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A review of the shorebirds of Iraq:status and habitats

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Abstract

Iraq has a vast aquatic landscape of the Tigris and Euphrates rivers basin; Shatt al-Arab river is formed at the confluence of these rivers, which flows into the Arabian Gulf. Several aquatic habitats, including vast salt marshes, mudflats, and seasonal shallow lakes, are also found on the banks of the two rivers. The variety of these habitats would tempt many species of shorebirds to visit their diverse habitats during migration.This study aims to provide sufficient information to enable a complete understanding of the status and habitats of shorebirds in Iraq. The current study included 46 species recorded in Iraq that visit different water bodies. These birds belong to six families that have: **Haematopodidae** (one species), **Charadriidae** (15 species), **Recurvirostridae** (Two species), **Scolopacidae** (25 species), **Dromadidae** (one species), and **Glareolidae** (Two species). On the other hand, among these species, there were nine species breeding, seven species resident, and 39 species distributed between a winter visitor, summer visitor, and passage migrant. The study concluded that ten species of shorebirds are important conservation priorities in Iraq. They are red-listed by the IUCN Red List, of which two species are Critically Endangered (CR), and eight species are Near Threatened (NT).

Keywords: Aquatic, Habitats, Iraq, Mesopotamia, Review, Shorebirds.

Introduction

Mesopotamian aquatic habitats of Iraq consisted of vast marshes, rivers, and lakes that represent the most important habitats for bird migration routes throughout Western Asia, highlighting their importance as a major wintering and resting area for migratory shorebirds (Scott and Evans, 1994). This route belongs to the West Asia - East Africa flyway, one of the eight global routes of shorebird migration (Boere and Stroud, 2008).

Shorebirds occupy wetland, coastal habitats, littoral banks, and mudflats. They wader inshallow waters to search for prey on or in sediments (Piersma, 2003; Both *et al*., 2003; Piersma, 2007) and are often referred to as long-leggedbirds. Their long beaks enable them to wade inside muddy and sandy sediments searching for prey such as Mollusca, crustaceans, worms, insects,and other small aquatic organisms (Mcpeake and Aycock, 2015).

Shorebirds live, breed, and feed along shorelines, such as ocean beaches,estuaries, salt marshes, freshwater lakes, and wetlands. They depend on these habitats to select nests, raise young, and feed, especially in intertidal areas (Gochfeld, 1984). Most of these birds congregate in appropriate flocks and are often seen in mixed flocks of several species (Colwell, 2000). The rate of laying eggs for these birds ranges from 2 to 4 eggs per breeding season, and the nests are usually open and unprotected, consisting of scraps in the sand (Piersma, 2003). Chicks are from the precocial nest, as their bodies are completely covered with fluff, and their eyes are open and capable. They are on the

move to leave the nest immediately but remain in the parents' care for some time (Visser and Ricklefs, 1993).

A review of previous studies

From 1914 – to 1926, the major professional ornithologists of Iraq and researchers (Meinertzhagen, 1914; Thornhill, 1918; Ticehurst et al., 1921; 1926) have recorded several observations related to shorebirds in Iraq. Based on the observations mentioned above, many shorebirds were recorded for the first time in Iraq, some of them were residents, and others were migratory or on passage. These observations also included a record of some waterbirds, including species of migrant shorebirds that visit Iraq during the migration seasons. These were followed by Allouse's (1953) study of birds in northern and central Iraq. These studies comprise some of the shorebirds in these regions. Chapman and McGeoch (1956) study included some field observations in southern Iraq between August 1952 and August 1954 and provided valuable information about migratoryshorebirds in Basrah province. Followed by a study by Moor and Boswell (1956) on birds found in northern, southern, and central Iraq and included a summary of what bird species were seen between the years 1941-1945 in the regions of Zakho, Penguin, Mosul, Baghdad, Kut, Hamrin Mountains, and Basrah as above surveys recorded 40 species of shorebirds.

According to Allouse (1960; 1961;1962). It summarizes the birds recorded in Iraq over the previous years, in addition to the author's notes, and it is a worthy scientific effort.Moreover, an essential reference for recording and classifying Iraqi birds. This scientific product included a recording and description of 46 species of shorebirds in Iraq, explaining their status and habitats.

