of molluscs, made during the closing stages of the RAFOS Expedition to Masirah Island, Oman, in October 1976, was passed to me by Major Michael Gallagher on behalf of RAFOS for identification and curation.

The collection proves to include at least 63 species of 39 families and greatly enlarges our knowledge of the fauna of the island.

The only previous published list of the island's mollusca that I have been able to trace is that of the Rev. H E J Biggs (Marine mollusca of Masirah I., South Arabia. **Arch.Moll. 99** (3/4): 201-207, 1969), who records the collections made by Mr Philip Cambridge and Dr G. Evans. Only two species had been collected alive; all the others were dead shells.

In the list which follows of mollusca collected by RAFOS Expedition the 46 species not recorded before are denoted thus★, and the 31 species recorded alive are denoted'L'. The order followed is that of **Indo-Pacific Mollusca 1**(1), 1959.

Mr Terry Rogers collected extensively on Masirah in 1975; his collection is still being studied and the results will be published elsewhere when possible.

The ecological conditions in the waters surrounding Masirah are peculiar because of the seasonal upwelling of cold water in the hot season which results in very little variation in the surface temperature of the sea water and favours the development of a specialised fauna and flora of seaweeds, plankton, fishes and molluscs, and provides a good food source for birds.

SPECIFIC LIST

★= not recorded previously on Masirah Island

L= collected alive

FISSURELLIDAE		
Diodora spreta (Sowerby)	★	L
PATELLIDALE		
Patella exusta pica (Reeve)	★	
Cellana radiata (Reeve)	★	
TROCHIDAE		
Euchelus asper (Gmelin)	★	L
Trochus erythraeus (Brocchi)		L
Trochus cf cariniferus (Lamarck)	★	L
Trochus canalifera (Lamarck)	★	L
STOMATIIDAE		
Stomatella sulcifera (Lamarck)	★	L
CYCLOSTREMATIDAE		
Cyclostrema quadricarinatum (Melvill and Standen)	★	
TURBINDAE		
Turbo coronatus (Gmelin)	L	
NERITIDAE		
Nerita albicilla (L)		L
LITTORINIDAE		
Littorina sp	★	
RISSOIDAE		
Cingula sp	★	
Rissoina distans (Anton)	★	

Specific List Cont

SPECIFIC LIST Cont

CAECIDAE		
Caecum sp	*	
PLANAXIDAE		
Planaxis savignyi (Jousseaume)		(Biggs as P. sulcatus)
CERITHIIDAE		
Cerithium morus (Lamarck)	*	L
Cerithium obeliscus (Bruguiere)	*	L
FOSSARIDAE		
Fossarus aptus (Melvill)	*	
Fossarus sp.	*	
CALYPTRAEIDAE		
Calyptraea corrugata (Reeve)	*	
Calyptraea pellucida (Reeve)	*	
Siphopatella walshii (Hermannsen)	*	L
CYPRAEIDAE		
Cypraea teulerei (Cazevanette)	*	L
Cypraea turdus (Lamarck)		L
CYMATIIDAE		
Cymatium parthenopeum (von Salis)	(Biggs as C. ?trilineatum)	L
BURSIDAE		
Bursa granularis (Roding)	*	
Bursa rosa (Perry)	*	
MURICIDAE		
Morula tuberculata (Blainville)	*	L
Thais rudolphi (Lamarck)		
Thais sacellum (Born)	*	L
PYRENIDAE		
Columbella propinqua (Smith)	*	L
Pyrene atrata (Gould)	*	
Pyrene phaula (Melvill & Standen)	*	
NARRASIIDAE		
Nassarius (Alectrion) sp	*	L
FASCIOLARIIDAE		
Sinistralia sp (?nov - under study by Chatfield & Smythe)		
OLIVIDAE		
Ancilla sp. (under study by Kilburn)	*	
Ancilla castenea (Sowerby)		(Biggs as A. connamomea)
Ancilla scaphella (Sowerby)	*	

Specific List Cont

SPECIFIC LIST Cont

MARGINELLIDAE		
Marginella obscura (Reeve)	*	L
Cypraeolina isseli (G & H Nevill)	*	
TURRIDAE		
Mangelia lemniscata (G & H Nevill)	*	
CONIDAE		
Conus achatinus (Hwass)	*	L
ONCHIDIIDAE		
Onchidium peronii (Cuvier)	*	L
ACTEONIDAE		
Acteon affinis (A Adams)	*	
BULLIDAE		
Bullaria ampulla (L)		
RETUSIDAE		
Retusa truncatula (Bruguiere)	*	
Retusa nov sp	*	(In press - Smythe)
SCAPHANDRIDAE		
Tornatina involuta (G & H Nevill)	*	
SIPHONARIIDAE		
Siphonaria sp		
DORIDACEA		
?Dendrodoris sp	*	L
CHITONIDAE		
Chiton haddoni (Winckworth)		L
Chiton lamyi (Dupuis)	*	L
ARCIDAE		
Samacar requiescens (Melvill & Standen)	*	
Striarca afra (Gmelin)	*	L
MYTILLIDAE		
Lithophaga sp	*	L
Septifer bilocularis (L)	*	L
Modiolus auriculatus (Krauss)	*	
SPONDYLIDAE		
Spondylus exilis (Sowerby)		
OSTREIDAE		
Ostrea cucullata (Born)		
ERYCINIDAE		
Kellia suborbicularis (Montague)		L
VENERIDAE		
Circenita callipygea (Born)		L
Irus irus (L)		L

A NOTE ON BIRDS SEEN IN DHOFAR PROVINCE AND ROUND THE MASANDAM PENINSULA AT THE TIME OF THE RAFOS EXPEDITION TO MASIRAH ISLAND

By
Major Michael Gallagher

Although very kindly invited to join the Expedition from the start, I was unfortunately only able to do so for the last week, 20th to 26th October 1976, an experience I thoroughly enjoyed .During the period 16 September to 6 October I was in Dhofar, the southern province of Oman, and from 13 to 17 October I was aboard a vessel of the Sultan of Oman's Navy patrolling round the Masandam peninsula. The following notes of some of the few migrant birds which I saw during these trips may have some relevance to those found on Masirah during the Expedition. I also attach a list of a small collection made during the Expedition.

The great concentrations of sea birds around the Kuria Muria islands had probably already begun to disperse before the end of the south-west monsoon, and some Persian Shearwaters were making their way up to the Masandam area in mid-October, where Red-Necked Phalaropes were present in small parties. One Great Skua was seen off Khasab, and several Pomarine Skuas were harrying the remnants of a large breeding colony of Bridled Terns, discovered breeding on an island near the east coast. Slender-Billed Gulls, Lesser Black-Headed Gulls and Sandwich Terns were moving out of the Arabian Gulf, the two latter species also moving westward off Dhofar. White-Cheeked Terns were feeding locally around the Masandam, but most had probably already moved out of the Gulf. Saunders' Little Terns were also moving out of the Gulf 13-17 October (one group of 400 on 7th), and a flock of 40 had reached Dhofar on 5th. An attempt to track birds on the small radar at RAF Salalah, by the courtesy of Wg Cdr K M Marwood and Plt Off Stevens, confirmed only the westward movement of gulls towards Raysut in the evenings of early October (such visible movements in April 1977 were eastward).

Shore birds were observed in Dhofar (presumable on passage, though many over-winter on Oman), such as one Bittern (at Salalah on 6th); Little Bittern; Night, Squacco, Grey and Purple Herons; and various waders, illustrating the fact that migration occurs across the desert. Species seen at desert water-holes in late September included Ringed Plovers, Little Stints, Dunlins, Ruffs, Green and Wood Sandpipers, Common Snipes, Black-Winged Stilts(19-20 Sep) and Red-Necked Phalaropes (18 Sep).

Ospreys were present around the Masandam, where they nest, and off Dhofar where they probably nest and are joined by migrants in autumn; one turned up at an inland pool on 19 Sep, over 50km from the southeast coast. Other raptores seen in Dhofar were Black Kite, Long-Legged Buzzard (inland on 19 Sep), Tawny/Steppe Eagle (going SW on 28 Sep), Pallid Harriers (also inland on 17-18 Sep), and probable immature Montagu's Harriers (23 Sep and 3 Oct). Marsh Harriers were only seen near Muscat on 10 and 31 Oct, presumably on their way south west.

Touching on land birds, again the picture is of the tail-end of migration in Dhofar. European Nightjars (four, 23-29 Sep), Pallid Swifts, and European Rollers (inland on 18 Sep and another going west on 24th). Sand Martins were quite common with Swallows at Salalah and Masandam, and, unusually, one House Martin on 25 Sep. One Kingfisher was present at Khasab (Masandam) 2-5 Nov, where it might have over-wintered; but Blue-Cheeked Beeeaters were on passage further south on 2 and 7 Oct, and 20 passed Muscat on 31st. One Wryneck was near Muscat on 28 Oct.

Only one Tawny Pipit was seen in Dhofar (inland on 17 Sep), but odd birds occurred later at Masandam where Red-Throated Pipits were seen on 9 Oct. Yellow Wagtails were common in Dhofar, where the first White Wagtails of winter were seen on 17 Sep. There was a scattering of Rufous and Isabelline Shrikes in Dhofar, where Golden Orioles were on passage in September.

Many passerines had probably past through Dhofar already, but an Upcher's Warbler and an Olivaceous Warbler appeared at a water-hole on 19 Sep, and a Booted Warbler and an Orphean Warbler on 27 Sep. Whitethroat and Nightingales were common. Desert Lesser White throats (a migrant and winter visitor) appeared from 19 Sep, and Desert and Isabelline Wheaters were present during the period; Red-Tailed Wheater (a winter visitor) was first seen in the Masandam from 14th Oct.

LETTER FROM THE WILDFOWL TRUST TO MR ETHERIDGE.

THE WILDFOWL TRUST

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Railway Station: Stroud(WR)

Dear Mr Etheridge,

Many apologies for sitting on your Baikal Teal for so long. I enclose the slides herewith.

I don't think there is any doubt they are Baikal Teal. They are, though, a long way outside their normal range. The have been recorded as stragglers to India, but no further west. However there are quite a number of records from various parts of Europe, including the Mediterranean, virtually all of which have been attributed to escapes. Apparently the first to be brought to England was as long ago as 1840, and Delacour states that by 1908 they were being imported by the thousand into Europe. They are still common in captivity and relatively easy to breed.

Yours sincerely,

Malcolm Ogilvie

FIVE DAYS AT RA'S QUDUFAH

By
D W Bodley

Team 'B' set up camp on the storm beach to the south of Ra's Qudufah on Friday 8th October. Tent building was an amusing exercise since we were provided with the tubular framework for three basic shelters and the canvas skins for two ridge tents: the resultant combination would have sent any old sweat from the Regiment into apoplexy - from the middle distance it strongly resembled a centipede in a miniskirt. We also set up a separate cooking shelter, realising that the Primus stoves would be difficult to handle in this breezy location.

By the time we had prepared and eaten our evening meal it was 1800 and the sun had set. We strolled along the beach by the light of a brilliant full moon, cool at last after our day's work, and were much intrigued by the land crabs in their thousands rushing busily about at the water's edge. We saw small groups of waders, and discussed the possibility of dazzle-netting if we had a cloudy night; we also came across some deep tracks in the sand that could only have been made by turtles. Fish were jumping from the sparkling surface of the sea, and we realised that this shore was very rich in fauna of all kinds.

On Saturday morning we awoke at first light (0500) to the sound of the surf, and after a quick brew-up split into two parties for a walk in either direction along the beach. Good numbers of gulls, terns and waders were noted, and identification problems soon became apparent, particularly with the terns. A solitary Osprey was fishing over the sea, and was seen to take a large fish and return to land where it came to rest on the ground - there being no trees - to enjoy its breakfast.

After we had done likewise we split up and began our exploration of the area in earnest. Our only transport was one bicycle, so we were restricted to a radius of about five miles around the camp, bearing in mind the nature of the terrain and the heat. The bicycle was only usable on firm sand and on the hard-packed roads, so it was used to cover the coast road round as far as the saline stream which ran from the RAF camp laundry to the north beach. Areas covered on foot included the British Eastern Relay Station (BERS) with small gardens in the Pakistani Quarters, the whole of the east beach, the jebel (hill) to the west of the camp and the RAF camp area, again with small gardens in the Pakistani sector.

These gardens, maintained lovingly by their expatriate owners to provide food, shade and colour in these otherwise drab surroundings proved to be a haven for transient warblers and flycatchers. Trapping birds there was not very easy since there was hardly any clear space for putting up nets, and our presence aroused too much curiosity among the residents. Our single attempt at trapping, in the BERS gardens, was further frustrated by a blustery wind and bright sunshine which made the nets about as inconspicuous as Coronation bunting; nothing was caught.

After dinner on Saturday we received a diplomatic visit from one of the Sheikh's sons and his bodyguard. It appeared that although the Sheikh had been told we were coming, no-one had officially told him that we had arrived. Furthermore he was concerned to learn that we intended to visit all parts of the island, and requested an itinerary so that he could warn his people of our approach and thus, presumably, preserve the purdah of their women. Negotiations continued into the small hours, but eventually a piece of paper covered in Arabic writing was ceremoniously signed and our visitors returned to their vehicle and distant village.

The next day, Sunday, saw us reluctant to rise early owing to the ravages of the night before, but by 0800 we were ready to leave on our respective tasks. The same area was covered as on the previous day, but by now it was becoming clear that we were not going to record large numbers of migrants here in the north of the island, simply because of the lack of suitable habitat. Only the few gardens offered any shade or food, and there was too much disturbance there for any visiting bird to stay very long. We had news from the south camp at Haql that the situation there was very different: they were camped in a 'green' wadi with lots of vegetation and some standing water, and were working flat out with all their nets catching lots of birds. So it was decided to shorten the life of the north camp, combine the two parties at Haql and make sorties from there in our only vechicle to other likely spots.

The move south was not to be simply accomplished owing to the scarcity of wheeled vehicles, and it was to be Wednesday before the north camp was finally struck: however we sent the first two people down to Haql together with a small amount of kit.

Cont

FIVE DAYS AT RA'S QUDUFAH Cont

On Monday we again managed to cover the area fully, and even made use of the bicycle for the collection of water from the BERS. One party walked overland to the RAF camp, while the jebel to the west of the BERS was also investigated. With fresh water so scarce it was not surprising to see a party of Egyptian Vultures congregating around a leaky joint in the water pipe feeding a camel trough on the hillside; what was surprising was that the leak went unrepaired for the duration of our stay. Also on Monday one member of the party went down the coast to Shinzi in a Landrover with one of the BERS staff who was interested in birds.

After dark a few waders were caught in mist-nets along the shore, and with the spring tide running we noted the arrival on the beach of large numbers of Crayfish carapaces - we later learned that these crustaceans moult their shells at this time of year.

On Tuesday we had arranged a combined sea-watch with the south camp, so we manned our sea-watch point just north of the BERS from dawn until 1000 hrs and again from 1600 to dusk. In the meantime we dismantled the cooking tent and dispatched it with all our spare kit and food to the Haql camp together with another two people.

Finally on Wednesday morning we dismantled the rest of the camp and removed completely to the south, satisfied that we had adequately recorded the birds present in our survey area.

AROUND THE SOUTH POINT

By
D W Bodley

Leaving Haql at about 1430, our party of seven set off in the sizzling heat south along the coast with the Landrover and trailer, our mission being to circumnavigate the southern half of the island. We paused at the village of Urf, now deserted, for a cooling drink, then pressed on over the difficult terrain. We soon came to a 'moonscape' area of soft sand and deep wadis, and became bogged down several times. With the trailer behind, it was hard work extricating the vehicle since the trailer had to be unhitched and manhandled to one side before the landrover could be reversed out: we were soon soaked in sweat and covered with sand, and began to wonder if we would make the south point before dark.

At 1700 we found ourselves on the plateau to the east of South Peak and decided to stay there for the night, thus allowing ourselves an hour before dark to pitch our tent and prepare a meal. Our tent was a cunning arrangement of basic shelter framework forming an octagonal skeleton with a tall central pole, the whole being covered by a parachute. While the tent was being organised two members carried out a sea-watch and another two prepared a meal, all against the backcloth of a spectacular desert sunset as the sun dropped behind the South Peak.

We sat around chatting in the darkness after dinner, enjoying the cool breeze and the sound of the waves lapping on the shore, and one brave member decided to sleep under the stars instead of in the shelter. The arrival of a large camel-spider caused a rapid reappraisal of this plan, and a compromise was reached when he found that there was just room for a camp-bed in the back of the Landrover. The rest of us retired to the tent, setting up camp-beds radially from the centre pole to the flapping parachute covering, and found it to be a very hot night. There seemed to be just two equally distasteful alternatives when sleeping in the desert: either one arranged a shelter and slept in a continual sweat, or one slept outside and got soaked with dew just before dawn.

