Observations on bird migration, Egypt: Fâyid April 1954

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The pattern of the migration and diversity of passage migrants was investigated at a ringing station in Fâyid, Egypt, in April 1954. Eighty-eight species were recorded of which 73 were migratory and 22 were residents. The most abundant migratory species were Swallows *Hirundo rustica*, Common Swifts *Apus apus*, European and Blue-cheeked Bee-eaters *Merops apiaster* and *M. persicus* and raptors. A wide range of raptor species was seen although sightings of each species involved less than five individuals on any occasion. There were two general phases to the migration, one 2–10 April and another 12–20 April, which could have been related to changes in barometric pressure and temperature. Although the ringing garden no longer exists it is hoped that the data presented here will contribute to the body of historical data available for interpretation and analysis.

INTRODUCTION

Here we present observations by JRS on the migration of bird species at a ringing garden in Fâyid, Egypt, during April 1954. Fâyid, which is located 23 km south of Ismailia (Al Isma`iliyah) and 116 km northeast of Cairo, lies on the shores of the Great Bitter lake on one of the Eurasian–East African flyways for migrant birds in the eastern Mediterranean. However, in 1954 little was known about the migratory pattern of birds in Egypt beyond anecdotal reports (Brownlow 1952, Simmons 1952, 1954a, b). The information was gathered by JRS at the same location as that used by Brownlow and Simmons during the time he served with the Royal Army Service Corps (British Army) (www.suezcanalzone.com). This study examines the pattern of the migration in more detail than had previously been attempted.

METHODS

Study area

The Sweet Water canal lay on the eastern boundary of the six acre ringing garden (Figure 1) and beyond that was a quarter mile wide strip of land covered with native vegetation between the canal and the Great Bitter lake (30.325638° N, 32.302138° E). To the north and south of the garden were stretches of sand and to the west lay the treaty road and desert. The garden, which was crossed with paths and narrow irrigation ditches, was divided into two areas. There was a well tended, watered area used for the cultivation of flowers, vegetables such as potatoes, and young trees (*Dalbergia*, *Eucalyptus*, *Casuarina*). Thick cover was provided by bushes including date palms, figs, olives, castor-oil *Ricinus* and short grass. There were lines of bananas,

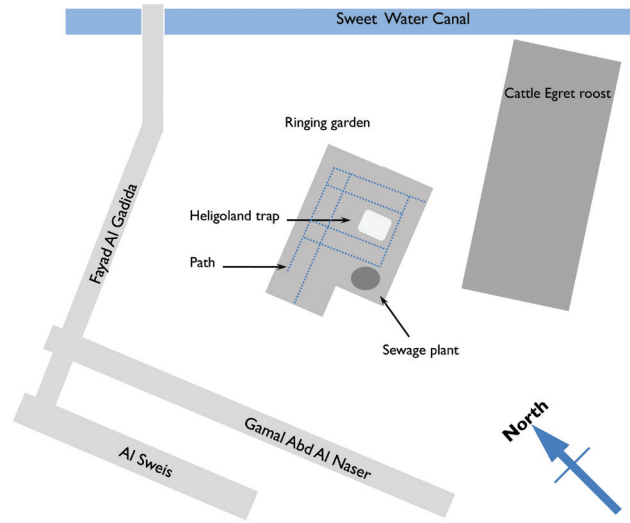


Figure 1. Position of ringing garden, Fâyid, Egypt, and key features in 1954.

stands of mature *Delonix* and *Eucalyptus* and a grape pergola. Two long potting sheds were partially covered with *Luffa* creeper and there was an enclosed sewage treatment unit. Two Heligoland traps had been erected in the garden in 1949/50 (Brownlow 1952) but by 1954 only one remained. There was an open patch of arid sand and sparse vegetation consisting of *Ricinus*, tamarisks and patches of thorn scrub including *Alhagi.* A colony of *c*500 Cattle Egrets *Bubulcus ibis* was resident in a stand of large trees near the garden.