Scott and Carp (1982) estimated the number of waterbirds in southern Iraq to be about 324,602 birds belongingto 79 species. They mentioned that the wide muddy beach in Al- Hammar marsh provides an excellent habitat for shorebirds. More than 800 waders were recorded, including mainly the Kentish plover *Charadrius alexandrinus*, Dunlin *Calidris alpina*, and Little stint *C. minuta*. The International Waterfowl and Wetland Research Bureau (IWRB), whichis the important party in publishing statistics about waterfowl, adopted four surveys in Iraq during the winter of 1967/1968, 1972, 1975, and 1979 respectively, and it was estimated that there are several million birds in the region (Scott, 1995). Al-Robaae (1986) summarized his observations of many waterbirds, mostly shorebirds, in different habitats around Basrah province, including desert areas, marshes, ponds, and rivers, recorded 42 species of birds, including several shorebirds such as the White-tailed Lapwing *Vanellus leucurus*, Black-winged stilt *Himantopus himantopus*, and others. Abed (2007), in his survey of three restored southern marshes, recorded 13 species of shorebirds. Habeeb (2008) recorded, during his study of waterbirds in East Hammar marsh and Al Safia reserve in Al Hawizeh marsh, 26 species of shorebirds. Porter *et al*. (2010) contribute a provisional checklist of the birds of Iraq up to December 2009. It is based on an extensive review of the ornithological literature in this study. They mentioned the recorded 46 species of shorebirds during previous surveys. Al-Robaae and Habeeb (2011) recorded 21 species of shorebirds in Al Safia reserve and consisting mainly of Black-tailed Godwit Limosa *limosa*. Salim *et al.* (2012) summarize the status of birds recorded in Iraq up to January 2012. They mentioned that 46 species of shorebirds were recorded in Iraq. Habeeb (2014) recorded the presence and abundance of 20 species of shorebirds in the muddy littoral zone of the East Hammar marsh numerically. Salim and Abed (2017) studied the diversity of birds in the wetlands of the

Najaf Sea depression and the surrounding areas for four seasons in 2015, recording 168 species, including 26 species of shorebirds. Fazaa *et al*. (2017) survey the birds in the central marshes in southern Iraq from October 2013 to January 2014, recording 125 species, including 20 species of shorebirds. Habeeb et *al.* (2018) assessed the biodiversity of shorebirds in the East Hammar marsh and recorded 27 species belonging to four families. Habeeb *et al.* (2019) surveyed shorebirds in the Shatt al- Arab estuary in North West Arabian Gulf and recorded 20 species belonging to four families.

This study aims to provide sufficient information to enable a complete understanding of the status and habitats of shorebirds in Iraq and help facilitate discussion of how to protect and preserve this important group of shorebirds in Iraq.

Methodology

More than 30 references are cited in this article regarding shorebirds in Iraq. During the current study, the status and habitats of these birds in Iraq were diagnosed based on the following references as well as the researcher's observations (Allouse, (1961); Salim *et al*. (2006); Porter *et al*. (2010); Salim *et al*. (2012) and Salim and Porter (2015).

Species globally threatened with extinction or near threatened are indicated as either CR (Critically Endangered), E (Endangered), V (Vulnerable) or NT (Near Threatened) in addition to LC (Least Concern), depending on BirdLife International (2020). During the review, some terms were mentioned that could be summarized as follows:

Resident: Birds in a certain area throughout the year and over the generations to breed in it and take care of their chicks without moving to another area.

Passage migrant: Migratory birds and the long-distance travel during their migration, forces them to descend for some time in some areas on their migratory route to provide food and rest, and then continue their migration.

Rare: used in general for species that seem to have been recorded on four to ten occasions.

Uncommon: seen only occasionally even if the bird watcher is in an appropriate habitat during the suitable season.

Winter visitor: Birds that arrive in autumnfrom the north (Siberia and western European) to spend the winter season.

In spring, and summer visitors: Birds that arrive from Africa and India to spend the summer season usually breed.

Shorebirds families and species

Shorebirds belonged to the Order Charadriiformes within Suborder Charadrii. In Iraq, these species belong to six families:

1- Family: Haematopodidae included Oystercatcher.

Birds of this order have a large, long beak, with compressed sides and not tapering and with a sharp tip, so they can open oyster shells with their strong, sharp beak and feed on oysters and other softshells, crustaceans and worms. These species usually frequent the coasts of seas and sometimes rivers and marshes (Allouse, 1961; Benson, 1966; Jones *et al*., 2009; BirdLife international, 2020). Includes one species.

Eurasian Oystercatcher *Haemantopus ostralegus* (NT)

Status: Uncommon Passage migrant and winter visitor, sometimes recorded in Summer. It is found in the southern region, mostly in the coastal region in Faw, the far south of Iraq for most of the months of the year, but its breeding there is uncertain.

Habitat: The banks of lakes and rivers. It is found mainly on the coast of Faw and Khor Abdullah in winter. It nestles on the ground.

Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010).

2- Family: Charadriidae included Plovers and Lapwing.

This family includes small to medium-sized shorebirds; their heads are generally round, their beaks are relatively short, straight, and pointed, they have a bit narrow in the middle, and their legs are rather long. Theyusually lay their nests on sandy beaches or grasslands and feed on nematodes, worms, insects, and crustaceans, especially their larvae in the aquatic habitats. (Allouse, 1961; Benson, 1966; Jones *et al*., 2009; BirdLife international, 2020). Includes 15 species, which is as follows:

Little Ringed Plover *Charadrius dubius* (LC)

Status: Passage migrants, maybe breed in suitable habitats, after which itspreads near different water bodies.