Waking early, we were up by 0530, again mounting a sea-watch while eating breakfast and packing up. By 0900 we were ready to move, and as the movement of birds had virtually ceased we boarded the Landrover and proceeded south and west along the southern shore of the island. We had a good look over the wrecked ship off the point, then turned north up the west coast: more soft sand and gullies to be negotiated and one wrong turning up a blind wadi sorted out and we eventually arrived at Kalban.

This village also was deserted. We had lunch under some palm trees and then counted the terns and waders on the beach. Identification at a distance being very difficult owing to the shimmering heat of the sand.

We left Kalban and bumped and rattled our way northwards to Sur Masirah, a thriving village near to the old airfield. Turning west we cruised along the firm sand of the airstrip to the point at Ra's Dha, noting the large numbers of birds on the shore by the water's edge, fully a mile out in the shallow bay.

Another party had already visited Ra's Dha, reporting huge numbers of terns roosting at night and many waders present. We pitched our octagonal tent near to the point by a large rocky outcrop, and set up a comfortable sea-watch from the top of the rocks. Three members went off into the bay to look at the waders.

The sea-watch proved to be one of the most impressive any of us had ever done: numbers of terns moving into the bay from the south exceeded 800 per minute between 1700 and 1800, that is some 48000 birds in one hour. In total we estimated there to be about 60000 terns and 100,000 waders roosting at night in the bay.

Just before dark we were entertained to a flying desplay by a Peregrine Falcon which stooped down on the roosting terns and caused great clouds of them to become airborne, wheel around and land again.

Next morning we again did a sea-watch and saw the terns leave the roost. There was a lot of movement within the bay from first light, but it was not until the sun rose that parties of about 600 started to leave southwards. There was then a steady efflux until about 1030, when we concluded that most of them had left.

We loaded the vehicle and dispatched it towards Sur Masirah, while the rest of us walked out to the water's edge and along towards the east, counting the waders. The tide was far out and the birds were thinly spread over the beach, but we were still impressed by the large numbers present.

We returned to Haql by way of Safa'iq going over the hills in the centre of the island in the mid-day sun, and were very glad to descend to the welcome sea breeze at the base camp, mission accomplished.

ROYAL AIR FORCE ORNITHOLOGICAL SOCIETY EXPEDITION TO GIBRALTAR
9TH TO 23RD SEPTEMBER 1977

TEAM MEMBERS

TEAM LEADER

Squadron Leader Colin A Pomeroy	RAF Wyton

TRAINING TEAM

Sergeant Vic S A Cozens (Deputy Leader)	RAF Marham
Warrant Officer Frank G Smith MBOU (Recorder)	RAF Binbrook
Corporal Brian Etheridge (Ringing Co-ordinator)	RAF Kinloss
Corporal Frank E Naylor (Photographer)	RAF Wittering

MAIN TEAM

Major David J R Counsell	Fort Halstead
Flight Lieutenant W Tony C Lloyd	RAF Wattisham
Flying Officer Alex M Smith	RAF Bishops Court
Chief Technician 'Bonnie' D L Boniface	RAF Waddington
Corporal Dave J Ferris	RAF Brampton
Corporal William B M Grant	RAF Kinloss
Junior Technician Graham Morgan	RAF St Athan
Senior Aircraftsman Allan Laing	RAF Cranwell
Senior Aircraftsman Ken Heron	RAF Stanbridge
Mr Stuart J Allen	-

OCCASIONAL MEMBERS

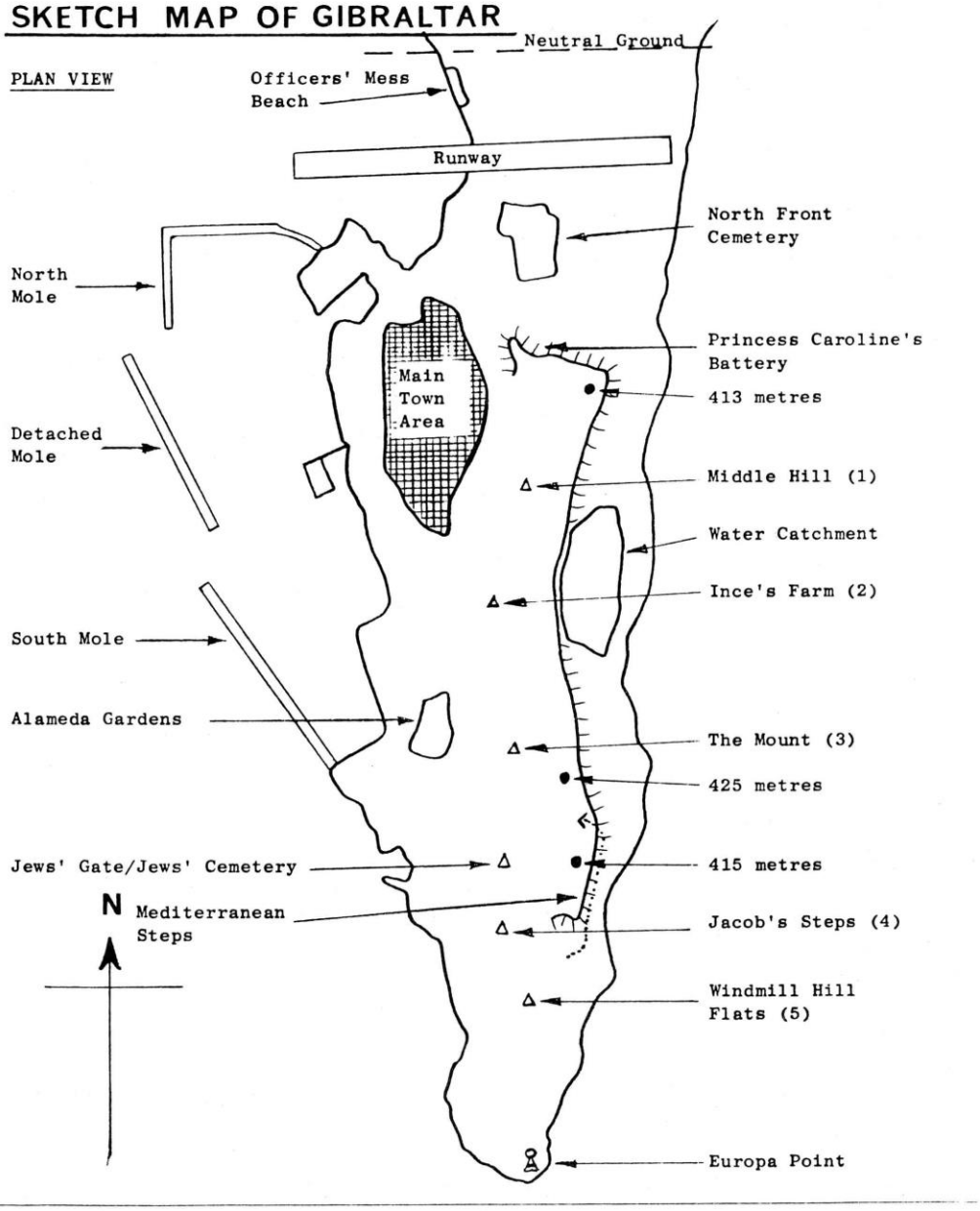
Corporal Brian E Jones	RAF Gibraltar
Sergeant Howard Brill	RAF Locking*
Corporal Geoff S Pudney	RAF Locking*

Notes:

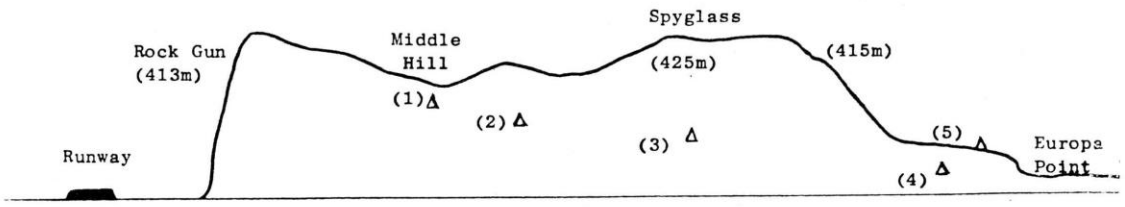
All ranks and stations are as at the time of the expedition.

*Members of the RAF Western Band performing in Gibraltar during Battle of Britain Week.

SKETCH MAP OF GIBRALTAR



SIDE ELEVATION (Looking East)



(Constant Horizontal Scale 1" 1 mile.)

INTRODUCTION

During the period 9th to 23rd September, I had the pleasure of leading 15 members of the Royal Air Force Ornithological Society - to whom all expedition members owe a great deal in appreciation of the Society's sponsorship of the activities - on a field studies expedition to the Rock of Gibraltar; this is our account of the proceedings. We have not tried to draw deep scientific conclusions from our findings; the reader may extract from these pages what he will, for we merely present the facts as we observed them.

Summary. During our stay on the Rock we positively identified 109 species of bird, ringed 376 birds of 28 different species and retrapped a further 75 birds. As the Meteorological Summary shows, we enjoyed 2 markedly different types of weather during the expedition. From 9 to 16 Sep the wind remained in the East and the well known Levanter Cloud extended westwards from the summit of the Rock towards Spain; raptors, except Booted and Short-toed Eagles, were scarce, but the ringing teams processed respectable numbers of passerines. With the change of wind direction to westerly overnight on 16/17 Sep, passerine numbers fell away - as clear skies predominated by both day and night - but the southwards raptors became much more obvious.

Expedition Format. The expedition split in to 2 parties on 12 Sep: one third of the team, on rotation, remained in the Middle Hill area - sleeping overnight in accommodation kindly made available in the RAF Aerial Section - while the other 10 members worked out of the RAF Station adjacent to the runway. Ringing parties were at their nets as dawn broke until mid-day and again during the pre-dusk period; sea watches were carried out each day from Europa Point, the North Mole and from the decks of the Royal Navy Guardboat; the upper reaches of the Rock, from such vantage points as Princess Caroline's Battery, were constantly manned for raptor-watching; and daily visits were paid to the green areas of the Alameda Gardens and the North Front Cemetery. On 18 Sep, all but 2 members of the expedition crossed the Mediterranean to view the North African birdlife; however, I hope that the pages that follow will tell our story in full detail .....

August 1978 CAP
St Mawgan

ACKNOWLEDGEMENTS

I would like to place on record my thanks to the following, whose cheerful co-operation ensured the success of our expedition: Sqn Ldr Dick Foers of RAF Akrotiri and Mr Paul Neophytu of the Cyprus Ornithological Society, for their efforts regarding the originally planned Cyprus expedition; Sqn Ldr Mike Smart, Flt Lt Hugh McMullen and Cpls Brian Jones and Ken Archer of RAF Gibraltar, for their help during and prior to the expedition; the S Met O and his staff, RAF Gibraltar, for their accurate forecasts and invaluable summaries; Mr Clive Finlayson, Mr Ernest Garcia and members of the Gibraltar Ornithological Society, for their willingness to pass on their considerable local knowledge; Rear Admiral and Mrs Stacey and Lt Col and Mrs Willoughby for permission to ring, respectively, at The Mount and Ince's Farm; Mr Ian Lyster for identifying our few specimens; the British Trust for Ornithology, for permission to use BTO rings; the other members of the Armed Forces and Admiralty Constabulary in Gibraltar - too numerous to mention - who helped us whenever they could; Cpl Robinson for the excellent sketches and Sgt Muddiman for arranging the printing of the photographs; and, finally, the Air Commander Gibraltar, without whose blessing our team would never have left the UK shores. To those, who by name or appointment, I have discourteously - but unintentionally - omitted from the preceeding list, my thanks, and apologies, are also extended.

THE RECORDER'S REPORT

The systematic list of sightings and totals produced in this Recorder's Report are the results of 13 days of planned observation of the mainland, skies and coastal waters of the Rock of Gibraltar, carried out on a daily basis and using the same locations for observation. These observation sites were:

a. Middle Hill - continuous ringing operations.

b. Princess Caroline's Battery - used daily for raptor counts.

c. Europa Point - used daily for sea watches.

d. North Front Cemetery and the Officers' Mess Beach - watched every morning and occasionally in the afternoon.

e. North Mole - watched in the evenings and, occasionally, at dawn.

f. Gibraltar Bay - Daily from Naval craft

g. Other Areas - in passing or whilst being used as secondary ringing sites.

Observation points were selected to give what, in the opinion of the members of the training team, was the best cross section of bird sightings possible, ie: raptor watching, sea watching, passerine watching. Each species observed was listed and counted, and the location, direction of movement and time was recorded. This method was used to obviate duplication of sighting when, each evening, at the debrief session a consolidated list was compiled.

Observation parties consisted of not less than 2 persons and, whenever possible, consisted of an experienced team member and one or more of the less experienced. This balance of ornithological knowledge was maintained throughout the expedition. All the sightings recorded (ie: accepted for inclusion in this report) were witnessed by not less than 2 team members and, where there was any possibility of mistaken identity, field notes and sketches were drawn at the time - and without prior reference to field guides. The notes, sketches and other impressions were discussed and analysed at the nightly debriefs; only the most positive and exact sightings were accepted and appear in the pages that follow.

A small number of quite feasible sightings have been discounted because they did not meet the criteria explained above. To those members of the team who have had sightings rejected, I offer my commiserations and hope that their ardour has not been blunted!

The weather (see page 22), as was expected, played a major part in the numbers and species of birds which were seen during our stay on the Rock. The first week was significant for its mainly easterly winds, and this, with its associated weather factors, produced rather more passerines than raptors. The second week, however, with mainly westerly winds showed an increase in the raptor movement, with exceptionally good days on 16 to 19 Sep - as will be appreciated from table B.

On a personal note, my thanks as Expedition Recorder to all team members, whose field notes, sketches and help, made my task as easy as possible.

FGS

SYSTEMATIC LIST OF SIGHTINGS

(This list is based on the 'List of Birds of the Western Palearctic', as used by the British Trust for Ornithology).

CORY'S SHEARWATER Procelliaria diomedea.

Small numbers passing east to west and vice-versa off Europa Point daily. 24 westbound 09-1100 hours on 11 Sep; 7 eastbound 08-0900 on 14 Sep. Small parties westbound 0750-1155 on 21 Sep. 39 in one raft in Gibraltar Bay on 11 Sep. Less on other days.

MANX SHEARWATER Puffinus puffinus.

Daily movement off Europa Point: 80+ on 10 Sep, 87 on 16 Sep. Rafts present in Gibraltar Bay, with totals varying from 200+ on 11 Sep to 700+ on 14 Sep. (This movement has been documented in past literature: Garcia, Finlayson etal).

STORM PETREL Hydrobates pelagicus.

Party of 6 seen approx 6 km south-west of Gibraltar on 18 Sep.

GANNET Sula bassana.

Reported daily; present in small numbers around coast. 15 off Eastern Beach on 22 Sep.

SHAG Phalacrocorax aristotelis.

Recorded daily; small numbers present. 8 seen off Governor's Beach on 16 Sep.

CATTLE EGRET Ardeola ibis.

Reported daily in Neutral Ground - arriving daily from south-west at about 0700 hours - in numbers varying from 5 to 20. Regular evening passage past North Mole in a south-westerly direction across Gibraltar Bay; number involved varying between 12 and 40.

LITTLE EGRET Egretta garzetta.

2 flying west past Europa Point at 1000 hours on 10 Sep and 4, also flying west, at same point at 0900 hours on 11 Sep.

GREY HERON Ardea cinerea.

One flying south past Europa Point on 11 Sep, one southbound over Middle Hill at 1130 hours on 18 Sep and 3 flying south past Europa Point at 1105 hours on 21 Sep.

BLACK STORK Ciconia nigra.

2 south over Middle Hill at 1130 hours on 14 Sep, one flying south past Princess Caroline's Battery at 1400 hours same day. One past Princess Caroline's Battery at 1220 hours on 17 Sep and 4 there on 20 Sep. 2 over Middle Hill, also on 20 Sep.

WHITE STORK Ciconia ciconia

One flying south over Princess Caroline's Battery on 14 Sep at 0900 hrs; one over Gibraltar Bay on 15 Sep and one flying south over Middle Hill at 0810 hours on 21 Sep.

FLAMINGO Phoenicopterus ruber.

4 southbound over Gibraltar Bay at 1030 hours on 11 Sep and 30+ with same movement and in same area at 1130 hours on 20 Sep. 20+ heading south off Eastern coast at 1000 hours on 20 Sep and a single bird off the North Mole at 1810 hours on 22 Sep.

HONEY BUZZARD Pernis apivorus.

For details see Raptor Count table after systematic list.

BLACK KITE Milvus migrans.

See Raptor Count table.

RED KITE Milvus milvus.

See Raptor Count table.

EGYPTIAN VULTURE Neophron perenopterus.

See Raptor Count table.

SHORT-TOED EAGLE Circaetus gallicus.

See Raptor Count table.

