

First record of Long-eared desert hedgehog (*Hemiechinus collaris*) from Azad Jammu and Kashmir Himalaya, Pakistan

Muhammad Altaf^{1*}, Khalida Ghafar¹, Nida Monawar¹, Mehwish Altaf¹, Kiran Rauf¹, Bushra Mumtaz and Rahima Haider¹

1. Department of Zoology, Women University of the Azad Jammu and Kashmir, Bagh-Pakistan

*Corresponding Author: altaf_mughal450@yahoo.com

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ABSTRACT

Introduction: *Hemiechinus collaris* is a burrowing and nocturnal species, recorded near water and agricultural landscapes. This is common in the plains and xeric landscapes. It is documented from following parts of Pakistan i.e. Indus revirain plains and Cholistan, Thar, Bahawalpur, Southern Punjab, Thatta, Karachi districts, Kohat and Peshawar. The aim of the study was to explore the distribution of long-eared desert hedgehog in Azad Jammu and Kashmir.

Materials and Methods: The data were collected during October 2016 to September 2017 from Bagh districts Linear count survey method was used. Both, direct and indirect methods were. Long-eared desert hedgehog picture was used in the questionnaire for identification.

Results: Long-eared desert hedgehog is locally called as “Chaya”. During the research noted that one pair of *H. collaris* is captured from the Hari Ghel Tehsil, Bagh district. Two pairs are seen from Dhirkot Tehsil, Bagh district. One specimen of this species is recorded from the Bagh Tehsil, Bagh district.

Conclusion: This research is the first record of long-eared desert hedgehog from Azad Jammu and Kashmir Himalaya, Pakistan. We suggest that more work and surveys should be done to know the distribution of all mammalian species in Pakistan.

Key words: Spines, Bagh, Chaya, Survey, Mammal.

INTRODUCTION

Hemiechinus collaris (Gray, 1830) has prominent ears; 32-38mm in length. This animal total length is equal to hind foot. Long-eared desert hedgehog has small tail (23 mm in length) and belly is covered with black color hairs and face is also covered with greyish-black or dark brown hair. *H. collaris* has pointed and long snout, with 2 moist nostrils. The fore-limbs have five digits, and have longer. The spines of this species are not long (average 17 to 19mm); blackish in color. Body length is from 140 to 175mm; and body weight is from 40-50g. This species has collar of white hairs present from chin to ears, in Pakistan (Roberts, 1997).

H. collaris is a burrowing and nocturnal species, recorded near water and agricultural landscapes (Roberts, 1997; Molur *et al.*, 2005). This is common in the plains and xeric habitats. It is recorded from Pakistan (viz. Indus revirain plains and Cholistan, Thar, Bahwalpur, Southern Punjab, Thatta, Karachi districts, Kohat and Peshawar) and India (viz. Rajasthan, Gujarat and Uttar Pradesh). It is distributed occurring up to an elevation of 2,000 m above sea level (Roberts, 1997; Molur *et al.*, 2005).

This species is useful indirectly to human being as it consumes insects, termites and scorpions. While *H. collaris* does not damage agriculture and lives on the edge of agriculture land or near desert and this species has no conflict with human. Long-eared hedgehog avoid high heat; strictly nocturnal in summer, emerging at dusk and feed for 5 to 6 hours (Roberts, 1997). They excavate their burrows; burrow entrance is covered under bushes and shrub; when ground is hard it may be less than one than one foot. In sandy and softer soil the burrow may be more than 5 feet. The burrow leads to wider chamber, inside a small chamber (Krishna and Parakash, 1955). The burrow has sloped about one foot below the surface. *H. collaris* is unsocial species and does not share a burrow with the same species (Roberts, 1997).

This species food is insects, insect larvae, lizards, birds' eggs, cannibalism is also recorded in this species; female eat their own offspring; while adult eat their young hedgehog (prakash, 1955). This species also attacked on the dangerous prey (i.e. venomous snakes) and eat them (Krishna and Parakash, 1955; Mirza, 1969).

In Pakistan, breeding season is August and September (monsoon season). The young was born with closed eyes, average 8 gram weight, 47mm length, whitish color, completely naked with sparsely scattered 2mm long spines and quite soft (Roberts, 1997).

This is a silent animal and species voices are similar with snakes i.e. hiss; Voice are produced with jerk of body; when this is disturbed by predators. No major threats have been identified, although some populations might be locally threatened (Molur *et al.*, 2005). The objective of the study was to describe the distribution of *H. collaris* in different parts of the Himalayan region of Azad Jammu and Kashmir, Pakistan.