Habitat: Mainly in areas close to freshwater, banks of lakes, brackish habitats and marshes. In winter, it is found on the coasts and inland areas. It nestles on the ground.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting seven individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 247 individuals.

Common Ringed Plover *Charadrius hiaticula* (LC)

Status: Passage migrant, winter visitor. However, numbers of them remain to spend the winter in suitable environments.

Habitat: Mud and sand beaches, marshes and ponds, whether coastal or inland.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 32 individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 61 individuals.

Kentish Plover *Charadrius alexandrinus* (LC)

Status: Resident breeder, winter visitor. It breeds in the central and southern regions.

Habitat: It is often seen on muddy, sandy beaches and dry mudflats, often coastal and inland, near salt pools and marshes. It nestles on the ground.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 95 individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 2184 individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 642 individuals.

Lesser Sand Plover *Charadrius mongolus* (LC)

Status: Uncommon Winter visitor, Passage migrant within the region in general.

Habitat: coast and mudflats in Shatt al-Arab estuary and Khor Abdullah.

Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010).

Greater Sand Plover *Charadrius leschenaultia* (LC)

Photo by Adil F. Abbas (2018) Shatt al-Arab estuary

Status: A Winter visitor in the southern coastal region may migrate to the north and move away from the coasts but in rare cases.
Habitat: Coastal birds on intertidal zones in Shatt al-Arab estuary and Khor Abdullah, dry beaches, or salt-water bodies
Last recording and count: Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), which count 113 individuals.

Caspian Plover *Charadrius asiaticus* (LC)

Status: Status uncertain, maybe a rare passage migrant, its numbers appearto be the most common throughout the central region of Iraq in suitable environments.
Habitat: Fields, grassy plains, semi-desert areas, as well as the coast and sometimes in marshes.
Last recording and count: Al-Robaae and Habeeb (2011) recorded it in the Al Saffia sanctuary (Jan.2009-Nov.2009), counting 12 individuals.

Eurasian Dotterel *Eudromias morinellus* (LC)

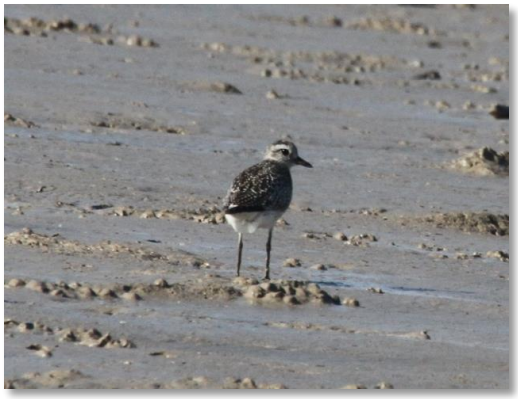

Photo by Adil F. Abbas (2018) Shatt al-Arab estuary

Status: Uncommon Winter visitors in suitable regions may be breeding in the plains of the northern and central regions more than in thesouthern region.
Habitat: Sometimes, mudflat of Shatt al –Arab estuary and semi-desert areas are unsuitable for agriculture and often far from water.
Last recording and count: Habeeb *et al*. (2019) recorded it in the Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting four individuals.

Pacific Golden Plover *Pluvialis fulva* (LC
Status: Status uncertain, probably a rare winter visitor, it was seen a fewtimes around the marshes of the central and southern regions.
Habitat: It is found on mudflats of marshes and the coast of Faw and grass pastures andagricultural fields.

Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010).

Eurasian Golden Plover *Pluvialis apricaria* (LC)
Status: Status uncertain, maybe a rare winter visitor, it was seen a few times around the marshes of the central region.
Habitat: Dry and wet pastures, harvested lands and sometimes coasts.
Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010).

Grey plover *Pluvialis squatarola* (LC)
Status: Rare winter visitors, It was only seen in the coastal area of Fawregion in the far south of Iraq.
Habitat: The coastal intertidal zones of Faw and Khor Abdullah and sometimes the inland areas around the lakes and

ponds.

Last recording and count: Nature Iraq KBA database 2005-2009 according (Porter *et al*., 2010).

Spur-winged Lapwing *Vanellus spinosus* (LC)

Status: Resident breeder. It is found in the central region more thanothers, where it mainly breeds there and spreads after the breeding seasonhother water bodies throughout Iraq.

Habitat: The edges of fresh and salt marshes, and irrigation channels with short vegetation. It nestles in dry clay lands or nearby sandy areas.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 38 individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting one individual.

Red – watteled Lapwing *Vanellus indicus* (LC)

Status: Resident breeder. It spreads after the breeding season and is noticedin most Iraqi wetlands.

Habitat: Open areas, usually near freshwater, prefer agricultural land. It nestles on the ground.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 56 individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 316 individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 23 individuals.

