



Ducks, Geese and Swans in the Mesopotamian marshlands of southern Iraq

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Abstract

Due to the Iraq enjoys suitable aquatic habitats, such as marshes, moderate climatic conditions during the winter season, and a strategic geographical location, as it is located at the concourse of bird migration routes. Therefore, a number of them visit it, or passing through its aquatic habitats, especially ducks, geese, and swans. This study aimed to highlighting this important group of birds due to their economic and environmental value, which exposes them to many risk factors that threaten it in the wild. The present study comprised in total 23 species of ducks, geese and swans, where included nine species of dabbling duck (feeding ducks- surface) and six species of diving ducks, in addition to five species of geese. Furthermore, included three species of swans. The study concluded that six species of ducks, geese and swans are significant conservation priorities in Iraq. They are red- listed by the IUCN Red List, of which one species is Endangered (EN), and three species are Vulnerable (VU) and two species are Near Threatened (NT). This study also included an explanation of the status of these birds in the Mesopotamian marshlands of southern Iraq, as well as their habitat.

Keywords: Mesopotamian marshlands, southern Iraq, ducks, geese, swans

Introduction

In the triangle between Maissan, Thi- Qar and Basrah provinces there are wide areas of permanent shallow marshes comprising the huge permanent marshlands of Hammar marsh, Central marsh and Hawizeh marsh (Evans, 1994). Mesopotamian marshlands southern of Iraq are considered to be an important region for resident and migrating birds. This importance is due to geographical location on the migration route from Siberia to Africa (Al-Robaae, 2001). The extensive wetlands (marshes) of lower Mesopotamia encourage many migratory birds especially waterfowls to resting and feeding during migration season (Al-Robaae and Habeeb, 2011). The

marshlands of southern Iraq are one of the most important wintering areas for migratory waterfowls in western Eurasia, also the Mesopotamia marshlands were listed as wetlands of international importance by Carp (1980), and all 19 of the wetlands described as Sites 13 to 31 have been as determined "Important Bird Areas" by BirdLife International (Evans, 1994). BirdLife International has also determined the Mesopotamian marshlands of Iraq as an "Endemic Bird Area", i.e. an important focus of birds biodiversity (ICBP, 1992). Georg and Savage (1970) believed that Hammar and Hawizeh marshes alone maybe provided habitat for 2/3 of the wintering wildfowls of the Middle East. The wetland of Mesopotamia is especially significant for several

globally threatened birds species, with 16 species are Red Listed by IUCN as globally threatened or Near Threatened (Salim and Porter, 2015).

Waterfowls are birds within the order Anseriformes. In Iraq, there is one family that belongs to this order, which is the Anatidae family, which includes (ducks, geese, and swans). Waterfowls are adapted to life in or near water, and their anatomy reflects their aquatic lifestyle. These waterfowls groups share many of these characteristics and adaptations, but they also have several unique characteristics that set them apart not only from each other but from all birds. Despite of all waterfowls live on or near water bodies, this can differ greatly in different habitats, and use these water bodies in various ways (Bowler, 2005).

Aim of study

Highlighting this important group of birds due to their economic and environmental value, which exposes them to many risk factors that threaten it in the wild.

Literatures review

Most previous ornithological investigation and collection in Iraq were made by professional researchers such as Sharp (1886) he began his study on collecting birds from Fao region in the far south of Iraq. This was followed by Meinertzhagen (1914), where he recorded his observations about birds in Mesopotamia, including many species of ducks, geese, and swans, and then Tomlinso (1916), and then Thornhill (1918) recorded some notes on birds in Mesopotamia, followed Cumming (1918) and Ticehurst *et al.*, (1921-1922), many species of resident and migratory birds were recorded in these studies. These studies also included recording several species of ducks, geese, and swans that visit Iraq during the migration season. Moore and Boswell (1957) recorded their field observations about the birds species and their numbers in Iraq, this study comprised the marshes of southern Iraq between 1941-1945, these observations