MARSH HARRIER Circus aeruginosus.

See Raptor Count table.

HEN HARRIER Circus cyaneus.

See Raptor Count table.

MONTAGU'S HARRIER Circus pygargus.

See Raptor Count table.

GOSHAWK Accipter gentilis.

See Raptor Count table.

SPARROWHAWK Accipiter nisus.

See Raptor Count table.

BUZZARD Buteo buteo.

See Raptor Count table.

IMPERIAL EAGLE Aquila heliaca.

See Raptor Count table.

BOOTED EAGLE Hieraaetus pennatus.

See Raptor Count table.

BONELLI'S EAGLE Hieraaetus fasciatus.

For details see Raptor Count table after systematic list.

OSPREY Pandion haliaetus.

See Raptor Count table.

LESSER KESTREL Falco naumanni.

See Raptor Count table.

KESTREL Falco tinnunculus.

See Raptor Count table.

MERLIN Falco columbarius.

See Raptor Count table.

HOBBY Falco subbuteo.

See Raptor Count table.

PEREGRINE Falco peregrinus.

At least 2 pairs present - one pair frequenting the North Face and the other pair situated above Governor's Beach. Small influx of visitors noted on 13 Sep (see Raptor Count table).

BARBARY PARTRIDGE Alectoris barbara.

Resident and observed at one or more locations daily. 19 at Middle Hill on 15 Sep; seen extensively at Windmill Hill Flats.

QUAIL Coturnix coturnix.

One at Windmill Hill Flats on 14 Sep and one near Rock Gun on 15 Sep.

OYSTERCATCHER Haematopus ostralegus.

4 at eastern end of runway on 22 Sep and 2 at same location next day.

RINGED PLOVER Charadrius hiaticula.

2 near North Mole on 22 Sep.

REDSHANK Tringa totanus.

One feeding on Officers' Mess beach on 16 Sep.

COMMON SANDPIPER Tringa hypoleucos.

One off North Mole on 11 Sep. Single birds on Officers' Mess beach on 13, 14 and 16 Sep. 2 feeding in same location on 18 Sep.

ARCTIC SKUA Stercorarius parasiticus.

3 off Europa Point on 11 Sep.

GREAT SKUA Stercorarius skua.

2 seen approx 6 km SW of Gibraltar on 18 Sep; one seen pursuing terns over Gibraltar Bay on 21 Sep.

MEDITERRANEAN GULL Larus melanocephalus.

One at Europa Point on 14 Sep and 2 seen from HMS Ashcroft in Gibraltar Bay on 19 Sep.

BLACK-HEADED GULL Larus ridibundus.

Present throughout the period; 40+ congregating at Europa Point sewer outlet on 21 Sep.

LESSER BLACK-BACKED GULL Larus fuscus.

Present around coast in small numbers; 3 at Europa Point from 10 to 16 Sep.

GREAT BLACK-BACKED GULL Larus marinus.

5 over Gibraltar Bay on 19 Sep; one chasing terns same location on 21 Sep.

HERRING GULL Larus argentatus.

Present throughout period (yellow legged subspecies). 450+ at western end of runway at roost each night.

COMMON TERN Sterna hirundo.

One off Europa Point on 13 Sep: 3 same location on 21 Sep.

LITTLE TERN Sterna albifrous.

5 off Europa Point on 9 Sep.

BLACK TERN Chlidonias niger.

4 off Europa Point on 12 Sep and one seen from HMS Ashcroft on 13 Sep. 4 off North Mole on 14 Sep, one off Europa Point on 15 Sep and 5 off North Mole on 21 Sep.

PIN-TAILED SANDGROUSE Pterocles alchata.

4 seen in Middle Hill/Cable Car area on 20 Sep: one at 1110 hours and 3 at 1815 hrs.

TURTLE DOVE Streptopelia turtur.

One to 3 seen at one or more locations 9 to 22 Sep. 6 at Europa Point on 14 Sep and 5 at Windmill Hill Flats on 15 Sep.

LITTLE OWL Athene noctua.

2 apparently resident birds (seen during daylight hours) present at the Moorish Castle 9 to 22 Sep. One at Middle Hill 11, 18 and 19 Sep; 3 seen at dusk in same location on 15 Sep (possibly from Moorish Castle).

SWIFT Apus apus.

Present in varying numbers from 9 to 22 Sep.

WHITE-RUMPED SWIFT Apus caffer.

One seen above Middle Hill on 12 Sep.

PALLID SWIFT Apus pallidus.

Present in varying numbers from 9 to 22 Sep.

KINGFISHER Alcedo atthis.

2 at Officers' Mess beach on 13 Sep and one off North Mole on 22 Sep.

HOOPOE Upupa epops.

One at Jews' Cemetery on 9 Sep, 2 at Middle Hill on 10 Sep, 2 at Princess Caroline's Battery on 17 Sep and one at Europa Point on 21 Sep.

WRYNECK Jynx torquilla.

One at Jews' Cemetery on 9 Sep; one at Middle Hill on 15 Sep.

SAND MARTIN Riparia riparia.

4 over Europa Point on 11 Sep and 60+ above Middle Hill on 15 Sep. A small number in company with Swallows and House Martins at Middle Hill on 20 Sep.

CRAG MARTIN Hirundo rupestris.

2 over Middle Hill on 11 Sep, 2 over Windmill Hill Flats on 20 Sep, 20+ over Middle Hill on 15 Sep and 2 at same location on 20 Sep.

SWALLOW Hirundo rustica.

Present in varying numbers from 9 to 22 Sep. 100+ heading south from Europa Point on 21 Sep.

HOUSE MARTIN Delichon urbica.

10 over Jews' Cemetery on 13 Sep and 12 over Europa Point on 15 Sep. 12 below Princess Caroline's Battery on 16 Sep and a small number in company with Swallows and Sand Martins at Middle Hill on 20 Sep.

SHORT-TOED LARK Calandrella cinerea.

3 at Ince's Farm on 13 Sep and one at Windmill Hill Flats on same day. 3 at Middle Hill Flats on 20 Sep.

TAWNY PIPIT Anthus Campestris.

2 at Windmill Hill Flats on 9 Sep and again on 12 Sep. 3 at Ince's Farm on 13 Sep, 2 at Windmill Hill Flats on 15 Sep, one at Jacob's Ladder on 15 Sep, 2 at Middle Hill on 18 Sep and 10 at Windmill Hill Flats on 20 Sep.

TREE PIPIT Anthus trivialis.

2 at Jews' Cemetery on 9 Sep and 6 present at Middle Hill on 11 Sep.

MEADOW PIPIT Anthus pratensis.

4 present at Jacob's Ladder on 15 Sep.

YELLOW WAGTAIL Motacilla flava.

Sightings daily 14 to 22 Sep; 36 over Governor's beach on 14 Sep.

GREY WAGTAIL Motacilla cincerea.

3 present at Middle Hill on 12 Sep, 7 at Windmill Hill Flats on 15 Sep, 2 over Jacob's Ladder on same day and 5 at Windmill Hill Flats on 20 Sep.

WHITE WAGTAIL Motacilla alba alba.

2 on Officers' Mess beach on 14 Sep.

WOODCHAT SHRIKE Lanius senator.

One at Jews' Cemetery on 9 Sep and 3 juveniles at Windmill Hill Flats on 11 Sep. One at North Front Cemetery on 15 Sep and 2 at Windmill Hill Flats on 16 Sep.

GOLDEN ORIOLE Oriolus oriolus.

One at Mediterranean Steps on 11 Sep and one female at Princess Caroline's Battery on 16 Sep.

SPOTLESS STARLING Sturnus unicolor.

Resident. 102 at Windmill Hill Flats on 14 Sep.

WREN Troglodytes troglodytes.

Resident. Present at Middle Hill 9 to 22 Sep.

GRASSHOPPER WARBLER Locustella naeria.

One - the first published record for Gibraltar - mist netted and ringed at Jacob's Ladder on 15 Sep. One mist netted and ringed at Middle Hill on 17 Sep.

REED WARBLER Acrocephalus scirpaceus.

One mist netted and ringed at Middle Hill on 10 Sep, one mist netted and ringed at same location on 16 Sep and one further specimen netted and ringed at Ince's Farm.

MELODIUS WARBLER Hippolais polyglotta.

One mist netted and ringed at Middle Hill on 10 Sep, with another seen at same location 2 days later. One at Windmill Hill Flats on 15 Sep.

OLIVACEOUS WARBLER Hippolais pallida.

One - observed for 10 minutes - in an Oleander bush at the North Front Cemetery on 15 Sep.

ORPHEAN WARBLER Sylvia hortensis.

Female mist netted and ringed at Jacob's Ladder on 15 Sep; one other taken at Middle Hill on same day.

GARDEN WARBLER Sylvia borin.

Reported daily from 9 to 22 Sep.

BLACKCAP Sylvia atreacapilla.

Reported daily.

WHITETHROAT Sylvia communis.

Reported daily.

SARDINIAN WARBLER Sylvia melanocephala.

Reported daily. Apparent influx of migrant birds on 15 Sep, when 21 counted in a small area at Jacob's Ladder.

SUBALPINE WARBLER Sylvia cantillans.

2 at Middle Hill on 15 Sep (one of which was mist netted and ringed); one present at same location next day.

SPECTACLED WARBLER Sylvia conspicillata.

One mist netted and ringed at Middle Hill on 10 Sep. One observed at Ince's Farm on 13 Sep and 2 at Middle Hill on 18 Sep.

DARTFORD WARBLER Sylvia undata.

Male at Windmill Hill Flats on 9 Sep; one at same location on 20 Sep.

RUFOUS WARBLER Cerotrichas galactotes.

One found dead (estimated to have been dead for 2 to 3 days) at Middle Hill on 11 Sep.

WILLOW WARBLER Phylloscopus trochilus.

Reported daily. Ringing results suggest parity with numbers of Chiffchaffs.

CHIFFCHAFF Phylloscopus collybita.

Reported daily. (See Willow Warbler).

BONELLI'S WARBLER Phylloscopus bonelli.

One mist netted and ringed at Middle Hill on 10 Sep, 2 at same location on 11 and 13 Sep and one at Princess Caroline's Battery on 20, 21 and 22 Sep.

FIRECREST Regulus ignicapillus.

One mist netted and ringed at Middle Hill on 17 Sep.

FAN-TAILED WARBLER Cisticola juncidis.

Small numbers present at 3 locations: Neutral Ground, North Front Cemetery and Windmill Hill Flats. Recorded daily 9 to 22 Sep.

PIED FLYCATCHER Ficedula hypoleuca.

Present in single figure numbers 9 to 22 Sep.

SPOTTED FLYCATCHER Ficedula albicollis.

Reported daily - single figures. Six present in Alameda Gardens on 16 Sep.

WHINCHAT Saxicola rubetra.

One at Windmill Hill flats on 9 Sep, 2 at same location on 12 Sep, 2 in Middle Hill area on 15 Sep and odd reports from North Front Cemetery.

STONECHAT Saxicola torquata.

Female in North Front Cemetery on 11 Sep. Singles daily at Windmill Hill Flats.

WHEATEAR Oenanthe oenanthe.

Six present at Windmill Hill Flats on 11 Sep, 3 at Middle Hill on 11 Sep, 11 at Windmill Hill Flats on 15 Sep and 8 at same location on next day. Reports of single birds from other sites.

BLACK-EARED WHEATEAR Oenanthe hispanica.

Five at Middle Hill on 11 Sep and 12 at same location on next day, plus 2 at Windmill Hill Flats. Forty plus at Middle Hill on 15 Sep (this 'fall' occurred in late afternoon and evening; by the following morning all had departed). Sightings of single birds throughout period.
Note: Approximately 40% of birds sighted were of the Black-throated form.

BLUE ROCK THRUSH Monticola solitarius.

Resident; reported daily.

REDSTART Phoenicurus phoenicurus.

Reported daily from most locations; 4 present at Jews' Cemetery on 9 Sep.

ROBIN Erithacus rubecula.

One mist netted and ringed at Middle Hill on 13 Sep.

NIGHTINGALE Lusinia megarhynchos.

One mist netted at Middle Hill on 9 Sep and 2 seen at same location next day. Odd reports of single birds from other sites.

BLACKBIRD Turdus merula.

Resident; reported daily. All birds mist netted were moulting.

GREAT TIT Parus major.

One present in Alameda Gardens on 13 Sep.

BLUE TIT Parus caeruleus.

Resident; reported daily. Seven at Jews' Cemetery on 9 Sep.

SHORT-TOED TREECREEPER Certhia brachydactyla.

One mist netted and ringed at Middle Hill on 21 Sep.

HOUSE SPARROW Passer domesticus.

Resident; reported daily.

CHAFFINCH Fringilla coelebs.

Male and female present in The Mount gardens on 16, 18, 19 and 22 Sep.

SERIN Serinus serinus.

Single bird in Alameda Gardens, singing, on 13, 14 and 16 Sep. Single bird at Windmill Hill Flats on 15 Sep.

LINNET Acanthis cannabina.

Small party present at Windmill Hill Flats on 20 Sep.

ROCK BUNTING Emberiza cia.

One at Middle Hill on 10 Sep and one mist netted and ringed at same location on 21 Sep. Five at Middle Hill on 22 Sep.

ORTOLAN BUNTING Emberiza hortulana.

Two at Middle Hill (specimen mist netted and ringed) on 15 Sep and one at same location following day.

TOTAL NUMBER OF SPECIES IDENTIFIED: 109.

Plus:

HARRIER Sp, BUZZARD Sp, EAGLE Sp and KESTREL Sp: see Raptor Count Table.

RAPTOR COUNT TABLE

Date (Sep 1977)	9	10	11	12	13	14	15	16	17	18	19	20	21	22	TOTAL
Wind Direction	E	E	E	E	E	E	E	E	W	W	W	W	W	W	
Honey Buzzard	1				4	3		9	80	290	30	212	48	31	708
Black Kite	1		2		8	3	2	4	4	26	6	18	4	1	79
Red Kite											1			1	2
Egyptian Vulture			2		26	30	8	3	10			9			88
Short-toed Eagle				1	56	25	1	81	7			1		6	178
Marsh Harrier									8	7	8	5	6		34
Hen Harrier									2	1			1	1	5
Montagu's Harrier				1	1					1	2	2	1		8
Goshawk								1	1			1			3
Sparrowhawk		2		3	10	8	19	45	25	32	8	43	8		203
Buzzard												24	1	10	37
Imperial Eagle						1		1	1						3
Booted Eagle	15	1	42	68	630	374	204	410	23		8	8	4	7	1794
Bonelli's Eagle									2						2
Osprey									13	1	7	8	1	2	32
Lesser Kestrel				12						1	1		3		17
Kestrel			3		8		9	1				13	3	5	42
Merlin					1				1						2
Hobby									1						1
Peregrine**					4										4
Harrier Sp			1	2					3			1	11	1	19
Buzzard Sp	3				10				2810	52	109		42	46	3072
Eagle Sp										1					1
Kestrel Sp		6		5					3	15	1	13	14	19	76
TOTAL	20	9	50	92	758	444	243	558	3007	412	217	336	161	103	6410

** Note: Four Peregrine, apparently present at all times, are not included in the above table to avoid confusion.

THE RINGING CO-ORDINATOR'S REPORT

During the 14 days of the expedition a total of 376 birds, of 28 species, were ringed. Examination of the ringing totals (Table 1) shows that 139 were considered as passage migrants and the remaining 237 as resident species. Several of the birds caught deserve special comment:

a. Grasshopper warblers are rarely recorded on the Rock; the 2 caught are the first of this species to be ringed in Gibraltar.

b. Both Orphean and Subalpine warblers are normally only spring passage migrants through the Gibraltar area; the expedition's birds are the first autumn ringing and sight records.

c. Autumn arrivals of Firecrest and Robin are usually in October or November; the single birds caught by RAFOS were unusually early arrivals.

d. Short-toed Treecreepers are of only sporadic occurrence at Gibraltar; the individual caught is only the third ringing/sight report since 1973.

Ringing Localities

On 10 Sep 77 a permanent ringing site was established in an area of fairly dense low scrub below the RAF complex at Middle Hill, on the steep westward facing slope. Mist nets were erected from dawn until mid-day and from late afternoon until after dusk. Ringing at other localities (see Table 2 and sketch map on page 3) was carried out on an opportunity basis, by members of the main party based in the messes at RAF Gibraltar, each early morning and evening. (The value of operating a fixed ringing site is clearly shown in Table 2.)

Retraps

Retraps were those birds caught already bearing a ring, and are divided into 2 categories: birds ringed in Gibraltar prior to the expedition's arrival and birds ringed by expedition members. The 75 retraps consisted of 31 birds ringed prior to RAFOS' arrival and 44 birds ringed by the expedition whilst in Gibraltar. There were no 'controls'.

