

# The Avifauna of the Ghadira Nature Reserve

CHARLES GAUCI

*Managing Warden, Ghadira Nature Reserve*

## Introduction

The Ghadira Nature Reserve covers an area of about six acres of saltmarsh and has a protective, no-shooting zone of 500m radius around it. Excavation work, consisting of the removal of several tons of soil and the formation of islands in an open shallow pool, started in May 1980 and was continued for another three consecutive summers. A ditch was cut around the reserve, except on the seaward side. The soil excavated from the ditch was used to build an embankment running alongside it. The embankment has been successfully planted with Bianca *Atriplex halimus* on the outer part over-hanging the ditch. Several species of trees, but mostly tamarisk, *Tamarix sp.*, have been planted on and below the embankment. No planting has been carried out on the islands and natural colonisation has been taking place at a fast rate.

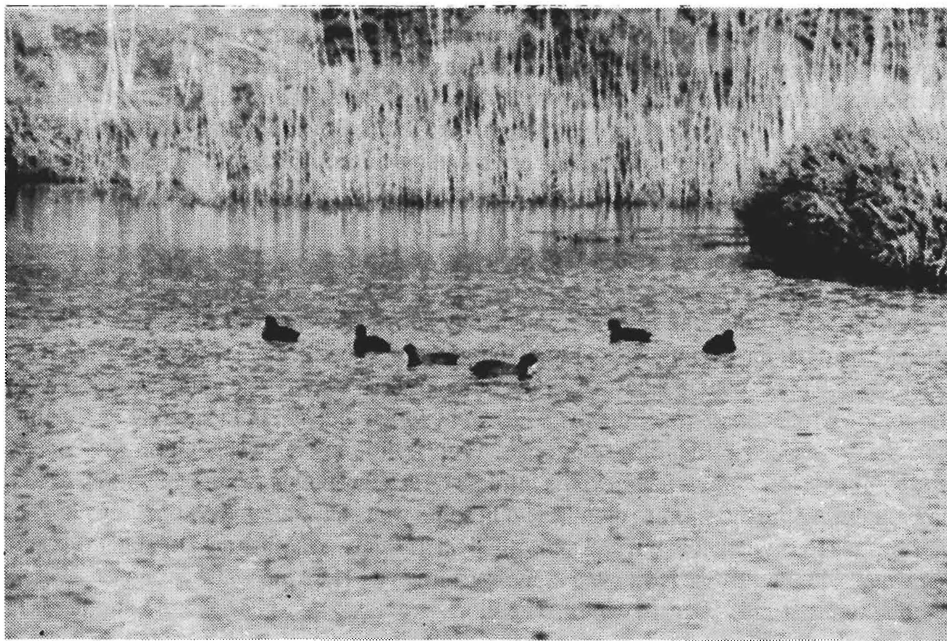
## Habitats

The reserve and the area of land immediately surrounding it offer four types of habitats: wetland (the most important), agricultural, garigue and 'woodland'.

**Wetland:** This habitat makes up the bulk of the reserve's area. The main part consists of an open scrape with average water depth of 120cm in winter and 40 cm in summer and a number of low, saucer-shaped islands of varying sizes. There is little emergent vegetation, this consisting of the common reed *Phragmites australis* introduced at a few points around the shore. Algae are abundant during the the warmer months and in some years have almost completely choked the water surface to the extent that it had to be piled up in heaps. Another area of about one acre of open water without islands is situated at the western end. Here the water is deeper, averaging 120cm in summer and 200cm in winter. The shores are rather steep-edged and a strong reed bed is fast developing along three of its sides. Originally this area was intended to serve as a freshwater reservoir. Along extensive stretches of the ditch the common reed has also firmly established itself. Recently a small area of about thirty-five square metres has been excavated on dry ground and four shallow freshwater ponds have been built on a plastic base. Bulrush



**Plate 3:** *Little Egret Aretta garzetta*, a migrant which frequently visits the Ghadira Nature Reserve.  
*Photo: Joe Sultana*



**Plate 4:** *Coots Fulca atra*; this species is a common winter visitor to the Ghadira Nature Reserve.  
*Photo: Joe Sultana*

*Typha angustifolia*, together with other aquatic vegetation, has been introduced into them.

**Agricultural:** Except on the seaward side, the reserve is surrounded by cultivated land which forms only a thin belt along the western and southern sides. All common crops grown elsewhere in the Maltese Islands are cultivated. Several small passerines feed on insects in these fields.

**Garigue:** This habitat occurs behind the reserve on the south-west side. It rises from behind the narrow fields and extends towards the cliffs on the opposite side of Mellieħa Bay.

**Woodland:** An established grove of tamarisk is found on the southern part of the reserve. On the northern side a larger grove, planted in the mid-seventies but now well established, consists of tamarisk, Aleppo Pine *Pinus halepensis*, *Acacia sp.* and *Eucalyptus sp.* The latter grove is used for roosting by small passerines wintering in the reserve. Egrets and herons also often roost there while on migration stop-overs.

