

ON A COLLECTION OF MAMMALS FROM MOSUL, NORTH IRAQ

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The present paper is based on a collection of Mammals exhibited in the regional Natural History Museum of the University of Mosul. This museum was originally started for the purpose of exhibiting local fauna as mounted specimen for the public. Majority of the specimens were collected by the founder of the museum Mr. Ibrahim Rassam.

Most of the mounted specimens are displayed in glass cases. Removal of the specimen from the cabinet was difficult, and hence I had to rely solely on external characters for identification. Therefore, some of the identifications will not be very exact. Books by Harrison (1968, 1970, 1972), Hatt (1959), Van Den Brink (1973), and Walker and associates (1964) helped me in the identification of the collection.

At present the Mosul Natural History Museum has no scientific collection. Recently a start has been made by the University of Mosul to put the museum on a scientific basis.

Mosul region is an important one because it lies between three different geographical areas - in the northeast the mountains, in the west the western desert and the Tigris river.

Practically there is no separate study on the Mammalian fauna of north Iraq. Time is appropriate to make a comprehensive study on the Mammalian fauna of this region. A good collection of Mammalian skins with skulls is highly desirable.

ORDER INSECTIVORA : INSECT-EATING MAMMALS

FAMILY ERINACEIDAE : HEDGEHOGS

Erinaceus europaeus Linnaeus European Hedgehog

Material : 1 unsexed specimen

From Mosul - al - Muhalabia (40 km. W of Mosul) on 7 Feb. 1955.

Hemiechinus auritus (Gmelin) Longeared Hedgehog

Material : 3 unsexed specimens

All from Mosul on 12 Feb. 1955.

ORDER CHIROPTERA : BATS

FAMILY RHINOLOPHIDAE : HORSESHOE BATS

Rhinolophus ferrum - equinum (Schreber) Greater Horseshoe Bat

Material : 1 unsexed specimen

From Mosul on 7 May 1965. This looks very similar to this species. There are two specimens collected from Mosul on 2 Apr. 1976, resembling *Myotis* sp. More specimens are to be collected with skulls for a proper detailed study of bats of Mosul region.

ORDER CARNIVORA : CARNIVORES

FAMILY CANIDAE : DOGS, JACKALS, WOLVES, & FOXES

Canis lupus Linnaeus Wolf

Material : 6 specimens; 1 young & 1 adult males, and 4 young & 2 adult females.

Two young, male and female, from Spindar village (110 km. NE of Mosul) on 5 May 1957. In 1968 from Al-Jazira one adult male on 9 Feb., two females on 15 Feb. & 28 Mar., and three young females on 22 May.

Canis aureus Linnaeus Asiatic Jackal

Material : 4 specimens; 1 unsexed head, 1 male, and 2 females.

In 1955, a head from Amadia (120 km. NE of Mosul) on 10 Aug. and a male from Mosul farm on 28 Aug. In 1968 two females from Al-Hawi (10 km. NW of Mosul) on 1 and 25 Jan.

The asiatic Jackal is common in and around Mosul.

Vulpes vulpes (Linnaeus) Common Red Fox

Material : 4 specimens; 1 male and 3 females

In 1955, one female from Mosul farms on 25 Aug. and one male from Mosul on 15 Sept. From Al-Jazira two females on 20 June 1956 and 29 Feb. 1968.

The Common Red Fox is common in the Mosul area.

FAMILY URSIDAE : BEARS

Ursus arctos Linnaeus Brown Bear

Material : 2 specimens; 1 young male and 1 female

The young male from Spindar village on 30 Nov. 1956, and one male from Bamerni village (110 km. NE of Mosul) on 25 May 1969.

FAMILY MUSTELIDAE : MARTENS, WEASELES, & POLECATS

Martes foina (Erxleben) Beech, or Stone Marten

Material : 2 specimens; 1 unsexed and 1 male

One male from Aqra (95 km. E of Mosul) on 19 Sept. 1961 and the unsexed specimen from the same area on 15 Aug. -1975. This unsexed specimen looks more yellowish.