Retraps of Birds Ringed Prior to the Expedition. These retraps, all resident species, were one Wren, 4 Blackbirds, 6 Blue Tits, 3 Blackcaps and 17 Sardinian Warblers. A selection of the most interesting retraps is at Table 3. The Blackcap (JN89699) and the Blue Tit (JN89888) were in their fifth year of life and merit special mention, as does the Blackbird (CJ94183) which was one year younger. All the records show random movement around the Rock, with Blue Tit (KR47252) and the Sardinian Warbler (KR47066) showing the longest movement.

Retraps of Birds Ringed During the Expedition. Apart from the 2 Sardinian Warblers (KX37508 and KR22643) - where the movement involved was over 4 and one days respectively - all these retraps were at the original ringing site and call for no special comment. The majority were resident species, but 7 were migrants: 5 Chiffchaffs, a Willow Warbler and a Nightingale. Four of the Chiffchaffs were recaught on the day after ringing and showed no change in weight; the fifth bird had increased its weight by 30% in 7 days. When retrapped it was showing extensive fat deposits, evidently laid down for onward

migration. The Willow Warbler had made a 14% increase in weight in 3 days, and the Nightingale had increased its weight by 13% in 4 days.

TABLE 1 - DAILY RINGING/RETRAP TOTALS. (*=resident species; _ = retrap.)

Date:	September 1977														Total	
Species	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Ringed	Re-traps	Processed
Wren*		1	1		1	2		1,1		1	1	1	1		6	5	11
Short-toed Treecreeper													1		1		1
Grasshopper Warbler							1		1						2		2
Reed Warbler		1	1	1			1	1	1						6		6
Melodious"		1		1											2		2
Orphean "							2								2		2
Garden "		1	1	1	2	2	3	1	3		2	2		1	19		19
Blackcap *		1	5	1	12	3,2	3	4	9,1	1	2,1	5	3	3,2	51	7	58
Whitethroat		1						1				1			3		3
Sardinian)	1	22	8	3	20	6	19	7	16	3	5	5	5	1	121	)	165
Warbler*)	1	6	2	1	4	3	9	2	3	3	6	1	1	2		44)	
Subalpine Warbler							2								2		2
Spectacled Warbler		1			1					1					3		3
Willow Warb		4	2	4	2	6	12,1	6	2	1	1		1		41	1	42
Chiffchaff		3	1	4	3	3,2	4,1	4,1	2.1		1	1	2		28	5	33
Bonelli's Warbler			1												1		1
Firecrest									1						1		1
Pied Flycatcher	1					1	1	3		1		1			8		8
Spotted Flycatcher					1			2							3		3
Stonechat									2						2		2
Wheatear									1						1		1
Redstart		1		1			1	1		1					5		5
Robin					1										1		1
Nightingale		2		1	2		1		1		1				7	1	8
Blackbird*	1	4	2	4	8,1	2	3,1	5	4,3		5	3		2,1	43	6	49
Blue Tit*		1	1	1,1	2,1		2	2,1				1	1		8	6	14
House Spar*		2						1	2						5		5
Rock Bunting*													1	2	3		5
Ortolan "								1							1		1
RINGED	3	46	23	22	54	24	53	38	48	6	17	18	15	9	376		
RETRAPS	1	6	2	2	7	7	14	5	8	5	9	2	2	2		75	
PROCESSED	4	52	25	24	61	31	67	43	56	11	26	20	17	14			451

TABLE 2 - INDIVIDUAL RINGING SITE DATA

Locality	ASL (m)	Total Caught	Total Ringed	Retraps (Pre-exped. Birds)	Retraps (During exped. Birds)	Total Retraps	Retrap Rate(%)	Days Visited	Average Daily Catch
Middle Hill	290	260	217	7	36	43	16.5	13	20.0
Ince's Farm	160	58	50	6	2	8	13.8	4	14.5
The Mount	95	46	38	7	1	8	17.4	6	7.6
Jews' Gate	170	16	12	4	-	4	25.0	2	8.0
Windmill Hill Flats	85	19	16	3	-	3	15.8	2	9.5
Jacob's Ladder	80	52	43	4	5	9	17.3	3	17.3

Notes:

1. Total caught is 'Total Ringed' + 'Total Retrapped'.
2. Retrap Rate is "the percentage of total caught already bearing rings".
3. Average daily catch includes retraps and is based on total caught.

TABLE 3A - RESIDENT SPECIES; LOCAL MOVEMENT OF RETRAPPED BIRDS

Ringed At	Retrapped At	Distance (Km)	Black-cap	Sardin-ian Warbler	Wren	Black-bird	Blue Tit	Total Birds
Jacob's Ladder	The Mount	1.075		1				1
Jacob's Ladder	Middle Hill	2.95		1				1
Jews' Gate	The Mount	.44	2	1		1	3	7
Jews' Gate	Jacob's Ladder	.72		2		1		3
Jews' Gate	Middle Hill	2.20		1			1	2
Queen's Gate	Ince's Farm	.40		1				1
Princess Caroline's Battery	Middle Hill	.46	1	2				3
Retrapped where originally ringed		-	4	35	5	4	2	50
Total showing local movement (%)			43%	20%	0	33%	60%	26%

TABLE 3B - SELECTED LIST OF RETRAPS

Ring No	Species	Age/Sex	Date	Locality
JN89699	Blackcap	3F	09.09.73* 22.09.77	Jews Gate The Mount
KR47015	Blackcap	4M	22.06.77** 14.09.77	Pr. Caroline's Batt. Middle Hill
KR47292	Blackcap	4F	05.09.77** 19.09.77	Jews' Gate The Mount
KR22570	Sardinian Warbler	5F	21.04.77** 13.09.77	Queen's Gate Ince's Farm
KR22587	Sardinian Warbler	3J 3M	28.05.77** 16.09.77	Jews' Gate The Mount
KR22588	Sardinian Warbler	3J 3F	30.05.77** 17.09.77	Jews' Gate Windmill Hill Flats
KR22593	Sardinian Warbler	3J 3F	02.06.77** 14.09.77	Pr. Caroline's Batt. Middle Hill
KR22598	Sardinian Warbler	3J 3M	02.06.77** 10.09.77	Pr. Caroline's Batt Middle Hill
KR47066	Sardinian Warbler	3J 3F	27.07.77** 18.09.77	Jews' Gate Middle Hill
KR47092	Sardinian Warbler	3J 3M	01.08.77** 17.09.77	Jews' Gate Windmill Hill Flats
KR22643	Sardinian Warbler	4M	15.09.77*** 16.09.77	Jacob's Ladder The Mount
KX37508	Sardinian Warbler	4F	15.09.77*** 19.09.77	Jacob's Ladder Middle Hill
CJ94183	Blackbird	3JM	15.08.74* 22.09.77	Jews' Gate The Mount
XC34907	Blackbird	3J	24.07.77** 13.09.77	Jews' Gate Jacob's Ladder
JN89888	Blue Tit	3	09.10.73* 15.09.77	Jews' Gate The Mount
KR47252	Blue Tit	3J	01.08.77** 21.09.77	Jews' Gate Middle Hill
KR47255	Blue Tit	3J	01.08.77** 15.09.77	Jews' Gate The Mount

Notes:

1. Original ringing data is on first line; retrap data is on second line.
2. Euring Age Code is used, ie:

   3J = Juvenile. 3 = Hatched during calendar year of ringing.

   4 = Hatched before current calendar year; exact year unknown.

   5 = Hatched during previous calendar year. (M = male; F = female).
3. Original Ringer:

   * = Brian Etheridge.
   ** = Clive Finlayson.
   *** = RAFOS Expedition.

BIRD RINGING ON THE ROCK OF GIBRALTAR - A BRIEF HISTORY

Bird ringing in Gibraltar is of only recent origin. It was started by Brian Etheridge - the Ringing Co-ordinator of the RAFOS Expedition - when he was stationed at RAF Gibraltar in 1973, but was discontinued when he returned to the UK at the end of his tour in 1976. Ringing was recommenced again a year later by Clive Finlayson, a resident of Gibraltar, when a member of the Edward Grey Institute of Field Ornithology, at Oxford, as part of a D. Phil thesis.

The grand total of birds ringed for 1973 - 1976 was 5,779; by the end of 1977 it was expected to exceed 7,000 birds.

Rings used in Gibraltar, including those of RAFOS, are supplied by the British Trust for Ornithology.

BE

LIST OF SPECIMENS COLLECTED

A small number of specimens were brought back to the UK and handed to the Royal Scottish Museum, Edinburgh, where the Society's Honorary Scientific Adviser - Mr Ian J H Lyster - made the following identifications.

Serial '1'. Reed Warbler, (Acrocephalus scirpaceus).

Serial '2'. Garden Warbler, (Sylvia borin).

Serial '3'. Blue Tit - probably Parus caeruleus harterti, the Spanish/Portugese race. It certainly isn't Parus caeruleus caerulexus, the 'Continental' Blue Tit or P.c.ultramarinus, the North African race.

Serial '4'. Horseshoe Whip-snake (Zamenis hippocrepis) - a species of snake found in the Iberian Peninsular, Sardinia, Morocco, Algeria and Tunisia, but not north of Spain.

Serial '5'. Spiders - females of the Macrotheles species (Dipluridae).

METEOROLOGICAL SUMMARY

(RAFOS extends its grateful thanks to the Senior Officer and staff of the RAF Gibraltar Meteorological Office for their friendly and helpful advice during the expedition and for the provision of the information upon which the following summary is based).

1. During the first week of the expedition, and for the week prior to the expedition, the pressure pattern on the surface in the area around Gibraltar remained one of low pressure to the west of the Straits and of higher pressure in the Alboran Basin and over South-eastern Spain. During the night 16/17 Sep this pressure pattern was reversed and higher pressure predominated to the west of the Straits.

TYPICAL PRESSURE PATTERNS

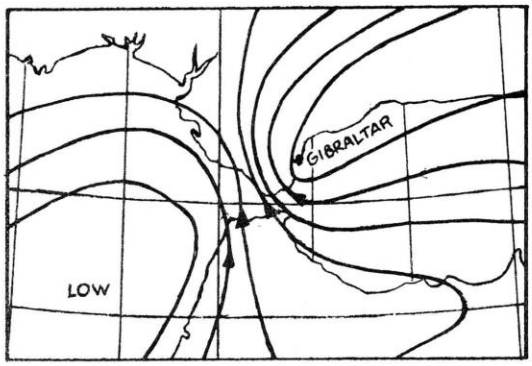


Fig 1. Surface pressure at 0001 (GMT) on 12 Sep 77.

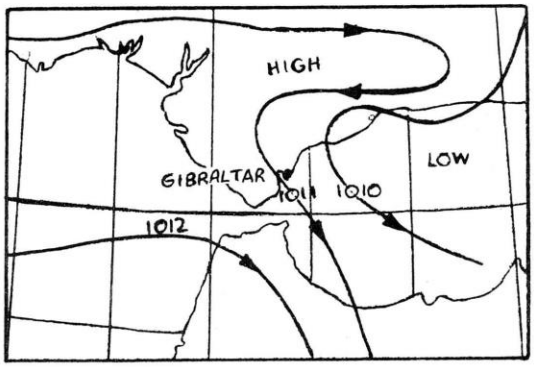
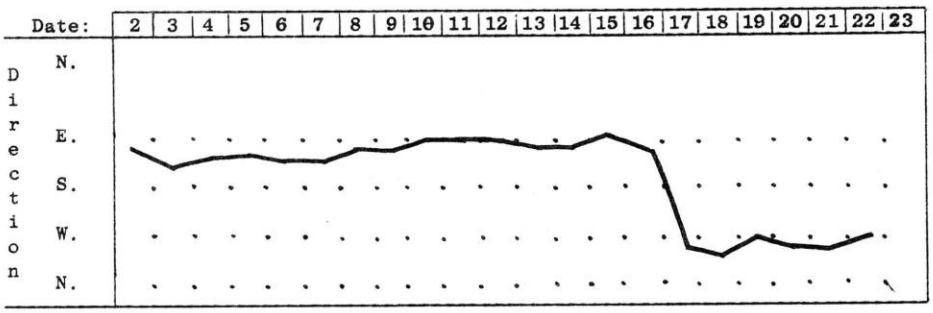


Fig 2. Surface pressure at 0001 (GMT) on 18 Sep 77.

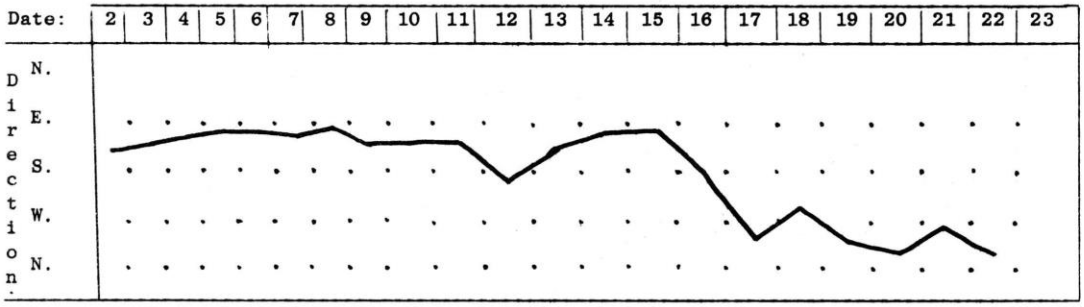
2. Wind. Until dusk on 16 Sep the surface wind at Gibraltar was easterly; by dawn on 17 Sep it had veered round to westerly, preceeded in a veering of the upper winds by approximately 18 hours. A plot of wind directions, qualified by wind speeds is below:

a. SURFACE WIND (0600 GMT)



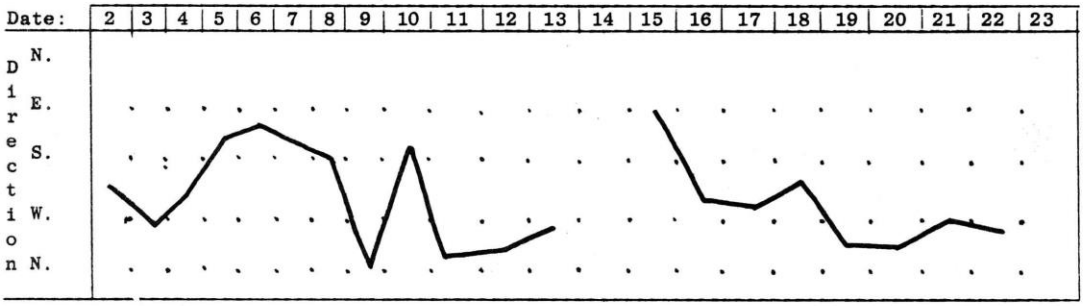
Speed: Average 10 kts (Min 6 kts; max 16 kts).

b. 5,000 Feet WIND (0600 GMT)



Speed: Average 15 kts (Min 01 kts; max 30 kts).

c. 10,000 Feet WIND (0600 GMT)



Speed: Average 12½ kts (Min 01 kts; max 27 kts).

3. Temperature. Temperatures remained pleasantly steady during the expedition, with a surface maximum daytime temperature of 26.9 C and a nighttime minimum of 17.5 C.

4. Visibility. Hazy conditions prevailed when the wind was easterly, with visibility between 5 and 9 kms; good visibility conditions existed from 17 Sep onwards.

5. Cloud. The origraphically-formed 'Levanter' cloud covered the summit of the Rock and extended well into Gibraltar Bay when the wind was from the east, and only Europa Point enjoyed clear skies. Following the change in wind direction on 17 Sep, 'fair weather' cumulus was present daily in small amounts, and the 'Levanter' cloud formation disappeared.

(See Recorder's comments on apparent effect of wind on observed species on page 4).

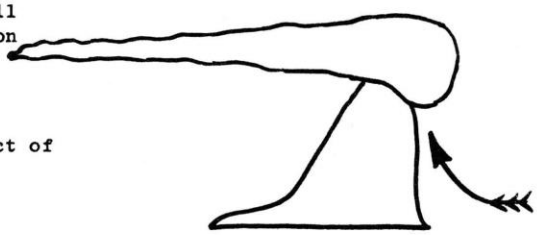


Fig 3. Sketch of 'Levanter' cloud formation (looking to the north).

DAY TRIP TO TANGIERS

"Like Webster's Dictionary, we're Morocco Bound" (Bob Hope).

On Sunday 18 Sep - the mid-point of the-time spent in Gibraltar - all, bar 2, members of the RAFOS expedition sailed to Tangiers for the day in the MV 'Mons Calpe'; this provided an opportunity to watch sea birds while en-route across the Straits of Gibraltar, and added variety to the programme.

The weather on the outward crossing (0900 to 1200) was rather dull, with westerly winds and good visibility. The journey was noticeable, firstly, for the large number of dolphins (c100 - 200), especially those leaping in pairs alongside the ship. Some 300 Manx Shearwaters were seen flying with typical pattern and fast wing beats; some 80 Cory's Shearwaters, noticeably larger and with slower wing beats, were also seen, singly or in small flocks. 21 Gannets, mostly immature birds, were counted and a few terns were sighted, including 3 Black Terns, one Common Tern and 2 Sandwich Terns. The highlights of the journey were a flock of 6 Storm Petrels in flight close to the water and a pair of Great Skuas taking off from its surface.