included recording species of ducks, geese, and swans. In addition to the study of Maxwell (1957) and Thesiger (1964), they provided information about the huge concentrations of waterfowls during the winter in the marshes of southern Iraq, they recorded several species of ducks, geese, and swans, but there is little information about the details of their observations. Allouse (1960) recorded 26 species belonging of family Anatidae. George and Vielliard (1970) recorded 11 species of ducks, geese and swans were reached 26693 individuals. George and Savage (1970) studied status of family Anatidae in the marshes of southern Iraq and recorded important information about it. Koning and Dijkzen (1973) estimated the number of waterfowl visiting Iraq at approximately 153,000, consisting of 58 species, including 15 species of migratory ducks were reached 131609 in a specific area of the marshes. Carp (1975) recorded eight species of ducks, geese and swans, were reached 49389 individuals. The survey in 1979 found 2340 geese and 155000 ducks, belonging to 22 species (Scott, 1995). Scott and Carp (1982) recorded 17 species of them were reached 157749 individuals. Abed (2007) studied waterfowls in the restored marshes of southern Iraq for the period between May 2004 and May 2005, he conducted a survey of three marshes: Hawizeh marsh, Suq- Shuyukh marsh, and Eastern Hammar marsh, the number of recorded species was one species of geese and six species of ducks in the Hawizeh marsh, five species of ducks in the Suq- Shuyukh marsh. Abed (2008) achieved survey of migratory duck and geese in West Hammar marsh, he recorded eight species of dabblers ducks (feeding ducks-surface), and four species of diving ducks, as well as one species of geese. Habeeb (2008) during his survey of waterfowls in the Eastern Hammar Marsh and Al-Saffia Nature Reserve in Hawizeh Marsh, recorded one species of goose and 11 species of ducks in the Eastern Hammar

Marsh, and one species of goose and nine species of ducks in the Al-Safia Nature Reserve. Al-Robaae and Habeeb (2011) recorded five species of ducks, and one species of geese in Al-Safia Nature Reserve. Faza'a *et al.* (2017) recorded five species of ducks and one species of geese during their survey of central marshes. Hebeeb (2023a) recorded five species of ducks during his survey of birds migrating in Eastern Hammar marsh. On the other hand, Habeeb (2023b) recorded nine species of ducks during monitoring the waterbirds in the Eastern Hammar marsh. All data referred to directly in this review are included in the "References Consulted" and in particular Allouse (1960), Salim *et al.* (2006) and Salim and porter (2015). Globally threatened or near threatened species are indicated to as either CR (Critically Endangered), EN (Endangered), VU (Vulnerable), or NT (Near Threatened) or Non threatened (Least Concern- LC) based on BirdLife International (2023). Species of ducks,

1- Mallard *Anas platyrhynchos*

Status in the marshlands : A familiar winter visitor and passage migrant, some remain in summer. It reaches water bodies in winter, and it is a very cautious bird.

Habitat: Almost all wetlands. In addition to, the coasts and estuaries.

Global IUCN Red List category: Least Concern (LC).



Plate 1: Mallard *Anas platyrhynchos*

geese and swans previous recorded in the Mesopotamian Marshlands are listed below:

Ducks

Duck: it is a species of comparatively small, short-necked, big billed. ducks are birds that also referred to as waterfowls due to they are usually found in the in places such as marshes, oceans, rivers, ponds and lakes that have water, they are found in both freshwater and seawater. There are two types of ducks followed family Anatidae:

- 1- Dabbling Duck (feeding ducks-surface): dabblers are ducks that tip up to feed, rooting in pursuit of vegetation and insects through shallow water and mud. These ducks will also nibble along the surface of the water, and they will also feed easily on land, but they will dive bellow the water quite rarely. This group includes the following species:

2- Gadwall *Anas strepera*

Status in the marshlands: A common winter visitor in suitable places in the southern marshes, and passage migrant.

Habitat: Marshes, rare in the coasts.

Global IUCN Red List category :Least Concern (LC).



