

Occurrence and relative abundance of waders at the muddy littoral zone of East–Hammar marsh / Basra / Iraq.

M.k. Habeeb

Biology dep.- science College – Basra University - Basra – Iraq.

Abstract

Twenty species of waders were recorded in East-Hammar marsh during monitoring period from September 2009 to August 2010. The total number of individuals of waders reached 11556 bird. Family Scolopasidae recorded the highest number of species and individuals during monitoring period. while family Glareolidae recorded the lowest number of species and individuals. The highest number of species and individuals were recorded in March 2010 reached 16 and 2256 respectively, the lowest number of species recorded in June 2010 and July 2010 were reached 7. The lowest number of individuals recorded in June 2010 reached 152. Dunlin *Calidris alpina* recorded the highest relative abundance 24.6% and Terek sandpiper *Tringa cinereus* recorded the lowest relative abundance 0.008% during monitoring period.

Introduction

Wetlands of southern Iraq characterized by large and diverse avifauna (Allouse,1953 and1961) . Carp (1980), reviewing all information available up to 1979, produced a list of 19 wetlands in Iraq which could be considered to be of international importance on the basis of the Ramsar criteria. This list was expanded later by Scott and Carp,(1982) to include 32 site for waterfowls. However Bird Life international recognized 42 site in Iraq, which designated as important birds area (Evan, 1994) .

Mesopotamians marshlands included three large wetlands, Al Hammar marsh and its associated marshes south of the Euphrates river; the Central Marshes, a vast complex of permanent and shallow marshes north of the Euphrates and west to the Tigris river ; and Al Hawizeh marsh and its associated marshes extending east from the Tigris river into neighboring Iran (Scott,1995).

Marshlands of Iraq situated in strategic geographic position for migrating birds were the migration line for several of passing through accordingly several of these species visited these marshland, in addition to resident species. Georg and Savage (1970) believed that the marshes of Al Hammar marsh and Al Hawizeh marsh together "probably provide habitat for two-thirds of the wintering wild fowls of the Middle East, the southern marshes play important biological and ecological role for resident and migrating birds as feeding, resting and nesting ground (George and Vielliard,1970 ;Carp, 1975).

The wide mud flat of east Hammar marsh provided a suitable environment for waders. These waterfowls characterized by long peaks and legs which used for searching of its food on the mud flats. On the other hand vegetation cover formed available

important nesting places for these waders. The aim of this study to highlight the importance of occurrence of shorebirds and their relative abundance in the restored East-Hammar marsh.

Materials and Methods

Site description

Al Hammar marsh, and its surrounding marshes and areas of temporary inundation formed about 3.500km² of almost contiguous wetland habitat. The marsh itself is the largest wetland in the lower Euphrates, approximately 120 km Long by up to 25 km

wide. It is bordered in the north by the river Euphrates, in the west by the southern desert and in the east by the shatt Al Arab river in Basra. The low-water levels reached 1.8 m in early winter and about 3.0 m at high spring flood (Evans, 1994).

Four sites chosen a survey the waders in east – Hammar marsh (Hareer, Saddah, Najarah and Burkah) as indicated in map.

By using a binocular for counting and identification, Wader species was made according to (Allouse, (1961) ; Porter *et al.* 199

