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Avifauna Diversity of Bahr Al-Najaf Wetlands and the Surrounding Areas, Iraq

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Abstract

The Bahr Al-Najaf area is a natural depression located in the 'Middle Euphrates' area in the upper part of southern Iraq, 170km southwest of Baghdad. It represents a very important transitional area between the true desert regions to the west and the western limit of the alluvial plateau. The present study was conducted over the four seasons of 2015, and the area is located within latitudes (32° 09' 00" and 31° 48' 40"), and longitudes (43° 52' 30" and 44° 22' 00") where seven sampling locations were selected to represent the different environmental features and landscapes present. One hundred and sixty-eight bird species were observed during the surveys. Those bird species were resident breeding species or migrants (both wintering and passage). This illustrates the importance of the area in providing a suitable habitat for such a large spectrum of bird species that forms more than 40% of the entire checklist of the birds of Iraq. Based on the results of the current and previous studies, it seems that Bahr Al-Najaf wetlands and the surrounding areas deserve more protection and management towards better conservation of the natural heritage of the area.

Keywords: Bahr Al-Najaf, Avifauna, Diversity, Wetlands, Conservation, Iraq.

1. Introduction

Iraq is located in the warm stripe between the cold, northern regions and the tropical, hot belt to the south, and that has resulted in enriching its avifaunal profile, both in quantity and diversity as represented by a relatively decent list of birds, most of which occur in considerable numbers (Allouse, 1960, 1961, 1962). Iraq is privileged in being located between the two hemispheres hosting key waterbirds migration routes between Eurasia and Africa (Boere and Stroud, 2006). The diversity of habitats and the variety in landscapes represent an added value in harboring large numbers of migrant birds each migration season, in addition to the resident breeding bird species (Salim *et.al.*, 2006). One of the key habitat types that the migrant birds, especially the waterbirds, use are the wetlands and water bodies, both permanent and temporary, either during their passing over the country or using them as a wintering destination (Salim *et al*., 2009). Bahr Al-Najaf has a strong potential to be one of these key protected wetland areas in Iraq (Salman, 2015).

For these factors, the present study aims at highlighting the ecological importance of Bahr Al-Najaf area through shedding light on the biodiversity content of this area, being poorly known wetlands along with the surrounding areas.

2. Methodology

The Study Area

Bahr Al-Najaf (Sea of Al-Najaf) is considered one of the key wetlands in Iraq that is located in the lower parts of Iraq, in a region called *the Middle Euphrates* to the west of the Euphrates River, and 2km west of Al-Najaf city (Figure 1). The marshes and the adjacent orchards are located to the south of the area that forms the edge of the Alluvial Plateau (Benni, 2001). The area to the north and west of Bahr Al-Najaf consists of the edges of the western desert that extends to the west and south towards the Saudi Arabian deserts. The location of Bahr Al-Najaf being between two different types of habitat regions (wetlands & desert) is reflected distinctively in the morphology of the area, and the rich biological diversity of the area (Mohammad *et al*., 2013b).

The sources of the water that feed the waterbody and the lower marshes are the water springs and oases from the northwest in addition to the local groundwater (Taleb, 2012). The Bahr also receives surface waters from the western side via the watercourses that bring water on a

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seasonal basis from the upland desert to the west after any heavy rains (Al-Aboodi, 2008).

The study area consists of the following different habitat types: The open waterbody of the Bahr Al-Najaf (the lake); The marshes and reedbeds areas; The mudflats and 'Sabkha' (salt-crested soils) areas; The cliff-belt to the east, northeast, and north of the area; The desert and semi-deserted areas to the west; The natural springs that feed the area with permanent water, and The dense orchards and date-palm area to the southeast.

The diversity in topography that has resulted in the habitats and morphological landscapes has provided Bahr Al-Najaf and the surrounding areas with a variety of plant cover, and in turn in the biological diversity in the fauna species in the area (Benni, 2001).