Fâyid lies on the west bank of the Great Bitter lake *c*30 miles north of Suez. At the time of the study, over the 100 miles between Suez and Port Said only the land between the Sweet Water canal and the Suez canal and associated lakes was cultivated. The land between the Sweet Water canal and the treaty road in Fâyid was mainly desert covered by military encampments.

Observations & ringing

This report summarises the most significant observations from the large quantity of data recorded at the time. The scientific units have been updated from the original notes to aid interpretation by the contemporary reader. The scientific and common English names have also been revised. The lack of published authoritative identification guides was a challenge to the study of bird species in Egypt in 1954, the Peterson, Mountfort & Hollom (1954) field guide becoming available in the late spring of that year. Prior to this, guides had only shown pictures of birds posed in portrait style which made identification of birds in flight, particularly raptors, difficult (Nicoll 1919, Meinertzhagen 1930). During 1953 JRS took field notes, including general descriptions of raptor wing patterns, colouration and behaviour, which served as an improvised field guide.

Western and eastern species of both Bonelli's (*Phylloscopus bonelli*, *P. orientalis*) and Olivaceous Warblers (*Hippolais opaca*, *H. pallida*) are now recognised (Cramp 1992). Since this distinction was not used at the time of data collection the original species identification has been retained.

Observations were made using binoculars for *c*8 h each day during daylight. The height of migrants was estimated using the low hills (maximum 60 m high) to the west of Fâyid, which ran in a northwesterly direction, as a point of reference. Ringing studies which used Egyptian rings provided by the Cairo zoological gardens were undertaken to distinguish between migrant and resident species.

Meteorological data

The atmospheric pressure and wind speed (Beaufort scale) data used here were collected by the Royal Air Force at the Fâyid airbase. Temperature, cloud density and wind direction data were collected at the ringing garden by JRS. Cloud density was estimated as the proportion of the sky that was covered by cloud. Khamsins, hot south winds, are common in Egypt during springtime and they could reach Force 9 on the Beaufort scale (47 to 54 mph, severe gale) and be sustained over several days. The resulting sandstorms can be very destructive to buildings and vegetation.

RESULTS

Atmospheric pressure and day and night temperatures gradually rose throughout April (Figure 2). There was little cloud and no precipitation. Wind speed was light with an average Beaufort scale of 1 to 2 (1 to 7 mph) recorded each day (Figure 2c). No Khamsins occurred in April 1954 in Fâyid. The wind direction was usually northerly and the direction of the migration generally northwest.

Spring passage commenced *c*26 March 1954. During April all the resident and migratory species seen in the garden were recorded (Table 1). A total of eighty-eight species were