## The Avifauna

Being one of the very few marshland areas in the Maltese Islands, Ghadira has always been a big attraction both for birds as well as for ornithologists. Despite its small size, its ornithological value can be gauged by the fact that two hundred species of birds have been recorded either in the reserve or flying over it since 1981 when a daily log was first kept. Up to 1982, 355 species of birds had been recorded in the Maltese Islands (Sultana, J. & Gauci C., *A New Guide to the Birds of Malta*, 1982). About eighty-five of the species recorded are birds depending on wetlands for food. The commonest are grebes, ducks, rails, moorhens and coots in winter; herons, egrets and waders in spring and autumn; and a small number of non-breeders of various species in summer. Several species which, owing to lack of suitable habitat, disturbance and persecution, as recently as 1982 (*loc. cit.*) had been recorded simply as passage migrants, are now wintering regularly in the reserve. These include Grey Heron, Water Rail, Moorhen, Coot and Kingfisher. Bird-ringing has shown that at least a proportion of birds surviving the summer, return to winter in the reserve, e.g. Water Rail - 30% and Kingfisher - 6%.

**Grebes *Podicipediformes*:** These feed on small fish caught by diving and also, on calm days, on mosquitoes and other insects picked up from the water surface. The Black-necked Grebe *Podiceps nigricollis* winters annually in small numbers. Up to eleven have been recorded together in one winter. The first birds sometimes arrive as early as the end of August and usually leave in early March. The Little Grebe *Tachybaptus ruficollis* is not regular but one or two winter during most years.

**Herons and Egrets *Ciconiformes*:** These feed mainly on fish, the larger herons feeding on mullet up to 25 cm in length and the smaller ones, as well as the egrets, take mainly Killifish. The Grey Heron *Ardea cinerea* and the Little Egret *Egretta garzetta* are the commonest, the former not infrequently wintering in the reserve. Little Egrets often spend up to a month off passage in spring. Non-breeding individuals of both species often stay well into June. Wintering and off passage birds become very territorial and frequently chase away both conspecifics and other species which attempt to land. Also regularly feeding in the reserve during migration times are Little Bitterns *Ixobrychus minutus*, Night Herons *Nycticorax nycticorax*, Squacco Herons *Ardeola ralloides* and Purple Herons *Ardea purpurea*.

**Ducks *Anseriformes*:** These occur mainly in winter in varying numbers. They feed on algae and on invertebrates, including molluscs. Most regular are Wigeons *Anas penelope* and Teals *Anas crecca* but Shelducks *Tadorna tadorna*, Mallards *Anas platyrhynchos*, Shovelers *Anas clypeata* and Pochards *Aythya ferina* are also present in most winters. In spring and autumn a few Garganeys *Anas querquedula*, Pintails *Anas acuta* and Ferruginous Ducks *Aythya nyroca* use the reserve for short stop-overs.

**Birds of Prey *Accipiteriformes* and *Falconiformes*:** They are usually seen flying over the reserve but Marsh Harriers *Circus aeruginosus*, Ospreys *Pandion haliaetus* and Kestrels *Falco*

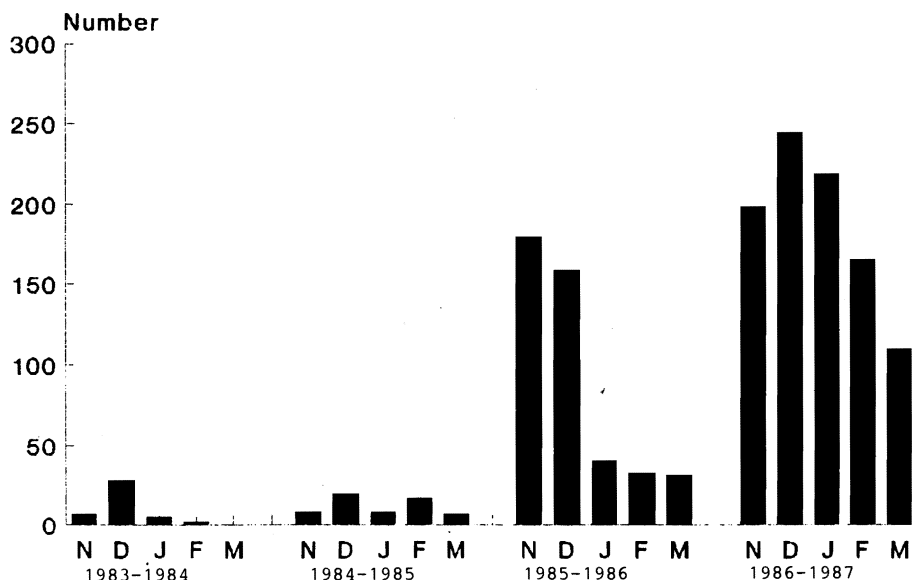


Fig. 1: Water Rail bird-days during four successive Winters.