The eastern and southern areas of the Bahr consist of a large variety of wetland habitats, of which the waterbody of the Bahr forms the main component of the study area, as shown in the map and the recent satellite image below:

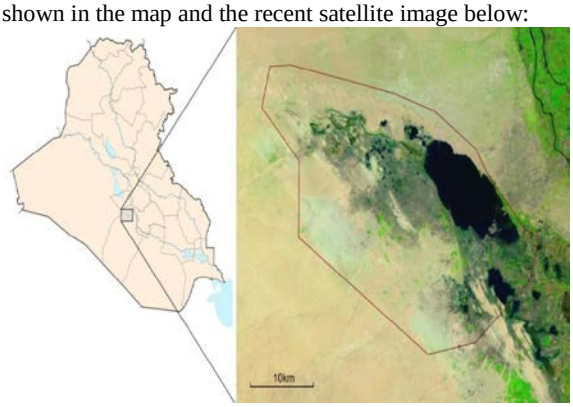

Figure 1. The location of the study area: Bahr Al-Najaf and the surrounding areas (Source: courtesy Land-sat, March 2014)

This research project was conducted in 2015, and surveys were carried out in all the four seasons of that year. The study area spans around 1,000km^2. It is located within the latitudes (32° 09' 00" and 31° 48' 40"), and the longitudes (43° 52' 30" and 44° 22' 00"). GPS coordinates for the seven sites in the study area are presented in (Table 1). The elevation of the study area ranges between 130m asl (above sea level) at the northwestern corner, and 9m asl. at the eastern parts.

An 'Area Count' methodology (Bibby *et al*., 2000) was followed Bahr Al-Najaf wetland in order to gain as thorough an idea as possible about the status of birds and to describe the environmental conditions and assess the different types of threats the area is facing and which affect the birds and their habitats. A Garmin GPS device was used to locate the site with the aid of 1:100,000 maps. 12X45mm binoculars and a 40x spotting scope were used during the observations, and photos were taken with a canon 7D camera with a 50-500mm lens. A 4X4 field vehicle was used to visit the seven observation sites within the study area. A unified field form was designed and used during the count in which the bird species and their numbers were noted. The work of Salim *et al.* (2006), "*Field Guide to the Birds of Iraq*," and that of Porter and Aspinall (2010), "*Birds of the Middle East*," were used to assist in identifying the birds observed at each site. Several interviews with locals and hunters were made in order to gauge the hunting pressure on the bird species in the Bahr Al-Najaf wetland and to collect further information about the other fauna species in the area.

Table 1. Coordinates of the seven sampling sites in Bahr Al-Najaf and surrounding areas

Site	Longitude			Latitude		
	D	M	S	D	M	S
BN1	32	6	0	43	54	17
BN2	32	5	39	44	8	0
BN3	32	7	15	44	1	2
BN4	32	1	19	43	57	27
BN5	31	58	25	44	17	54
BN6	31	53	40	44	17	20
BN7	31	54	19	44	3	13

3. Results

The diversity of the habitats within the study area (Figure 2) that was reflected in the density and distribution of plant cover in addition to the availability of permanent and seasonal water within the area, have influenced the occurrence and distribution of the bird species (both residents and migrants) in the study area in Bahr Al-Najaf.

Each of these habitats types includes 'sub-habitats' as follows: what is the reference of these classification – the different types of the habitats that were observed during the surveys were summarized in this list, so this is what the researchers have found, and was not taken from any references.

Terrestrial habitats: Desert and semi-desert landscape; Arid and salt-crest (Sabkha) landscape, and Cliff and alluvial stripes landscape.

Wetlands habitats: Natural springs and artificial wells; Open-lake landscape; Freshwater marshes with reedbeds; the wet farms and orchards, and Mudflats landscape.

A total of 168 bird species was observed during the different surveys in Bahr Al-Najaf and the surrounding areas.

It was noted that the majority of the avifaunal diversity in the Bahr Al-Najaf area is concentrated either in the wetlands within the study area, or close to those wetlands. The majority of the bird species were found at the edges and the mudflats of the lake and the marsh where large numbers of waders, terns, gulls, herons, and other waterbird species were observed. In comparison, the status of the birds in the desert and the relatively dryer areas was lower in terms of numbers of species and the populations of the birds.

A

B

C

D

Figure 2. Different habitats within study area, A: Marsh, B: Waterbody, C: Sabkha, D: Semi-desert

The following seven sites (BN1-BN7) were observed regularly, and the results of the field observations were as follows:

3.1. BN1

This site is located at the northwestern corner of the study area, 3 km south of the edge of the northern cliff. The highest area in elevation within the study area is located to the north of this site. The site consists of open sandy/gravel desert with very few depressions. There is a small wetland body that seems seasonal to the south of this point. No human activities were observed in this site during the present study. The elevation at this point is 63m asl.