Expedition members were off-duty for 5 hours in Morocco. Swifts were still nesting in the harbour buildings at Tangiers, and several Curlew, 2 Whimbrel, many Common Sandpipers, 3 Turnstone and numerous Oystercatchers were noted on a beach outside the town. A Spotted Flycatcher, 'willow/chiffs', Swallows, Spotless Starlings, House Sparrows, Herring Gulls and Black-headed Gulls were also present. A large number (c100 - 200) Cattle Egrets were seen in the fields beside the road during a taxi ride of 1½ hours to the east of the town. A male Marsh Harrier, a female Hen Harrier, an immature or female Merlin, 2 Kestrel sp and a Whinchat were also seen in this area.

The 2 members who had stayed on the Rock had the pleasure of a fair passage of migrant raptors; those of us who journied to Morocco saw a variety of birds that we would not have seen in Gibraltar, a list of which follows:

Manx Shearwater (Puffinus puffinus)
Cory's Shearwater (Calonectris diomedea)
Storm Petrel (Hydrobates pelagicus)
Gannet (Sula bassana)
Cattle Egret (Bubulcus ibis)
Marsh Harrier (Circus aeruginosus)
Hen Harrier (Circus cyaneus)
Merlin (Falco columbarius)
Oystercatcher (Haematopus ostralegus)
Turnstone (Arenaria interpres)
Common Sandpiper (Tringa hypoleucos)
Curlew (Numenius arquata)
Whimbrel (Numenius phaeopus)
Great Skua (Stercorarius skua)
Black-headed Gull (Larus ridibundus)
Herring Gull (Larus argentatus)
Sandwich Tern (Sterna sandriceusis)
Common Tern (Sterna hirundo)
Black Tern (Chlidonias niger)
Swift (Apus apus)
Swallow (Hirundo rustica)

Cont'd overleaf.

List of Species Recorded on Trip to Tangiers (Cont'd):

Sardinian Warbler (Sylvia melanocephala)
Whinchat (Saxicola rubetra)
Spotted Flycatcher (Muscicapa striata)
House Sparrow (Passer domesticus)
Spotless Starling (Sturnus unicolor)

Kestrel sp
Willow Warbler/Chiffchaff sp

DJRC

FALCO ELEONORAE ON CYPRUS: POPULATION SIZE AND BREEDING SUCCESS

Hartmut Walter [1] and Richard Foers [2]

The present knowledge of the breeding biology of Eleonora's Falcon (Falco eleonorae Gené) is based on data from less than half a dozen colonies in the Atlantic Ocean and in the Aegean Sea. The general inaccessibility of most nesting sites of this raptor has precluded the close investigation of the large majority of breeding locations. This makes it difficult to assess present population trends for the species as a whole. In the following we report on an attempt to conduct a breeding census of Eleonora's Falcon in difficult terrain along the south coast of Cyprus. Our analysis will focus on (1) the effectiveness of a new census technique, (2) reproductive success of individual pairs and entire colonies, and (3) the population dynamics of this falcon on Cyprus.

Cyprus is the easternmost and quite isolated breeding place of Eleonora's Falcon (Vaughan, 1961, Walter, 1978). Three distinct breeding colonies have been observed on the cliffs of the southern coasts of this island since at least 1958 (Bannerman & Bannerman, 1958). One of them is located in the 200 m high, sheer, formidable cliffs that cover some 8 km between Petra tou Romiou and Cape Aspro. The second lies a few kilometers further to the east near Episkopi. The latter cliffs extend over 2 km, are less than 100m high, and possess many small ledges, coves, and holes. The third colony extends along the entire southern coast of the Akrotiri peninsula. Here the cliffs are only 30-50 m high for some 3.5 km west of Cape Gata. The bluffs, pinnacles, and occasional sheer walls of these three locations consist of extremely soft, light coloured sandstone. The coastline is unusually straight and the cliff-top or other upper ledges may hang well over the remainder of the cliff. These features make it a tough assignment to study and to survey the falcons breeding somewhere in those cliffs; neither from the cliff-top nor from the rocky beach are large parts of the three breeding sites visible. A group of sophisticated rock climbers might overcome this problem, but this would require a great deal of manpower (which was not available) and might create a harmful level of disturbance to the breeding falcons. Flint (1972) recommends the use of boats, and in 1975 a partial survey by boat was carried out at Akrotiri Cliffs. Given excellent meteorological conditions, a boating party might indeed succeed in locating a high proportion of the resident falcon population and of their nest sites at Akrotiri and Episkopi. At Cape Aspro, however, the view from a boat would probably not suffice to locate the high cliff breeders among the falcons. The results of past population surveys have always suffered from the lack of certainty and detail as a consequence of these difficulties of access and visibility (Table 1).

We had the good fortune to be offered the opportunity to participate in two practice flights of RAF helicopters along the three cliff areas. From the open door of a helicopter we were able to observe the cliffs with a 10 x 40 binocular and to photograph nestlings with a 200 mm telelens. At times, we approached a cliff as close as 20-40 m, constantly moving up and down, forward, or hovering, adjusting our viewpoint in accordance with the topographic features of a cliff. The first flight took place at mid-morning on 26 September. The age estimates of nestlings were made during this flight. The second one took place around noon on 27 September and concentrated on the Cape Aspro and Episkopi colonies.

RESULTS

The use of the helicopter was extremely rewarding at Akrotiri Cliffs. The low coast seemed just right for scanning the entire height in an instant and spotting any perched falcon nestling, even falcon eggs. This technique worked also well at Episkopi, but was quite unsatisfactory at the comparatively huge cliffs between Cape Aspro and Petra tou Romiou.

Akrotiri Cliffs

Observations from the ground which one of us (H.W.) had carried on during five days between 22-28 September 1977 yielded the following data: only 6 nests with young, 6 pairs with ground territories but no live young, 3 immature falcons, and another 8 - 15 adults along the cliffs in variable locations, with or without young. From the helicopter we learned that there were 13 nest sites containing 20 live young, 1 egg, and one dead young. Some 45 adults and one immature bird took off in front of the helicopter. We are confident that this survey detected at least 90% of the falcon population at this location. At most, 2-3 nests with young may have been overlooked, but not the adult birds to which they belonged. In the following detailed account, most of the data came from the helicopter survey, but some conclusions (e.g., that there were at least 50 adult falcons) were arrived at by combining the ground with the aerial data.

The eyries of this colony were concentrated in the neighborhood of the Cape Gata lighthouse, (six nest sites with 1 young (3x), 2 young (2x), and 2 young and 1 egg (1x)), further west in two small coves (four nest sites with 2 young (1x), and 1 young (3x)), and at 'Beverley Cliff' near the peninsular location known as 'Riding Stables'. Beverley Cliff contained three eyries with young (3 young (1x), 2 young (1x), and 1 young and a dead young of similar age (25-30 days)) and 4-5 pairs without young. It was the only place where more than 2 pairs were found at the same cliff-face. Distances between the nest sites and principal perches (of pairs without any young) of nearest neighbors were relatively small (5, 8, 10, 20, and 20 m for seven pairs). The groupings of nest sites with young in all other locations consisted of only 2 pairs or single pairs within any one cove. We estimated the average height of all 13 nest sites with young at 5-25 m above sea level (average 13 m). The approximate age of all 20 nestlings varied considerably: 18 (1x), 20 (2x), 25 (1x), and 30-37 days (16x).

In summary, this colony consisted of at least 50 adult, 3 immature, and 20 young Eleonora's Falcons. Assuming that all nestlings reach fledgling age, the breeding success of this colony is 1.53 fledglings/pair for all pairs with young. It is considerably lower if we include the large number of resident adult falcons without young: 20 young in a population of 50 adults give an average of only 0.4 fledglings/falcon (0.8/pair). As we may have overlooked up to five additional young in holes or crevices, the breeding success could be as high as 0.5 fledglings/falcons (1.0/pair).

Episkopi

We counted 35 adults and found eight nest sites containing 15 young, aged between 30 and 35 days. Five nests had 2 young, 2 nests had only 1 young, and 1 nest had 3 young. One of the young belonged to a rare mutant which has a representation of less than 1% in the total population: it was very blackish in its entire plumage with the exception of a few rufous streaks and bars. The approximate height of the nest sites was 40 (2x), 50, 60 (2x), 70 and 80 m (average 58 m).

The larger distance that the helicopters had to keep from these cliffs, their height and the presence of vultures soaring along the coastline made this survey less effective than at Akrotiri. We estimate a success rate of 80% in locating adults and nest sites. The total resident population therefore, probably consisted of 20-25 falcon pairs, many of which did not have any young. The average breeding success was 1.88 fledglings/pair for the eight pairs with young. The total breeding success of this colony was in all probability not above 1.0 fledgling/pair.

Cape Aspro

At the towering cliffs of Cape Aspro each Eleonora's Falcon appeared as a tiny object. Due to the aerodynamic conditions in front of this cliff the helicopter had to stay at least 50-80 m clear of the rocks. This lowered the resolution needed for spotting young falcons in holes and crevices, and though much time and fuel was spent in front of this coastline, we were forced to estimate the population on a very superficial basis. We did not find any nest sites with young. Some 20-25 falcons took off as the helicopter approached. They had perched either at the relatively low portion of the cliffs between 10 and 50 m or at the highest ledges between 150-200 m. Taking into account the difficult terrain, the unsatisfactory view from the helicopter, and our coverage of the area, we estimate that this survey located only about 25% of the falcon population. This colony is probably the largest of the three Cyprus breeding locations of Eleonora's Falcon, comprising about 40-50 pairs.

DISCUSSION

Census Techniques

There is no ideal technique to accomplish a precise census of Eleonora's Falcon in locations such as southern Cyprus. Each of the standard techniques is either inaccurate, time-consuming, highly expensive or causes severe disturbance to the breeding population. Our helicopter-borne mission had the advantage of time efficiency (several kilometers of occupied cliff within a one hour period) and, most importantly, provided a unique and optimal view angle and access to otherwise hidden nesting places in coves and under overhanging rocks. This advantage was fully realized at Akrotiri Cliffs. We recommend monitoring this colony by helicopter in future years. At Cape Aspro, the helicopter was no more, and perhaps less, effective than a ground survey could have been. This was not due to any peculiar circumstances operating during our flight. The nature of these cliffs themselves, their dimensions and eroded surfaces, limits the potential of a helicopter survey. At Episkopi, optimal conditions (no wind, no vultures in the air, a full hour at this location), might permit a better than 90% coverage of the falcon population by helicopter in future years. Such conditions rarely occur, however.

In comparison to previous surveys of Eleonora's Falcon (Table 1), our observations from a helicopter were superior since they allowed us to locate many young falcons which would otherwise have been overlooked. They made it possible for the first time to judge the breeding success of many individual pairs in the two colonies at Episkopi and Akrotiri Cliffs without disturbing the birds with rock-climbing gear and personnel.

Population Status and Dynamics

Lord Lilford was the first to report on Eleonora's Falcon in Cyprus (Lilford 1889). Population estimates have only become available since 1957

(Bannerman & Bannerman 1958). In October 1958, W R P Bourne made the first estimates of the three colonies at Cape Aspro, Episkopi, and Akrotiri Cliffs (Vaughan 1961, Flint 1972). A similar survey, conducted in 1971 by members of the Cyprus Ornithological Society (Flint 1972), caused considerable concern among ornithologists since it appeared to indicate a definite decline in the falcon population at Akrotiri Cliffs (11-13 pairs in 1971 compared to 24 pairs in 1958, see Table 1). At Cape Gata, only 30-40 pairs were estimated in 1971, whereas W R P Bourne had estimated 100-250 pairs in 1958. Flint (1972) discusses the circumstances of Bourne's observation and concludes that it was 'almost certainly a considerable over-estimate'. On the other hand, Bourne's census of the Episkopi colony may have been 'a slight under-estimate' (Flint 1972). In any case, due to the many observers and their various census techniques, it is quite impossible to establish the actual population dynamics of the Cyprus colonies over the past 20 breeding seasons. The tabulation of the data and their sources (Table 1) permits, however, the following conclusions:

1. The three breeding colonies on Cyprus have had fairly stable breeding populations between 1958 and 1977. No definite fluctuations have been documented with certainty. It is likely that the differences between successive breeding seasons reflect more on the census techniques of individual observers than on the population dynamics of the species.

2. Data from previous surveys conducted from the ground or sea are more likely to have under than over-estimated the falcon population.

3. The total breeding population of Eleonora's Falcon on Cyprus consists of at least 85-100 pairs.

Breeding Success

Our breeding data from Episkopi and Akrotiri Cliffs represent the lowest known breeding success for this raptor. It is quite unfortunate that we do not have any data from prior years regarding clutch size, number of young and fledglings. It would be quite important to know whether the present data (1977) have had parallels in the past or whether they have only developed in recent years. Comparable data from the southern Aegean Sea and from Atlantic colonies lie between 2.60 and 1.26 fledglings/pair (Walter 1979), considerably higher than the 1.0 fledglings/pair value that we have found in the Cypriot colonies. This low breeding success may result from an extremely low clutch size and/or a high rate of loss of eggs and young. An adaptation to low prey numbers, a high rate of infertility due to biocides, nest predation, young age of the breeding population, and miscellaneous disturbance factors at the breeding sites could be responsible for the following observed facts: many pairs had no young, and at Akrotiri more than 50% of the pairs with young had only a single young. This is very disturbing, indeed, and similar to findings elsewhere: genuine clutches with one egg have become more common in Morroccan (Clark & Peakall 1977) and in Aegean colonies (Walter 1979) during the 1960's and 1970's. The cause of this trend is still unclear. If we were able to determine whether most of the single young hatched from single egg clutches, then the Cypriot colonies would offer the best opportunity for an in-depth study of this new trend. Our data do not settle any questions. They are likely to raise more: Will this low reproductive rate continue? If so, in what way will this affect the population status of the Cypriot colonies?

Human Impact

The reassuring news of the stable population size between 1958 and 1977 has to give way to new concern about the future success of Eleonora's Falcon on Cyprus. There is a good possibility that direct and indirect human impact may have begun to affect the population at Akrotiri Cliffs. Here, the falcons breed within a military base, close to an often heavily used runway for military aircraft. So far there is no proof that these birds cannot tolerate the accompanying noise levels. Other activities may, however, affect them more directly. Frequent blasting at a quarry near Cape Gata has destroyed some of the western cliff parts in recent years. Several pairs appear to have lost their breeding habitat but seem to have resettled further east at the same location. An increasing number of personnel from the military base spend some of their free time near the cliff-top. This includes juveniles. Rubbish, and bottles have been discarded from the cliff tops and fallen on various ledges. The large dead falcon chick that we found at Beverley Cliff may have been killed on purpose or accidentally with a glass bottle lying nearby. A general rubbish dump lies close to the cliffs. Hopefully, no policy will be issued to dump garbage into the sea as has occurred at other colonies of Eleonora's Falcon (Walter & Deetjen 1967).

Perhaps the greatest potential danger to the falcon colony lies in the proliferation of rats close to human settlements and rubbish dumps. As soon as a rat population colonizes the breeding cliffs, some 10-30% of the falcon's clutches may be lost to these predators (Walter 1979). The severe application of pesticides in the Mediterranean may also reduce the breeding success of Eleonora's Falcon. Chemicals are often sprayed in high concentration over olive and citrus groves in early summer, exactly when Eleonora's Falcon is insect-hawking in such habitats (Vaglianos, 1977).

The welfare of Eleonora's Falcon has been of considerable concern to the RAF at Akrotiri, and we are confident that they will do everything possible to ensure the future health of the breeding populations. We are less certain about what will happen when the military base is turned over to the Cypriot Government. We can only hope that Cyprus having honoured Eleonora's Falcon on one of its postage stamps just a few years ago, will demonstrate similar interest and concern.

ACKNOWLEDGEMENTS

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SUMMARY

The three breeding colonies of Eleonora's Falcon (Falco eleonorae) in Cyprus were surveyed from the air by helicopter in September of 1977. This paper discusses the usefulness of this census technique, and reports on the population dynamics and the reproductive success of Eleonora's Falcon. The total breeding population appears to have been quite stable between 1958 and 1977, amounting to c. 85-100 pairs. The reproductive success was exceptionally low in 1977. This and the increasing human impact in the breeding and hunting environments of this raptor in Cyprus call for a determined and organized protection effort of this most easterly breeding population of Eleonora's Falcon.

REFERENCES

Bannerman, D A & Bannerman W M, 1958. Birds of Cyprus. Edinburgh and London

_____. 1971. Handbook of the birds of Cyprus and migrants of the Middle East. Edinburgh.

Clark, A L & Peakall, D B, 1977. Organochlorine residues in Eleonora's Falcon Falco eleonorae, its eggs and its prey. Ibis 119: 353-358.