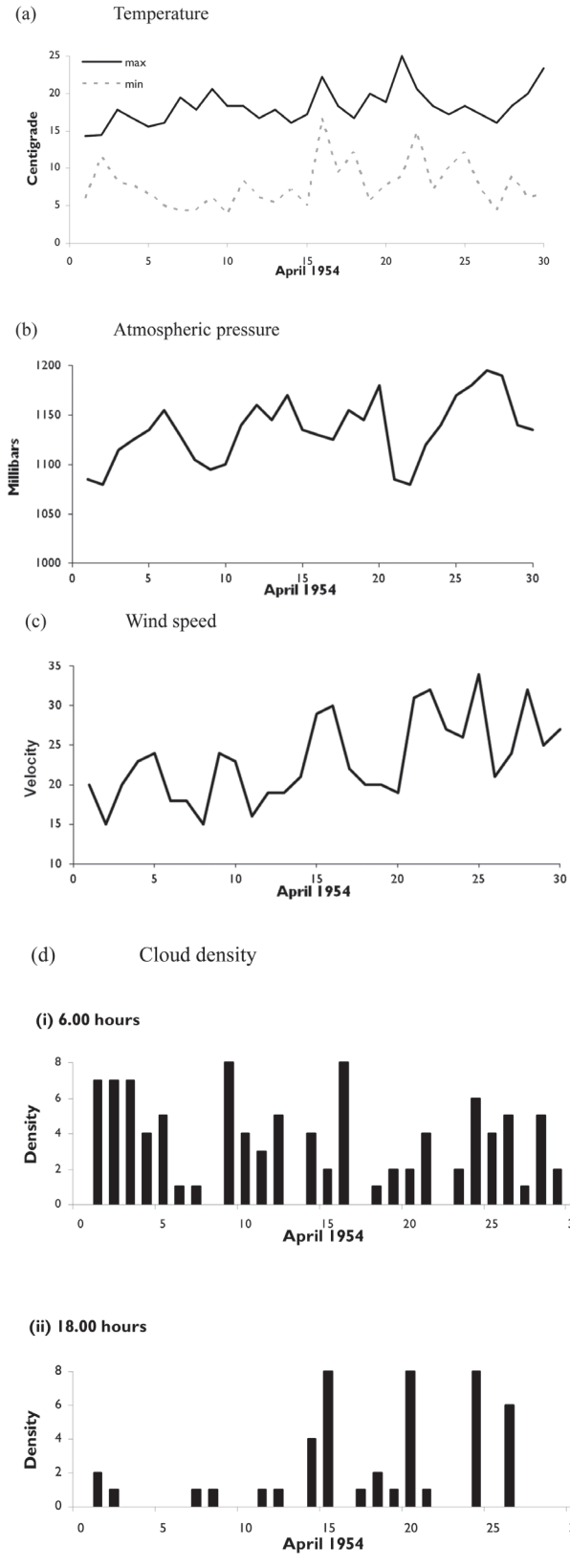


Figure 2. Meteorological data, Fâyid, Egypt, April 1954.
(a) Temperature
(b) Atmospheric pressure
(c) Maximum wind speed, mph
(d) Cloud density

seen of which 73 were migratory and 22 resident (7 species consisted of individuals that were either resident or migratory). The most abundant species were European and Blue-cheeked Bee-eaters *Merops apiaster* and *M. persicus*, raptors, Swallows *Hirundo rustica* and Common Swifts *Apus apus*, whereas House Martins *Delichon urbicum* were scarce. The character of the migration was either in waves, such as Common Redstarts *Phoenicurus phoenicurus* and Collared Flycatchers *Ficedula albicollis* or a continuous movement such as seen in hirundines and bee-eaters. Few species stayed in the garden, most passing overhead. Some birds, such as Red-rumped Swallows *Cecropis daurica*, continued flying into strong northerly winds whereas others, such as Golden Orioles *Oriolus oriolus*, sheltered in a eucalyptus grove.

The height of the general migration (hirundines and other passerines) was 15–30 m (Table 2). Raptors flew at a higher altitude (*c*600 m) and travelled along the hills northwest of Fâyid. The only birds heard singing were Chiffchaffs *Phylloscopus collybita*, Nightingales *Luscinia megarhynchos* and Woodchat Shrikes *Lanius senator* together with overwintering species such as White Wagtail *Motacilla alba*.

The data shown in Figure 3 and Table 3 indicates that there were two general phases to the migration, one 2–10 April and another 12–20 April, perhaps related to changes in barometric pressure and temperature.

Ringing studies showed that Common Redstarts stayed for a

Table 1. Comparison between species recorded in the springs of 1954 (present study) and 1949, Fâyid, Egypt.