Sociable Lapwing *Vanellus gregarious* (CR)

Sociable Lapwing *Vanellus gregarius* is a migratory shorebird listed on the IUCN Red List as Critically Endangered based on severe population declines across its range. Population declines of the critically endangered Sociable Lapwing are maybe due to high mortality along its migration routes or on its wintering grounds, both of which are very poorly known.

Status: A rare passage migrant in suitable habitats of Iraq, but their numbers are constantly decreasing in general.

Habitat: Semi-desert areas, plains, and cultivated fields in winter orbarren. Rare on the coasts and mudflats.

Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010).

White-tailed Lapwing *Vanellus leucurus* (LC)

Status: Resident breeder, it spreads to a wider extent from north to south after breeding.

Habitat: Fresh or saltwater pools, marshes and flooded plains. It nestles on the ground and sometimes forms colonies.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 491 individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 2094 individuals. Habeeb *et al*. (2019) recorded it in the Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting six individuals.

Northern Lapwing *Vanellus vanellus* (NT)

Status: Uncommon Winter visitor, as it forms groups during the Autumnand Spring migration seasons.

Habitat: Open fields, marshes, shallow ponds and coasts. It nestles on the ground.

Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010) .

3- Family: Recurvirostridae included (Avocets and Stilts).

Birds of this family comprise medium-sized shorebirds, gathering in their white and black plumage and having a very long, fine-shaped beak. It feeds on aquatic invertebrates such as shrimp, aquatic insects, worms, and soft worms, either by sweeping with the beak open somewhat,as

in the Avocet or by picking them up from the surface of the water or sediments, as in the Stilts. (Allouse, 1961; Benson, 1966; Jones *et al*., 2009 sediments, as in the Stilts. (Allouse, 1961; Benson, 1966; Jones *et al*., 2009; BirdLife international, 2020). Includes two species, which is as follows:

Black - winged Stilt *Himantopus himantopus* (LC)

Status: Resident breeder. It is very common in Iraq's central and southern regions, as it breeds on a large scale. It tends to form groups after breeding to spread in Winter all over Iraq.

Habitat: Shallow freshwater or salt marshes, ponds, and Shatt Al Arab estuary. It nestles on the ground.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 617 individuals. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 642 individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 57 individuals.

Pied Avocet *Recurvirostra avosetta* (LC)

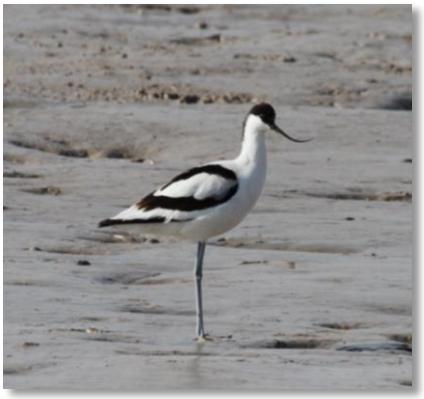

Photo by Adil F. Abbas (2018)Shatt al-Arab estuary

Status: Resident breeder, Winter visitor. It is found in suitable habitats during most of the months of the year and also breeding in areas suitable for its breeding within the central region of Iraq. It breeds as colonies near shallow water. During winter, it spreads to cover a wider range, reaching to the south as it is found over various water bodies.

Habitat: Exposed mudflats in marshes, rivers, beaches, and temporary water ponds around cities.

Last recording and count: Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 393 individuals.

4- Family: Scolopacidae included (Sandpipers, Snipes, Godwits, Stints, Curlews, Turnstone, Dunlin, Ruff, and Phalaropes).

It is one of the largest families of this suborder. It includes several species, which are shorebirds spread around the world and vary between small and medium in size, and many of them winter in Iraq or pass through it on the way of migration. Their bodies tend to be thin rather than fat, with small heads, relatively long necks, and thin, pointed beaks, devoid of narrow as in the family of Charadriidae, and most of them tend to associate with members of their genus. It feeds on invertebrates such as worms, insects, crustaceans that live in banks and coasts, sediments, and aquatic plants. (Allouse, 1961; Benson, 1966; Jones *et al*., 2009; BirdLifeinternational, 2020). Includes 25 species, which is as follows:

Sanderling *Calidris alba* (LC)

Status: Winter visitor, Passage migrant in the south area of Iraq, It may move away from the sea's coasts, and there are

small numbers of it found within the central region.

Habitat: Sandy beaches, mudflats and wetlands.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting one individual.

Little stint *Calidris minuta* (LC)

Status: A common Winter visitor, it flocks arrive in the Autumnand leave in the Spring.

Habitat: Coasts, mudflats and inland wetlands of Iraq.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 16 individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 834 individuals. Habeeb *et al*. (2019) recorded it in the Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 72 individuals.

Temmnick's Stint *Calidris temminckii* (LC)

Status: Winter visitor in central and south areas and passage migrant in north of Iraq.

