DOCUMENTATION SOME MAMMALS IN IRAQI KURDISTAN REGION

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Abstract

More than 20 site have been selected in three provinces Sulaymaniya, Erbil and Duhok in kurdistan to study wild mammals with winter trip within Key Biodiversity Area (KBA) project concerned on other animals as will as mammals,which funded by Nature Iraq Organization.

KBA team depended on mammals signs were left after them like Tracks, scats, and dens as well as animals have been pictured. The team recorded the occurrence of some mammals within studied area.

key wards*: wild mammals, mammal's signs*

Introduction

Winter trip was one aim of the KBA (Key Biodiversity Area) project trying to study mammals in Kurdistan region in Iraq within rapid surveys and by simple equipment . Mammals need more money and time to study them carefully , because it is hard to find mammals at day , they are nocturnal in habitat appears at night looking for their food, so you be lucky if you find some of them at day.

This is the second time KBA team visit northern Iraq to study the mammals, the first one was in summer 2007 . According with KBA plan we visited several sites in Sulaymaniya , Erbil and Duhok provinces . Thies trips are not enough for mammals because they were rapid trips.

The studies about this field were little and oldSuch as Cheesman(1920) who considered as a good collector for mammals In Iraq specially in desert; Allouse(1954), Hatt(1959) who conducted mammals in Iraq from October, 1952, into March, 1953, under the auspices of the United States Educational Foundation of Iraq (Fulbright Foundation). Mahdi and George(1969) published Systematic list of Iraqi vertebrates – mammals with Iraqi National History Museum.

Small collection of mammals was made in the extreme north of Iraq (Kurdistan),this is extremely mountainous district and mountain ranges are continuous with those of Asia minor and Persia. The mammalian fauna is composed of animals which are quite different to those found in the lowlands and desert of which most of Iraq consists and includes many species which are found in Persia Harrison (1956).

Harrison (1964) made fauna of Arabia,he put several maps appeared the occurrence and distribution for each founded animal.

Many old and recent studies in the around countries Iran ,Turkey and Syria ,mentioned the occurrence of mammals,like (Joolaee *et al*., 2012;Coskun *et al*.,2012).

The records were obtained from visual observations of live animals in the wild or dead specimens due to predation, and examination of skins, tracks, dens, and field signs .

The aim: Record the mammals in the kurditan region in Iraq.Which still found, disappeared, added after more than 30 years ago Without information.

KBA(key biodiversity area) project funded by Nature Iraq Organization

Key wards: mammals monitoring, mammals signs.

Methodology

1- Study area: More than 20 sites were chosen In three northern provinces in Iraq (Kurdistan region) as well as IBA (Important Bird Area) sites(Figure 1).

Figure(1): Map shows study area .(Red spots=Sites)

1- Equipment: We depended on vision to determine both of the appearance of animals and signs left after them,

The following equipment was used for looking for animals

a- Digital Camera (10 MP).
b- Spotting scope (Kawa, 500mm).
c- Binocular (8 * 42mm).
d- Sun glasses.
e- Mountain Boots.

2- Tracks: we depended on Murie and Elbroch. (2005) to identifying the tracks.

3- Classification of animals: depending on Hatt(1959), Harrison and Bates(1991).

4- Local interview: also we depended on local interviews to collect fact information to support our Data.

Result and Discussion

When we visit Kurdistan in winter, we hope to see snow full down because snow provides good results for animal tracking ,sometimes snow gives results better than mud. In recent trip we have got many tracks for different mammals like Dog family tracks (Figure 2) and hare tracks (Figure 3).

Figure(2) : Dog family (Canidae)tracks.
Location : Dukan lake,Baharka, Gara mountain, Tajik dam, Sersenk area

Figure (3) : Hare Tracks. *Lepus sp.*
Location : Sersenk area,Benavi.

Also the team found tracks arranged as straight or curved lines ,the space is about 8cm between one and other ,possibly they are for Jerboas (Figure 4).

Figure (4): Jerboas , Tracks. (See the distance and the tail mark among tracks).
Location: Sersenk area.

As well as we found many tracks , couldn't identify them (Figures 5 – 6)

Figure (5) : Unidentifying Tracks.

Figure (6) : Unidentifying Tracks.

Identifying the animal that made a particular set of tracks can be easy or hard, depending on the size and quality of the imprints (for obvious reasons), and the kind of animal that made them. And by this , some animals have very distinctive tracks, there's no mistaking their shape and/or size. But other animals have lots of close relatives with very similar tracks, making it hard to tell them apart (Brown *et al*.,1984)

If the snow not persist ,we depend on mud to record the tracks which appear more clear than snow (Figures 7 –9).

Figure (7) : Fox Tracks.*Vulpes vulpes.*
Location : Dukan lake,

Figure (8) : Muridae, Tracks.
Location : Dukan lake

Figure (9) : Wild cat Tracks.*Felis silvestris.*
Location : Bakhma dam

Not only for tracks but you also can notice the temporary occurrence of mole rat because this animals make tunnels and accumulations of mud appear on the surface of the fields when he move looking for his food (Figure 10) .