In comparison with the other sampling sites, it seems that this area is poor in bird species, and this might be due to the lack of diversity of habitats and plant cover within this area.

3.2. BN2

This site is located at the edge of the cliff, 5.5 km to the east of the paved road that divides the study area. It consists of a steep cliff that faces the northern part of the Bahr Al-Najaf depression. This site is a suitable habitat for owls and other cave-dwelling bird species. The elevation at this point is 86m asl.

In comparison with the other sampling sites, few bird species were spotted within this area, and this might be due to the lack of diversity of habitats and the lack to the water within this area.

3.3. BN3

This site is located in the upper part of the study area, between the waterbody and the desert. It is a Sabkha habitat (salty soil) and is close to a small wetland. Small-scale human activities were observed to the north of this site. The elevation at this point is 37m asl.

The number of bird species found in this area was more than that observed in the above-mentioned sites combined.

3.4. BN4

This site is located inside the waterbody of Bahr Al-Najaf. It is close to the paved road that runs north to south amid the waterbody and the study area. The habitat of this site consists of open water to the east which continues southwards as well, and a shallow waterbody at the western part. The elevation at this point is 9m asl.

The highest number of bird species was observed in this area. This might be due to the presence of the open-water lake and the muddy shores of the waterbody itself that provided good habitats for a wide spectrum of waders and other waterbirds to feed and rest in their typical habitat.

3.5. BN5

This site is located in the eastern part of the study area, in the middle of a shallow-water marsh habitat of reedbeds *Phragmites* and *Typha*. The area also includes some other aquatic and wetlands plant cover. It seems that this marsh provides a good habitat for marsh-dwelling bird species in addition to facilitating the movement of the buffalo and their keepers. No human activities were observed in this site except the presence of the buffalo-keepers. The elevation at this point is 13m asl.

The number of bird species observed in this site is considerable, compared with the rest of the surveyed sites. Most of the observed birds in this area were herons, terns, waders, and passerines, of which some are threatened species. It seems that this area harbors some endangered species where the Basra Reed Warbler *Acrocephalus griseldis* was recorded in the reedbeds of this freshwater marsh area.

3.6. BN6

This site is located in the southeastern part of the study area, in a seasonal Sabkha marsh, poor with plant cover (salty soil flat area), 4.5 km to the east of the paved road. The elevation at this point is 14m asl.

In comparison with other surveyed sites, this location did not demonstrate good diversity in terms of bird species. Most of the birds that were observed within this site were land birds in addition to some passerines.

3.7. BN7

This site is located at the western part of the study area, 17km to the west of the paved road. This site represents the true desert habitat of which is located in one of the water courses that is common in the desert areas to the west of the study area. There are some scattered shrubs in the area especially at the bottoms of the seasonal watercourses. The elevation at this point is 57m asl.

Most of the bird species that were observed in this area were either desert dwellers or passage birds that use the shrubs of the watercourses almost frequently. Large numbers of passage Passerines were found in the shrubs of the watercourses especially during the migration season. The threatened Macqueen's Bustard *Chlamydotis macqueenii* (VU) was observed in the open, shrubby desert of this area. The locals have reported that the falconers used to collect some Falcons (mainly *Falco cherrug*) from or around this area.

The area is affected directly by the seasonal variation, and this was reflected obviously by the remarkable change in the occurrence of the bird species along the year. Table 2 below clearly shows the seasonal variation in the observed numbers of birds in the study area where the winter held the highest counts of the species number, while summer season was the lowest in numbers. The bird list in the Annex shows the entire bird species that were observed in Bahr Al-Najaf and the surrounding areas.

Table 2. Seasonal variation of bird's occurrence in Bahr Al-Najaf

	Survey	Bird Spp. Numbers
1	Winter (Jan.)	126
2	Spring (Apr.)	82
3	Summer (June)	41
4	Autumn (Sept.)	98

4. Discussion

Based on the results of the present study, and the bird counts during the four seasons of the fieldwork, it seems that the diversity in the landscape and habitats in Bahr Al-Najaf area makes it one of the high-ranked areas in terms of biological diversity, especially in avifauna. Whilst the current study reported 168 bird species in the study area, in a previous survey of the same area, 73 species were recorded (Mohammed *et al.*, 2013a), and this might illustrate the dynamic status of the avifauna in this area. Moreover, it illustrates the level of richness in the bird species in this area at more than 40% of the national checklist (Salim *et al.*, 2012) (see the bird-list in the Annex.1).