Habitat: In shallower areas of the wetlands and often in ponds and inlands marshes.

Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010).

Curlew Sandpiper *Calidris ferruginea* (NT)

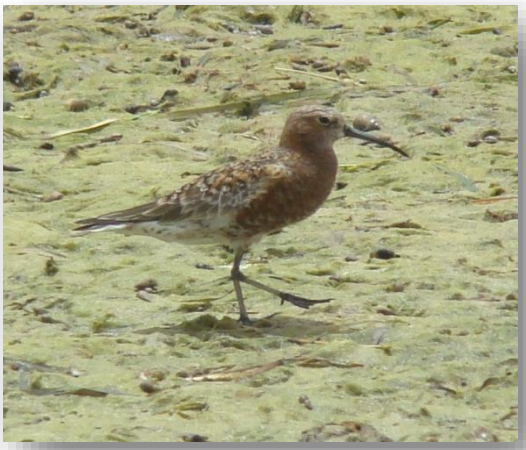

Photo by Muhana K. Habeeb (2018)East Hammar marsh

Status: Passage migrant in central and south of Iraq, not recorded in the north area.

Habitat: Muddy coasts, Marshes, and all types of water bodies.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting seven individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting three individuals.

Dunlin *Calidris alpine* (LC)

Status: Common Winter visitor in central and south of Iraq, passage migrant in north region. Its members arrive early and leave late, and some of them may remain in the Summer without breeding.

Habitat: Coastal mudflats, Shatt al-Arab estuary and inland wetlands like marshes.

Last recording and count: Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 777 individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), which count 91 individuals.

Jack Snipe *Lymnocryptes minimus* (LC)

Status: Rare Winter visitor especially in southern area; passage migrant throughout Iraq. More common in the autumn than in the Spring.

Habitat: Inland marshes, lakes' beaches, and sometimes estuaries like Shatt al-Arab estuary.

Last recording and count: Scott and Carp (1982).

Common Snipe *Gallinago gallinago* (LC)

Status: Winter visitor in suitable habitats throughout Iraq. It arrives early at the end of Summer and leaves in the Spring.

Habitat: Wet pastures and sides of marshes.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), count 25 individuals. Habeeb *et al*.(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), count 393 individuals.

Great Snipe *Gallinago media* (NT)

Status: Rare passage migrant.

Habitat: The drier areas of common Snipe such as harvested fields, rugged pastures, and marshes.

Last recording and count: Moor and Boswell (1956)

Black-tailed Godwit *Limosa limosa* (NT)

Photo by Adil F. Abbas (2018)Shatt al-Arab estuary

Status: A Winter visitor in the appropriate places, where is concentrated inthe southern region of Iraq. Individuals of it may remain in the Summer without breeding. Passage migrant in central and northern regions.

Habitat: Rivers littoral zone, shallow Freshwater banks, scrublands, marshes, and mudflat of Shatt al- Arab estuary.

Last recording and count: Al-Robaae and Habeeb (2011) recorded it in Al Saffia sanctuary (Jan.2009-Nov.2009), count 1095 individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 116 individuals.

Bar-tailed Godwit *Limosa lapponica* (NT)

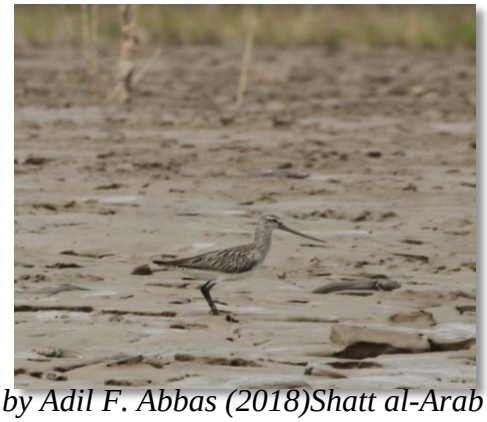

Photo by Adil F. Abbas (2018)Shatt al-Arab estuary

Status: Winter visitor, but in small numbers in the southern region of Iraq, and may be present in smaller numbers in the central region.

Habitat: Usually coasts, mudflats, sandy beaches, Shatt al- Arab estuary and marshes.

Last recording and count: Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), count 11 individuals.

Slender-billed Curlew *Numenium tennuirostris* (CR)

Status: Very rare Winter visitor, last record was in 1979.

Habitat: Mudflats, beaches and banks of freshwater ponds and marshes.

Last recording and count: According to Ticehurst *et al*. (1921-1922) ″ Buxton saw many on 16 December 1917 in a temporary winter lake in a hollow in the bare desert ten miles north of Amara and secured a specimen″. However, 62 years elapsed before the next record, also of a small flock (six birds) on the southern shore of Al Hammar marsh on 27 January 1979 (Scott and Carp, 1982). This was followed very rapidly by a record of single bird in the Al Hammar marsh near Nasiriya in the Autumn of 1979 (Gretton, 1991). Because of the vast extent of the habitat suitable for *N. tennuirostris* in Mesopotamia and the insufficient coverage of these wetlands by ornithologists, there is a distinct possibility that a significant wintering population of this endangered continues to survive there.