Plate 2: Gadwall *Anas strepera*

3- Eurasian Teal *Anas crecca*

Status in the marshlands: Winter visitor and passage migrant. It is one of the more species of ducks that visit Iraq especially marshes in terms of numbers, arrive in the fall from mid-August, spend the winter season and moving between water bodies, and then leave in mid-April during the spring migration.

Habitat: Different types of wetlands such as marshes and lakes.

Global IUCN Red List category: Least Concern (LC).



Plate 3: Eurasian Teal *Anas crecca*

4- Garganey *Anas querquedula*

Status in the marshlands: Relatively widespread passage migrant, rare in winter season, maybe breed. Its numbers increase during the migration seasons.

Habitat : Different types of wetlands such as marshes and lakes.

Global IUCN Red List category :Least Concern (LC).



Plate 4 : Garganey *Anas querquedula*

5- Eurasian Wigeon *Anas penelope*

Status in the marshlands: Winter visitor and passage migrant. It arrives during the fall migration and stays in winter in the southern marshes, then leaves in the spring migration.

Habitat : Mudflats in marshes and coasts, swamp and lakes.

Global IUCN Red List category: Least Concern (LC).



Plate 5: Eurasian Wigeon *Anas Penelope*

6- Marbled Teal *Marmaronetta angustirostris*

Status in the marshlands: It is a resident and breeder regularly in the southern marshes and spreads there. Then it spreads during the winter to be found in all Iraqi water bodies. It is also a winter visitor.

Habitat: Marshes rich in vegetation and lakes, it nests close to water.

Global IUCN Red List category: Near Threatened (NT).



**Plate 6: Marbled Teal *Marmaronetta* (Near Al-Saffia nature reserve)
*angustirostris***

7- Falcated Teal *Anas falcata*

Status in the marshlands: It is a Vagrant arrive to Iraq rarely, due to the distance of their original habitat in East Asia from our region. They were not recorded only in 1916 by Thornhill, when he caught an adult male near Basrah from among a flock of Gadwall, and it has never been recorded after that.

Habitat : Large rivers, lakes, bush, and coasts.

Global IUCN Red List category: Least Concern (LC)



plate 7 :Falcated Teal *Anas falcata*

8- Northern Shoveler *Anas clypeata*

Status in the marshlands: A widespread winter visitor, and a passage migrant that spreads in all suitable places, especially the marshes, it arrives in mid-August and leaves in March and April, and some remain in Summer maybe breed. This duck may be the second largest in the number of wintering ducks in Iraq after the Teal.

Habitat: It is usually found in marshes, swamps, bush and ponds with dense vegetation. It nests on the ground.

Global IUCN Red List category: Least Concern (LC).



Plate 8 : Northern Shoveler *Anas clypeata*

9- Northern Pintail *Anas acuta*

Status in the marshlands: Relatively widespread Winter visitor and passage migrant, especially frequent in southern marshes.

Habitat : It is found in marshes, swamps, shallow coasts, and estuaries.

Global IUCN Red List category :Least Concern (LC).



Plate 9 : Northern Pintail *Anas acuta*

2- Diving ducks: Are agile swimmers who, foraging, comprising fish, insects, and aquatic plants, dive well below the surface of water. These ducks tend to remain in the water and can be ungainly

and clumsy on land, and to take off from the water's surface, they have to build up momentum. These group comprise the following species:

10- Red – crested Pochard *Netta rufina*

Status in the marshlands: Resident, local breeding in the southern marshes, relatively widespread but mostly uncommon passage migrant and winter visitor.

Habitat: Marshes and large freshwater lakes dense with reeds.

Global IUCN Red List category: Least Concern (LC).



Plate 10 : Red – crested Pochard *Netta rufina*

11- Common Pochard *Aythya ferina*

Status in the marshlands: A common winter visitor and passage migrant, particularly recurrent in southern marshes.

Habitat: Large and small lakes filled with plants and other enclosed water. It breeds among dense reeds.