The diversity in the morphological features reflected in the plant-cover, in addition to the presence of the freshwater sources (and the groundwater) (Al-Aboodi, 2008) and (Taleb, 2012), have created an active ecosystem that combines a spectrum of desert habitats that extends to intermediate/moist margins, to the actual wetlands in area of Bahr Al-Najaf and the surrounding areas. This has contributed to the richness of the area in fauna species (Mohammad *et al*., 2013a; Mohammed *et al*., 2015), taking into consideration the western extension of the desert landscape that are very important to the migrant birds over Iraq (Ctyroky, 1988) where new bird species are still being discovered, like the recently-recorded Thick-billed Lark from nearby areas (Mohammad *et al*., 2013b). It also seems that some of the recently-recorded bird species have found in Bahr Al-Najaf good hosting habitat where the Black-shouldered Kite *Elanus caeruleus*, Namaqua Dove *Oena capensis*, and Common Mynah *Acredotheres tristis* – all are new species to Iraq, frequently observed in the study area and around it (Salim, 1998, 2002, and 2008).

It was also notable that the highest numbers of the observed bird species and populations are located in or close to the wetlands. The Bird species numbers and population in the (BN4) site were the highest, and this might be due to the availability of water and mudflats that provide a wide range of micro-habitats for these species which attracts migrant waders and waterbirds (that are congregator species) in relatively large numbers (Boere and Stroud, 2006). It seems that the majority of these bird species that visit this wetland for resting and refueling belong to Gull, Tern, Duck, and other wader species are migrants between Eurasia and Africa (Cramp and Simmons, 1983).

The presence of some threatened bird species in Bahr Al-Najaf provides important insight into the significance of the area and why it is eligible for protection. Salim (2011) indicated the serious threat of falconry in the area and in the surrounding deserts, and pointed to the illegal but massive hunting that takes place in these habitats whereby large numbers of threatened birds, like the Macqueen's Bustard *Chlamydotis macqueenii* are shot or trapped. The wetland part of the area is also still a main target for hunters and bird collectors, exactly as is happening with the hunting and netting of threatened waterfowl, such as the Marbled Teal *Marmaronetta angustirostris*, in quite considerable numbers in different wetlands in Iraq (Abed, 2014) which also has a very low distribution around Iraq (Porter and Aspinall, 2010).

The desert parts of the study area seem to hold remarkable wildlife and a variety of bird species. However, further studies and more research with special methodologies are required in this regard. The desert areas seem to harbor some threatened species where the Macqueen's Bustard *Chlamydotis macqueenii* was observed in the open, shrubby desert to the west of the study area. This species is vulnerable according to the IUCN Red list and Bird Life International (Bird Life International, 2011), and is facing serious pressure of hunting and poaching (Salim, 2011). Moreover, the presence of the threatened *Falco cherrug* gives the study area and the surrounding areas special priority for conservation and management.

Based on the results of the present study, Bahr Al-Najaf is still one of the poorly known but biodiversely rich areas

in Iraq, and represents a very important habitat for fauna on the national level. The area has several first or second records for species in Iraq (Salim, 1998, 2008; Mohammad *et al.*, 2013b). The number of these new bird species is an indicator of the virginity of the area and the necessity for more scientific and technical effort to better cover the flora and fauna of this relatively unknown area.

The present study supports the finding that two seasons (winter and autumn) are the highest in terms of bird species numbers, while spring and summer are relatively poorest in the occurrence of the bird species (Figure 3). For several reasons, including the severe hot temperature in this area during summer, and based on the results of the current fieldwork, only 41 bird species were observed in the area of which the majority was observed as breeding species that belong to either the resident or the summer-visitor populations (Mohammad *et al.*, 2013a).