Flint, P R, 1972: (Census of the known colonies of Eleonora's Falcon), in 'Cyprus Ornithological Society: 2nd Bird Report 1971', Appendix 2, pp 120-123, ed, P Neophytou, Nicosia.

Lilford, Lord 1889. A list of the birds of Cyprus. Ibis (6) 1: 305-350.

Neophytou, P (ed), 1971. Cyprus Ornithological Society: First bird report 1970. Nicosia.

_____. 1972. Cyprus Ornithological Society: Second bird report 1971. Nicosia.

_____. 1973. Cyprus Ornithological Society: Third bird report 1972. Nicosia.

_____. 1974. Cyprus Ornithological Society: Fourth bird report 1973. Nicosia.

_____. 1976. Cyprus Ornithological Society: Fifth bird report 1974. Nicosia.

Vaglianos, C M, 1977. Changes in bird population due to the effects of an extensive campaign of aerial spraying against the 'Olive fruit fly' (Dacus oleae) in the plain of Messara, Crete. Nature Newsletter Hell, Soc, Prot. Nature, No 10/11.

Vaughan, R, 1961. Falco eleonorae. Ibis 103a: 114-128.

Walter, H, 1978. World directory of breeding locations of Falco eleonorae. Los Angeles.

_____. 1979. Eleonora's Falcon: Adaptations to prey and habitat in a social raptor. Chicago and London. In press.

Walter, H & Deetjen, 1967. Une nouvelle colonie du Faucon d'Eleonore (Falco eleonorae) au Maroc. Alauda 35: 106-107

Table 1: Falco eleonorae in Cyprus

Observation Date	Location			Source
	Cape Aspro	Episkopi	Akrotiri Cliffs	
May 1875			several pairs	Lilford (1889)
July-Oct 1957			15-25 pairs	D S Wilstead in Bannerman & Bannerman (1958)
Oct 1958	100-250 pairs	12-18 pairs	2 colonies of 12 pairs each	W R P Bourne in Flint (1972)
1966			20-22 pairs	Flint (1972)
Sep-Oct 1970		24 individual	20 individual	Neophytou (1971)
Sep 1971	c. 30-40 pairs	c. 21-23 pairs in two colonies	13-13 pairs	Flint (1972)
Oct 1972	Census of all three locations reveals c. 200 birds			Neophytou (1973)
Aug-Sep 1973	22 individual	10 individual	39 individual	Neophytou (1974)
Aug 1975			71 falcons seen from a boat	this study (from RAF data, unpublished)
Sep 1977	c. 40-50 pairs (helicopter survey)	15 young in 8 nest sites; 35 adults seen; 20-25 pairs estimated (helicopter survey)	20 young in 13 nest sites; 50 adults and 3 immature seen; minimum of 25 pairs estimated (ground and helicopter survey)	this study

RAFOS EXPEDITION TO BERLIN, JUNE 1978

INTRODUCTION

The Royal Air Force Ornithological Society mounted an Expedition to Berlin in June 1978. This report summarises the ornithological results, while an earlier report (1) described in greater detail the planning, deployment, execution, administration and recovery of the Expedition.

A list of the members of the Expedition appears at Annex A, and the Recorder's report at Annex B. At Annex C there is a list of the species of birds that were seen and of mammals and reptiles at Annex D. A map of the area around Gatow is reproduced at Annex E and Annex F lists the results of a comprehensive count of the birds on Gatow Airfield on 18 Jun 78.

GEOGRAPHY

West Berlin covers an area of 480km^2 and is on the same latitude as London and the same longitude as Naples. The area is flat, with an elevation of 35-50 metres. It has a border of 128km with the German Democratic Republic and 52km with East Berlin. About half of the area is built up, and the environs are remarkable for their extensive woodlands (16% of the area) and large stretches of water (6.5%). Farmland, parks and cemetries account for about 15% of the area. Its location on a plain is associated with continental air mass weather, but the air changes rapidly and sweltering heat and air pollution are quickly dispersed. The mean summer temperature is 23^{o}C and the winter is milder than in West Germany. Fog is rare, and the sandy soil, lakes and forests make an especially good climate.

The pressure on the countryside is considerably less than in England. The large areas of woodland include mature pine forests and there are many locust trees, especially along the roadsides. In the border areas and in East Germany there are many uncultivated patches of land, margins and corners where grasses and scrub grow. Cornflowers and poppies grow in profusion amongst the crops even in West Berlin, indicating that fertilizers and pesticides have not been used as extensively as in England. Other wild flowers, butterflies and insects are also plentiful.

The Expedition was based at RAF Gatow and concentrated its activities on the airfield and its surroundings (Annex E). The camp is spacious with pine woods between the hangars and the buildings. In these the Gatow Wildlife Society has 67 nest boxes (BTO type A1, A2, A10, B3, C1) and had erected a hide overlooking a water-hole. The northern part of the airfield is partly farmed and includes some rough ground, and adjoins some sand pits and rubbish dumps. Around the golf course and along the roads are mature trees and well tended gardens, with plenty of variety of habitat and much edge effect.

To the North East of the camp lie the Gatow Forest, a mature pine plantation and the Rieselfelder (Sewage Farm), a partially used area of settling pits with much rank vegetation and many elder bushes. The border with East Germany runs across the North West and through the Glienicker See, and an observation post overlooks the Kleiner See, an undisturbed wetland on the other side of the border. There is another small wetland at the Kladow Pond; and the Havel, to the south, is a very large waterway used by barges and pleasure craft.

AIM

The aim of the Expedition was to conduct an ornithological survey of RAF Gatow and the area adjacent to it.

PLANNING

Berlin was proposed as a suitable site for an Expedition by Flt Lt Derek Elliott. He was stationed at RAF Gatow and was Chairman of the Gatow Wild Life Society. He was also warden of Wilson's Retreat, one quarter of a large accommodation block in a quiet part of RAF Gatow which had been set aside for use by Scouts and voluntary organisations. It is fully furnished and self-contained, and here the Expedition was accommodated.

The Expedition comprised 14 serving members of RAFOS all stationed in the UK, and 2 ladies. Two of the team had served at RAF Gatow a few years earlier, and had an extensive knowledge of the area and its fauna. Only 18 members applied to join the party in response to the trawl, and there were no novices on the Expedition. Consequently no formal field instruction was required, but all benefitted from the exchange of notes, news, queries and methods that occurred in the field and during the regular evening call over. Three applicants withdrew and one place went unfilled. It is regrettable that more members did not apply to join, and especially that more novices did not apply, as it is the policy of the society to include a proportion on each Expedition in order to provide training and a succession of experienced members for the future.

After obtaining advice from Mr Robert Spencer at the BTO, an approach was made to the Vogelwarte Radolfzell and then to the Chairman of the Ornithologische Beobachter Gruppe Berlin in the hope that the Expedition would be able to ring birds in Berlin. Unfortunately this proved impossible as the German regulations preclude trapping during the breeding season and as licenses are not given to short term visitors.

The expedition was not classed as arduous under the terms of DCI S66/75, but nonetheless it provided practice in Expedition training. Small groups explored the area on foot throughout the hours of daylight and on some occasions at night as well. The party catered for itself, using service rations.

EXECUTION

The team assembled at the Joint Services Air Trooping Centre at Hendon on the evening of 6 June 78 and flew from Luton to Gatow in a Boeing 737 of Brittania Airways, apart from the ladies who flew from Heathrow to Berlin Tegel. On each subsequent day the team was divided into parties of 2-6 which either made one outing before breakfast, one in the morning and one after lunch; or one before breakfast and an all day outing after breakfast. As the middle of the day proved to be the least interesting part ornithologically, as members started to show signs of fatigue after a few days, and as the rations were not ideal for packed lunches, it was found after a few days that a cooked lunch at base was welcome. The routes which were used are marked on the map at Annex E.

On the morning of Sunday, 18 Jun 78, a count of the birds on the airfield was made in conjunction with the Gatow Wildlife Society. After supper each day, a call over was held at which the Recorder co-ordinated the sightings by each party during the day. Doubtful birds were fully described and discussed, and field notes examined.

On one evening a dusk sortie was made in an attempt to find crepuscular and nocturnal birds. Success was so small however that this was not repeated, but one member successfully located and identified some Long-eared Owls.

Following the call over, ornithological entertainment of various species was offered. On one evening the recorder showed slides of warblers in the hand, and this proved useful in the field identification of warblers at Gatow on other evenings. Chf Tech Bodley showed slides of birds ringed during an expedition on the East Coast of Malaya, Chf Tech Bean showed slides taken on the RAFOS expedition to Masirah in 1976, and Flt Lt Elliott showed slides of the RAFOS expedition to the Shetland Isles in 1975. On 14 Jun 78 the Gatow Wildlife Society presented a film show, which included "Kites are Flying", "The Birds of Strathspey", and "Takapoo", a new Zealand film about the Gannet. The society played records of birdsong from the Peterson set of recordings on two evenings, and on one evening Flt Lt Thomson led a very stimulating discussion on conservation at RAF stations and methods of recording suitable for use by station clubs. On the final evening a most splendid barbecue was held with the Gatow Wildlife Society around a campfire at Wilson's Retreat, where two guitarists sang folk songs.

A certain amount of sightseeing was included in the programme. On Sunday, 11 Jun 78, eleven members of the team were included in a conducted tour of East Berlin, run by Gatow and lasting four hours. The sights of both West and East were seen - Spandau prison, the Charlottenburg Castle, the Olympia Stadion, "Naafiplatz", the Reichstag, Checkpoint Charlie and the Berlin Wall, the S Bahn, Unter den Linden and three war memorials. On Monday, 19 Jun 78, eleven members travelled on the military train, the "Berliner", from Charlottenburg station to Brunswick and back, a distance of 145 miles each way, passing through Potsdam, Brandenburg, Magdeburg, Marienborn and Helmstedt. Stork's nests were seen on chimney pots, Red Kites were well seen quite close to the train, and many Buzzards and roe deer. Most of the team also visited West Berlin on one other occasion, to see the zoo, the botanical garden, the Checkpoint Charlie museum or to shop. Most also flew as passengers on a Hercules on circuits of Gatow or in a Gazelle of 7 Flt AAC on border patrols.

Excellent relations were enjoyed with RAF Gatow, which is to be congratulated and thanked for the splendid co-operation afforded to RAFOS. Gatow Wildlife Society assisted the expedition in many ways, and Mrs Chapman in particular did a great deal to help the team, and accompanied it on the majority of days. Contact was not made with the Army Bird Watching Society's representative in Berlin, as he was away on holiday, nor was any further contact made with local German Ornithologists. It proved to be too expensive to attend the International Ornithological Congress which was held in Berlin in June.

RESULTS

The recorder's report is at Annex B and a systematic list of birds seen is at Annex C.

Nest record cards were completed for all the nests that were found and have been submitted to the BTO.

Nearly all members of the expedition had cameras, and three of them had very good equipment. Four hides were available. A substantial amount of time was spent in photography, and suitable illustrations were available for presentation at the AGM.

One portable tape recorder was available, but this was not a specialist equipment. Interesting recordings were made of the species which are not often heard in England, such as the Golden Oriole, the Great Reed Warbler, and the Icterine Warbler. The Marsh Warbler and the Nightingale were singing extensively in the area. Recordings were also made of birds whose song differed from that of the same species in England, especially the Blackcap and the Chaffinch.

For most members of the team the expedition provided the first chance of seeing the Black Woodpecker and of seeing the Great Reed Warbler and the Icterine Warbler in song. The ease with which the Great Spotted Woodpeckers and Green Woodpeckers could be watched and the many nests and family parties found demonstrated how abundant these species are and how plentiful is their habitat. Frequent magnificent views of the Marsh Harriers and Red Kite hunting on the airfield provided a thrill for even the most blase watcher, and the nesting Kestrels provided constant interest right on the doorstep. The song of the Golden Oriole and Nightingale became common place and Redstarts and Black Redstarts were almost taken for granted. Crested Tits, Hawfinches and Crossbills were not easy to observe in the pine trees, but the Red Backed Shrikes on the Rieselfelder were the reverse. In Gatow Forest the display of the Tree Pipits was a continuing delight.

Gatow airfield now holds nesting pairs of Marsh Warblers whereas none were recorded there a few years earlier. Redstarts, Lapwings, Icterine Warblers and Tree Sparrows are more abundant than before, and the Serin may have increased in numbers too. Kladow Pond used to hold many warblers, but little was found there by this expedition. Many Pied Flycatchers were seen in Gatow Forest, but it was surprising to find no Dunnocks and few Song Thrushes, to find the Robin so skulking and the Wren so unobtrusive.

CONCLUSION

No detailed review of the birds of Berlin existed until 1978. The expedition made a thorough survey of the birds in the Gatow area, and this will be of use to servicemen in Berlin. The 1978 International Ornithological Congress held in Berlin, prompted the Ornithologischer Bericht fur Berlin (West) to publish a detailed review entitled "Die Vogen in Berlin (West): Eine Ubersicht" (Bruch, Elvers, Pohl, Westphal and Witt). This splendid publication provides comprehensive details of the status and history of all the species of the area and is compulsory reading for all ornithologists who visit Berlin. A copy is held in the RAFOS library. The expedition wished it had been published earlier. The Berlin ornithologists have shown interest in the RAFOS survey as it covers an area which is not open to the public and hence complements surveys of the rest of Berlin.

The expedition was a great success in that it provided excellent sightings of birds which are rarely or never seen in the United Kingdom. Morale was high and all learned from working together.

ANNEX A

EXPEDITION TO BERLIN, JUNE 1978

LIST OF MEMBERS

Major D J R Counsell	Fort Halstead	(Leader)
Flt Lt D Elliott	RAF Gatow	(Local Organiser)
Flt Lt I W Thomson	RAF Institute of Aviation Medicine, Farnborough	
Flt Lt W A C Lloyd	RAF Wattisham	
Fg Off D A Roberts	RAF Innsworth	
Fg Off A M Smith	RAF Bishops Court	
WO F G Smith MBOU	RAF Binbrook	(Recorder)
Chf Tech D W Bodley	RAF Locking	
Miss A V Richardson		
Chf Tech P G Bean	RAF Locking	
Chf Tech M H Rodgers	RAF Valley	
Chf Tech B T Priaulx	RAF Brawdy	
Sgt P L Tithecote	RAF Brawdy	
Cpl G S Pudney	RAF Locking	
Jnr Tech G Morgan	RAF St Athan	
SAC K Heron	RAF Stanbridge	

EXPEDITION TO BERLIN, JUNE 1978

RECORDER'S REPORT

1. The systematic list of bird sightings at Annex C is the result of thirteen days intensive study of RAF Gatow and its environs. The map at Annex E indicates the area covered, which was divided into four main observation sectors, namely:

a. Sector 1: RAF Gatow (Airfield and Domestic Site, and the Havel).

b. Sector 2: Gatower Heide.

c. Sector 3: The Observation Post and the Clienicker See.

d. Sector 4: Rieselfelder (Sewage Farm Area).

2. The sectors were chosen to give the best overall coverage of the different avian habitats available, which are typically dry grassland, conifer and deciduous woodland, wetlands and water margin, and cultivated farmland. Expedition members were formed into small groups, each of three or four members, and the ornithological expertise within the expedition was divided among the smaller groups. By this method a well balanced team was created out of each small group, and this led in turn to a consistently high identification and recording level. Field notes and sketches were made whenever a subject of particular interest was seen, whether it was identified immediately or not. Times of sightings and direction of flight details were also taken whenever raptor or high flying species were encountered; this method of recording helped to obviate any double recording.

3. The ornithological knowledge within each group, according to comments received before the end of the expedition, helped the less experienced in every way to further their birding knowledge, which was the first aim of the expedition.

4. The call over of sightings at the end of each day was undertaken in the strictest fashion. Any doubtful sightings were discussed at length but left unrecorded until either confirmed by subsequent sightings or disproved. Where in one or two cases neither action was possible the reported sighting has been ignored as far as recording purposes are concerned; very few reports fell into this category, most being fully substantiated.

5. Sectors 1 to 4 were covered by different working groups each day in turn. This method of coverage ensured that all members were given the opportunity to explore all available habitats and to build up their own picture of the complete wildlife content of the area under scrutiny. A list of the wild animals seen during the expedition is recorded at Annex D, including a list of the wildlife seen from the Military Train when travelling from Berlin to Brunswick through East Germany.

6. At Annex F is a list of the birds counted within the airfield boundary, between 0800 and 1200 hrs on Sunday 18 Jun. This census was undertaken as a combined effort by the Gatow Wildlife Society and the RAFOS expedition.

7. The systematic list at Annex C is based on "A List of the Birds of the Western Palearctic", as used by the British Trust for Ornithology.