English name	Scientific name	1954		1949 (Brownlow)*	
		Resident	Migrant	Resident	Migrant
Squacco Heron	*Ardeola ralloides*	-	+		
Cattle Egret	*Bubulcus ibis*	+	-	+	-
White Stork	*Ciconia ciconia*	-	+		
Honey Buzzard	*Pernis apivorus*	-	+		
Black Kite	*Milvus migrans*	+	+		
Short-toed Eagle	*Circaetus gallicus*	-	+		
Hen Harrier	*Circus cyaneus*	-	+		
Pallid Harrier	*Circus macrourus*	-	+		
Montagu's Harrier	*Circus pygargus*	-	+		
Sparrowhawk	*Accipiter nisus*	+	+	+	+
Buzzard	*Buteo buteo*	-	+		
Long-legged Buzzard	*Buteo rufinus*	-	+		
Tawny Eagle	*Aquila rapax*	-	+		
Golden Eagle	*Aquila chrysaetos*	-	+		
Booted Eagle	*Aquila pennata*	-	+		
Osprey	*Pandion haliaetus*	-	+		
Lesser Kestrel	*Falco naumanni*	+	-		
Common Kestrel	*Falco tinnunculus*	+	-		
Hobby	*Falco subbuteo*	-	+		
Quail	*Coturnix coturnix*	-	+		
Stone Curlew	*Burhinus oedicnemus*	+	-		
Collared Pratincole	*Glareola pratincola*	-	+		
Laughing Dove	*Spilopelia senegalensis*	+	-	+	-
Cuckoo	*Cuculus canorus*	-	+	-	+
Eurasian Scops Owl	*Otus scops*	-	+		
European Nightjar	*Caprimulgus europaeus*	-	+		
Red-necked Nightjar	*Caprimulgus ruficollis*	-	+		
Common Swift	*Apus apus*	-	+		
Alpine Swift	*Apus melba*	-	+		
Blue-cheeked Bee-eater	*Merops persicus*	-	+		
European Bee-eater	*Merops apiaster*	-	+		
European Roller	*Coracias garrulus*	-	+		
Hoopoe	*Upupa epops*	+	+	+	+
Wryneck	*Jynx torquilla*	-	+	-	+
Short-toed Lark	*Calandrella brachydactyla*	-	+		
Crested Lark	*Galerida cristata*	+	-	+	-
Sand Martin	*Riparia riparia*	-	+		
Swallow	*Hirundo rustica*	-	+		
Red-rumped Swallow	*Cecropis daurica*	-	+		
House Martin	*Delichon urbicum*	-	+		
Tawny Pipit	*Anthus campestris*	-	+		
Tree Pipit	*Anthus trivialis*	-	+	-	+
Nightingale	*Luscinia megarhynchos*	-	+	-	+
Grey Wagtail	*Motacilla cinerea*	+	-		
White Wagtail	*Motacilla alba*	+	-	+	-
Common Bulbul	*Pycnonotus barbatus*	+	-	+	-
Rufous Bush Robin	*Cercotrichas galactotes*	+	-		
Robin	*Erithacus rubecula*	+	+		

Common Redstart	*Phoenicurus phoenicurus*	-	+	-	+
Whinchat	*Saxicola rubetra*	-	+		
Stonechat	*Saxicola rubicola*	-	+	-	+
Wheatear	*Oenanthe oenanthe*	-	+	-	+
Black-eared Wheatear	*Oenanthe hispanica*	-	+		
Mourning Wheatear	*Oenanthe lugens*	-	+		
Rock Thrush	*Monticola saxatilis*	-	+	-	+
Song Thrush	*Turdus philomelos*	+	+		
Graceful Prinia	*Prinia gracilis*	+	+	+	-
Zitting Cisticola	*Cisticola juncidis*	+	-		
Sedge Warbler	*Acrocephalus schoenobaenus*	-	+	-	+
Reed Warbler	*Acrocephalus scirpaceus*	-	+	-	+
Olivaceous Warbler	*Hippolais pallida*	-	+	-	+
Icterine Warbler	*Hippolais icterina*	-	+	-	+
Melodious Warbler	*Hippolais polyglotta*	-	+		
Subalpine Warbler	*Sylvia cantillans*	-	+	-	+
Sardinian Warbler	*Sylvia melanocephala*	-	+	-	+
Rüppell's Warbler	*Sylvia rueppelli*	-	+	-	+
Lesser Whitethroat	*Sylvia curruca*	-	+	-	+
Common Whitethroat	*Sylvia communis*	-	+	-	+
Garden Warbler	*Sylvia borin*	-	+	-	+
Blackcap	*Sylvia atricapilla*	-	+	-	+
Wood Warbler	*Phylloscopus sibilatrix*	-	+	-	+
Chiffchaff	*Phylloscopus collybita*	-	+	-	+
Willow Warbler	*Phylloscopus trochilus*	-	+	-	+
Spotted Flycatcher	*Muscicapa striata*	-	+	-	+
Semi-collared Flycatcher	*Ficedula semitorquata*	-	+		
Collared Flycatcher	*Ficedula albicollis*	-	+	-	+
Pied Flycatcher	*Ficedula hypoleuca*	-	+	-	+
Golden Oriole	*Oriolus oriolus*	-	+		
Red-backed Shrike	*Lanius collurio*	-	+	-	+
Woodchat Shrike	*Lanius senator*	-	+		
Masked Shrike	*Lanius nubicus*	-	+	-	+
Hooded Crow	*Corvus cornix*	+	-		
Brown-necked Raven	*Corvus ruficollis*	+	-		
House Sparrow	*Passer domesticus*	+	-	+	-
Spanish Sparrow	*Passer hispaniolensis*	+	-		
Goldfinch	*Carduelis carduelis*	+	+	+	+