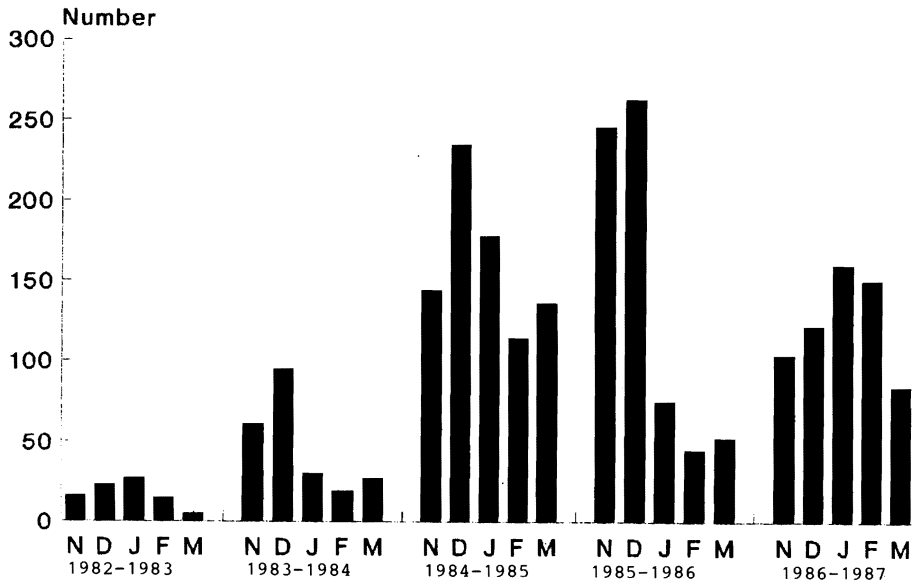
*tinnunculus* have been recorded hunting over the scrape on several occasions.

Rails and crakes *Gruiformes*: These are numerous, especially in winter but, except for Coots *Fulica atra*, they are rather difficult to see as they are very secretive. They feed mainly on aquatic vegetation and on invertebrates, usually picked up at the water's edge. Moorhens *Gallinula chloropus* also regularly graze the fields adjacent to the ditch. Water Rail *Rallus aquaticus* and Moorhen numbers increased dramatically during the last four years when plant communities had colonised the ditches and other areas by the water's edge (Figs. 1 & 2). Moorhens presumably bred in 1986 as chick contact calls were heard in the dense bianca overhanging the ditch in July. Coot numbers are variable, depending on winter temperatures and other climatic conditions in Europe. The maximum in any winter has been thirty-seven (Fig. 3).

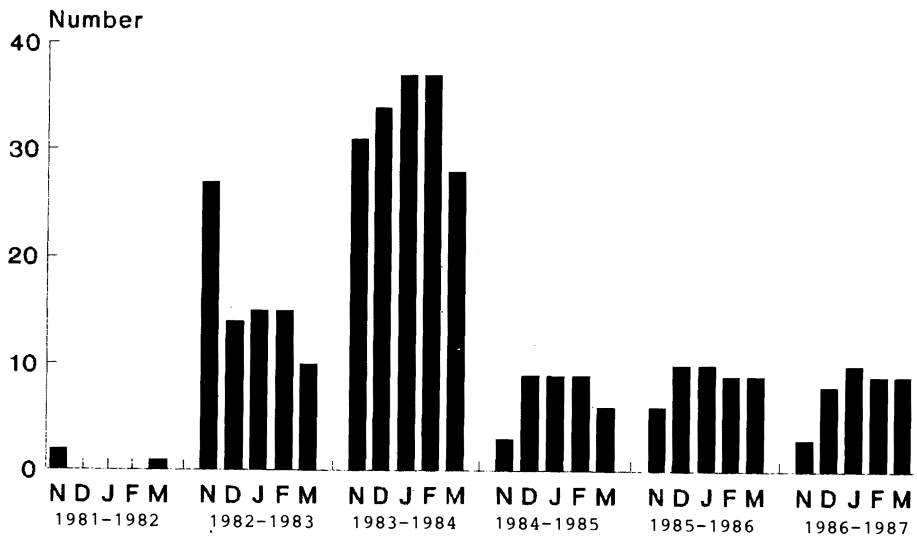
Waders *Charadriiformes*: Out of 36 species recorded at the Ghadira Nature Reserve, 25 occur more or less annually. The peak period is in April-May in spring, and in August-September in

TABLE 1: Mean weight increase per day in waders.