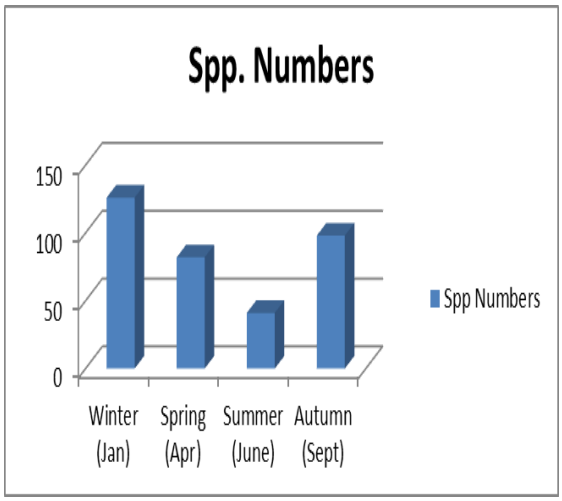

Figure 3. Migrant and resident bird species observed in Bahr Al-Najaf over the various seasons

The difference in the number of the species and the bird populations in this area over the different seasons might be due to different factors. Some key factors are the arrival of the migrant birds, in addition to the variety of the floral conditions in the area, and the diversity and availability of foraging areas and food that differ from season to season (Abbas *et al*., 2015; Mohammad *et al.*, 2015.

The study area seems to hold a considerable number of threatened birds according to the IUCN Redlist (http://www.iucnredlist.org). Within the present study, eleven threatened bird species were observed in the area, of which two were endangered, four were vulnerable, and five species were near-threatened (Table 3). This makes the study area and the surrounding areas eligible for more protection; this is in agreement with and supports what Salman (2015) mentioned in her recommendations.

Table 3. Threatened and conservation concern bird species observed in Bahr Al-Najaf and surrounding areas

Bird Species	Scientific Name	Conservation Status *
Egyptian Vulture	*Neophron percnopterus*	E
Basra Reed Warbler	*Acrocephalus griseldis*	E
Marbled Duck	*Marmaronetta angustirostris*	V
Greater Spotted Eagle	*Aquila clanga*	V
Saker Falcon	*Falco cherrug*	V
Macqueen's Bustard	*Chlamydotis macqueenii*	V
Ferruginous Duck	*Aythya nyroca*	NT
Pallid Harrier	*Circus macrourus*	NT
Black-tailed Godwit	*Limosa limosa*	NT
European Roller	*Coracias garrulous*	NT
Semi-collared Flycatcher	*Ficedula semitorquata*	NT

5. Conclusion and Conservation Issues

Bahr Al-Najaf wetlands and the surrounding areas complex is an area of high diversity in terms of landscapes and habitats, which can be grouped into terrestrial and aquatic habitats.

This considerable diversity in habitats and landscapes is a major factor contributing to the richness of the area in terms of flora and fauna (especially avifauna), in turn. Both groups of birds, the resident and migrant species, use the different habitats that provide shelter and food. The area also harbors considerable congregations of waterfowl and large numbers of passerines during the migration and wintering seasons. A considerable proportion of the birds observed in this area were under some kind of threat, which makes it an area eligible for protection and environmental management, either as a Ramsar site or as another kind of protected areas.

A Notable but serious list of threats was observed after the intensive fieldwork at and around the area. The major threat that the birds in Bahr Al-Najaf area face is hunting and poaching, and these activities target even the threatened species, like the Macqueen's Bustard and falcons. The unsustainable use of the basic natural resources, like the harvesting of natural spring water for fish farming, is considered as an additional threatening factor. The intensive fish farming mostly occurs upstream at the upper-western parts of the area and by some of the nearby agricultural farms. The area faces other types of threats as well. The disposal of solid waste, disturbance, and unsustainable fishing, although on a small scale, were also documented within the area. The chemical pollution from agricultural drainage water might be an added threat. However, this requires further study to be confirmed. There might also be a potential threat from urban expansion, especially in the lower parts of the area.

