



Specimens of Aquatic Bird Deposited at Mosul Natural History Museum, Mosul, Iraq

Zohair I. F. Rahemo^{1*}, Owayes M. Al-Hassani¹ and Senan K. Abood¹

¹Department of Biology, College of Science, University of Mosul, Mosul, Iraq.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJRIZ/2021/v4i130105

Editor(s):

(1) Dr. Layla Omran Elmajdoub, Misurata University, Libya.

Reviewers:

(1) Katia Alcione Kopp, Federal University of Goiás, Brazil.

(2) María Constanza Díaz Andrade, Universidad Nacional del Sur, Argentina.

(3) Felipe Varussa de Oliveira Lima, Universidade Federal da Grande Dourados, Brazil.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/65776>

Received 22 December 2020

Accepted 28 February 2021

Published 16 March 2021

Short Communication Article

ABSTRACT

There are (11) aquatic Birds specimens deposited at Mosul natural history Museum, these belong to five orders namely: order *Ciconiiformes*, *Phoenicopteriformes*, *Pelecaniformes*, *Anseriformes* and *Caradiformes*. *Ciconiformes* include *Ardea purpurea*, *Egretta garzetta*, *Ciconia ciconia*, *Nycticorax nycticorax*, *Ixobrychus minitus*. Order *Phoenicopteriformes* include *Phoenicopterus aguorum*, order *Pelecaniformes* include *Pelecanus onocrotalus*, order *Anseriformes* include *Anas crecca* and *Anas platyrhynchos*, *Casarca ferruginea* and order *Charadriiformes* include *Larus canus*.

Keywords: Aquatic bird; mosul natural history museum.

1. INTRODUCTION

Among famous books carried on Iraq birds are [1,2], in other publication [3] gave a valuable summary of birds in the marshes of southern Iraq recording 159 species of birds 34 considered to

be conservation concern including 8 that are globally threatened. A detailed provisional checklist of birds of Iraq was published later on [4]. A study on biodiversity on Bahr al Najaf a tentative list of 104 vertebrates was given including 73 resident and migratory birds [5]. A

*Corresponding author: Email: zohair.f.rahemo@gmail.com;

survey on Hawraman Mountain in northern Iraq recorded 52 species of migratory and resident birds [6]. In specific investigation in Al-Dalmaj march (Al-Diwaniya province) recording 147 species of birds [7]. Other study on Biodiversity was on Huwaiza March [8] recorded 81 species of birds. Noteworthy a collection of aquatic birds selected in this research represent the first study carried out in Mosul Natural History museum (MNHM). Recently vertebrates specimens was recorded in Kurdistan Natural History Museum(KNHM)reporting 14 species of birds among them 7 are aquatic [9]. It is worthy to record bird specimens in MNHM in order to encourage this newly initiated museum connected to the University of Mosul, and to be database for future research work on these birds, as such this will represent first work to be published about this museum. The following are 11 species of aquatic birds with their scientific names, distribution in different habitats in Iraq.

2. MATERIALS AND METHODS

Bird specimens collected at different periods (1960-2011) which have been preserved, taxidermed from different periods, were examined and photographed. Birds were taxidermed by cutting the skin superficially from chest to anus ,removing the viscera, spraying the skin and muscles with salts and borax, removing fat from all regions, stuffing the spaces with cotton and fibers, preparing steel skeleton

wrapped with cotton and put t inside the empty body, neck, skull, legs, and wing then stitching the skin after spraying with gypsum, liquid soap , *Eucalyptus* oil, and pesticide on the skin [10]. These birds after taxodermed were examined and photographed.

3. RESULTS

The eleven species are:

3.1 Purple Heron: *Ardea purpurea* (Linnaeus, 1766)

Remarks : the bird lives in southern and middle regions of Iraq, usually seen during its migration, breeding in Mesopotamian Marshes(Al-Ahwar)between weeds and growing there in March and April, also very common in Habaniya lake in winter more than summer , leave the lake and breed in other places[1,2] . It is resident breeder in south Iraq and summer visitor and passage migrant [4]. International Union of Conservation of Nature (IUCN) - Red list has listed the purple heron as a species least concern [11]. IUCN has assessed its conservation as being" least concern" because the rate of decline is insufficient to justify rating it in a more threatened category. The purple heron is one of the species to which the Agreement of the conservation of African-Eurasian migratory water birds (AEWA) applies.