Species	Spring		Autumn	
	No.	inc./day (g)	No.	inc./day (g)
Little Ringed Plover	1	1.02	-	-
Little Stint	4	0.83	257	0.60
Temminck's Stint	4	0.79	3	0.68
Dunlin	-	-	5	1.26
Curlew Sandpiper	2	1.45	-	-
Ruff	-	-	1	1.90
Wood Sandpiper	-	-	2	1.85
Common Sandpiper	4	3.06	7	0.97



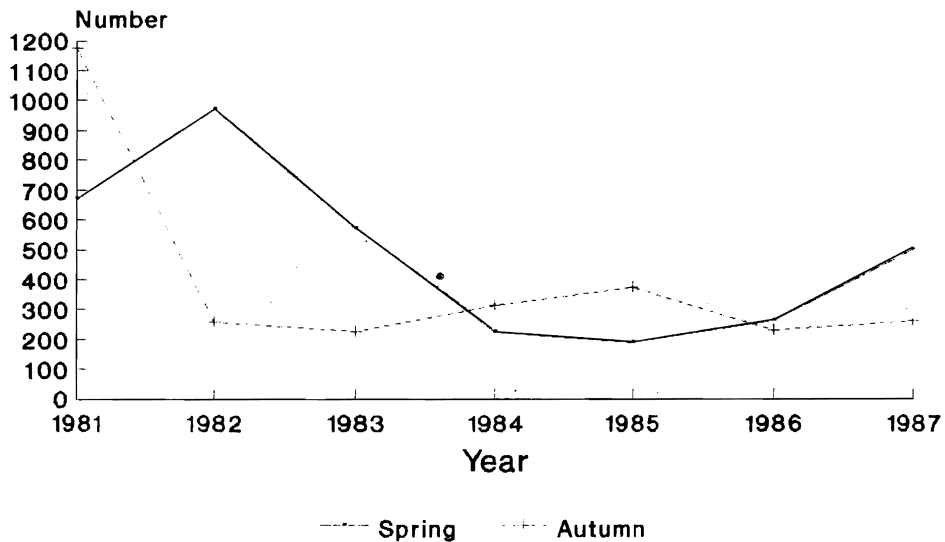
**Fig. 2: Moorhen bird-days during five successive Winters. (In the winter of 1981-82 only one Moorhen was recorded).**



**Fig. 3: Maximum Coot counts in six Winters (November-March)**

Species	Spring		Autumn	
	Mean	Max	Mean	Max
Little Ringed Plover	-	5	-	-
Little Stint	2.94	6	5.81	29
Temminck's Stint	4.0	5	2.67	4
Dunlin	-	-	2.80	7
Curlew Sandpiper	4.0	6	-	-
Ruff	-	-	10.50	12
Wood Sandpiper	-	-	9.0	11
Common Sandpiper	4.0	5	10.43	20

autumn, but a few are present almost daily throughout summer while Little Stints *Calidris minuta* and Dunlins *Calidris alpina* winter in small numbers in some years. Waders take mainly invertebrate food, either picking it up from the water surface or exposed mud, or by probing in the mud in shallow water. Early in the morning they forage among the vegetation on the islands picking up small insects. A few species, mainly Spotted Redshank *Tringa erythropus* and Greenshank *Tringa nebularia*, also take small fish regularly. Curlew Sandpipers *Calidris ferruginea*, Ruffs *Philomachus pugnax*, Black-tailed Godwits *Limosa limosa* and Redshanks *Tringa totanus* feed heavily on molluscs which are abundant in the mud. The abundance of invertebrate food in the mud is obvious both by observing the rate at which food items are picked by the waders as well as from the rapid weight gains in birds trapped for ringing and subsequently retrapped (Table 1).



**Fig. 4: Little Stint bird-day totals in Spring and Autumn for the years 1981-87**

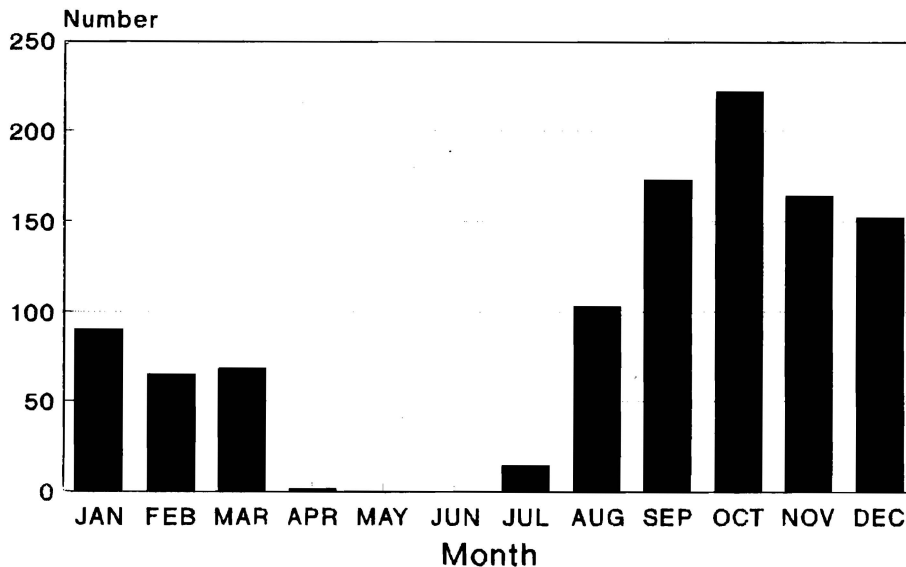


Fig. 5: Kingfisher bird-days; cumulative totals for the years 1981-87.