Whimbrel *Numenium phaeopus* (LC)

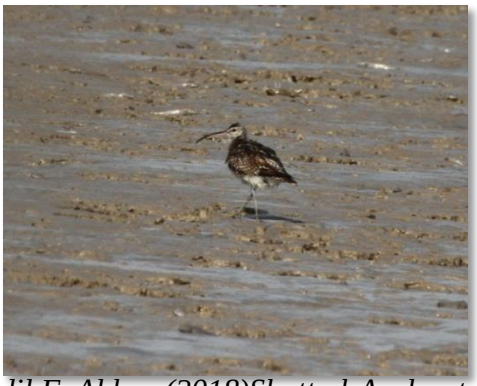

Photo by Adil F. Abbas (2018)Shatt al-Arab estuary

Status: Passage migrant in Iraq, maybe Winter visitor in Faw region / Shatt al-Arab estuary where few numbers stay in the winter.

Habitat: Mud and sandy coasts, coastal streams, mudflats of Shatt al- Arab estuary and marshes.

Last recording and count: Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting two individuals.

Eurasian Curlew *Numenium arquata* (NT)

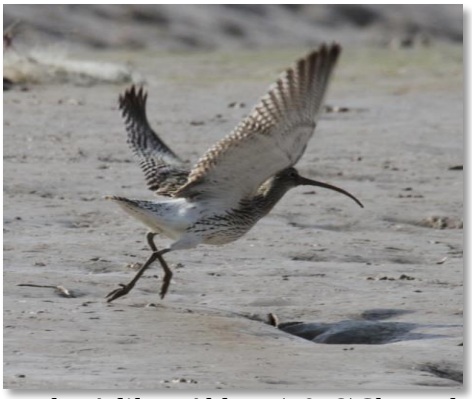

Photo by Adil F. Abbas (2018)Shatt al-Arab estuary

Status: Winter visitor in small numbers in the southern region, passage migrant in other.

Habitat: found in the intertidal zone of Shatt al- Arab estuary cost of Khor Abdullah, as well as marshes.

Last recording and count: Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 282 individuals.

Ruff *Philomachus pugnax* (LC)

Photo by Muhana K. Habeeb (2018)East Hammar marsh

Status: Passage migrants throughout Iraq during migration seasons, but it is more common in autumn than spring. It may remain in the winter in the southern region and the summer for some individuals.

Habitat: Inland marshes, the beaches of lakes, and sometimes estuaries.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 91 individuals. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 117 individuals.

Redshank *Tringa tetanus* (LC)

Status: Common winter visitor in Iraq. It arrives early, as its vanguards arrive at the end of the Summer, but it is late to leave, and some of its individuals may remain in the Summer.

Habitat: It breeds in moist pastures or among short sedge plants close to fresh or saltwater. It nests on the ground. Mainly, spent the winter on calmcoasts, mudflats and tidal streams, and inland areas on muddy sides of shallow water with few vegetation.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 20 individuals. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 492 individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), which count 522 individuals.

Spotted Redshank *Tringa erythropus* (LC)

Status: Uncommon winter visitors, but their numbers increase relatively during migration seasons in appropriate places in Iraq.

Habitat: Like Redshank, but less associated with coasts.

Last recording and count: Nature Iraq KBA database 2005-2009 according to (Porter *et al*., 2010).

Common Greenshank *Tringa nebularia* (LC)

Status: Winter visitors in various regions of Iraq and their numbers increase during migration seasons. Some individuals of it may stay in Summer without breeding.

Habitat: Like Redshank.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), count

three individuals. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 852 individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), count 378 individuals.

Green Sandpiper *Tringa achropus* (LC)

Status: Common winter visitor in suitable regions, its Vanguards arrive early and leave late. They are more numerous during migration seasons. Passage migrant in the northern region of Iraq.

Habitat: Banks of streams, muddy canals and marshes, often in protected banks and sometimes in salty streams.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), count 11 individuals.

Wood Sandpiper *Tringa glareola* (LC)

Status: Common Winter visitor in suitable regions, its vanguards arrive early and leave late. They are more numerous during migration seasons. Passage migrant in the northern region of Iraq.

Habitat: Muddy sides of freshwater ponds, sometimes visiting marshes.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting one individual. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 13 individuals.

Marsh Sandpiper *Tringa stagnatilis* (LC)

Photo by Adil F. Abbas (2018)East Hammar marsh

Status: Uncommon winter visitor. Its precursors arrive early and increase during migration seasons while decreasing in winter.

