



Short Communication

Distribution of Wild Mammalian Fauna of Mahaban and Malka Valley District Buner

Naveed Akhtar,^{1,*} Riaz Muhammad², Kausar Saeed², Muhammad Fiaz Khan¹, Muzaffar Shah³, Jehan Zeb², Shahid Ahmad², Azam Jan Afridi⁴ and Aftab Hussain⁵

¹Department of Zoology, Hazara University, Mansehra

²Department of Zoology, Abdul Wali Khan University, Mardan

³Center for animal sciences and fisheries, University of Swat, Swat

⁴Department of Zoology Islamia College University, Peshawar

⁵Department of Genetics, Hazara University, Mansehra

ABSTRACT

Present study was conducted in October 2015 to October 2016 to explore the mammalian fauna of Mahaban and Malka valley of district Buner, KP. The study area was divided into six different localities namely, Shahkot, Shalhodbuna, Sharra, Hanjar, Hkar gata and Muhammad Baig. During this study 10 different species belonging to 9 families, 5 orders and 10 genera of mammals were identified. The reported species are *Naemorhedus goral*, *Panthera pardus*, *Sus scrofa*, *Lepus nigricollis*, *Macaca mulatta*, *Canis aureus*, *Vulpes vulpes*, *Myotis myotis*, *Herpestes edwardsii* and *Hystrix indica*. During the research jackals and fox species were dominant in the area. It is concluded from this study that threats like deforestation, habitat destruction, illegal and over hunting, urbanization and deforestation are possible factors of extinction for mammalian fauna in district Buner. The responsible authorities are requested to take action against such problems to ensure the safety of mammalian fauna of Malka and Mahaban valley district Buner.

Article Information

Received 15 December 2016

Revised 03 March 2017

Accepted 01 April 2017

Available online 15 March 2018

Authors' Contributions

RM and NA conducted the study. KS, MS and MFK supervised the study. JZ, SA, AJA and AH helped in data collection and finalizing the manuscript.

Key words

Biodiversity, Wild mammals, Mahaban, Malka, Buner.

Pakistan is the country of various environmental region including imposing mountain ranges of Himalayas, Karakorum, and Hindu Kush, Indus plains, deserts and coastal areas. Altitudinal variations assortment from world's second highest mountain (K2) in North to sea level in South (Roberts, 1997). Pakistan has affluent selection of wetlands, and other wildlife habitats and landscapes with their connected fauna and flora. Diverse habitats vary from everlasting glaciers to dry alpine and cold deserts, alpine scrub/moist alpine, Himalayan dry coniferous, Himalayan moist temperate forest, sub-tropical pine forest, subtropical dry mixed deciduous scrub forest, Balochistan juniper/pistachio scrub forest, dry sub-tropical and temperate semi-evergreen forest, tropical thorn forest, sand dune desert and mangrove/littoral (Zaman, 2008). Current various and attractive work of art of biodiversity in Pakistan is largely because of its transitional zone flanked by two of the world's six major zoogeographical regions, the Palearctic, and the Oriental, species have also come from as far as the Ethiopian region (Kafley, 2008; Zaman, 2008).

There are about 195 species of mammals in Pakistan comprising of 10 orders (Roberts, 2005a, b). Of 195 mammalian species, 5 are common to Pakistan, 12 are critically endangered (1 endemic), 12 endangered (3 endemic), 20 vulnerable, 32 near threatened (1 endemic), 71 least concern, 38 data deficient, 8 regionally extinct and 2 are not evaluated (IUCN, 2003).

Buner is bounded by mountains with pine trees. Locally Mahaban mean thick forest which is true, as entire region is enclosed by broad forest. Mahaban and Malka are one of the stunning mountainous sites of Buner, frequently enclosed by green pine forests all around. Altitude range from 800 to 2500 m while location is 34°- 11 to 34°-34N latitude and 72°-13 to 72°-45 E longitudes. Climate of Mahaban and Malka is normal in summer and harsh in winter, average temperature in summer remains around 10-15°C for about 7 months of the year, while in winter the temperature is well below freezing (Ali et al., 2016).

This study was designed to explore the wild mammalian fauna of Mahaban and Malka valley and available threats to the wild mammalian fauna of Malka and Mahaban district Buner, Khyber Pakhtunkhwa, Pakistan.

* Corresponding author: akhtarzoologist@gmail.com
0030-9923/2018/0002-0001 \$ 9.00/0
Copyright 2018 Zoological Society of Pakistan

Materials and methods

Buner is the district of Malakand division (Khyber Pakhtunkhwa) which is mostly hilly areas. It is surrounded by Swat in north, Malakand agency in west, Shangla in east and Swabi and Mardan in south. Buner lies between 34-09 and 34-43° N latitude and 72-10 and 72-47° E longitude (Saeed *et al.*, 2013). The biodiversity of the area is facing threat from urbanization, illegal hunting and mining.

Mahaban and Malka are the mountainous sites of Buner, mostly enclosed by green pine forests all around. Study area has moist temperate zone. Climate is normal in summer and cruel in winter, optimum temperature in summer residue around 10-15°C for about 7 months of the year, while in winter the temperature is well below freezing (Ali *et al.*, 2016). The study area was divided into six different localities namely, Shahkot, Shalhodabuna, Sharra, Hanjar, Hkar Gata and Muhammad Baig (Table I).

Table I.- Selected Localities of Malka and Mahaban valley.

S. No.	Name of Locality	Longitude	Latitude
1	Shahkot	72.700455 E	34.307219 N
2	Shalho Dabuna	72.724922 E	34.332610 N
3	Hanjar	72.713141 E	34.337323 N
4	Muhammad Baig	72.721317 E	34.338068 N
5	Sharra	72.721124 E	34.328056 N
6	Hkar Gata	72.727132 E	34.335835 N

During study direct and indirect methods were used to explore the mammalian diversity. Binoculars (32x50) were used to examine animals and field guides were consulted to correctly identify the species (Altaf *et al.*, 2014).