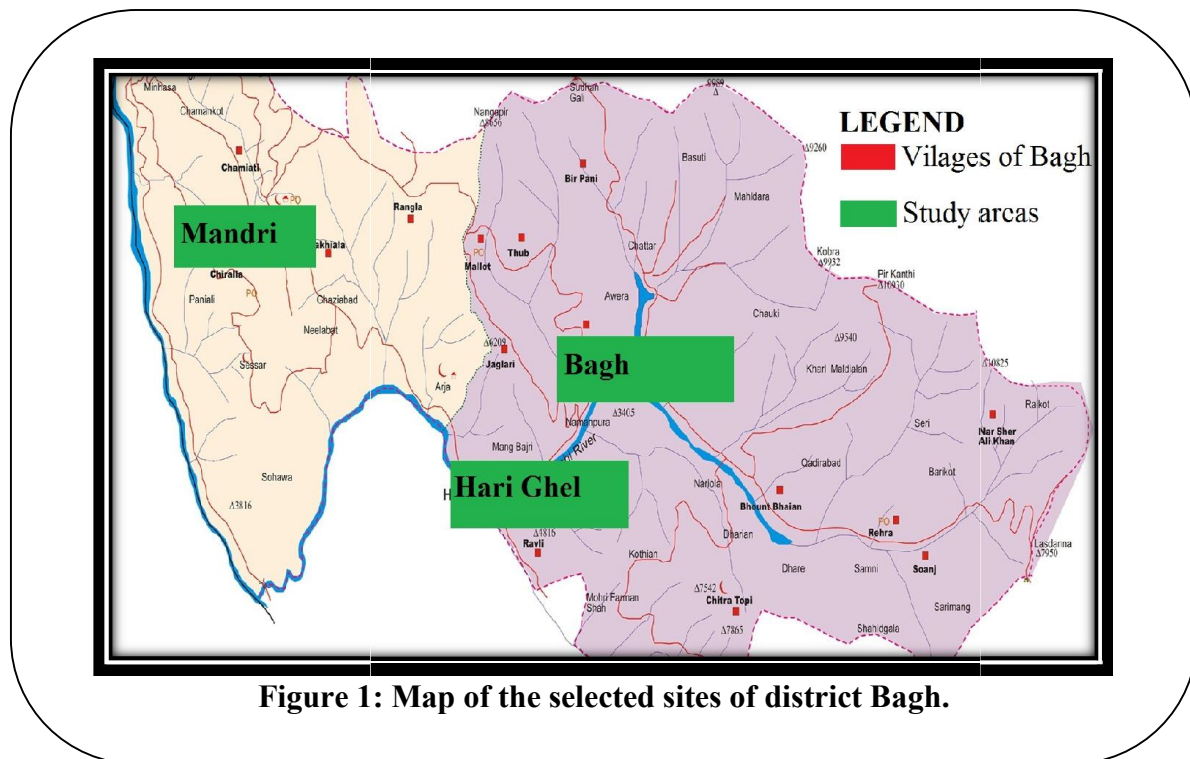
MATERIALS AND METHODS

Study area: The data were collected during October 2016 to September 2017 from Bagh districts (Table 1 and Figure 1). Bagh is a mountain area and present in lesser Himalayas zone. The height is from 1500 to 2500m. The mountains are covered with the coniferous forests. Mahl Nala and Betar Nala are the two main streams. while, many other streams flow in this district (DRU, 2007).

Methodology: Linear count survey method was applied for the assessment of new records of *H. collaris* from the study area. Both, direct (i.e. physical count) and indirect (i.e. group questionnaire Survey) observation methods were used (Altaf *et al.*, 2014). *H. collaris* picture (10 x 15 cm) was used in the questionnaire for correct identification.

Table 1: Coordinates of the selected sites of district Bagh.

Study area	Coordinates		Elevation
Hari Ghel, Bagh district	33°57'15.22"N	73°43'01.23"E	2735 ft
Mandri village, Dhirkot, district Bagh	34°01'42.12"N	73°32'22.80"E	4582 ft
Bagh district	33°59'22.51"N	73°46'26.51"E	3698 ft



RESULTS AND DISCUSSION

Long-eared desert hedgeho is locally known as Chaya. During the research noted that one pair of long-eared desert hedgehog is captured from the Hari Ghel Tehsil, Bagh district. Two pairs are seen from Dhirkot Tehsil, Bagh district. One specimen of long-eared desert hedgehog is recorded from the Bagh Tehsil, Bagh district. While indirect method (i.e. meeting with local people) was also used and people of the area also accepted that long-eared desert hedgehog has also seen in these areas (Table 2 and Figure 2). Previous data showed that this species is recorded from Punjab, Sindh and Khyber Pakhtunkhwa (Roberts, 1997; Molur *et al.*, 2005). Altaf *et al.* (2014) recorded long eared desert hedgehog from the river Chenab. Altaf *et al.* (2017) also noted the cultural uses of *H. collaris* from the river Chenab. Ghalib *et al.* (2008) recorded from Nara Desert Wildlife Sanctuary, Sindh.

Table 2: Population of long-eared desert hedgehog recorded from the study areas.

Study Area	Indirect Observation	Direct Observation	Total
Hari Ghel, Bagh district	2	2	4
Dhirkot, district Bagh	2	4	6
Bagh district	1	2	3



Figure 2: The specimens of long-eared desert hedgehog.

Conclusion: It is observed that there is need to collect more data about mammalian distribution and status; limited and old census data are present in literature. It is also need to analysis cultural use of this mammalian species in Azad Jammu and Kashmir, Pakistan.

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Availability of data: Authors have incorporated all data in the research article that were collected during the field survey.

Authors' contributions: Altaf has designed this study and completed manuscript; while specimens are collected by Ghafar, Monawar, Altaf, Mumtaz and Haider. All the authors have critically read this article and approved as a final manuscript.

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