Fig. 1. *Ardea purpurea*

3.2 Little Egret: *Egretta garzetta* (Linnaeus, 1766)

Remarks: the bird breed in Marshes near Al-Faw and stay summer season ([1,2] while it is considered as winter visitor at other regions and some remain in summer, it may present all over Iraq between September and April [3] . IUCN has assessed the bird global conservation status as being of (least concern) and threatened species [12]).

3.3 White Stork: *Ciconia ciconia* (Linnaeus, 1758)

Remarks: in Iraq usually seen north of Kerbala, Diyala river as they start to build or restored nets in February and March [2], which may used for several years. It is summer and winter visitor in Mesopotamian Marshes and some remain to breed and passage migrant [3,4]. The white stork has been rated as least concern by IUCN.

3.4 Night Heron: *Nycticorax nycticorax* (Linnaeus, 1758)

Remarks: in Iraq it is present all over the year and their nets discovered in Marshes near Basrah province [1,2]. Anyhow it is resident breeder and summer visitor and passage migrant [4].It is considered among threatened species [13].

3.5 Little Bittern: *Ixobrychus minitus* (Linnaeus, 1766)

Remarks: it is considered as summer visitor and may pass during autumn and spring, breed in Marshes with numerous weeds especially at south during May and June, occasionally seen during way of migration at different regions of Iraq [1,2] .It is resident breeder and winter visitor in south Iraq [3] .It is considered as threatened bird [14].

The little bittern is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Water birds applies.

3.6 Flamingo: *Phoenicopterus roseus* (Pallas, 1811)

Remarks: present in the middle and south of Iraq as there are more water masses compared to northern regions, breeding in May in Marshes near Faw [1,2], it is passage migrant and winter visitor [3,4].

3.7 White pelican: *Pelecanus onocrotalus* (Linnaeus, 1758)

Remarks: present in rivers and Marshes and remains of flood water, from north to the south. Breeding at islands near Faw in April [1,2] It considered winter visitor in Iraq and passage migrant [3,4].IUCN- Red list considered of threatened species. It is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) is applied. Since1998 the great white pelican has been rated as a species of least concern on the IUCN- Red list of end angered species. Furthermore, it is one of the species which the Agreement on the conservation of African-European migratory water bird (AENA) applies [15].

3.8 Comon Teal: *Anas crecca* (Linnaeus, 1758)

Remarks: it lives in pond, rivers, lakes, seen in mid of August leave the region in April [1,2], anyhow it is common winter visitor and passage migrant [3,4]. According to IUCN Red list considered threatened species [16].

The Eurasian teal is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Water birds (AEWA) applies.

3.9 Mallard: *Anas platyrhynchos* (Linnaeus, 1758)

Remarks: this bird is widely found in Iraq on rivers, lakes, Marshes from September to May [1,2]. It is a winter visitor, some remain in summer and passage migrant [3,4]. The mallard is considered to be a species of least concern by the IUCN.

3.10 Ruddy Shelduck: *Casarca ferruginea* (Pallas, 1754)

Remarks: it is winter visitor and some remain in summer, resident and passage migrant [3,4].IUCN considered for being of "least concern "and among threatened species [17].

3.11 Common gull: *Larus canus* (Linnaeus,1758)

Remarks: It is present allover in Iraqi water including River Tigris passing through Mosul city [1,2], it is resident breeder and winter visitor [3,4].It is considered by IUCN red list of Threatened species [18].



Fig. 2. *Pelecanus onocrotalus*



Fig. 3. *Anas crecca*

4. DISCUSSION

Irbil is neighboring Mosul city located northern of Iraq but after comparing the present species of MNHM with KNHM [9] only 6 species reported in this investigation are deposited in Kurdistan Museum while five are not reported namely: *Anas platyrhynchos*, *Casarca ferruginea*, *Phoenicopterus agurum*, *Pelecanus onocrotalus*, and *Larus canus*. This richness of Bird specimens in MNHM is likely because in Mosul collection of Birds and initiation of Museum was prior, so such finding is expected.