Table 2 shows the maximum and average length of stay in birds retrapped. As with most other birds, wader numbers vary from year to year according to weather conditions encountered during migration and, probably, also population levels. This is clearly demonstrated in Fig. 4 which shows the cumulative number of bird days in spring (March - June) and autumn (July - October) for the Little Stint, one of the commonest waders in the reserve.

Gulls and terns *Laridae* and *Sternidae*: Gulls rarely stay long in the reserve. The only species staying for any length of time is the scarce Slender-billed Gull *Larus genei* which, when present, feeds mainly on small fish which it seems to catch with ease. Sea-terns feed on fish caught by diving while marsh-terns catch insects by dipping. Terns usually stay for very short periods, occasionally for up to a week.

Other non-passerines: The most important is the Kingfisher *Alcedo atthis*. Not recorded at Ghadira prior to 1980, it is now a regular migrant in autumn, wintering in most years (Fig. 5). It feeds on small fish caught by diving, usually from a perch overhanging water. Two (6%) of those ringed have been retrapped the following autumn/winter. The average elapsed time between ringing and retrapping is 35 days (N=27), the longest being of 214 days (1 Sep. - 3 Apr.) A pair was observed displaying in late March 1984 and this species is a potential breeder in future. Other species include Turtle Dove *Streptopelia turtur* and Cuckoo *Cuculus canorus* which rest for short periods in the reserve, Scops Owl *Otus scops*, mostly found roosting in the tamarisk grove, Swift *Apus apus* — commonly seen feeding by catching small insects in flight, Hoopoe *Upupa epops* and Wryneck *Jynx torquilla*. The Wryneck also winters in most years. It feeds almost exclusively on ants.

Larks *Alaudidae*: Skylarks *Alauda arvensis* are common migrants in autumn when several may rest on islands in the reserve. A few winter annually in the fields along the northern side of the reserve. Short-toed Larks *Calandrella brachydactyla* rarely settle in the reserve but regularly fly over in spring and autumn. A few pairs breed on the garigue to the south west of the reserve and can be seen and heard in display song-flight.

Swallows and martins *Hirundinidae*: are common in both spring and autumn, feeding on mosquitoes all around the reserve. Since 1987 Swallows *Hirundo rustica* started roosting in the reed-bed in the part known as the reservoir in autumn and also in spring from this year.

Pipits and Wagtails *Motacillidae*: Meadow Pipits *Anthus pratensis*, White Wagtails *Motacilla alba* and Grey Wagtails *Motacilla cinerea* winter in good numbers and feed on insects at the water's edge. Tree Pipits *Anthus trivialis* and Yellow Wagtails *Motacilla flava* are present, sometimes in large numbers, in spring and autumn, but Tawny Pipits *Anthus campestris* and Red-throated Pipits *Anthus cervinus* are more often seen flying over.

Chats and thrushes *Turdidae*: Most common are Robins *Erithacus rubecula* and Stonechats *Saxicola torquata* both of which pass through in large numbers in autumn and winter in the reserve. Several ringed individuals of both species have been retrapped 1-3 years later. Song Thrushes *Turdus philomelos*, Blackbirds *Turdus merula* and Black Redstarts *Phoenicurus ochruros* also winter in small numbers. Nightingales *Luscinia megarhynchos* and Redstarts *Phoenicurus phoenicurus* are common migrants in both spring and autumn, the former often heard in full song, especially in spring. Malta's national bird, the Blue Rock Thrush *Monticola solitarius*, often comes into the reserve in autumn and winter. In spring it can be heard singing along the nearby cliffs.

Warblers *Sylvidae*: Fan-tailed Warblers *Cisticola juncidis* and Sardinian Warblers *Sylvia melanocephala* are resident and breed in the reserve. Fan-tailed Warblers are polygamous and up to 30 females may breed in the reserve. Nest-building often starts at the end of January and nests may be found up to July. Usually up to 5 pairs of Sardinian Warblers breed in the reserve, each raising 2-3 broods from March to August. Cetti's Warblers *Cettia cetti* have become regular since 1986. Up to fifteen juveniles arrive in the reserve from mid-June to mid-September, some staying throughout winter. A pair bred for the first time in 1987. Chiffchaffs *Phylloscopus collybita* and Blackcaps *Sylvia atricapilla* winter, the former being very common. Several other species are common on migration, often spending a week or more in the reserve. The most numerous are Subalpine Warbler *Sylvia cantillans*, Whitethroat *Sylvia communis*, Garden Warbler *Sylvia borin*, Wood Warbler *Phylloscopus sibilatrix* and Willow Warbler *Phylloscopus trochilus*, with smaller numbers of Sedge Warblers *Acrocephalus schoenobaenus*, Reed Warblers *Acrocephalus scirpaceus*, Great Reed Warblers *Acrocephalus arundinaceus* and Icterine Warblers *Hippolais icterina*. Reed Warblers occur mostly in autumn and two birds were retrapped 1-2 years later on subsequent migrations.