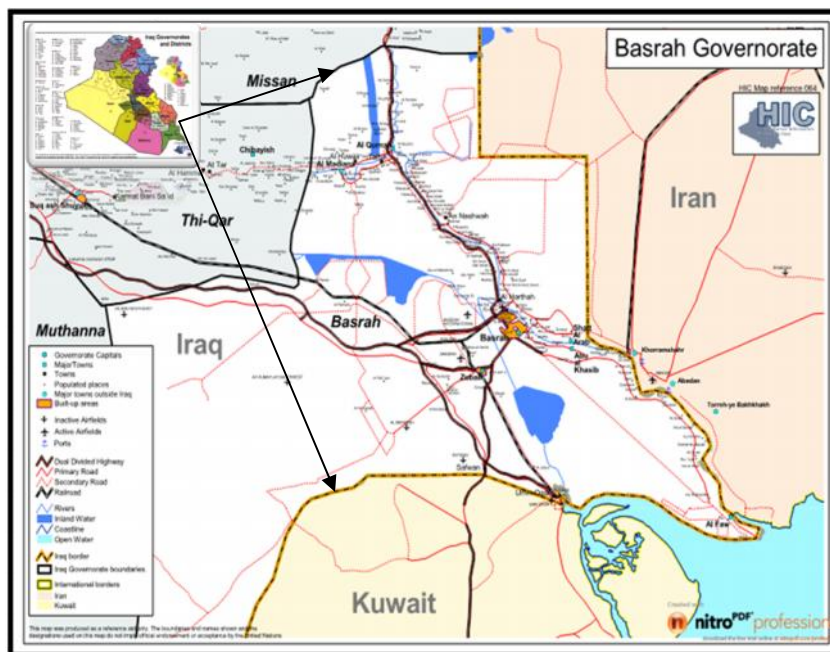


Fig.(1-A). Map of south area of IRAQ

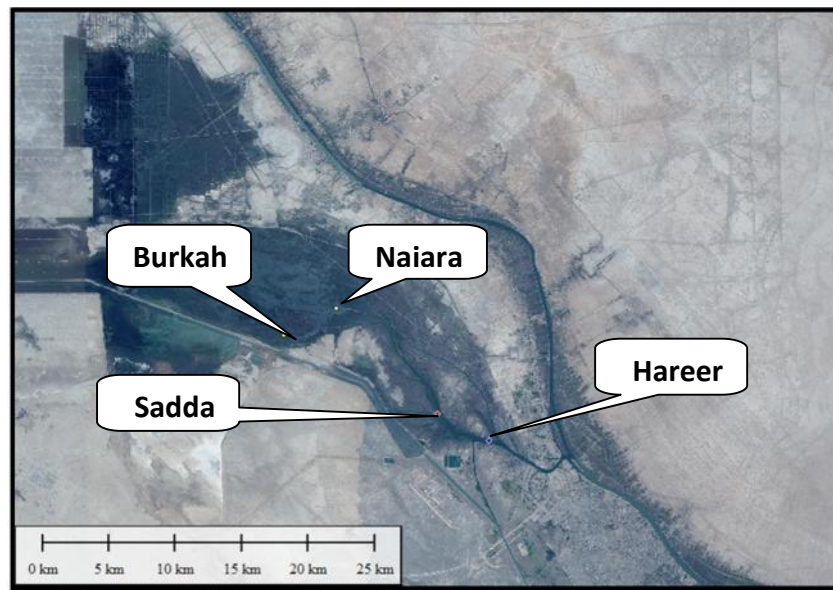


Fig.(1-B). Map of the study site

Results

Twenty species of waders were recorded in the monitored area in East Hammar marsh belong to four families from September 2009 to August 2010 Tab.(1).

The total number of individuals of waders recorded in the same period reached 11556 bird.

Tab.(1) Waders recorded in the monitored East Hammar marsh.

	English Name	Scientific Name	Family	Order
1	Black- Winged stilt	<i>Himantopus himantopus</i>	Recurvirostidae	Charadriiformes
2	Avocet	<i>Recurvirostra avoseta</i>		
3	White-tailed plover	<i>Chettusia leucura</i>		