I have seen many skins said to have collected around Mosul, in the Mosul market.

Vormela peregusna (Guldenstaedt) Marbled Polecat

Material : 6 specimens ; 4 males and 2 females

In 1956, one male from Mosul area on 20 Apr., another male from Nainawa farms (10 km. N of Mosul) on 15 June, and a female from left side of Tigris at Mosul on 25 June. Two males from Mosul on 8 & 9 Dec. 1975, and another male from Sinjar (120 km. W of Mosul) on 18 Apr. 1976.

Mellivora capensis (Schreber) Ratel

Material : 2 specimens; 1 female and 1 unsexed

There are two mounted specimens; one female from Mosul farms on 20 Oct. 1975, the other unsexed specimen is without date and locality.

Ratel has not been previously reported from Mosul area, however, it has been reported from north Iraq from Ti, ravines above Rawa in Al-Jazira, and Jabel Baradust (Hatt 1959). Harrison (1968) does not mention of the Baradust record.

Meles meles (Linnaeus) Badger

Material : 3 females (Fig. 1)

One female from Sharanish village (120 km. N of Mosul) on 2 July 1956, and another female from Mosul farms on 28 Oct. The Basrah Natural History Museum received a skin and skull of a female Badger as a gift from the Mosul Natural History Museum. This specimen was collected from Bnenan village (60 km. NE of Mosul) on 28 Mar. 1971.

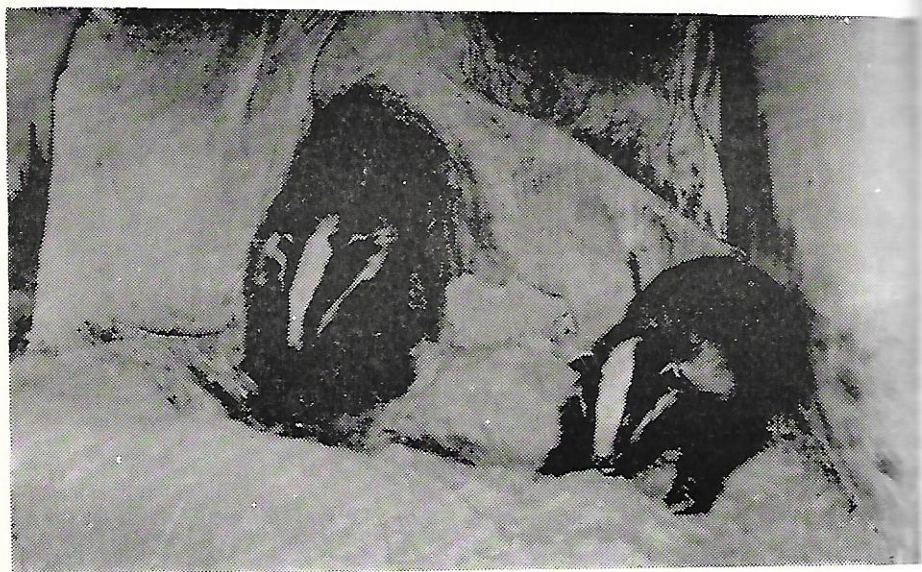


Fig. 1. *Meles meles* in Mosul Natural History Museum.

The specimen measures in cm : HB 76, T 13, HF 10, E2 ; and the skull : GTL 12.2, CBL 11.2, ZB 6.7, BB 4.9, IC 2.5, M8.1

Meles meles appears to be new record for Mosul area.