Flycatchers *Muscicapidae*: are mainly present in spring with only a few in autumn. Most numerous are Pied Flycatchers *Ficedula hypoleuca* and Spotted Flycatchers *Muscicapa striata* with smaller numbers of Collared Flycatchers *Ficedula albicollis* in spring and Red-breasted Flycatchers *Ficedula parva* in autumn.

Tits *Remizidae*: The Penduline Tit *Remiz pendulinus* has been recorded at the reserve during three years. In winter 1986/87 at least six wintered.

Shrikes *Lanidae*: The Woodchat Shrike *Lanius senator* is common in spring with smaller numbers in autumn. A few Red-backed Shrikes *Lanius collurio* are seen mainly in autumn. Shrikes are quite conspicuous, perching at prominent points from where they survey the ground for beetles, grasshoppers, etc.

Finches *Fringillidae*: The Chaffinch *Fringilla coelebs* is the commonest in the reserve, a few regularly wintering. Other finches are frequently seen flying over but seldom use the reserve for resting or feeding.

Buntings *Emberizidae*: The Corn Bunting *Miliaria calandra* is resident with up to five pairs breeding in the reserve. Flocks, presumably migrants, also feed regularly on weed seeds in the reserve in late summer and autumn. The Reed Bunting *Emberiza schoeniclus* is an autumn migrant and winters in irregular numbers.



**Appendix:** Species recorded at the Ghadira Nature Reserve during 1981-87, together with months of occurrence. The sequence and nomenclature follows the 'List of Recent Holarctic Bird Species' by Voous (1973, 1977)

Species	J	F	M	A	M	J	J	A	S	O	N	D
<i>Tachybaptus ruficollis</i>	x	x	x	x						x	x	x
<i>Podiceps nigricollis</i>	x	x	x	x				x	x	x	x	x
<i>Colonectris diomedea</i>				x								
<i>Puffinus puffinus</i>							x					
<i>Phalacrocorax carbo</i>	x								x	x	x	x
<i>Botaurus stellaris</i>											x	
<i>Ixobrychus minutus</i>			x	x	x	x				x		
<i>Nycticorax nycticorax</i>			x	x	x			x	x	x	x	x
<i>Ardeola ralloides</i>			x	x	x	x		x	x			
<i>Egretta garzetta</i>	x		x	x	x	x	x	x	x	x	x	x
<i>Egretta alba</i>								x				
<i>Ardea cinerea</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Ardea purpurea</i>			x	x	x			x	x	x	x	
<i>Coconia nigra</i>										x		
<i>Plegadis falcinellus</i>			x	x	x	x		x	x		x	
<i>Platalea leucorodia</i>			x						x	x		
<i>Phoenicopterus ruber</i>			x									x
<i>Cygnus olor</i>												x
<i>Anser anser</i>		x										x
<i>Tadorna tadorna</i>	x										x	x
<i>Anas penelope</i>	x	x	x						x	x	x	x
<i>Anas strepera</i>												x
<i>Anas crecca</i>	x	x	x			x		x	x	x	x	x
<i>Anas platyrhynchos</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Anas acuta</i>	x	x	x	x			x	x	x	x	x	x
<i>Anas querquedula</i>		x	x	x				x	x	x		
<i>Anas clypeata</i>	x	x	x						x		x	x
<i>Aythya ferina</i>	x	x	x						x			
<i>Aythya nyroca</i>			x	x	x	x	x		x		x	x
<i>Mergus serrator</i>											x	x
<i>Pernis apivorus</i>					x			x	x			
<i>Milvus migrans</i>			x	x	x			x	x			
<i>Neophron percnopterus</i>				x								
<i>Circus aeruginosus</i>			x	x	x				x			
<i>Circus cyaneus</i>				x								
<i>Circus macrourus</i>									x			
<i>Circus pygargus</i>				x								
<i>Accipiter nisus</i>									x			
<i>Buteo buteo</i>									x			
<i>Aquila pomarina</i>											x	
<i>Hieraaetus pennatus</i>									x			
<i>Pandion haliaetus</i>			x	x	x			x			x	
<i>Falco naumanni</i>			x	x								