During present study telescope, mobile camera, GPS were used. Where mammals were physically sighted or its indirect evidence was collected.

Result and Discussion

During this study, 10 different species belonging to 9 families, 5 orders and 10 genera of mammals were reported (Table II). Jackals and fox species were dominant in the area. The Goral species is threatened in the Mahaban and Malka valley since it is widely hunted in the area. Another factor is mining, which disturb the habitat and the species eventually migrate from this area. Zahidullah *et al.* (2016) have also attributed this dwindling population of goral to deforestation, lack of proper habitat, illegal anthropogenic over hunting and over grazing.

Ninety species of mammals were reported from Balochistan in 2012 belonging to 9 orders and 27 families;

of these, 21 species are threatened, 4 species are endemic to Balochistan, 14 species are of special conservation interest, 8 sites are important for mammals. Special efforts are being made to conserve the important mammals particularly in the protected areas especially in Chiltan Hazarganji National Park and the Hingol National Park (Ali *et al.*, 2012). Roberts (1997) recorded 23 mammalian species (15 small and 8 large mammalian species) from river Chenab belonging to 20 genera, 11 families, and 6 orders. Akhtar *et al.* (2014) reported 8 species grey goral, porcupine, fox, monkey, wild boar, jackal, hare and bat from district Buner. In our study, the endemic species recorded from district Buner were *Naemorhedus goral*, *Panthera pardus*, *Sus scrofa*, *Lepus nigricollis*, *Macaca mulatta*, *Canis aureus*, *Vulpes vulpes*, *Myotis myotis*, *Herpestes edwardsii* and *Hystrix indica*.

Table II.- Number of Species recorded in Mahaban and Malka Valley district Buner.

Order / Family	Common name	Scientific name	Species Observed	Status*
Artiodactyla				
Bovidae	Goral	<i>Naemorhedus goral</i>	16	NT
Suidae	Wild boar	<i>Sus scrofa</i>	09	LC
Carnivora				
Canidae	Jackal	<i>Canis aureus</i>	31	LC
	Fox	<i>Vulpes vulpes</i>	19	LC
Felidae	Leopard	<i>Panthera pardus</i>	07	NT
Herpestidae	Mongoose	<i>Herpestes edwardsii</i>	31	LC
Chiroptera				
Vespertilionidae	Bat	<i>Myotis myotis</i>	35	LC
Lagomorpha				
Leporidae	Hare	<i>Lepus nigricollis</i>	09	LC
Primates				
Cercopithecidae	Monkey	<i>Macacca mulatta</i>	53	LC
Rodentia				
Hystriidae	porcupine	<i>Hystrix indica</i>	20	LC

*, IUCN (2017); LC, least concern; NT, near threatened.

During a study conducted by Ghalib *et al.* (2007) reported 14 species of particular conservation interest, 8 sites are important for mammals. Particular efforts are

in process to preserve vital mammals chiefly in protected areas especially in Chiltan Hazarganji National Park and the Hingol National Park. During our study order Carnivora is represented by 4 species, including *Panthera pardus*, *Canis aureus*, *Vulpes vulpes* and *Herpestes edwardsii*.

Statement of conflict of interest

Authors have declared no conflict of interest.

References

- Akhtar, N., Saeed, K. and Khan, S., 2014. *Int. J. mol. Evol. Biodivers.*, **1**: 1-5.
- Ali, H., Qamer, F.M., Ahmed, M.S., Khan, U., Habib, A.H., Chaudhry, A.A., Ashraf, S. and Khan, B.N., 2012. *Pak. J. Bot.*, **44**: 263-268.
- Ali, S., Perveen, A. and Qaiser, M., 2016. Vegetation structure, edaphology and ethnobotany of Mahaban and Malka (District Buner) KPK, Pakistan. *Pak. J. Bot.*, **47**: 15-22.
- Altaf, M., Javid, A., Irfan, Munir, M.A., Ashraf, S., Umair, M., Iqbal, K.J., Khan, A.M. and Ali, Z., 2014. *J. Anim. Pl. Sci.*, **24**: 1342-1347.
- Ghalib, S.A., Jabbar, A., Khan, A.R. and Zehra, A., 2007. *Pakistan J. Zool.*, **39**: 1-6.
- IUCN, 2003. *Status and red list of Pakistan's mammals*. International Union for Conservation of Nature, Gland, Switzerland.
- IUCN, 2017. *The IUCN red list of threatened species-2016-3*. Available at: www.iucnredlist.org. Downloaded on 07 February 2017.
- Kafley, H., 2008. *Habitat evaluation and suitability modeling of Rhinoceros unicornis in Chitwan National Park, Nepal: A geospatial approach*. Institute of International Education World Wildlife Fund, ITTO, pp. 53.
- Roberts, T.J., 1997. *The mammals of Pakistan*. Ernest Benn, London.
- Roberts, T.J., 2005a. *Small mammals of Pakistan*. Oxford University Press, Karachi.
- Roberts, T.J., 2005b. *Large and medium-sized mammals of Pakistan*. Oxford University Press, Karachi.
- Saeed, K., Khan, S. and Haq, F., 2013. *J. Biodiv. Environ. Sci.*, **3**: 83-88.
- Zahidullah, Akram, W., Khan, S., Akhtar, N. and Saeed, K., 2016. *Int. J. Pure appl. Zool.*, **4**: 294-301.
- Zaman, I., 2008. *Conservation of pheasants in North West Frontier Province (NWFP), Pakistan*. Master of Science in Wildlife Biology. The University of Montana Missoula, MT, USA.