ANNEX C

EXPEDITION TO BERLIN, JUNE 1978

SYSTEMATIC LIST OF BIRDS SEEN

Species names in English, Latin and German.

Orders of numbers:

Order 1	1- 9 birds
Order 2	10- 99 birds
Order 3	100- 999 birds
Order 4	1000- 9999 birds
Order 5	10000-99999 birds

GREAT CRESTED GREBE — Podiceps cristatus — Haubentaucher

Present throughout 7-20 Jun, on the Havel and Glienicker See. 41 adult birds on Glienicker See 17 Jun. Order 2

CORMORANT — Phalacrocorax carbo — Korm oran

One sighting on Glienicker See 10 Jun. Order 1

GREY HERON — Ardea Cinerea — Fischreiher

Sightings on or near Kleiner See 8-20 Jun. Three birds present on airfield 20 Jun. Order 1

BLACK STORK — Ciconia nigra — Schwarzstorch

Two birds seen flying from North to South over Kleiner See. 15 Jun. Order 1

WHITE STORK — Ciconia ciconia — Weissstorch

Two birds flying North-Easterly over Sewage Farm 9 Jun. Order 1

STORK Sp

One unidentified stork flying south over Glienicker See area 20 Jun.

MALLARD — Anas Platyrhynchos — Stockente

Reported daily 8-20 Jun, The Havel, Glienicker See, Kleiner See Order 2

TEAL — Anas crecca — Krickente

Present on Kleiner See 8-20 Jun, both male and female. Order 1

SHOVELER — Spatula clypeata — Loffelente

Two sightings of male in eclipse plumage, Kleiner See 16-17 Jun. Order 1

POCHARD — Aytaya ferina — Tafelente

Sightings of both male and female on the Kleiner See 12, 14, 15 Jun. Male only observed at the same location 16-17 Jun. Order 1

MUTE SWAN — Cygnus olor — Hockerschwan

Present 7-20 Jun, in varying numbers, at the Havel and Glienicker See. Order 2

BUZZARD — Buteo buteo — Mausebussard

Daily sightings 7-20 Jun. Numbers suggest the presence of three pairs in the area covered by the expedition. Order 1

SPARROWHAWK — Accipiter nisus — Sperber

Three sightings recorded, single birds being observed on all occasions; female on 10 Jun, male on 12 and 13 Jun. Order 1

RED KITE — Milvus milvus — Roter Milan

Single sightings over the area daily, with the exception of 11, 19 Jun. Order 1

BLACK KITE — Milvus Migrans — Schwarzmilan

Single birds seen 7, 8, 9, 16 and 20 Jun. Order 1

HONEY BUZZARD — Pernis apivorus — Wespenbuzzard

One observation only, flying South-North over the Kleiner See 17 Jun. Order 1

MARSH HARRIER — Circus aeruginosus — Rohrweihe

Two pairs present. One pair nesting on the edge of the Kleiner See, the other pair nesting near the Southern end of the Glienicker See. Order 1

HOBBY — Falco subbuteo — Baumfalke

Single sightings over Kleiner See and the Airfield areas 10, 14, 17, 18 Jun. Two birds observed flying together over the Airfield, 20 Jun. Order 1

KESTREL — Falco tinnunculus — Turmfalke

Two nesting pairs with pulli were observed 7-18 Jun; one pair reared four young in a hole in the Station Headquarters Building, a second pair reared four young in an aircraft hangar. Order 2

PARTRIDGE — Perdix perdix — Rebhuhn

Daily sightings in the Sewage Farm area, one pair with 14 pulli observed on 14 Jun. Order 2

PHEASANT — Phasianus colchicus — Fasan

Sightings of single birds in two locations, (Kleiner See and Sewage Farm) 8, 12, 15, 16 and 20 Jun. Order 1

MOORHEN — Gallinula chloropus — Teichhuhn

Single sightings, recorded at the Kleiner See or Glienicker See, with exception of the following dates: 7, 8, 9, 11, 18 and 19 Jun. Order 1

COOT — Fulica atra — Blasshuhn

Recorded daily 8-20 Jun on the Havel, Glienicker See and Kleiner See. Order 2

LAPWING — Vanellus vanellus — Kiebitz

Sightings daily either over the airfield or in the Sewage Farm area. High numbers recorded 8 Jun (circa 50 on airfield and 4 at Sewage Farm). Order 2

SNIPE — Gallinago gallinago — Bekassine

One sighting only of a single bird at the Kleiner See on 20 Jun. Order 1

BLACK-HEADED GULL — Larus ridibundus — Lachmowe

Present daily over the whole area; 36 on airfield 17 Jun. Order 3

WOODPIGEON — Columba palumbus — Ringeltaube

Present daily throughout the period 7-20 Jun. Order 3

COLLARED DOVE — Streptopelia decaocto — Turkentaube

Present in varying numbers and sighted daily at the Sewage Farm and other locations. Order 2

CUCKOO — Cuculus canorus — Kuckuck

Heard and seen daily in all locations, a male and red phase female on numerous occasions at or near the Kleiner See. Order 1

TAWNY OWL — Strix aluco — Waldkauz

Two sightings, both in the vicinity of the Station Sick Quarters 9 and 13 Jun. Order 1

LONG-EARED OWL — Asio otus — Waldohreule

Recorded on 15, 18, 19 Jun. The sighting on 15 Jun was in daylight. Owl watches and recording sessions undertaken over the period 15-19 Jun between 2100 and 2300 hours suggest the presence of young owls. Order 1

SWIFT — Apus apus — Mauersegler

Recorded daily. Large numbers over the cereal fields North of Gatower Heide. Order 3

GREEN WOODPECKER — Picus viridis — Grunspecht

Daily sightings recorded. Family groups were active in the camp area, around the Golf Club and in the nearby woodland. Order 1

GREAT SPOTTED WOODPECKER — Dendrocopus major — Buntspecht

Recorded daily, 7-20 Jun. Several nests were found, even in the school playground and family groups were encountered wherever sufficient trees afforded food and habitat. Order 2

MIDDLE SPOTTED WOODPECKER — Dendrocopus medius — Mittelspecht

Three sightings in the same general area, by independent groups on the 8, 12 20 Jun, suggest the presence of this species. Order 1

LESSER SPOTTED WOODPECKER — Dendrocopus minor — Kleinspecht

Single birds sighted at the Observation Post, on three occasions. Other sightings reported from Gatower Heide, where a family group of five birds was encountered on 17 Jun. Order 2

BLACK WOODPECKER — Dryocopus martius — Scharzspecht

Reported daily with the exception of 9, 10, 18 and 19 Jun. Full grown and juvenile birds seen, and nest holes found. Order 1

WRYNECK — Jynx torquilla — Wendehals

Single sighting. One bird near the Havel, 12 Jun. Order 1

CRESTED LARK — Galerida cristata — Haubenlerche

One seen only, on Northern side of airfield, 18 Jun. Order 1

WOODLARK — Lullula arborea — Heiderlerche

Family group present, found daily at North-Eastern end of main runway. Other single sightings from Gatower Heide. Order 2

SKYLARK — Alauda arvensis — Feldlerche

Recorded daily, nesting on airfield, also found in the Sewage Farm and other arable areas. Order 2

SWALLOW — Hirundo rustica — Rauchschwalbe

Sightings daily, observed in varying numbers from all areas. Order 3

HOUSE MARTIN — Delichon urbica — Mehlschwalbe

Breeding colony on Gatow Camp. Present daily 7-20 Jun. Photographed collecting mud from a pool by Wilson's Retreat. Order 3

SAND MARTIN — Riparia riparia — Uferschwalbe

Sand pits on Northern side of airfield hold breeding colony. Reported daily 7-20 Jun. Order 3

GOLDEN ORIOLE — Oriolus oriolus — Pirol

Daily sightings reported, one pair nesting in small spinney on station golf course. Other single reports covering the whole area. Order 1

HOODED CROW — Corvus Corone cornix — Nebelkrahe

Present daily 7-20 Jun; morning and evening gatherings of circa 200 on runways. Order 3

ROOK — Corvus frugilegus — Saatkrahe

Single birds sighted 7, 10, 12, 13, 16 Jun. Seven seen feeding in rubbish tip on northern side of airfield, 18 Jun. Four observed at the Sewage Farm 17 Jun. Order 2

JACKDAW — Corvus monedula — Dohle

Two were seen in the main camp area on 7 Jun; no further sightings were made within the area under review. Order 1

MAGPIE — Pica pica — Elster

Observed daily in all sectors 7-20 Jun. Order 1

JAY — Garrulus glandarius — Eichelhaher

Daily sightings reported from all sectors 7-20 Jun. Order 2

GREAT TIT — Parus major — Kohlmeise

Present throughout period 7-20 Jun. Found in all sectors, family groups continuously moving and feeding. Order 3

BLUE TIT — Parus caeruleus — Blaumeise

Reported daily 7-20 Jun in all sectors Order 3

COAL TIT — Parus ater — Tannenmeise

Reported daily 7-20 Jun. Order 3

CRESTED TIT — Parus cristatus — Haubenmeise

Reported daily 7-20 Jun. Order 2

MARSH TIT — Parus palustris — Sumpfmeise

Least plentiful of the Tit families. Sightings reported 10, 12, 13, 15, 16 and 17 Jun. Order 2

WILLOW TIT — Parus montanus — Weidenmeise

Sightings reported daily with the exception of 7, 13, 14 and 17 Jun. Order 3

LONG-TAILED TIT — Aegithalos caudatus — Schwanzmeise

Daily sightings. Both northern race (A.c.caudatus) and western race (A.c.rosaceus) present. Order 3

NUTHATCH — Sitta europaea — Kleiber

Sightings recorded daily 9-19 Jun. Order 2

TREECREEPER	Certhia familiaris/ brachydactyla	Waldbaumlaufer/ Gartenbaumlaufer
Reported daily 7-20 Jun. One nest found.		Order 2
WREN	Troglodytes troglodytes	Zaunkonig
Seen andheard daily throughout period 7-20 Jun.		Order
SONG THRUSH	Turdus philomelos	Singdrossel
Reported daily, comparatively small numbers present. Very shy.		Order 2
BLACKBIRD	Turdus merula	Amsel
Daily sightings 7-20 Jun.		Order 3
WHEATEAR	Oenanthe oenanthe	Steinschmatzer
Reports of a single male, near sand pits on northern side of airfield 9, 10, 16, 18 Jun.		Order 1
WHINCHAT	Saxicola rubetra	Braunkehlchen
Daily reports, small numbers in Sewage Farm and Airfield areas.		Order 2
REDSTART	Phoenicurus phoenicurus	Gartenrotschwanz
Sightings reported daily, pairs nesting and feeding in all sectors.		Order 2
BLACK REDSTART	Phoenicurus ochruros	Hausrotschwanz
Three confirmed nesting pairs within the airfield boundary.		Order 2
NIGHTINGALE	Luscinia megarhynchos	Nachtigall
Seen and heard in all locations 7-20 Jun.		Order 2
ROBIN	Erithacus rubecula	Rotkehlchen
Recorded daily 7-20 Jun.		Order 2
GRASSHOPPER WARBLER	Locustella naevia	Feldschwirl
Recorded daily from the vicinity of the Kleiner See.		Order 1

REED WARBLER — Acrocephalus scirpaceus — Teichrohsanger

Daily sightings from several locations, Kleiner See, Glienicker See, Sewage Farm and the Havel 8-19 Jun. Order 2

MARSH WARBLER — Acrocephalus palustris — Sumpfrohrsanger

Two nesting pairs recorded on the airfield. Daily sightings from other locations 8-19 Jun Order 2

SEDGE WARBLER — Acrocephalus shoenobaenus — Schilfrohrsanger

Recorded daily 10-20 Jun, Kleiner See area. Order 1

GREAT REED WARBLER — Acrocephalus arundinaceus — Drosselrohrsanger

One pair at Glienicker See, other single sightings at the Havel. Order 1

ICTERINE WARBLER — Hippolais icterina — Gelbspotter

Found singing and recorded daily from all locations. Nesting pair near Glienicker See. Order 2

BLACKCAP — Sylvia atricapilla — Monchsgrasmucke

Sightings daily, found in most localities 8-20 Jun. Order 2

GARDEN WARBLER — Sylvia borin — Gartengrasmucke

Sightings daily 8-20 Jun. Order 2

WHITETHROAT — Sylvia communis — Dorngrasmucke

Daily sightings, recorded in all localities 7-20 Jun. Several nests found. Order 2

LESSER WHITETHROAT — Sylvia curruca — Klappergrasmucke

Found in two locations, Kleiner See area and Sewage Farm. Seen daily. Order 1

WILLOW WARBLER — Phylloscopus trochilus — Fitis

Plentiful in all areas, recorded daily. Order 3

CHIFFCHAFF — Phylloscopus collybita — Zilpzalp

Plentiful in all areas, recorded daily. Order 3

WOOD WARBLER — Phylloscopus sibilatrix — Waldlaubsanger

Recorded on 9, 11, 12, 13, 16, 17 Jun, two localities only, Gatower Heide and Camp Woods. Scarce. Order 2

GOLDCREST — Regulus regulus — Wintergoldhahnchen

Recorded on 11, 17 and 20 Jun only. Very local, Gatower Heide. Scarce, not more than 3 birds seen at any one time. Order 1

SPOTTED FLYCATCHER — Muscicapa striata — Grauschnapper

Daily sightings, 8-20 Jun. Order 2

PIED FLYCATCHER — Ficedula hypoleuca — Trauerschnapper

Plentiful throughout whole of the area, nesting in boxes in many gardens. Recorded daily 7-20 Jun. Order 3

MEADOW PIPIT — Anthus pratensis — Wiesenpieper

Sightings reported on 14 and 17 Jun, never more than two birds seen. Scarce. Sewage Farm and Gatower Heide only. Order 1.

TREE PIPIT — Anthus trivialis — Baumpieper

Display flight and song recorded daily 8-20 Jun. Gatower Heide area. Order 2

TAWNY PIPIT — Anthus campestris — Brachpieper

Single sighting, 18-19 Jun, northern edge of airfield, seen by most of the expedition members. Order 1

WHITE WAGTAIL — Motacilla alba — Bachstelze

Recorded daily from all areas, particularly large concentration on the North Eastern end of the main runways, also in Gatower Heide on stacked pit props. Order 3

BLUE-HEADED/YELLOW WAGTAIL — Motacilla flava — Grunkopfige/ Schafstelze

Sightings daily at the Sewage Farm; occasional sighting on the airfield. Order 1

RED-BACKED SHRIKE — Lanius collurio — Neuntoter

A pair present at the Sewage Farm and a male at the Runway threshold. Recorded daily 8-20 Jun. Order 1

STARLING — Sturnus vulgaris — Star

Recorded daily from all areas, plentiful on the airfield. Over 400 counted. Order 4

HAWFINCH — Coccothraustes coccothraustes — Kernbeisser

Sightings on 9, 14, 16, 17 Jun, 1-2 birds on all occasions. Order 1

GREENFINCH — Carduelis chloris — Grunling

Daily sightings 7-20 Jun, all localities. Family groups much in evidence. Order 3

GOLDFINCH — Carduelis carduelis — Stieglitz

Recorded daily 7-20 Jun. Plentiful in the Sewage Farm area. One "charm" of over 3o birds on 10 Jun. Order 3

SISKIN — Carduelis spinus — Zeisig

One sighting only, on 10 Jun. Order 1

LINNET — Acanthis cannabina — Hanfling

Present in small numbers 7-20 Jun. Single birds and pairs found regularly in the Sewage Farm area. Order 2

SERIN — Serinus serinus — Girlitz

Recorded daily 8-20 Jun, most evident along the banks of the Havel and Glienicker See. Order 2

CROSSBILL — Loxia curvirostra — Fichtenkreuzschnabel

Three present near a nest, Gatower Heide, 8 Jun. Seven sighted in Camp Wood 14 Jun. Order 1

CHAFFINCH — Fringilla coelebs — Buchfink

Reported daily 7-20 Jun. Found throughout the whole area. Order 3

CORN BUNTING — Emberiza calandra — Grauammer

Daily sightings of single birds on the northern side of the airfield. Order 1

YELLOWHAMMER — Amberiza cintrinella — Goldammer

Recorded daily 8-20 Jun, the Sewage Farm area being its favourite habitat. Order 1

REED BUNTING — Emberiza schoeniclus — Rohrammer

Recorded on 8, 9, 10, 15, 16, 17 Jun at the Kleiner See and Sewage Farm. Order 1

HOUSE SPARROW — Passer domesticus — Haussperling

Recorded daily 7-20 Jun. Order 2

TREE SPARROW — Passer montanus — Feldsperling

Recorded daily 7-20 Jun. Plentiful, it appears to have pushed P.domesticus into second place throughout the area. Order 4