4	Red-wattled plover	<i>Hoplopterus indicus</i>	Charadriidae	Charadriiformes		
5	Spur-winged plover	<i>H. spinosus</i>				
6	Ringed plover	<i>Charadrius hiaticula</i>				
7	Little ringed plover	<i>C. dubius</i>				
8	Kentish plover	<i>C. alexandrines</i>				
9	Turnstone	<i>Arenaria interpres</i>				
10	Redshank	<i>Tringa totanus</i>			Scolopacidae	Charadriiformes
11	Greenshank	<i>T. nebutaria</i>				
12	Terek sandpiper	<i>T. cinereus</i>				
13	Common sandpiper	<i>Actitis hypoleucos</i>				
14	Dunlin	<i>Calidris alpina</i>				
15	Little stint	<i>C. minuta</i>				
16	Curlew sandpiper	<i>C. ferruginea</i>				
17	Common snipe	<i>Gallinago gallinago</i>				
18	Black –tailed Godwit	<i>Limosa limosa</i>				
19	Ruff	<i>Philomachus pugnax</i>				
20	Colored pratincole	<i>Glareola pratincola</i>	Glareolidae	Charadriiformes		

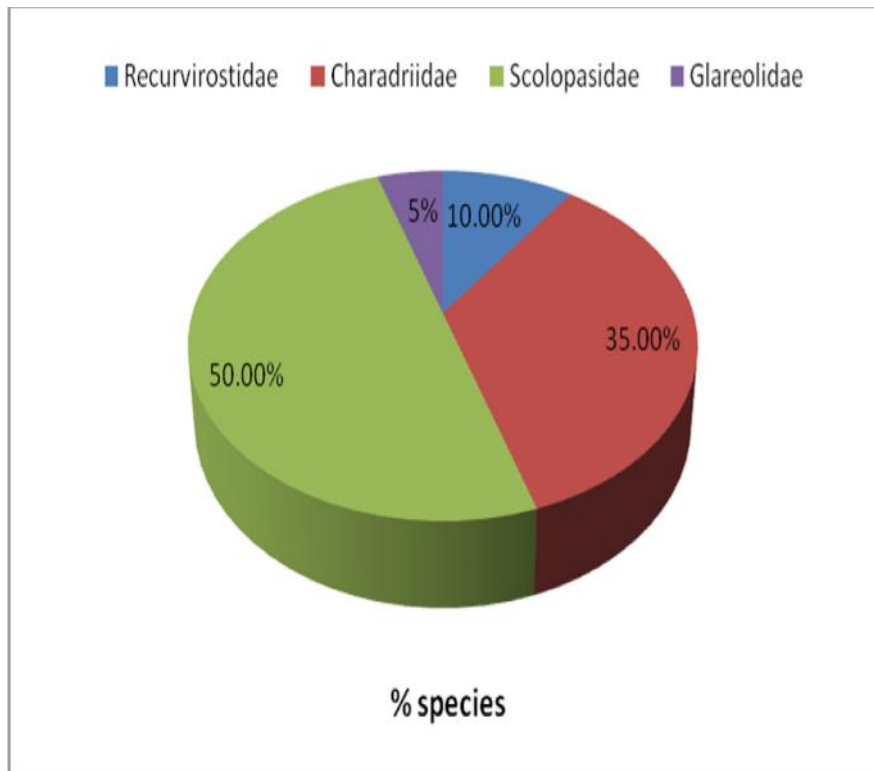


Fig.(2) Percentage of species waders in each family in East Hammar marsh.