* Brownlow also recorded a Little Bittern *Ixobrychus minutus* found dead.

maximum of 13 days, Collared Flycatchers usually 1–14 days and a Rock Thrush *Monticola saxatilis* stayed for 2 days as did a flock of Spanish Sparrows *Passer hispaniolensis*.

DISCUSSION

At the time this study was undertaken knowledge of migratory patterns and species identification within the eastern Mediterranean was in its infancy. Much of the available literature on north African birds had been written by servicemen stationed in the area as part of the British armed forces (Moreau & Moreau 1928, Borman 1929, Meinertzhagen 1930, Payn 1948, Brownlow 1952) and for JRS his time stationed near Fâyid provided such an opportunity. In 1939, ringing had been used to study the movement of White Wagtails around Cairo and in 1941 Marchant suggested that the Egyptian bird-marking scheme

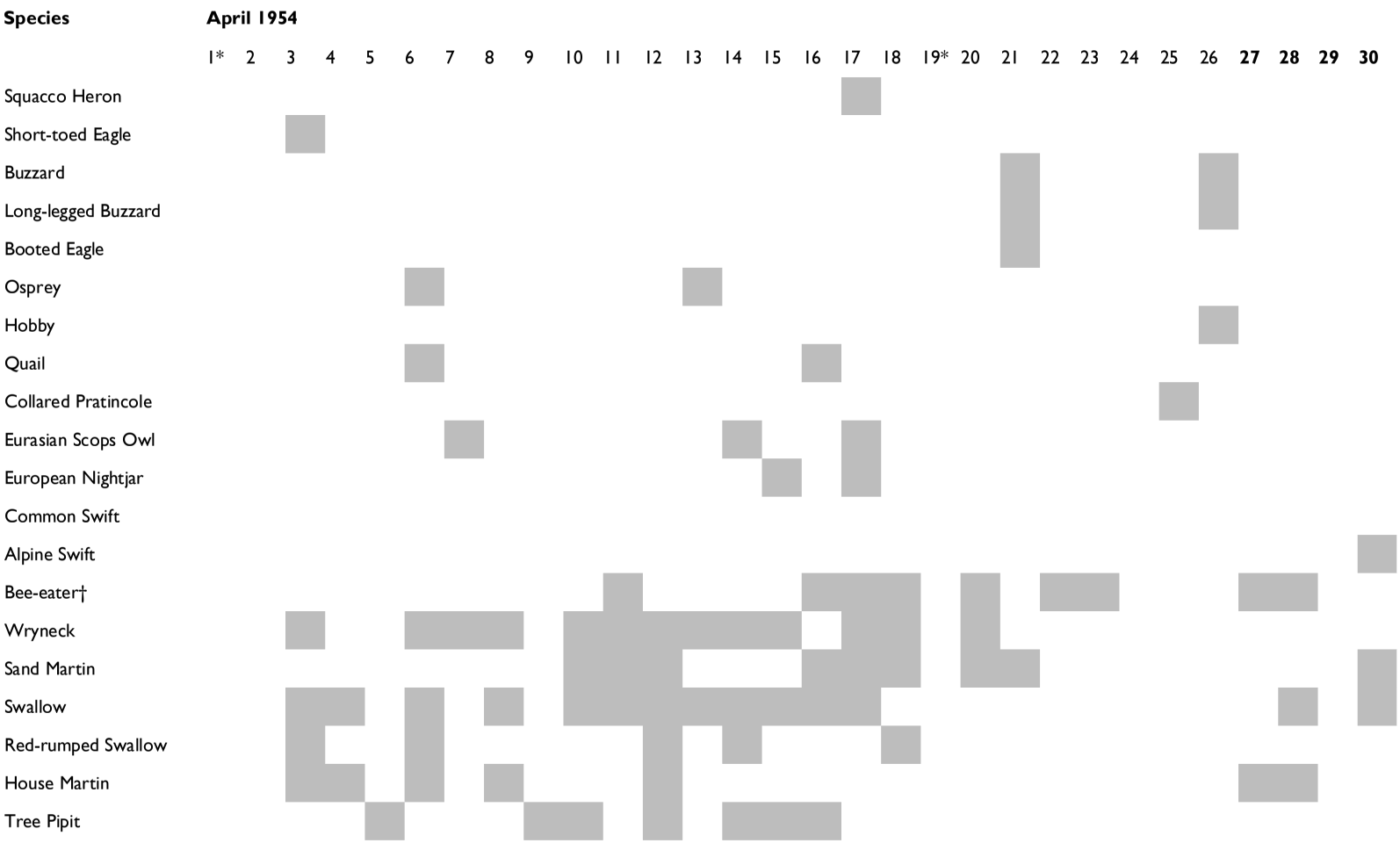
Table 2. Height of migrating species, April 1954, Fâyid, Egypt.