ANNEX D

EXPEDITION TO BERLIN, JUNE 1978

MAMMALS AND REPTILES FOUND IN THE GATOW AREA, 8-20 JUNE 1978

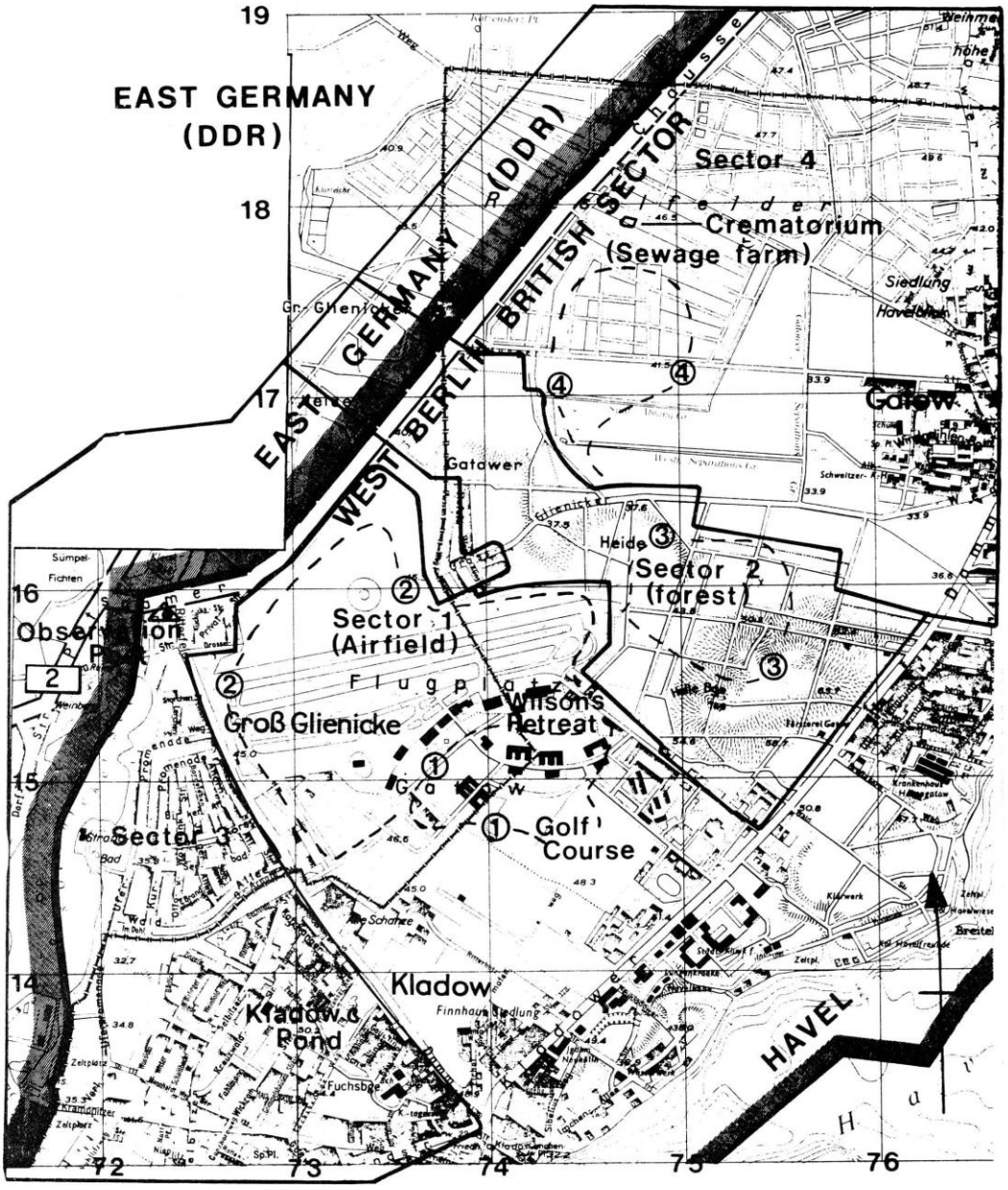
Hedgehog	Erinaceus europaeus
Common Shrew	Sorex araneus
Northern Mole	Talpa europaeus
Bat Sp	Chiroptera
Rabbit	Oryctolagus cuniculus
Brown Hare	Lepus europaeus
Red Squirrel	Sciurus vulgaris
Bank Vole	Clethrionomys glareolus
Water Vole	Arvicola terrestris
Field Vole	Microtus agrestis
Long-tailed Field Mouse	Apodemus sylvaticus
Yellow-necked Field Mouse	Apodemus flavicollis
Coypu	Myocastor coypus
European Wild Cat	Felix silvestris
Stoat	Mustela erminea
Common Red Fox	Vulpes vulpes
Sand Lizard	Lacerta agiliz
Common Lizard	Lacerta vivipara
Common frog	Rana temporaria

WILDLIFE SEEN FROM THE MILITARY TRAIN BERLIN-BRUNSWICK ON 19 JUNE 1978

Great Crested Grebe	Crested Lark	Roe Deer
Grey Heron	Swallow	Hare
White Stork	House Martin	Rabbit
Mallard	Carrion Crow	
Mute Swan with 9 cygnets	Hooded Crow	
Buzzard	Magpie	
Red Kite	Marsh Tit	
Harrier Sp	Nuthatch	
Kestrel	Treecreeper	
Partridge	Wren	
Pheasant	Redstart	
Moorhen	Black Redstart	
Coot	Marsh Warbler	
Lapwing	Willow Warbler	
Black-headed Gull	Icterine Warbler	
Woodpigeon	Spotted Flycatcher	
Cuckoo	White Wagtail	
Swift	Starling	
Great Spotted Woodpecker	Greenfinch	
Goldfinch	Chaffinch	
House Sparrow	Tree Sparrow	

Annex E

BERLIN GATOW
Scale 1:25,000



ANNEX F

EXPEDITION TO BERLIN, JUNE 1978

BIRDS COUNTED ON RAF GATOW AIRFIELD - 0800-1200 HRS SUNDAY 18 JUNE 1978

	Lower Limit	Higher Limit
Buzzard	1	4
Red Kite	1	1
Marsh Harrier	1	1
Kestrel	3	8
Partridge	1	2
Black-headed Gull	60	142
Woodpigeon	2	13
Swift	4	20
Great Spotted Woodpecker	4	4
Woodlark	1	1
Skylark	2	10
Crested Lark	1	1
Swallow	15	120
House Martin	5	24
Sand Martin	90	600
Golden Oriole	1	1
Hooded Crow	25	105
Magpie	2	8
Great Tit	3	3
Blue Tit	2	14
Nuthatch	1	1
Song Thrush	1	1
Blackbird	2	8
Wheatear	1	1
Whinchat	1	5
Black Redstart	1	3
Nightingale	1	1
Robin	1	1
Marsh Warbler	1	2
Whitethroat	6	11
Lesser Whitethroat	1	1
Willow Warbler	1	1
Chiffchaff	2	2
Tawny Pipit	1	1
White Wagtail	4	15
Blue-headed Wagtail	2	2
Starling	200	450
Greenfinch	1	4
Linnet	2	2
Serin	2	2
Chaffinch	1	1
House Sparrow	2	5
Tree Sparrow	5	90

FALCO ELEONORAE AT AKROTIRI CLIFFS, CYPRUS. 1978 STUDY AND CENSUS

by Richard Foers (1)

INTRODUCTION

Following the brief study and successful 1977 census of the Eleonoras Falcon colonies at Akrotiri, Episkopi, and Cape Aspro, a more detailed study was made during the summer of 1978 at the Riding Stables site at Akrotiri. This was followed by an airborne census restricted to the Akrotiri colony between 1100 and 1200 on 6th October 1978.

GENERAL BEHAVIOUR

The first bird to return was seen on 17th April and by 30th April 10 adults were counted. Although full counts of airborne birds at the colonies were only made during two field meetings of the Cyprus Ornithological Society, the dangers of trying to estimate populations from the land were again heavily underlined when compared with the airborne census. As in 1977 landborne counts proved heavily undercast, and a worthless means of assessing the total population. At only one site, near the Riding Stables, is it possible to see the entire nesting face of the cliff, and elsewhere no cliff face sightings are possible.

In the early summer birds tended to hunt inland and above the cliffs, usually in numbers of 4 or less. Once the breeding cycle was established interlopers were forcefully driven off. One kestrel was seen to be fiercely attacked by 4 falcons with bodily contact being made on several occasions.

As the eggs hatched in phase with the autumn migration, the adults started to hunt out to sea, usually between 500' and 1000'. A shallow, winnowing wing beat, climbing slowly into wind, characterised these dawn and dusk flights, before the birds turned and headed out to sea to hunt their prey. Sometimes singly, often in groups of 4 or 5, their tactics were to drive prey down into the sea, from where one of their number would retrieve it.

As the young matured the adults became less cautious around the nesting site, allowing close overflights by gulls if not raptors, and indulging in the superb flying displays reminiscent of their early summer versatility. Often they would gain height with slow, easy wing beats and then stoop with wings almost closed, at great speed, sometimes to land on the cliff face, more often to regain height from the acceleration of descent. Sometimes they played together, even to the extent of flying closely above and below each other alternately, sometimes touching talons as they passed. These falcons displayed a joy, variety and mastery of communal flight quite exceptional amongst their genre.

From the first flight of juveniles noted on 1st October, the last birds departed the colony by 28th October.

CONTROL NEST

The first eggs were noted in the control nest on 15th August, a clutch of 3 which hatched successfully by 5th September. The female appeared to do all the brooding, for the male was not seen on the nest during the visits made. The nest was parented by a light phase male and a dark phase female - the only dark phase bird on the cliff face. This eased identification. Of a total of 6 nests eventually located on the cliff face, no nests produced a dark phase young; the two surviving control young were light phase - unfortunately the third chick disappeared within a couple of days of hatching. One of the control young was undersized, but survived. The female seemed to do most of the feeding, although the male was once seen at the nest. On one occasion the female brought a lark/pipit species to the nest, and as she attempted to pluck it for her young it escaped and flew off. Feeding was generally confined to morning and evening, with the adults roosting in shade within easy reach of the nest during the day.

In comparison with other young on the cliff face the control young were about ten days younger than the majority of others, indicating the beginning of August as themost general date for laying, and the last week of August as an active hatching period. By the last week in September some of the other young were indulging in strenuous wing flapping exercise, and one pair of young flew on 1st October. It was not until 5th October that the undersized young in the control nest started wing flapping exercises.

The nest was situated on a ledge some 50ft above sea level - higher than the other nests on the cliff face, which were estimated at 45ft, 40ft, 30ft, 25ft and 22ft. Between 7 and 9 adults were usually to be seen either airborne or at roost, although on one occasion 17 birds were noted flying at dusk - interesting statistics in view of the 10 nests later located in the area.

1978 CENSUS

The 1978 census and this report are essentially designed as a follow-up to the important work done in 1977, with the particular intention of reviewing population dynamics in view of the disturbing trends noted at that time. The census on 6th October was delayed 10 days beyond that of the 1977 census due to aircraft availability. This had the advantage that the difficulties of spotting white downed young chicks against sandy cliff backgrounds did not arise. A disadvantage, already instanced at the Riding Stables site, was that a few of the more advanced young were undoubtedly flying. The ideal time for a census is therefore about 30th September.

The census was compiled by an observer counting adults flying out from the cliff face, sat 'up front' with the pilot, who in addition to handling the aircraft also rendered general observation assistance. Two observers in the cabin of the aircraft scanned the cliffs for young and nest sites, confirming numbers with the aid of binoculars, often from as close as thirty feet. Any adults noted flying out to the rear of the aircraft were advised to the pilot.

Despite the size and colour of the young making for relatively easy spotting, their facility for disappearing into niches and behind rocks, coupled with a number of nests located in holes rather than ledges undoubtedly means that some nest sites were missed, albeit but a few. As in 1977, a 90% success rate is estimated.

A further westerly drift of the population was again noted, away from the Cape Gata lighthouse area. Occasional blasting in the nearby quarry, particularly in Spring, may be a contributory factor. In 1977 2 major and 2 minor nesting sites were located. It was therefore encouraging to find a further cliff face to the East of the Riding Stables site had been colonised by 3 nests, whilst a further site was established some 300 yards to the West of the Riding Stables site.

Here a single young was located in a hole just below the cliff top at the unusual height of some 100ft.

Details of the census, with 1977 nest figures in brackets were:

a. Cape Gata Site. 4 nests (6) with 2 young (4x).

b. 2 Coves West of Radar Site. 7 nests (4) with 1 young (4x), 2 young (2x) and 3 young (1x)

c. New Site East of Riding Stables. 3 nests (Nil) with 1 young (1x) and 2 young (2x).

d. Riding Stables Site. 6 nests (3) with 2 young (5x) and 1 young (1x).

e. New Site West of Riding Stables. 1 nest (Nil) with 1 young (1x).

Twenty-one nest sites were therefore located containing 36 young, giving a breeding success of 1.71 fledglings per breeding pair. This contrasts favourably with 13 nest sites, 20 young and only 1.53 fledglings per breeding pair in 1977. Forty-six birds were counted in flight - coincidentally the same number counted in 1977. Disparity in the age of fledglings was again noted, and estimated at 25 days (4x), 30 days (14x) and 30-37 days (16x).

Whilst the adult/immature population remains approximately constant, there has been a marked upswing in breeding success. Assuming a conservative estimate of 50 adult population (as in 1977) the minimum of fledglings per falcon has risen from 0.4 to 0.72, or 1.44 per pair. This calculation makes no allowance for the few nest sites overlooked; young dislodged from their often precarious nest sites, or fledged young dispersed from nests (excepting 1 nest with 2 young at Riding Stables). An overall success rate of 1.75 fledglings per pair is therefore not unreasonable to postulate based on the criteria used in 1977 to produce a best estimate of only 1.00 fledglings per pair, in 1977.

However, although some assumptions must be made in work of this nature, the average of 8 adult birds generally to be seen at the 6 nest Riding Stables site suggests that up to 33% of adults could be absent from the colony during a census. It is best therefore to make assumptions on the same basis yearly.

SUMMARY

The 1978 census of Eleonoras Falcon at Akrotiri Cliffs consolidated the detailed study made in 1977, and used the same techniques, criteria and assumptions which were supported by lengthier observation of the Riding Stables site referred to as 'Beverley Cliff' in the 1977 report. The helicopter survey once again proved to be highly efficient and accurate, although optimum results are most likely in the last few days of September. This method establishes a common basis of assessment of the population dynamics, which is highly effective at Akrotiri, since counts attempted from the land have been proved worthless. Although various assumptions can be made from the data collected, the adult population was established as virtually the same as in 1977, but there had been an improvement in breeding success from 1.53 to 1.71 young per nest at census time. An increase from 1.00 to 1.75 young per pair of adults in the colony is also postulated.

ACKNOWLEDGEMENTS

The census would have been impossible without the cooperation of 84 Sqn Royal Air Force, and thanks are again due to their OC, Squadron Leader S Collins, crew Flight Lieutenants J Plumley and G Trott, and also to Squadron Leader W Francis who assisted with the adult bird count.

It is hoped that the groundwork laid in 1977 and 1978 may be built upon by others in future years.

(1) Richard Foers, Officers' Mess, RAF Akrotiri, BFPO 57

November 1978

REFERENCE

Hartmut Walter and Richard Foers 1977 - Falco Eleonoras on Cyprus: Population Size and Breeding Success

ADVICE TO CONTRIBUTORS

The following is given as guidance to those submitting material for publication in the Journal.

1. Articles of any aspect of ornithology are acceptable, but preference will be given to original work from areas, especially overseas, where RAF personnel are or have been stationed, and to that which has some positive connection with the Royal Air Force.

2. The number of articles and therefore the variety presented in each issue of the Journal will depend on the length of each article. As the length of the Journal has to be limited to between 10,000 and 13,000 words, a more balanced issue can be produced if the length of articles is between 1000 and 2000 words. Please try to keep to this as much as possible but do not withhold your article because it is above or below this figure. The number of words should be marked at the end of the article with due allowance for space not filled when tables or systematic lists are used.

3. Whenever possible submit material in typescript - top copy please, not a carbon - with double spacing and on one side only. If a typewriter is not used, manuscript should be clearly written and well spaced.

4. English names of species should have capitals for the initial letter of each word, except after a hyphen (e.g. Alpine swift, Needle-tailed Swift) but references to groups should be in small letters such as waders, buntings etc. Scientific names should follow, in brackets, the first mention of the English name, but not subsequently. The subspecific name should not be mentioned unless relevant to the discussion, and only the first letter of the generic (first) name should be a capital (eg Apus pacificus). Each scientific name should be underlined and put in brackets.

5. Date in the narrative should take the form 1st January, 1969, but can be abbreviated where space does not allow this in full.

6. Reference lists in particular should be checked for accuracy and should take the following form:

   ODUM, E.P. & PITELKA, F.A. 1939. Storm mortality in a winter Starling roost. Auk, 56: 451-455.

- Editor