Global IUCN Red List category : Vulnerable (VU).

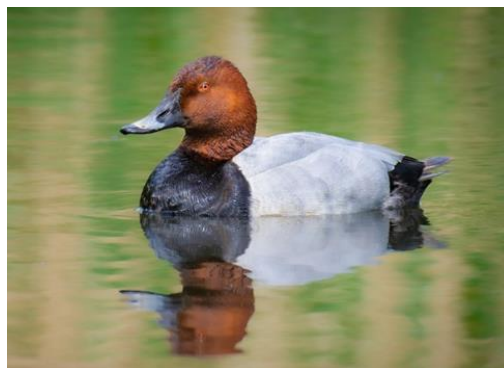


Plate 11: Common Pochard *Aythya ferina*

12- Greater Scaup *Aythya marila*

Status in the marshlands: Rare Winter visitor in the Mesopotamian marshlands.

Habitat: Particularly marine, usually in bays and estuaries.

Global IUCN Red List category : Least Concern (LC).



Plate 12: Greater Scaup *Aythya marila*

13- Ferruginous Duck *Aythya nyroca*

Status in the marshlands: Resident, local breeding in southern Iraq. Uncommon winter visitor and passage migrant.

Habitat: Marshes, shallow waters, densely vegetated ponds, and lakes. In winter, it is found on the coasts.

Global IUCN Red List category : Near Threatened (NT).



Plate 13: Ferruginous Duck *Aythya nyroca*

14- Tufted Duck *Aythya fuligula*

Status in the marshlands: Relatively widespread winter visitor and passage migrant, especially abundant in southern marshes.

Habitat : Marshes, Large and small lakes and coasts.

Global IUCN Red List category : Least Concern (LC).

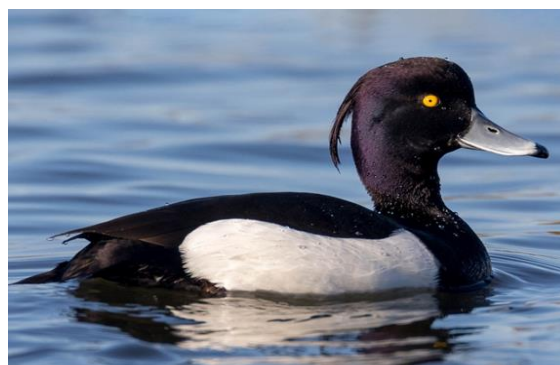


Plate 14: Tufted Duck *Aythya fuligula*

15- White-headed Duck *Oxyura leucocephala***Status in the marshlands:** Rare winter visitor to southern marshes.**Habitat:** Marshes, inland lakes and shallow coastal, in which increase reeds.**Global IUCN Red List category:** Endangered (EN).**Plate 15: White-headed Duck *Oxyura leucocephala*****Geese**

Geese are large and diverse waterfowls with heavy bodies and medium sizes, ranging from ducks to large swans. Their :

beaks are high at the base and almost conical in shape. They migrate in V-formation. This group includes the following species

16- Eastern Greylag Goose *Anser anser*

Status in the marshlands: Resident and breeds locally in small numbers in the southern marshes. It is a widespread winter visitor to wetlands and farmlands, and its huge flocks can be seen around marshes and large fields.

Habitat : Marshes, grasslands, agricultural fields near coasts and water sources, swamps and estuaries. It breeds collectively in swamps, reed fields and dense marshes.

Global IUCN Red List category :Least Concern (LC).

**Plate 16: Eastern Greylag Goose *Anser anser***

17- Greater White-fronted Goose *Anser albifrons*

Status in the marshlands: Uncommon Winter visitor in the Mesopotamian marshlands.

Habitat : Marshes, grasslands and estuaries.

Global IUCN Red List category : Least Concern (LC).



Plate 17: Greater White-fronted Goose *Anser albifrons*

8- Lesser White-fronted Goose *Anser erythropus*

Status in the marshlands: Rare or uncommon Winter visitor in southern marshes.