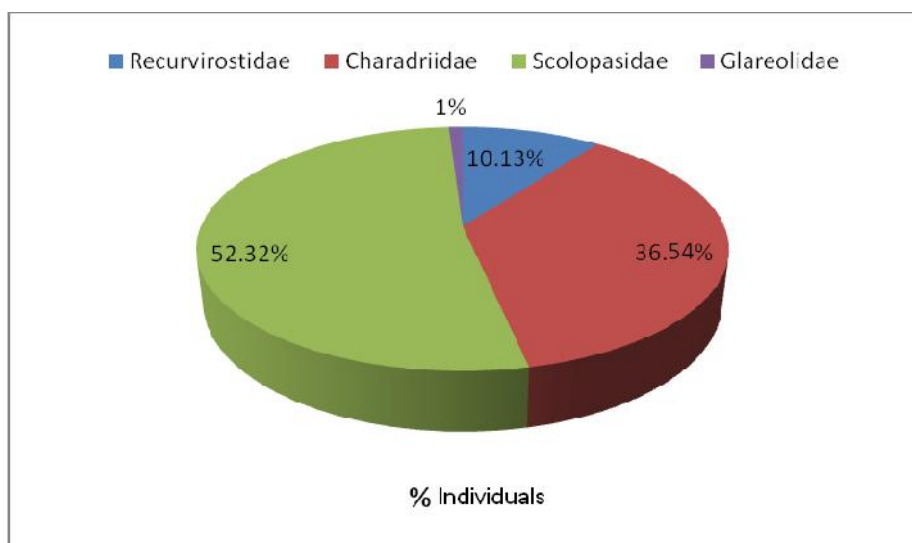


Fig.(3) Percentage of individuals waders in each family in East Hammar marsh.

he percentage of waders species of each family recorded in the east Hammar were shown in fig. (2), Scolopasidae ranked first in

species percentage followed by Charadriidae, Recuvirostidae and Glareolidae respectively.

The percentage number of individuals of waders species of each family recorded in the East Hammar, Scolopasidae occupied

the first position followed by Charadriidae, Recurvirostidae and Glareolidae fig.(3).

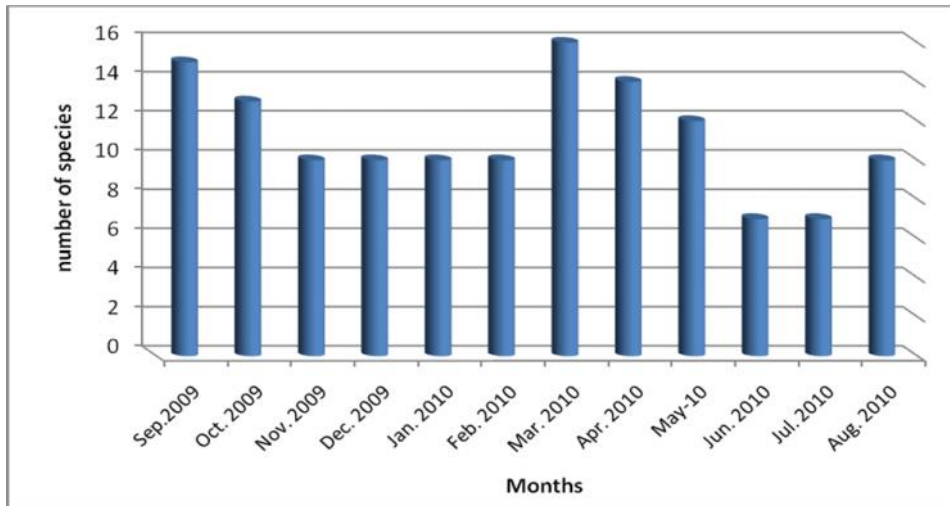


Fig.(4) Number of species of waders recorded in the East Hammar marsh.