Lutra lutra (Linnaeus) Common Otter

Material : 2 specimens ; 1 male and 1 unsexed (Fig. 2)

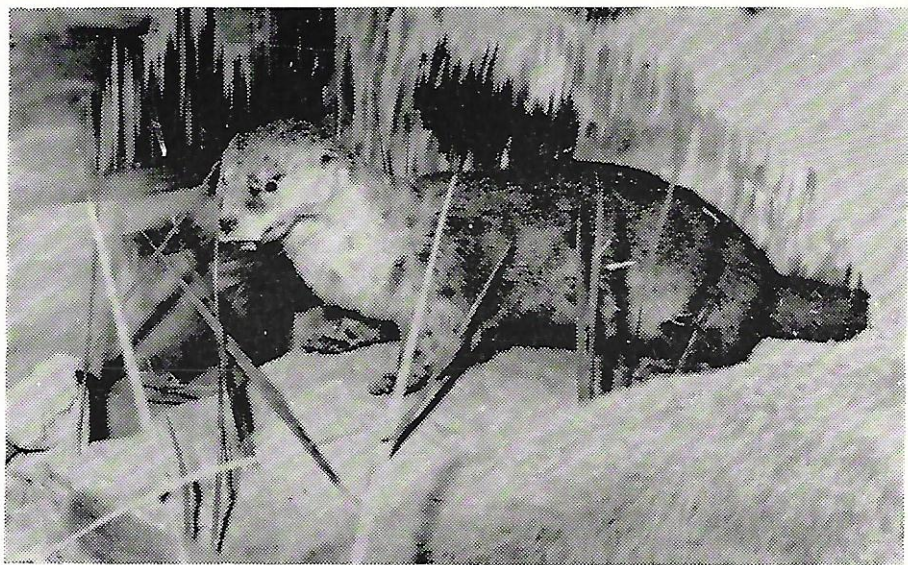


Fig. 2. *Lutra lutra* in Mosul Natural History Museum.

The male collected on 12 Oct. 1955 from Ain Kirbriet (2 km. N of Mosul), and the unsexed specimen from Badush (40 km. W of Mosul) on 10 Apr. 1968.

This forms the first definite record of the species for north Iraq, however, Hatt (1959) noted a trade skin at Mosul market.

FAMILY VIVERRIDAE : MONGOOSES

Herpestes auropunctatus (Hodgson) Small Indian Mongoose

Material : 1 female

This female was collected from around Mosul on 12 June 1965.

There is no report on this species subsequent to Hatt's (1959) recording of an unsexed native skin from Mosul market. The present finding forms the second recording of this species from north Iraq.

Herpestes ichneumon Linnaeus Egyptian Mongoose

Material : 1 female

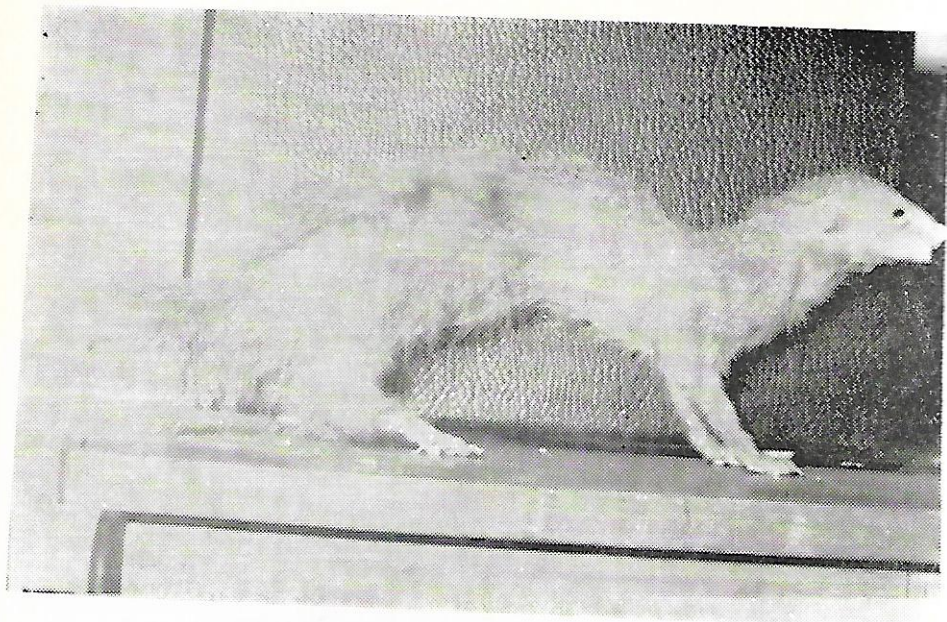


Fig. 3. **Herpestes ?ichneumon** in Mosul Natural History Museum.