Habitat: Marshes, grasslands and estuaries.

Global IUCN Red List category : Vulnerable (VU).



Plate 17: Lesser White-fronted Goose *Anser erythropus*

19- Red-breasted Goose *Branta ruficollis*

Status in the marshlands: Rare Winter visitor in southern marshes.

Habitat: Marshes, grassy plains and roosts on the coasts.

Global IUCN Red List category : Vulnerable (VU).



Plate 19: Red-breasted Goose *Branta ruficollis*

20- Cotton Pygmy Goose *Nettapus coromandelianus*

Status in the marshlands: Vagrant, recorded once only by George (1976) in the Basrah Marshes.

Habitat: Ponds and lakes with dense vegetation.

Global IUCN Red List category: Least Concern (LC).

Swans

Swans are gracefully long-necked, heavy-bodied, big-footed birds that glide majestically when swimming and fly with slow wing beats and with necks

outstretched. They migrate in diagonal formation or V-formation at great heights, and no other waterfowl moves as fast on the water or in the air. This group comprise the following species:

21- Mute Swan *Cygnus olor*

Status in the marshlands: Very rare Winter visitor Chiefly to the southern marshlands.

Habitat: Marshes, swamps and large lakes.

Global IUCN Red List category :Least Concern (LC).



Plate 21: Mute Swan *Cygnus olor*

22- Bewick's Swan *Cygnus columianus bewickii*

Status in the marshlands: Rare or uncommon winter visitor to the southern marshes.

Habitat: Inland and coastal wetlands and lowlands.

Global IUCN Red List category :Least Concern (LC).



Plate 22: Bewick's Swan *Cygnus columianus bewickii*

23- Whooper Swan *Cygnus cygnus*

Status in the marshlands: Very rare or uncommon winter visitor to southern marshlands. It recorded by Al-Robaae and Salem (1996).

Habitat: Marshes, Coasts and Large lakes.

Global IUCN Red List category : Least Concern (LC).



Plate 23: Whooper Swan *Cygnus cygnus*

Conclusion

The wetlands represented by the marshes in southern Iraq are considered an important area for attracting many species of birds, whether migratory or resident. This richness of bird species was affected by several factors, which ultimately led to the inclusion of some of them as endangered globally. Therefore, it is necessary to preserve these species to reduce concerns about them becoming extinct.

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البط و الوز والتم في اهورار بلاد ما بين النهرين جنوب العراق

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المستخلص

نظراً لما يتمتع به العراق من موانل مائية مناسبة، مثل الأهورار، وظروف مناخية معتدلة خلال فصل الشتاء، وموقع جغرافي استراتيجي، اذ يقع عند ملتقى خطوط هجرة الطيور. ولذلك يزورها عدد من الطيور قاصدة لها، أو مارة عبرها، خاصة البط، والوز، والتم. هدفت هذه الدراسة إلى تسليط الضوء على هذه المجموعة المهمة من الطيور نظراً لقيمتها الاقتصادية والبيئية مما يعرضها للعديد من عوامل الخطر التي تهددها في البرية. شملت الدراسة الحالية 23 نوعاً من البط والوز والتم، حيث ضمت تسعة أنواع من البط غير الغواص (بط سطحي التغذية) وستة أنواع من بط الغواص، بالإضافة إلى خمسة أنواع من الوز. علاوة على ذلك، شملت ثلاثة أنواع من التتم. وخلصت الدراسة إلى أن ستة أنواع من البط والوز تعد من أولويات الحفظ المهمة في العراق. وهي مدرجة في القائمة الحمراء للاتحاد الدولي لحماية الطبيعة، منها نوع واحد مهدد بالانقراض (EN)، وثلاثة أنواع معرضة لخطر الانقراض (VU) ونوعان قريبان من التهديد بالانقراض (NT). كما تضمنت هذه الدراسة شرحاً لحالة هذه الطيور في أهورار بلاد ما بين النهرين جنوب العراق، وكذلك موانلها.