Species	J	F	M	A	M	J	J	A	S	O	N	D
<i>Falco tinnunculus</i>			x	x	x				x	x	x	x
<i>Falco vespertinus</i>					x							
<i>Falco columbarius</i>												x
<i>Falco subbuteo</i>				x	x				x			
<i>Falco peregrinus</i>							x					
<i>Coturnix coturnix</i>			x	x								
<i>Rallus aquaticus</i>	x	x	x	x				x	x	x	x	x
<i>Porzana porzana</i>	x	x	x		x			x	x	x	x	x
<i>Porzana parva</i>			x		x					x		x
<i>Gallinula chloropus</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Fulica atra</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Grus grus</i>	x		x							x	x	x
<i>Haematopus ostralegus</i>				x				x	x			
<i>Himantopus himantopus</i>			x	x	x	x	x	x	x	x		
<i>Recurvirostra avosetta</i>			x	x	x			x			x	x
<i>Burhinus eodiceus</i>				x								
<i>Glareola pratensis</i>				x	x							
<i>Charadrius dubius</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Charadrius hiaticula</i>			x	x	x	x	x	x	x	x	x	x
<i>Charadrius alexandrinus</i>	x		x	x	x	x	x	x	x	x	x	x
<i>Charadrius leschenaultii</i>								x				
<i>Charadrius morinellus</i>										x		
<i>Pluvialis apricaria</i>	x								x		x	x
<i>Pluvialis squatarola</i>					x						x	x
<i>Vanellus vanellus</i>	x	x	x	x	x		x			x	x	x
<i>Calidris canutus</i>					x							
<i>Calidris alba</i>				x	x				x	x		
<i>Calidris minuta</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Calidris temminckii</i>				x	x	x	x	x	x			
<i>Calidris ferruginea</i>			x	x	x	x	x	x	x			
<i>Calidris alpina</i>	x			x	x		x	x	x	x	x	x
<i>Philomachus pugnax</i>	x	x	x	x	x	x	x	x	x	x	x	
<i>Lymnocyptes minimus</i>	x	x		x					x	x	x	x
<i>Gallinago gallinago</i>	x	x	x	x	x			x	x	x	x	x
<i>Gallinago media</i>	x			x	x				x	x		
<i>Scolopax rusticola</i>	x											x
<i>Limosa limosa</i>		x	x	x			x	x				
<i>Limosa lapponica</i>						x						
<i>Numenius phaeopus</i>								x				
<i>Numenius arquata</i>				x			x					
<i>Tringa erythropus</i>			x	x	x	x	x	x	x	x	x	
<i>Tringa totanus</i>	x		x	x	x	x	x	x	x	x	x	x
<i>Tringa stagnatilis</i>			x	x				x	x	x		
<i>Tringa nebularia</i>			x	x	x	x	x	x				x
<i>Tringa ochropus</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Tringa glareola</i>			x	x	x	x	x	x	x	x	x	
<i>Actitis hypoleucos</i>	x	x	x	x	x	x	x	x	x	x	x	

Species	J	F	M	A	M	J	J	A	S	O	N	D
<i>Arenaria interpres</i>					x							
<i>Larus melanocephalus</i>	x	x	x				x			x	x	x
<i>Larus minutus</i>		x	x								x	x
<i>Larus ridibundus</i>	x	x	x	x	x	x	x	x		x	x	x
<i>Larus genei</i>			x		x		x	x	x	x		
<i>Larus audouinii</i>		x										
<i>Larus fuscus</i>	x		x	x	x	x				x	x	
<i>Larus argentatus</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Rissa tridactyla</i>			x									x
<i>Gelochelidon nilotica</i>			x	x	x	x	x					
<i>Sterna caspia</i>				x	x					x	x	
<i>Sterna sandvicensis</i>				x				x			x	x
<i>Sterna albifrons</i>					x			x				
<i>Chlidonias hybridus</i>				x	x	x						
<i>Chlidonias niger</i>					x			x	x	x		
<i>Chlidonias leucopterus</i>				x	x					x		
<i>Columba palumbus</i>												x
<i>Streptopelia turtur</i>			x	x	x	x	x	x	x	x		
<i>Cuculus canorus</i>				x	x			x				
<i>Otus scops</i>			x	x								
<i>Asio flammeus</i>			x							x		
<i>Caprimulgus europaeus</i>				x	x							
<i>Apus apus</i>			x	x	x	x	x	x	x	x		
<i>Apus melba</i>				x	x		x			x		
<i>Alcedo atthis</i>	x	x	x	x			x	x	x	x	x	x
<i>Merops apiaster</i>				x	x	x						
<i>Coracias garrulus</i>					x							
<i>Upupa epops</i>			x	x	x			x	x			
<i>Jynx torquilla</i>	x	x	x	x	x			x	x	x	x	x
<i>Calandrella brachydactyla</i>			x	x	x	x	x	x	x	x		
<i>Lullula arborea</i>												x
<i>Alauda arvensis</i>	x	x	x	x						x	x	x
<i>Riparia riparia</i>			x	x	x	x	x	x	x	x		
<i>Hirundo rustica</i>			x	x	x	x	x	x	x	x	x	x
<i>Hirundo daurica</i>				x	x							
<i>Delichon urbica</i>		x	x	x	x	x	x	x	x	x	x	x
<i>Anthus novaeseelandiae</i>										x		
<i>Anthus compestris</i>			x	x	x			x	x	x		
<i>Anthus trivialis</i>			x	x	x			x	x	x	x	
<i>Anthus hodgsoni</i>											x	
<i>Anthus pratensis</i>	x	x	x	x						x	x	x
<i>Anthus cervinus</i>			x	x	x				x	x	x	x
<i>Anthus spinoletta</i>	x	x	x							x	x	x
<i>Motacilla flava</i>			x	x	x	x	x	x	x	x	x	
<i>Motacilla cinerea</i>	x	x	x						x	x	x	x
<i>Motacilla alba</i>	x	x	x	x						x	x	x