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Annex (1)

Checklist of the Birds of Bahr Al-Najaf Wetlands and the Surrounding Areas

Bird Species	Scientific Name
Black Francolin	*Francolinus francolinus*
Eastern Greylag Goose	*Anser anser rubrirostris*
Greater White-fronted Goose	*Anser albifrons*
Common Shelduck	*Tadorna tadorna*
Ruddy Shelduck	*Tadorna ferruginea*
Gadwall	*Anas strepera*
Mallard	*Anas platyrhynchos*
Northern Shoveler	*Anas clypeata*
Northern Pintail	*Anas acuta*
Eurasian Teal	*Anas crecca*
Marbled Duck	*Marmaronetta angustirostris*
Ferruginous Duck	*Aythya nyroca*
Little Grebe	*Tachybaptus ruficollis*
Great Crested Grebe	*Podiceps cristatus*
Greater Flamingo	*Phoenicopterus roseus*
Western White Stork	*Ciconia ciconia*
Glossy Ibis	*Plegadis falcinellus*
Eurasian Spoonbill	*Platalea leucorodia*
Little Bittern	*Ixobrychus minutus*
Black-crowned Night Heron	*Nycticorax nycticorax*
Squacco Heron	*Ardeola ralloides*
Western Cattle Egret	*Bubulcus ibis*
Grey Heron	*Ardea cinerea*
Purple Heron	*Ardea purpurea*
Little Egret	*Egretta garzetta*
European Honey Buzzard	*Pernis apivorus*
Black-shouldered Kite	*Elanus caeruleus*
Black Kite	*Milvus migrans*
Egyptian Vulture	*Neophron percnopterus*
Short-toed Snake Eagle	*Circaetus gallicus*
Western Marsh Harrier	*Circus aeruginosus*
Hen Harrier	*Circus cyaneus*
Pallid Harrier	*Circus macrourus*
Eurasian Sparrowhawk	*Accipiter nisus*
Steppe Buzzard	*Buteo buteo vulpinus*
Long-legged Buzzard	*Buteo rufinus*
Greater Spotted Eagle	*Aquila clanga*
Steppe Eagle	*Aquila nipalensis*
Lesser Kestrel	*Falco naumanni*
Common Kestrel	*Falco tinnunculus*
Eurasian Hobby	*Falco subbuteo*
Saker Falcon	*Falco cherrug*
Peregrine Falcon	*Falco peregrinus*
Macqueen's Bustard	*Chlamydotis macqueenii*

Bird Species	Scientific Name
Water Rail	*Rallus aquaticus*
Little Crake	*Porzana parva*
Purple Swamphen	*Porphyrio porphyrio*
Common Moorhen	*Gallinula chloropus*
Eurasian Coot	*Fulica atra*
Common Crane	*Grus grus*
Eurasian Stone-curlew	*Burhinus oedicnemus*
Black-winged Stilt	*Himantopus himantopus*
Pied Avocet	*Recurvirostra avosetta*
Northern Lapwing	*Vanellus vanellus*
Spur-winged Lapwing	*Vanellus spinosus*
Red-wattled Lapwing	*Vanellus indicus*
White-tailed Lapwing	*Vanellus leucurus*
Common Ringed Plover	*Charadrius hiaticula*
Little Ringed Plover	*Charadrius dubius*
Kentish Plover	*Charadrius alexandrinus*
Common Snipe	*Gallinago gallinago*
Black-tailed Godwit	*Limosa limosa*
Spotted Redshank	*Tringa erythropus*
Common Redshank	*Tringa totanus*
Marsh Sandpiper	*Tringa stagnatilis*
Common Greenshank	*Tringa nebularia*
Green Sandpiper	*Tringa ochropus*
Wood Sandpiper	*Tringa glareola*
Terek Sandpiper	*Xenus cinereus*
Common Sandpiper	*Actitis hypoleucos*
Ruddy Turnstone	*Arenaria interpres*
Temminck's Stint	*Calidris temminckii*
Curlew Sandpiper	*Calidris ferruginea*
Ruff	*Philomachus pugnax*
Cream-coloured Courser	*Cursorius cursor*
Collared Pratincole	*Glareola pratincola*
Slender-billed Gull	*Chroicocephalus genei*
Common Black-headed Gull	*Chroicocephalus ridibundus*
Great Black-headed Gull	*Larus ichthyaetus*
Armenian Gull	*Larus armenicus*
Gull-billed Tern	*Gelochelidon nilotica*
Caspian Tern	*Hydroprogne caspia*
Little Tern	*Sternula albifrons*
Whiskered Tern	*Chlidonias hybrida*
White-winged Tern	*Chlidonias leucopterus*
Pin-tailed Sandgrouse	*Pterocles alchata*
Spotted Sandgrouse	*Pterocles senegallus*
Rock Dove	*Columba livia*
Common Woodpigeon	*Columba palumbus*
European Turtle Dove	*Streptopelia turtur*