Figure (10): mud accumulation for Mole Rat *Spalax sp.*
Location : Dukan lake,Duhok lake,Sersenk area

This animal was blind with rudiment eyes and he hate light ,so you couldn't see him at day , we thought and depending on what we saw in the field , many pathways started from it's mud accumulations appear it's movements on them . Also the team noticed scratches of his long hard claws on the mud accumulations and his movement on the hill surface making straight and geometrical lines like Triangles among mud accumulations. Those lines improved the free movement of this animals at night (Figure 11).

Figure (11) : Shows path ways (arrows)made by movement of Mole Rat.
Location : Sersenk area.

According to the different systematic views,the family Spalacidae consists of either a single genus, *Spalax*, or two genera, *Spalax leucodon* and *Spalax ehrenbergi* Musser and Carleton (2005). Although the occurrence of this species is known in Iraq Bate(1930) . Hatt(1959) recorded the two species in Iraq.

Recently Coskun et al.,2012 proved the species in the north of Iraq is Palesine mole rat *Spalax ehrenbergi ehrenbevgi* by using DNA analysis. This animal was described by Nehring in 1897 Hatt(1959).

Skins or pelts are another good signs as indicators for mammals occurrence . Nature Iraq focused to found specimen for important animal (otter = Aquatic animal). It was essential as bio-indicators to measure the health of the aquatic ecosystem. There are two species of otter in Iraq , common otter *Lutra lutra* and Smooth – coated otter *Lutra perspicillata* Harrison(1964).The team found two dead and one pelt of this animal in Taq Taq town within Erbil province (Figure12). Unfortunately , fishermen killing this endangered animals by electricity (dirty process for fishing). Due to hunting and habitat destruction there has been a marked decline in both species population especially of the endemic Iraq smooth - coated otter Al-Sheikhly(2012). local hunters and fishermen indicated the presence of otters at the big lakes of Dukan and Derbendikhan in Sulaymaniya province, but no specimens obtained (Omer et al., in press).

Figure (12) : Shows the pelt of otter obtained in TaqTaq.

As I mentioned above it is hard to see wild mammals by your naked eyes, even that we saw several dead animals like Asiatic Jackal (Figure 13), European Hare (Figure 14) and Brown Rat (Figure 15) and alive animals like Wild goat (Figure 16) and Persian Squirrel (Figure 17).

Figure(13): Asiatic Jackal *Canis aureus*
Location : Dukan lake,Bakhma dam

Figure(14) : European Hare *lepus europaeus*.
Location : Benavi

Figure (15): Rat *Rattus norvegicus* .
Location : Dukan lake

Figure(16): Wild goat *Capra aegagrus*.(male).
Location : Zararan area,Dukan

Figure (17): Persian Squirrel *Sciurus anomalus*.
Location : zararan area, Sersenk area.

Holes , shelters also are the good signs lead to occurrence of animals(Figures 18-19).

Holes in the earth are some of the most commonly seen signs of animal activity . Almost everyone at some time has wondered who or what made a particular hole. This cannot always be answered with assurance , but there are some guidelines that will help you narrow down the choices and perhaps even determine the burrower and/or user. Size is the first and most important consideration, and you must take into account the structure , measurement and placement of the hole and the behavior of the animal Stock and Stock (1986).

Figure (18): Holes for Muridae family .
Location : Duhok lake,Dukan lakeL, Barzan area, Sersenk area

Figure (19): Temporary place for Persian Squirrel. (There are pieces of oak inside the shelter).
Location :Sersenk area

Many types of birds fall under the predation trap , scattered feathers refer to exist of carnivores animals like Jackal,fox or wolf (Figure 20).

Figure(20): Feathers as remnants of Predation..
Location : Dukan lake

Local interviews

Mountains,hills,valleys and forests represent the environment of most areas in northern Iraq, so you can expect occurrence of same kinds of animals like Jackals, Foxes, Squirrels, Rats, Wolves, Wild boars and Wild goat accept common otter found within rivers and bear in high mountain. These were the answers of the locals when we asked them when we needed their help to collect data about mammals.

Recommendation

Despite the survey time is limited but that not prevent us to spend many days in the sites we feel it important like Barzan protection area , this short time helped as to obtain many information not only for mammals but others like our important aim Birds.

Forests lying with mountains ,valleys in most areas as well as water resources , this nature encourage any government or people to establish many national parks to preserve fauna and flora species (Figure 21) . So we suggested , the cooperation between government and farmers form a great preservation areas for wild animals. Government in Kurdistan issue law in Barzan sector (protected area) in Erbil governorate , prevent any person to hunt animals , so we think we can collect good information about animals if we spend enough time their after obtaining agreement from government to visit this site and it is a good idea lead to establish another protection areas in Kurdistan region.

Figure (21) : Slope full with green forest.