On the other hand checklist of birds in Baghdad [19] which is located in center of Iraq and after

comparison of the present list with that, there are 9 species reported in Baghdad area while two species are not mentioned namely: *Casarca ferruginea* and *Phoenicopterus agurum*. Unfortunately though the Iraq Natural History Museum (INHM) in Baghdad is much older institute, there is no published work about the bird specimens deposited at INHMI in Baghdad, so precise comparison between the two museum is difficult. Anyhow both MNHM and KNHM are still in process of establishment especially after the war happened to this area in 2014. Furthermore, basic necessary data are required such: place of collection, date of collection and name of Collector in addition to morphological natural color and behavior if

possible. If such basic data are available a clear scope of birds in Iraq become available for other studies such as ecological, zoogeographical distribution and formation of biological species concept and definitions [20] by hybridization inside Iraqi territory and possibly in its neighboring countries as these information are lacking in the old collection. Anyhow bird collection in MNHM needs an intensive field work to collect birds from Mosul city and its territories and preserved them properly to compensate the devastation happened in 2014.

5. CONCLUSION

It is evident from the study that number of Aquatic birds in MNHM is richer than those deposited at KNHM in Irbil, however it more closer to the number of Aquatic birds in Checklist of birds in Baghdad. It is very necessary to have check-list of birds in the three museums so that comparison can lead to final valid conclusion about Avifauna in Iraq to correlate them with neighboring countries. This study may be considered the first step to introduce MNHM to the World Museums.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

- Allouse B. Birds of Iraq. Al-Rabita Press, Baghdad; 1960.
- Allouse B. Birds of Iraq. Vol. 3. Order Passeriformes. Al-Rabita Press, Baghdad; 1962.
- Salim M, Porter R, Rubec CA. Summary of birds recorded in the Marshes of Southern Iraq 2005-2008. *Bio Risk*. 2009;3:205-219.
- Porter R, Salim M, ArratK, Abdulrahman OF. A provisional checklist of the birds of Iraq. *Marsh Bulletin*. 2010; 5(1):56-95.
- Mohammad KM, Ali HH, Ali BAA, Hadi A. Biodiversity of Bahr Al-Najaf depression , Al-Najaf Al-Ashraf Province. *Bulletin of Iraq Natural History Museum*. 2013;12(3):21-39.
- Afrasiab SR, Mohammad KM, Ali HH, Al-Moussawi, AA. Fauna and flora of Hawraman Mountain (Part one). Hawraman lowest zone, Kurdistan province north east of Iraq. *Bulletin of Iraq Natural History Museum*. 2013;12(3):21-39.
- Mohammad KM. The current status of the vertebrate diversity in Al-Dalmaj March Al-Diwaniya Province. *Bulletin of Iraq Natural History Museum*.2014;13(1):5-14.
- Al-Zubaidy AA. The importance of geodiversity on the animal diversity in Huwaiza Marsh and the adjacent areas. *Bulletin of Iraq Natural History Museum*. 2017;14(3):235-249.
- Rahemo ZI, Mohammed SI. Vertebrate specimens deposited at Kurdistan Natural History Museum. *Jordan Journal of Natural History*.2020;7:30-36.
- Al-Kenany MS. Essential biology of wildlife animals. Dar Al-Kotib for printing and publishing, university of Mosul, Iraq; 1980.
- Birdlife international. *Ardea purpurea* (online). The IUCN Red list of threatened species. 2016:e.T22697031A86466990.
- Bird Life International. *Ergretta gazetta*, IUCN Red List of Threatened species 2015 e T6277469A6736767. DOI. 10 2305/IUCN/ UK.2015
- Bird Life International. *Nycticorax nycticorax*. *iucn red list of threatened species*. IUCN; 2008. Retrieved on 4 February 2009. Database entry includes justification for why this species is of least concern.
- Bird Life International. *Ixobrychus minutus*. *IUCN Red List of Threatened Species*. IUCN 2008. Retrieved on 3 February 2009. Database entry includes justification for why this species is of least concern (BLI) .
- Bird Life International. *Pelecanus orocrotatus*. IUCN Red List of Threatened Species; 2012. Retrived 26 November 2023.
- Bird Life International. Common Teal, *Anas crecca*. IUCN Red list of Threatened species; 2020.
- Bird Life International. *Tadoma ferruginea* .IUCN Red list of Threatened species; 2012.
- Birdlife International. "*Larus canus*" IUCN list of Threatened species e.T22694308A8504850; 2015.
- Lepage, Denis. Avibase-bird checklists of the World. Ninava, Baghdad, Irbil; 2021.

20. Grant PR, Rosemary Grant B. Species.Scienc.1992.256;5054:193-197.
Hybridization of Bird

© 2021 Rahemo et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://www.sdiarticle4.com/review-history/65776>