Bird Species	Scientific Name
Eurasian Collared Dove	*Streptopelia decaocto*
Laughing Dove	*Streptopelia senegalensis*
Namaqua Dove	*Oena capensis*
Rose-ringed Parakeet	*Psittacula krameri*
Western Barn Owl	*Tyto alba*
Pallid Scops Owl	*Otus brucei*
Pharaoh Eagle Owl	*Bubo ascalaphus*
European Nightjar	*Caprimulgus europaeus*
Egyptian Nightjar	*Caprimulgus aegyptius*
Common Swift	*Apus apus*
Indian Roller	*Coracias benghalensis*
European Roller	*Coracias garrulus*
White-throated Kingfisher	*Halcyon smyrnensis*
Common Kingfisher	*Alcedo atthis*
Pied Kingfisher	*Ceryle rudis*
Blue-cheeked Bee-eater	*Merops persicus*
European Bee-eater	*Merops apiaster*
Eurasian Hoopoe	*Upupa epops*
Red-backed Shrike	*Lanius collurio*
Daurian Isabelline Shrike	*Lanius isabellinus*
Lesser Grey Shrike	*Lanius minor*
Steppe Grey Shrike	*Lanius pallidirostris*
Woodchat Shrike	*Lanius senator*
Eurasian Magpie	*Pica pica*
Rook	*Corvus frugilegus*
Mesopotamian Crow	*Corvus capellanus*
Brown-necked Raven	*Corvus ruficollis*
Hypocolius	*Hypocolius ampelinus*
Greater Hoopoe-Lark	*Alaemon alaudipes*
Desert Lark	*Ammomanes deserti*
Crested Lark	*Galerida cristata*
Eurasian Skylark	*Alauda arvensis*
Thick-billed lark	*Rhamphocoris clotbey*
White-eared Bulbul	*Pycnonotus leucotis*
Sand Martin	*Riparia riparia*
Barn Swallow	*Hirundo rustica*
Cetti's Warbler	*Cettia cetti*
Common Chiffchaff	*Phylloscopus collybita*
Basra Reed Warbler	*Acrocephalus griseldis*
Great Reed Warbler	*Acrocephalus arundinaceus*
Eastern Olivaceous Warbler	*Iduna pallida*
Upcher's Warbler	*Hippolais languida*
Icterine Warbler	*Hippolais icterina*
Zitting Cisticola	*Cisticola juncidis*
Graceful Prinia	*Prinia gracilis*
Iraq Babbler	*Turdoides altirostris*

Bird Species	Scientific Name
Afghan Babbler	*Turdoides huttoni*
Eurasian Blackcap	*Sylvia atricapilla*
Lesser Whitethroat	*Sylvia curruca*
Eastern Orphean Warbler	*Sylvia crassirostris*
Asian Desert Warbler	*Sylvia nana*
Common Whitethroat	*Sylvia communis*
Ménétries's Warbler	*Sylvia mystacea*
Common Myna	*Acridotheres tristis*
Common Starling	*Sturnus vulgaris*
European Robin	*Erithacus rubecula*
Bluethroat	*Luscinia svecica*
Common Nightingale	*Luscinia megarhynchos*
Rufous-tailed Scrub Robin	*Cercotrichas galactotes*
Black Redstart	*Phoenicurus ochruros*
Common Redstart	*Phoenicurus phoenicurus*
Whinchat	*Saxicola rubetra*
Siberian Stonechat	*Saxicola maurus*
Isabelline Wheatear	*Oenanthe isabellina*
Northern Wheatear	*Oenanthe oenanthe*
Eastern Black-eared Wheatear	*Oenanthe melanoleuca*
Desert Wheatear	*Oenanthe deserti*
Spotted Flycatcher	*Muscicapa striata*
House Sparrow	*Passer domesticus*
Spanish Sparrow	*Passer hispaniolensis*
Dead Sea Sparrow	*Passer moabiticus*
Yellow Wagtail	*Motacilla flava*
Black-headed Wagtail	*Motacilla* (*flava*) *feldegg*
Grey Wagtail	*Motacilla cinerea*
White Wagtail	*Motacilla alba*
Meadow Pipit	*Anthus pratensis*
Water Pipit	*Anthus spinoletta*
Corn Bunting	*Emberiza calandra*