Ibrahim Rassam collected this female specimen from Amadia on 14 July 1955, and it is kept as a mounted exhibit. It is without tail (Fig. 3). The specimen measures in cm. : HB 50, HF 10, E2.

H. ichneumon is not previously recorded from Iraq but from the neighbourhood of the southwestern border. The specimen looks similar to Egyptian Mongoose. More materials are to be collected and studied before this species could be included in the Iraqi list.

FAMILY HYAENIDAE : HYAENAS

Hyaena hyaena (Linnaeus) Striped Hyaena

Material : 1 male

This male was collected from Muhalabia on 20 Nov. 1963.

FAMILY FELIDAE : CATS, LYNXES, CARACALS, & LEOPARDS

Felis chaus Guldenstaedt Jungle Cat

Material : 3 specimens ; 1 male and 2 females

The male from the road of Dohuk on 29 Nov. 1956. From Al-Hawi, two females dated 8 Mar. 1970 and 28 Mar. 1971.

Panthera pardus (Linnaeus) Leopard

Material : 1 female

This female was collected on 10 Dec. 1975 from Aqra.

The Leopard is very rare in the present time in north Iraq.

ORDER ARTIODACTYLA : EVEN-TOED UNGULATES

FAMILY SUIDAE : PIGS

Sus scrofa Linnaeus Wild Boar

Material : 3 unsexed young specimens

These were collected from Mosul farms on 20 Apr. 1956.

At present the Wild Boar is rather rare in the mountainous north Iraq.

FAMILY BOVIDAE : CATTLE, BUFFALO, GAZELLES,

GOATS, & SHEEP

Gazella subgutturosa (Guldenstaedt) Persian Gazelle

Material : 1 female

Mohammed Saaïd Al-Nohmawi captured one female of this species on 12 Nov. 1975. It is kept as mounted specimen in the exhibit. This Persian Gazelle might have been caught in the mountains.

Gazelle ?dorcas (Linnaeus) Dorcas's Gazelle

Material : 3 unsexed specimens

These three mounted specimens in the Museum were collected from Mosul market on 20 Aug. 1955, 12 May 1956, and 30 Apr. 1966.

These specimens look similar to Dorcas's Gazelle, which is at present only once recorded for Iraq (see Harrison 1968).

Capra aegagrus Erxleben Wild Goat

Material : 1 mounted head

This specimen is without daet and locality.

ORDER LAGOMORPHA : HARES

FAMILY LEPORIDAE : HARE

Lepus capensis Linnaeus Brown Hare

Material : 4 specimens ; 1 unsexed, 1 male, and 2 females

In 1955, from Al-Jazira one unsexed specimen on 6 Mar., and one male on 16 Mar. From Mosul area two females dated 3 Dec. 1971 and 16 May 1974.

ORDER RODENTIA : RODENTS

FAMILY SCIURIDAE : SQUIRRELS

Sciurus anomalus Guldenstaedt Persian Squirrel

Material : 5 specimens ; 3 unsexed, 1 male, and 1 female

From Aqra three unsexed specimens collected on 15 Mar., 20 Apr., and 15 May 1955; one male on 15 Mar. 1965; and one female on 15 Mar. 1969.

There are two specimens, which differs from the rest in colouration by being very dark to blackish. It needs more material with skulls for a proper study.

FAMILY HYSTRICIDAE : OLD WORLD PROCUPINES

Hystrix indica Kerr Indian Crested Procupine

Material : 2 females

Both females collected from Al-Fathelia (5 km. NE of Mosul) on 9 & 25 Mar. 1965.