Habitat: Fresh and brackish water marshes and, to a lesser extent, coasts and tidal streams.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 61 individuals. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting seven individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), count two individuals.

Terek Sandpiper *Xenus cinereus* (LC)

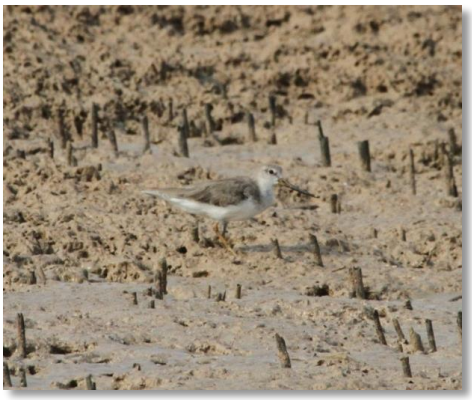

Photo by Adil F. Abbas (2018)Shatt al-Arab estuary

Status: Passage migrant in Iraq, maybe Winter visitor. It is found more in the southern region, in smaller numbers, in the central region, and disappears north.
Habitat: Mainly coastal. It is found in the mudflats of the Shatt al- Arab estuary.Rare in the interior regions during transit.
Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting four individuals. Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 23 individuals.

Common Sandpiper *Actitis hypoleucos* (LC)

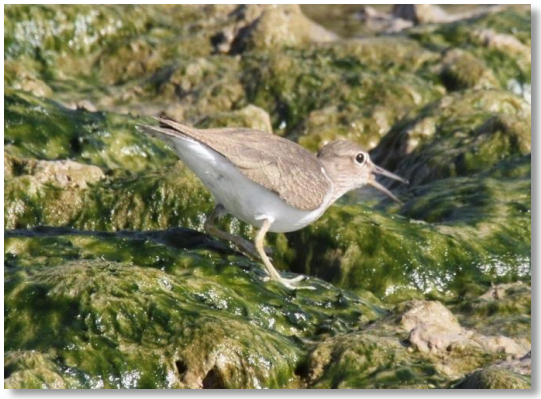

Photo by Adil F. Abbas (2018)East Hammar marsh

Status: Winter visitors increase their numbers during migration seasons with arrival of migratory flocks; some individuals may stay in Summer.
Habitat: Edges of the different water sources are flowing, stagnant, or coastal, and mudflat of marshes and Shatt al- Arab estuary, but it is rare in open coasts.
Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 45 individuals. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 60 individuals. Habeeb *et al*. (2019) recorded it in the Shatt al- Arab estuary (Nov. 2017-Nov.2018), which count 129 individuals.

Ruddy Turnstone *Arenaria interpres* (LC)

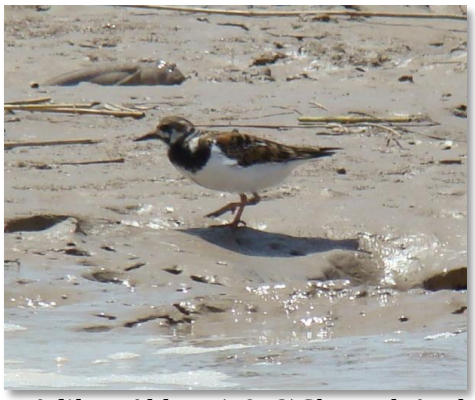

Photo by Adil F. Abbas (2018)Shatt al-Arab estuary

Status: Uncommon Winter visitors in Faw region / Shatt al- Arab estuary and inland water bodies. Some individuals may remain in Summer without breeding. Passage migrant in the central region.

Habitat: Coastal and inland mudflats such as marshes and Shatt al- Arab estuary.

Last recording and count: Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting nine individuals. Habeeb *et al*. (2019) recorded it in the Shatt al- Arab estuary (Nov. 2017-Nov.2018), counting 48 individuals.

Red-necked Phalarope *Phalaropus lobatus* (LC)

Status: Passage migrants in Iraq during migration seasons, a small number from it spend the Winter in Faw region / Shatt al- Arab estuary. It may observe a few individuals from it in the central region.

Last recording and count: Nature Iraq KBA database 2005-2009 according to Porter *et al*. (2010).

Grey Phalarope *Phalaropus fulicarius* (LC)

Status: Very rare passage migrant, where it was observed in Al-Hammar marsh in Summer only once.

Habitat: Mainly marine environment.

Last recording and count: Moor and Boswell (1956)

5- Family: Dromadidae included Crab plover.

This family includes medium-sized shorebirds with white and black feathers and is unique among other waders in the shape of its huge beak pressed from the sides as the birds of this family congregate in flocks and arecommitted to the coasts of the seas and coral reefs and feed on crabs and other marine animals that catch them in shallow water or between the boundaries of the tides. (Allouse, 1961; Benson, 1966; Jones *et al*., 2009;BirdLife international, 2017). Includes one species.