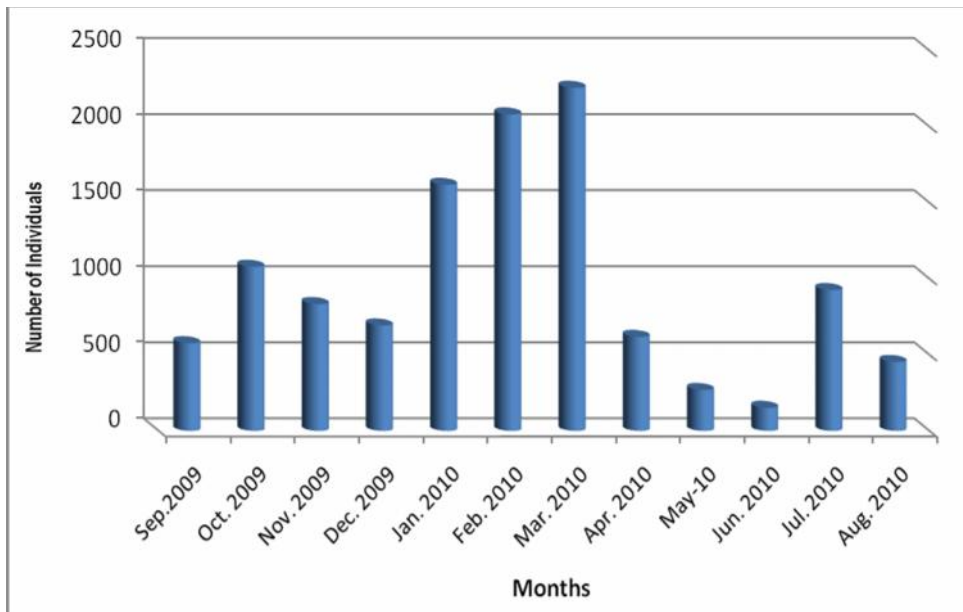


Fig.(5) Number of individuals of waders recorded in the East Hammar marsh.

Number of species recorded in the study area: The highest number of species was 16

recorded in March 2010, the lowest was 7 species recorded in June 2010 and July 2010 (Fig. 4)

The highest number of individuals 2256 were recorded in March 2010, the lowest number

152 was observed in June 2010 (fig. 5).

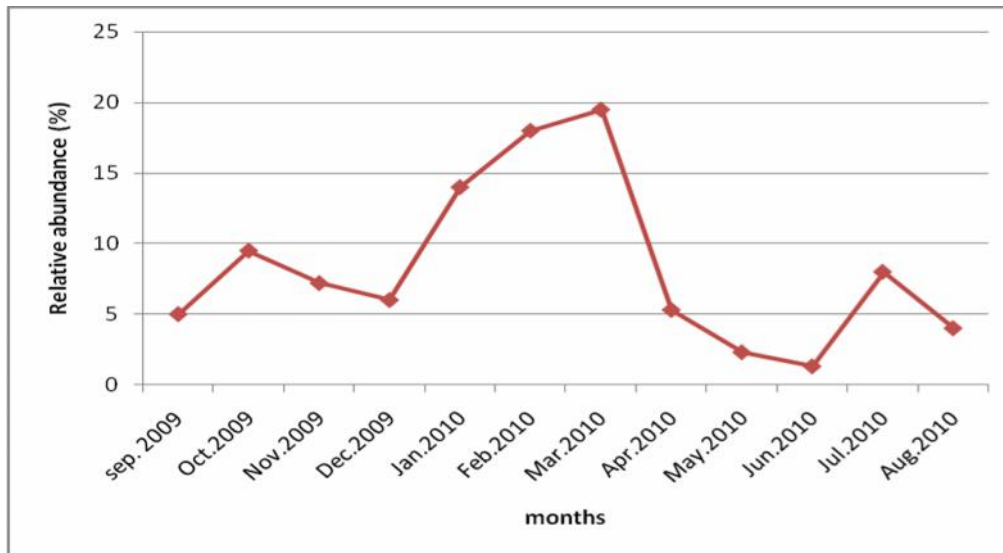


Fig.(6) illustrates monthly relative abundance of waders recorded in the east Hammar marsh, the highest relative abundance 19.52% was recorded in March 2010, the lowest 1.31% was recorded in June 2010.

The highest monthly score of relative abundance was recorded in Kentish plover *C. alexandrinus* in September, April, July and August with 21.14%, 18.6%, 41.03% and 42.34% respectively. The second rank was occupied by Little stint *C. minuta* recorded highest relative abundance in October 2009 with 28.91%. In third rank was the Dunlin *C. alpina* recorded in November, December, February and March,

with 42%, 44%, 26.42% and 48.75% respectively. The fourth rank occupied by White – tailed plover *C. leucura* with highest relative abundance in January, May and June, with 21.55%, 32.71% and 49.34% respectively.

. In general Dunlin *C. alpina* was the highest relative abundance during the monitoring period and reached 24.6% while Terek sand-piper *T. cinereus* was the lowest relative abundance with 0.008%.

