

Distribution of Mackinnon's Wolf Snake (*Lycodon mackinnoni* Wall, 1906) in Azad Jammu and Kashmir, Pakistan

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ABSTRACT

Total 10,450 species of reptiles are reported in the world; while 195 species are present in Pakistan; *Lycodon mackinnoni* known as Himalayan wolf snake; belong to Colubridae family. The main objective of the study was to explore the distribution of the species. The sample collected from the Dhirkot (district Bagh), Hattian Bala, Sudhnoti, Dhirkot (district Bagh), Poonch, Haveli and Kotli in AJK. AJ&K is present in humid region; a lot of variation in humidity in various parts with differences in altitudes. The winters are severely cold (04°C) while the summer is moderate (37°C); snowfall has been recorded at higher elevations. The average rainfall was recorded as 150mm. The data were collected from November 2016 to April 2019 from the selected study areas. The collected through direct visual method and indirect methods (Meeting with local people, carcasses and body parts). All water bodies, agricultural, forest and disturbed habitats were observed. During the research noted that one specimen of *L. mackinnoni* was seen in each sites i.e. Hari Ghel and near Bagh city; while one individual of *L. mackinnoni* was seen in the Dhirkot, Bagh. Two specimens were collected from Hattian Bala district. One specimen of this species was recorded from the Hari Ghel, Bagh district; while indirect method (meeting with local people) was also used and people of the area also told that this species has also seen in the areas

Key words: Snake, Himalaya, Bagh, Mountain

INTRODUCTION

Pakistan consists of an area of 796,095Km², connected between three major zoogeographical regions (i.e. Ethiopian, Palearctic and Oriental). It extends between longitude 60° to 75°E, and latitude 24° to 37°N. Its southwestern boarder connected seashore of Arabian Sea; as its northernmost tip lies in stable snow landscape of Pamir in large Himalayas (Khan, 2006). The Mountain and plateaus in west, north, and northwest symbolize a union of 3 large mountains ranges i.e. the Hindukush, the Himalayas, and the Karakorum. This mountainous landscape has greatly affected the climate, geology, hydrology and physiographic; and played a vital role in current era for distribution and composition of fauna and flora of an Indo-Pakistan (Khan, 2006). The base of Himalayas; it is one of earliest division of the subcontinents and cradles a proof of 600 million years of record of stake waste cleaned down from the Himalayas. It acts as earliest Tethys Sea (Powel, 1979; Khan, 2006).

Total 10,450 species of reptiles are reported in the world (Uetz, 2016); while 195 species present in Pakistan; belonging to 23 families (i.e. Uromastycidae, Typhlopidae, Viperidae, Varanidae, Trionychidae, Testudinidae, Lacertidae, Geckonidae, Scincidae, Leptotyphlopidae, Gavialidae, Eublepharidae, Dermochelyidae, Crotalidae, Emydidae, Elapidae, Crocodylidae, Cheloniidae, Chameleoniae, Colubridae, Boidae and Agmidae) and 73 species of snakes are recorded in Pakistan (Khan, 2004, 2005, 2006; Faiz *et al.*, 2017; Jablonski *et al.*, 2019). *Lycodon mackinnoni* known as Himalayan wolf snake; it belong to Colubridae family (Manhas *et al.*, 2015). The aim of the study was to explore the distribution of the species.

MATERIALS AND METHODS

Study area: The sample collected from the Dhirkot (district Bagh), Hattian Bala, Sudhnoti. Dhirkot (district Bagh) in AJK is present in humid region; a lot of variation in humidity in various parts with differences in altitudes. The winters are severely cold (04°C) while the summer is moderate (37°C); snowfall has been recorded at higher elevations. The average rainfall was recorded as 150mm (Bibi *et al.*, 2013). Hattian Bala is districts of AJK, Pakistan. It was also part of Muzaffarabad district until 2009. Summer temperature is moderate; while winter is freezing cold (TRF, 2012).

Methodology: The data were collected from November 2016 to April 2019 from the selected study areas. The collected through direct visual method and indirect methods (Meeting with local people, carcasses and body parts). All water bodies, agricultural, forest and disturbed habitats were observed. The collected specimens were identified with the help of book “Amphibian and reptiles of Pakistan” by Khan (2006).