Dense woody forests provides habitats and food for many species of animals like wild goat ,fox, mice ,squirrel and other small mammals. Miller (2000) mentioned, the consensus among most conservation

biologists is that the protecting biodiversity requires both whole ecosystem and species –by-species approaches for conservation efforts to be successful. The whole ecosystem approach has the advantage that it focuses on ensuring that sufficient land is protected to ensure ecological integrity and provide sufficient habitat for majority of wild species.

Higher wild life Comparing with the grass hills of today will the change be dramatically. Birds, reptiles as well as mammals will colonize the Green Belt. This will be especially evident if we dig water holes that contain water some months after the rain. We can expect a wealth of animals in the Green Belt .The Green Belt and the surrounding areas.
there will be an interaction between the Green Belt and the surrounding Areas.
http://kurdishtree.blogspot.com/2007/11/what-would-grren-belt-do.html

References

Allouse,B.E.Bibliography on the vertebrate fauna of the Iraq and Neighbouring countries.1.mammals.IraqNat.Hist.Mus.Pup. pps.29.(Cited by Harrison,1964).

Al-Sheikhly, O.F. (2012). The hunting of endangered mammals in Iraq. *Wildlife Middle East*. (6):2-3:10.

Bate D.M.A., 1930. Animal Remains from Dark Cave,Hazar Merd. Bull. Amer. School Prehist. Res. 6: 38–41.

Brown, R ;M,J.Laurence, and J.Pope.(1984). The larousse guide tocck Animal tracks,Trail,and Signs. New York: Larousse Co.

Cheesman,R.E.Report on the mammals of Mesopotamia, collected by Members of Mesopotamian Expeditionary Force 1915-1919.J.Bombay.Nat.Hist.Soc.27:323-346.(Cited by Harrison,1964).

Coskun ,Y; Ausame , N ; Alaettin , K and Zohair , I .(2012).Karyotype of Nanospalax ehrenbergi in Mosul province , Iraq .Hystrix,The Italian Journal Of Mammology . Vol 23(2) : 72-75 .

Harrison D,L.(1956).Mammals from Kurdistan ,Iraq,with Description of a New Bat .Journal of Mammology , Vol.37,No.2,pp,257-263.

Harrison, D.L. (1968). Mammals of Arabia. Carnivora. Artiodactyla Hydrcoidea. Vol. II. Ernest Benn,Ltd. London.

Harrison, D.L., Bates, P.J.J. (1991). The mammals of Arabia. Second edition. Harrison Zoological Museum, Tonbridge, UK.

Hatt, R. T. (1959). The mammals of Iraq. Misc. Pub .Mus. Zool. Univ. Michigan No. 106.pp.113.

Important Bird Area , Aglobal Currency for Bird Conservation, National audubon Society.

Joolaee, L ; Mehdi Ansari and Taher Ghadirian.(2012). First record of Honey badger Mellivora capensis from province , Iran. Small Carnivore Conservation.Vol 47 : 77-78 .

Mahdi & George (1969) Systematic List of Iraqi Vertebrates. Iraq natural History Museum Publication 26: 34-63.

Miller,G.T.(2000). Living in the environment Principles,Connections, And solutions . Eleven Edition.Brooks/Cole publication Company.USA.

Musser G., Carleton M., 2005. Superfamily Muroidea. In:Wilson D.E., Reeder D.M. (Eds.). Mammal Species of the world: A taxonomic and geographic reference, 3rdedition. Baltimore, The Johns Hopkins University Press,894–1531.

Murie O. G.and Elbroch M. (2005).A Field Guide To Animal Tracks. (Third Edition).Houghton Mifflin Company, Boston, New York.

Omer, S.A., Wronski, T., Al Wash, A., Elamin, M.H., Mohammed, O.B., Lerp, H. (in press).Evidence for persistence and a major range extension of the smooth-coated Otter, *Lutrogale perspicillata maxwelli* (Mustelidae, Carnivora) in Iraq. *Folia Zoologica*.

Stockes D.W and Stockes L.Q.(1986).A Guide to Animal Tracking and Behavior.Little Brown and Company,Boston,New York,Toronto, London.

http://kurdishtree.blogspot.com/2007/11/what-would-grren-belt-do.html

توثيق بعض اللبائن في منطقة كردستان العراق

الخلاصة

تم اختيار اكثر من 20 موقع موزعة في ثلاث محافظات السليمانية ، اربيل ودهوك لدراسة اللبائن البرية ضمن مشروع KBA (Key Biodiversity Area) الذي يركز على دراسة الحيوانات من ضمها اللبائن ، هذا المشروع مدعم من قبل منظمة طبيعة العراق .

اعتمد فريق العمل على متابعة العلامات التي تتركها الحيوانات خافها مثل طبعات الاقدام Tracks الفضلات Scats والمخابيء Dens بلاضافة الى الحيوانات التي تم تصويرها وتوثيقها، وعليه استطاع الفريق ان يسجل بعض اللبائن البرية خلال مناطق الدراسة .