Discussion

Iraqi southern marshes characterized by huge avifauna including large number of waders as stated by (Allouse,1953). On of the major group is the migrating birds (Scott, 1995). Several studies pointed out the important of southern marshes habitat for the migrating birds which favor these marshland birds mostly coming from Siberia during winter season forced by the hard weather at the original homeland ,several migrating species refuge to Iraqi southern marshes (George ,1967 ; Kainady and Al-Joborae ,1976).

Twenty species of waders were recorded in the present study in east Hammar marsh while Allouse (1961)in Iraq recorded 46 species in Iraq .Al-Robaae, (1986) recorded during autumn migration in shallow water around Basra 19 species of waders. Abed, (2007) in his survey in three of southern marshes 13 species , five of them

in east Hammar marsh. Habeeb, (2008) recorded in east Hammar 26 species. Al-Robaae and Habeeb (2011) recorded in Al-saffia sanctuary in Hawizeh marsh 21 species of waders. The increased of number of species during autumn , winter and spring due to entrance of migrating birds. The increased of number of species in Marsh due to the migrating of certain species summer migrating species and also for the passing species migrating to the north for there original homeland.

East Hammar marsh affected by semidiurnal (tide) accordingly large littoral muddy beach appear during ebb, this muddy beach is a perfect environment for occurrence of birds especially waders. Waders prefer muddy flats to search for their food, like small fishes , invertebrate and seed of aquatic plants accordingly there is an increased in their abundance specially at ebb. It seems that the flood tide controlling feeding behavior of birds and waders by

covering these mud flats by water, this was in line with Scott (1995) who stated that wide mud flat of east Hammar create perfect a place for waders.

The waders of east Hammer could be divided according to their temporal and spatial abundance to four categories:

First category consist of residents species (Black-winged stilt *H. himantopus*, White-tailed plover *C. leucura*, Red- Wattled plover *H. indicus*, Super- winged plover *H. spinosus*, Little-Ringed plover *C. dubius*) this was in agreement with (Allouse, 1953; Scott and Carp, 1982 ; Porter *et al.* 2010) these resident species are breeder in the same area.i.e on the mud flats .

The second category formed of winter visitors (Avocet *R. avoseta*, Redshank *T. totanus* , greenshank *T. nebutaria*, Dunlin *C. alpina*, Little stint *C. minuta*, Common snipe *G. gallinago*, Black-tailed godwit *L. limosa* and Terek sandpiper *T. cinereus*) this

was in agreement with (Allouse, 1953 ; Scott and Carp, 1982 ; Al-Robaae, 1986 ; Porter *et al.* 2010).

The third category contain passage migrants, these species are passing through the marsh during the autumn-spring migration period. These species include (Ringed plover *C. hiaticula*, Turnstone *A. interpres*, Curlew sandpiper *C. ferruginea* and Ruff *P. pugnax*) this was in agreement with previous observations by (Allouse, 1953 ; Scott and Carp, 1982 ; Porter *et al.* 2010). Common sandpiper *A. hypoleucos* could be one of the passage migrants during spring and summer months or may be consider as

a summer visitor (breeding) but no adults or ckiks were noticed .

The fourth category was the summer visitors consisted from breeding species, only one species of this group was observed (colored pratincole *G. pratincola*) this species visit the marshes during March and departure in

September, this species was seen with juveniles, which agreed with previously records by (Allouse, 1953 ; Al-Robaae, 1986 ; porter *et al.* 2010).

Conclusion

- 1- It seems that low tide (ebb) governed the occurrence of waders and time of feeding.
- 2- Wide muddy littoral zone of Al- Hammar marsh was suitable environment for waders.
- 3- There was an increasing number of waders species during autumn, winter and spring were recorded.