FAMILY DIPODIDAE : JERBOAS

Allactago euphratica Thomas Fivetoed, or Euphrates Jerboa

Material : 2 males

Both males were collected from Al-Muhalabia on 11 & 16 Nov. 1956.

FAMILY SPALACIDAE : MOLE RATS

Spalax leucodon Nordmann Lesser Mole Rat

Material : 2 specimens ; 1 unsexed and 1 male

From the Mosul area, the male collected on 17 Aug. 1956, and the unsexed specimen on 15 June 1962.

SUMMARY

Notes on twenty-six species of mammals collected from North Iraq and exhibited in the Mosul Natural History Museum of the University of Mosul are presented with locality and date of collection. This is the first study of this collection.

ACKNOWLEDGEMENTS

I am indebted to the Mosul Natural History Museum Director, and officers in charge of the museum Messrs Sabah I. Salih and Ahmad A. Al-Kathili for their help during the study of the collection.

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الخلاصة

ملاحظات عن (٢٦) نوع من البائنات الموجودة في متحف التاريخ الطبيعي لجامعة الموصل • تتضمن المكان والزمان الذي جمعت فيه وهذه أول دراسة حول مجموعة لبائن المتحف المذكور •

**DEVELOPMENT OF TEMPERATURE REGULATION IN NESTLING
COMMON SWALLOWS *HIRUNDO RUSTICA***

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During the 1972 breeding season, from March to June, we studied the development of thermoregulation in nestlings of the Common Swallow ***Hirundo rustica**** Linnaeus. The breeding colony was located at the College of Education, Baghdad, Iraq (Al-Rawy & George 1966). The nests were attached to walls near the ceiling and on flanges of iron girders in corridors of the ground and first floors. The birds found their way to the closed corridors through the windows at staircase and ventilations that were kept open.

The earlier work on the temperature of the Swallow nestlings (***H. r. erythrogaster***) is that of Stoner (1935), who gives the temperature of 1, 5, 10, and 15-day old nestlings. Our aim was to have a more detailed study on the development of temperature regulation by taking nestling temperatures daily from beginning to end of nestling period, making continuous temperature recording of some nestling of selected stages, and by conducting some cold chamber experiments. The results of these investigations are analysed in this paper.

* The nominate subspecies ***rustica*** is recorded as the breeding population of Iraq (Vaurie 1959).

MATERIALS AND METHODS

A total of 38 *H. rustica* nestlings were used, of which 27 came from eight early brood nests and 11 from three late brood nests. The early nests constituted first broods while the late nests could have been second broods. From May 25 onwards the three late nests were the only active ones in the breeding colony.

Nest contents were under daily check towards the end of incubation period. The nestlings were individually marked by tying a colour thread around a leg at the time of hatching, and, later at about 14th day, by ringing them with numbered Iraq Natural History Museum rings.

The hatching spread (between the first and last hatching) was within 48 hours. Nestlings were aged from the day that hatching began irrespective of their exact hatching time.

Nestlings were taken from the nest, one at a time, in a cardboard box (slightly bigger than the nest) containing cotton in the bottom and carried immediately to a three-sided covered work-room with rather still air. The longest distance from the nest to the working area was about 30 m, but most of the nests were within 8 m. All possible precautions were taken to ensure that the nestlings were not disturbed. The first data taken were the temperature of the nestlings. Inserting the left hand into the box, the nestling was caught from the back, a slow turn of the hand placed the nestling in a slanting semi upside down position, the sensor was quickly introduced into the cloaca to a depth of 12 to 15 mm, and the temperature read. The sensitive part of the sensor has a length of 10 mm, a diameter of 2 mm, and a response time of about four seconds. Less than half a minute after removal of the nestling from the box was sufficient to complete the recording of the temperature. The measurements were taken daily between 16:00 and 18:00 except for two late brood nests, for which from the 10th day onwards they were made between 09:00 and 10:00.

The temperature measuring unit used was the Tastomed Script B manufactured by the Braun Electronic Company (now Deutsche Gultron). Their standard probe M and skin probe HZ were used for