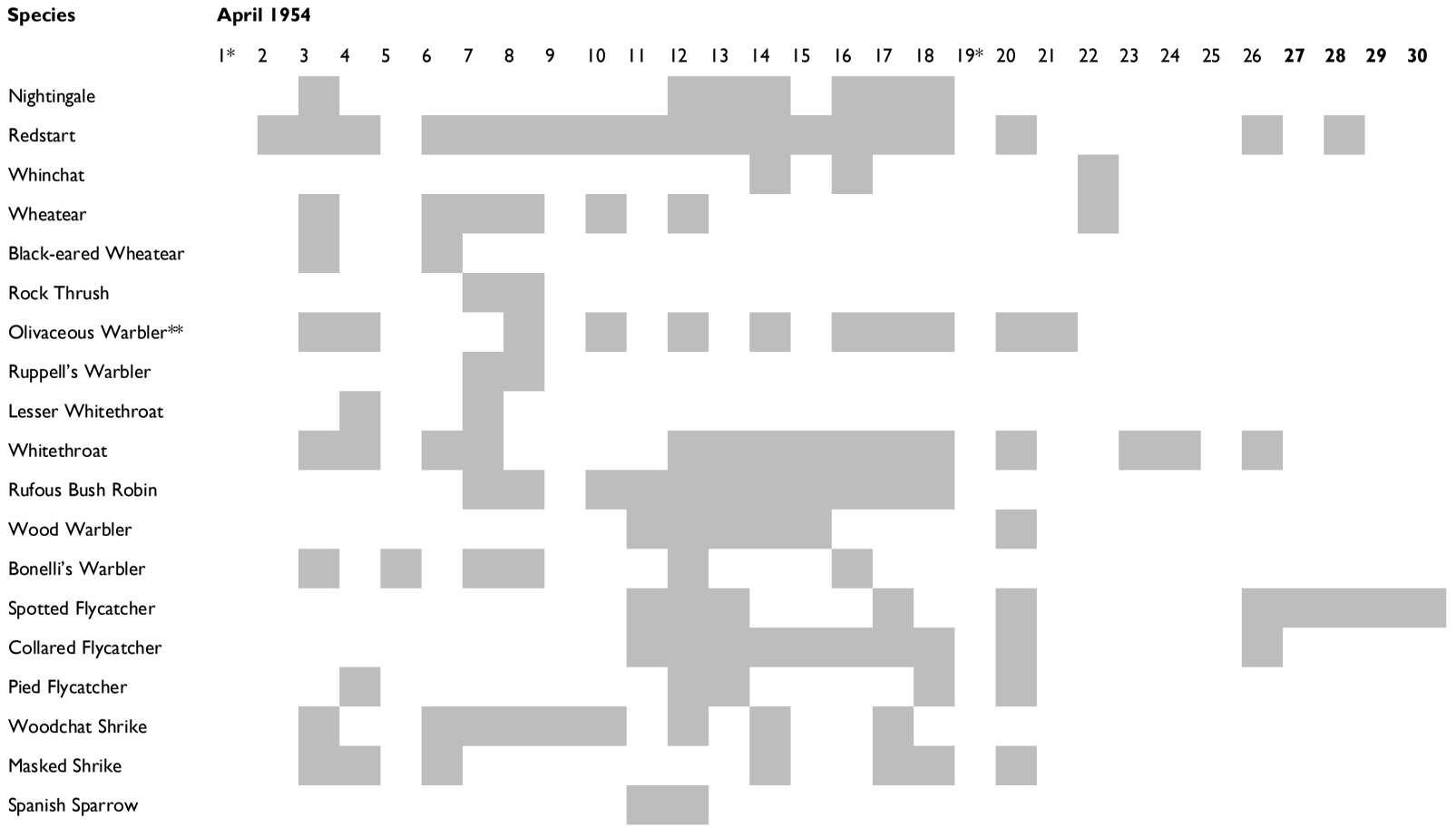
Date	Time	Weather	Wind direction	Species	Height (m)	Comment
4 Apr	14.30	Blue sky	NW, force 4	Hirundines	25	From SE
6 Apr	14.45	Blue sky	NW, force 4	Red-rumped Swallow	30	From SE
	14.45	Blue sky	NW, force 4	Osprey	25–30	From SE
8 Apr	15.00	Blue sky Windy	NW, force 3	Hirundines	25	From SSE
10 Apr	15.00	Blue Sky Cloudy	NE, force 3	Hirundines	15	
11 Apr	15.00	Blue Sky Little cloud	NW, force 4	Sand Martin	15	
				Swallow	15	
	15.30			European Bee-eater	15	n=75
12 Apr	15.00	Blue sky	NNW, force 4	Swallow	15	
	15.00			Sand Martin	15	n=75
	17.00			House Martin	30	5 from SE
13 Apr	15.15	Blue sky	NW, force 5	Osprey	45	1 flying N
16 Apr	13.45	Overcast Sand Haze	Strong NW	European Bee-eater	40–50	Flying N
	15.30			Swallow	15	Flying N
17 Apr	18.30	Blue Sky Little cloud	NW, force 2	Common Buzzard	600	4 flying NW
	pm		N, force 4	European Bee-eater	9	2 birds
	pm			Sand Martin	15–30	From SSE
18 Apr	15.00	Blue sky	NE, force 4	Red-rumped Swallow	25	
	15.00			Sand Martin	15–25	
20 Apr	15.00	Overcast Little	NNE, force 4	Sand Martin	25	
22 Apr	15.00	Blue Sky Little Cloud	NNE, force 5	European Bee-eater	60	5 flying NW
	15.15			Common Kestrel	30	1 flying NW
	15.20		E, force 4	European Bee-eater	90	10 flying NW
23 Apr	09.00	Blue Sky	E, force 4	European Bee-eater	45	2 flying N
25 Apr	13.45	Blue sky	NNE, force 4	Pratincoles	30	n=30–40 Flying NNW
27 Apr	08.30	Blue sky	NE, force 4	Long-legged Buzzard	45	1 flying NNW
	11.30			Common Buzzard	45	1 flying NNW

which had started recently should concentrate on the north Egyptian coast and Nile valley where migrants were more numerous (Greaves 1941, Marchant 1941a,b). The Fâyid ringing garden was established in 1949 at one of the few places in the corridor between Suez and Port Said used by migrants to feed and rest.