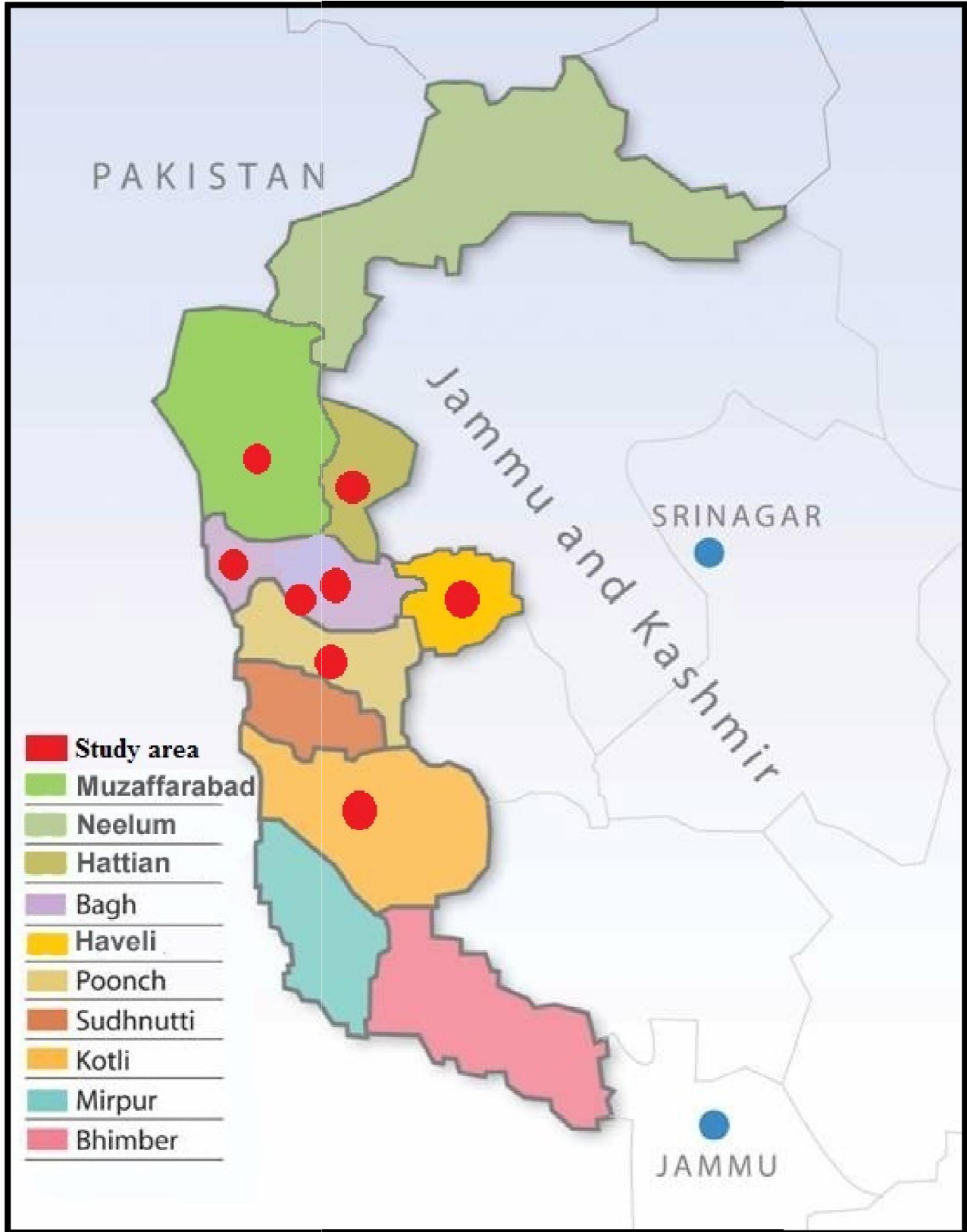


Figure 1: Map of the Study areas

RESULTS AND DISCUSSION

During the research noted that one specimen of *L. mackinnoni* was seen in each sites i.e. Hari Ghel (April 2017) and near Bagh city (May 2018); while one individual of *L. mackinnoni* was seen in the Dhirkot, Bagh (May 2017). Two specimens were collected from Hattian Bala district (May 2018). One specimen of this species was recorded from each districts i.e. Poonch district, Muzaffarabad and Kotli (2019); while indirect method (meeting with local people) was also used and people of the area also told that this species has also seen in the areas (Table 1 and Figure 2). One specimen collected from each district i.e. Haveli (March, 2019), Rawalakot (March, 2019) and Muzaffarabad (March, 2019). Manhas *et al.* (2015) was recorded the snake (*L. mackinnoni*) from Doda District of Lower Himalayas, Jammu and Kashmir, India.

The collected specimens were preserved in Department of Zoology, Women University of AJK, Bagh, Pakistan. Jablonski *et al.* (2019) was reported first time in Azad Jammu and Kashmir, Pakistan.

Table 1: Population of *L. mackinnoni* recorded from the study areas.

Study Area	Indirect Observation	Direct Observation	Total
Hari Ghel, Bagh district	1	1	2
Bagh district	2	1	3
Dhirkot, Bagh district	3	1	4
Hattian Bala district	2	2	4
Haveli district	3	1	4
Rawalakot, Poonch district	0	1	1
Muzaffarabad district	0	1	1
Kotli Kotli	0	1	1

Conclusion: The present study explains the distribution of the *Lycodon mackinnoni* in Azad Jammu and Kashmir. We suggest that further studies should be carried out to explore more unexplored habitats of this species.

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Figure 2: The specimens of the *L. mackinnoni*.