Crab Plover *Dromas ardeola* (LC)

Status: Resident breeder. Breeds in the form of colonies and build nests intunnels carved in the sandy ground. It is found in the far south of Iraq, at the Shatt al-Arab estuary, and in the North West of the Arabian Gulf, and breeds there in huge groups.

Habitat: Coast and mudflats in Shatt al-Arab estuary and Khor Abdullah and away from inland areas.

Last recording and count: Habeeb *et al*. (2019) recorded it in Shatt al- Arab estuary (Nov. 2017-Nov.2018), count two individuals.

6- Family : Glareolidae

A small family of shorebirds like plovers ranging from small to medium in size. Includes two species.

Collared Pratincole *Glareola pratincola* (LC)

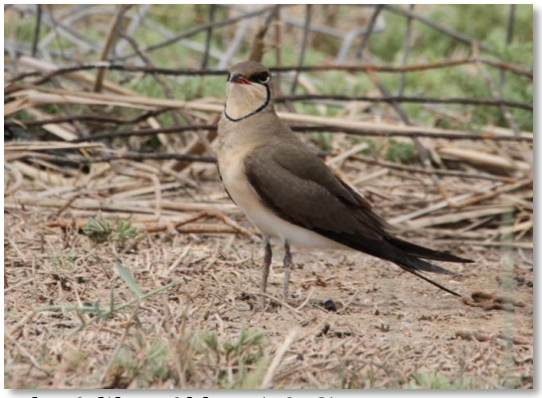

Photo by Adil F. Abbas (2018)East Hammar marsh

Status: Breeder Summer visitor. It arrives in our area in Spring, where it stays in Summer to breed in the appropriate areas, and then leaves in groups, where it is not seen after the autumn. Its numbers increase during migratory seasons when migratory flocks arrive.

Habitat: Flat, dry mudflats and hard plains with low vegetation, often near water in marshes. It nestles in colonies on land.

Last recording and count: Fazaa *et al*. (2017) recorded it in central marshes (Oct. 2013-Jun.2014), counting 28 individuals. Habeeb *et al.*(2018) recorded it in East Hammar marsh (Nov. 2017-Nov. 2018), counting 115 individuals.

Black-winged Pratincole *Glareola nordmani* (NT)

Status: It is much less common than the previous species; it may accompany and breed within its breeding colonies.

Habitat: Similar to Collared Pratincole, but it prefers the plains regions.

Last recording and count: Allouse (1953)

Conclusion

The Iraqi water habitats are one of the most important areas of international importance for birds because it is located on more than one main route for the migration of birds from Siberia and West Europe to Africa, which is one of the eight global routes of shorebirds migration, in addition to, these habitats enjoy of a moderate climate during the winter season. Also, the presence of vegetation cover provides two main factors for the occurrence of birds, (i) the vegetation is considered a haven for them, and (ii) being suitable nesting habitat for resident and breeding species. Occurrence of various aquatic habitats of Iraq, thousands of shorebirds were recorded during previous surveys, so the Iraqi environments were considered suitable areas for shorebirds.

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مراجعة للطيور الساحلية في العراق : الوضع والموائل

مهنا قاسم حبيب و عادل فاضل عباس و شيماء سعيد رحيم
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المستخلص

يمتلك العراق مساحة مائية شاسعة تشمل نهري دجلة والفرات باتحادهما يشكلان شط العرب الذي يصب في الخليج العربي ، بالإضافة إلى المسطحات المائية الشاسعة التي تشمل الاهوار والبحيرات. هذا من شأنه أن يغري العديد من أنواع الطيور لزيارة هذه الموائل المتنوعة ، سواء قاصدة لها أو مارة عبرها خلال موسمي الهجرة. هدفت هذه الدراسة إلى توفير معلومات كافية لتمكين فهم أشمل لحالة وموائل الطيور الساحلية في العراق. تضمنت الدراسة الحالية 46 نوعا من الطيور الساحلية المسجلة في العراق والتي تزور المسطحات المائية المختلفة. تنتمي هذه الطيور الى ست عوائل: Haematopodidae (نوع واحد) ، Charadriidae (15 نوعًا) ، Recurvirostridae (نوعان) ، Scolopacidae (25نوعًا) ، Dromadidae (نوع واحد) و Glareolidae (نوعان). من ناحية أخرى ، من بين هذه الأنواع ، هناك تسعة أنواع مفرخة ، وسبعة أنواع مقيمة ، و 39 نوعًا ، توزعت بين زائر شتوي ، زائر صيفي و عابر. وجدت الدراسة أن هناك 10 أنواع من الطيور الساحلية لها الأولوية في الحماية في العراق وهي مدرجة ضمن القائمة الحمراء من قبل الاتحاد الدولي لحماية الطبيعة (IUCN) ، منها نوعان مهدد بالانقراض بشكل حرج (CR) وثمانية أنواع قريبة من التهديد بالانقراض (NT).