Studies were undertaken at the garden in 1949, 1950 and 1952 by Brownlow and Simmons (Brownlow 1952, Simmons 1952, 1954a, b). Of these only the Brownlow study in 1949 can be used for comparative purposes with the data presented here (Table 1), as the spring of 1950 was dominated by frequent Khamsins. Simmons made a detailed

Table 3. Species seen in the ringing garden by date of observation, April 1954, Fâyid, Egypt, (selected species).





* Information not recorded † European and Blue-cheeked Bee-eaters **Nesting started after 21 April

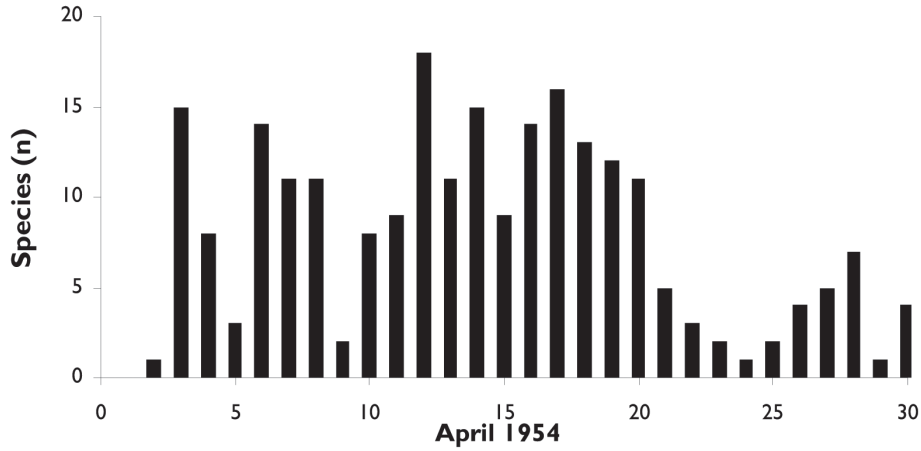


Figure 3. Number of migratory species, Fâyid, Egypt, April 1954.

study of the behaviour of the Graceful Prinia *Prinia gracilis* and other passerines. In both 1949 and 1954 weather conditions were favourable for migration, with light winds. This study adds to that of Brownlow in that it provides additional information on the pattern of migration and the diversity of passage migrants. In terms of the species that keep close to cover, the species list recorded here was very similar to that of Brownlow (1952) as was the list of resident species. A wide range of raptor species was seen although sightings of each species involved less than five individuals on any occasion. In contrast, substantial movements of bee-eaters and hirundines were seen over a period of several days.

The collection of information was restricted by techniques available at the time and the available resources. Identification of raptors presented a particular problem given the height at which the birds travelled. If they were moving with cloud cover above them they could be seen quite clearly but were rendered almost invisible against the glare of a brilliant blue sky. Many raptors travelled in a soaring motion, whilst a few used a flapping mode and occasionally the birds could be located by sound only since they were passing too high to see them. In addition, it was not possible to investigate the migrants that were likely to be moving through the area at night. As with all studies of this nature, it is unclear as to whether the actual number of migrants correlates with the number of migrants caught at the ringing station. Nevertheless, the daily records collected of birds seen in the garden, passing overhead or caught for ringing created a consistent dataset.

Although the ringing garden no longer exists it is hoped that the data presented here will contribute to the body of historical data available for interpretation and analysis.

ACKNOWLEDGEMENTS

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