References:-

- Abed,J.M.**(2007). Status of water birds in restored southern Iraqi Marshes . Marsh Bulletin. 2(1): 64-79.
- Allouse,B.**(1953) The avifauna of Iraq . Nat. Hist.Mus. publication No.3 Baghdad.
- Allouse,B.**(1961). The birds of Iraq. Al-Rabita press.Baghdad Vol.2,(In Arabic).
- Al-Robaae,K.H.**(1986). The observation of birds during the autumn Migration in the vicinity of Basrah city-Iraq. Bull.Basrah Nat.Hist.16 :65-85.
- Al-Robaae,K.H. and Habeeb, M.K.**(2011). The negative effect of drought on composition of waterfowls community in Al Saffia sanctuary . 6 (2) : 98-111.
- Carp , E .** (1975) . waterfowl Counts in Iraq . IWRB Bulletin 39/40 : 51-55 .
- Carp , E.** (1980). A Directory of Western Palearctic Wetlands – UNEP ,Nairobi , Kenya , and IUCN,Gland , Switzerland (Iraqi Pp187-191)
- Evans , M . I .** (ed.) (1994) . Important Bird Areas in the Middle East. Birdlife Conservation Series No.2.Birdlife International Cambridge,U.K.410pp
- George,P.V.**(1967) *Cygnus bewickii* Yarrell bewick's swan; an addition to the avifauna of Iraq.Iraq Nat.His.Mus.Bull,3(7):11-13.
- Georg , P . V . and Savage , C . D . W .** (1970) . Status of species

of wildfowl Occurring in Iraq .
In : Isakov , Y . A . (ed) , proc .
Int . Regional Meeting on
Conservation of wildfowl Reso-
urces , Leningrad 1968 : 177-181
. Mosco W .

Georg , P . V . and Vielliard , J
. (1970) . Midwinter Observation
on birds of Central and South
Iraq. Bull. Iraq Nat . Hist.
MusVol. IV , No.4: 61- 85 .

Habeeb, M.K.(2008).Study of the
nature of waterfowls assemblage
insome marshes of southern
Iraq.Msc.Thesis.Basrah Univ.115
pp.

Kainady,G. and Al-Joborae,f.
(1976).Report of the migration
study project of Basrah
University.Bull.Basrah.Nat.Hist.
Mus.3(111-116).

Porter,R.F.;Christensen,S.and
Schiermacker-
Hansen,P.(1996).Birds of
Middle East.Helm fieldguides
.A&C Black publisher Ltd.460
pp.

**Porter,R.F, Salim,M ,Ararat,k
and O,fadhel.**(2010). Provisional
checklist of the birds Of
Iraq.Marsh Bulletin 59(1):56-95.

Scott,D.A.(1995). A directory of
wetland in middle east,IWRB;
slimbridge,UK,p223-301.

Scott,D.A.and

Carp,E.(1982).Amid winter
survey of wetlands in
Mesopotamia,
Iraq:1979.sandgrouse 4:60-76.

التواجد والوفرة النسبية للطيور الخواضة لمنطقة الشاطئ الطيني لهور شرق الحمار/ البصرة /
العراق

مهنا قاسم حبيب

قسم علوم الحياة -كلية العلوم- جامعة البصرة – البصرة – العراق

الخلاصة

سجل عشرون نوعاً من الطيور الخواضة في هور شرق الحمار خلال فترة المراقبة (أيلول 2009- آب 2010) ، وبلغ العدد الكلي للأفراد المسجل في هذه الدراسة 11556 طائر. سجلت عائلة الطيوطات أعلى عدد للأنواع والأفراد في حين سجلت عائلة أبو اليسر أدنى عدد للأنواع والأفراد.

سجل أعلى عدد للأنواع في مارس 2010 وأدنى عدد في حزيران وتموز 2010. سجل أعلى عدد للأفراد في مارس 2010 وأدنى عدد في حزيران 2010. سجلت أعلى وفرة خلال هذه الدراسة للنوع (الدريجة) وبلغت 24,6% وسجل النوع (الطيطوي المغربي) أدنى وفرة وصلت 0,008% .