Species	J	F	M	A	M	J	J	A	S	O	N	D
<i>Troglodytes troglodytes</i>											x	x
<i>Prunella modularis</i>	x	x	x					x		x	x	x
<i>Cercotrichas galactotes</i>					x							
<i>Erithacus rubecula</i>	x	x	x	x	x			x	x	x	x	x
<i>Luscinia megarhynchos</i>			x	x	x			x	x	x	x	
<i>Luscinia svecica</i>	x		x	x					x	x	x	
<i>Phoenicurus ochruros</i>	x	x	x	x						x	x	x
<i>Phoenicurus phoenicurus</i>			x	x	x			x	x	x	x	
<i>Saxicola rubetra</i>			x	x	x			x	x	x		
<i>Saxicola torquata</i>	x	x	x						x	x	x	x
<i>Oenanthe oenanthe</i>			x	x	x			x	x	x	x	
<i>Oenanthe hispanica</i>				x								
<i>Monticola solitarius</i>	x	x	x	x	x				x	x	x	x
<i>Turdus merula</i>	x	x	x						x	x	x	x
<i>Turdus pilaris</i>	x	x									x	x
<i>Turdus philomelos</i>	x	x	x						x	x	x	x
<i>Turdus iliacus</i>	x									x	x	x
<i>Turdus viscivorus</i>										x	x	x
<i>Cettia cetti</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Cisticola juncidis</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Locustella lusciniodes</i>			x	x				x				
<i>Acrocephalus melanopogon</i>										x	x	x
<i>Acrocephalus schoenobaenus</i>		x	x	x	x	x		x	x	x	x	x
<i>Acrocephalus scirpaceus</i>	x			x	x	x	x	x	x	x	x	
<i>Acrocephalus arundinaceus</i>			x	x	x	x	x	x	x	x	x	
<i>Hippolais icterina</i>				x	x	x		x	x	x	x	
<i>Hippolais polyglotta</i>				x					x			
<i>Sylvia undata</i>	x	x										
<i>Sylvia conspicillata</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Sylvia cantillans</i>			x	x	x		x	x	x	x		
<i>Sylvia melanocephala</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Sylvia curruca</i>				x				x	x	x	x	
<i>Sylvia communis</i>				x	x	x		x	x	x		
<i>Sylvia borin</i>				x	x	x		x	x	x	x	
<i>Sylvia atricapilla</i>	x	x	x	x	x	x			x	x	x	x
<i>Phylloscopus inornatus</i>										x	x	
<i>Phylloscopus bonelli</i>			x	x	x				x			
<i>Phylloscopus sibilatrix</i>			x	x	x			x	x	x	x	
<i>Phylloscopus collybita</i>	x	x	x	x	x				x	x	x	x
<i>Phylloscopus trochilus</i>			x	x	x	x		x	x	x	x	
<i>Regulus regulus</i>	x	x								x	x	x
<i>Regulus ignicapillus</i>	x	x	x							x	x	x
<i>Muscicapa striata</i>				x	x	x		x	x	x	x	
<i>Ficedula parva</i>										x	x	
<i>Ficedula torquata</i>			x	x	x					x		
<i>Ficedula semitorquata</i>				x								
<i>Ficedula hypoleuca</i>			x	x	x			x	x			
<i>Remiz pendulinus</i>	x	x	x							x	x	x

Species	J	F	M	A	M	J	J	A	S	O	N	D
<i>Oriolus oriolus</i>				x	x				x			
<i>Lanius collurio</i>					x				x	x	x	
<i>Lanius excubitor</i>			x									
<i>Lanius senator</i>			x	x	x				x			
<i>Sturnus vulgaris</i>	x	x	x	x	x		x	x	x	x	x	x
<i>Passer hispaniolensis</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Passer montanus</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Fringilla coelebs</i>	x	x	x	x	x	x	x		x	x	x	x
<i>Serinus serinus</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Carduelis chloris</i>	x	x	x	x	x	x	x	x		x	x	x
<i>Carduelis carduelis</i>	x		x	x	x	x	x	x	x		x	x
<i>Carduelis spinus</i>											x	x
<i>Carduelis cannabina</i>	x	x	x	x	x	x	x	x	x	x	x	x
<i>Coccothraustes coccothraustes</i>										x	x	x
<i>Loxia curvirostra</i>							x					
<i>Emberiza pusilla</i>											x	
<i>Emberiza schoeniclus</i>	x	x	x							x	x	x
<i>Miliaria calandra</i>	x	x	x	x	x	x	x	x	x	x	x	x