

Current distribution and status of Himalayan Grey Langur (*Semnopithecus ajax*) in Lachhrat forest Range, Azad Jammu and Kahmir-Pakistan

Muhammad Jahangeer^{1*}, Riaz Aziz Minhas¹ and Sadique Awan¹

1. Department of Zoology, University of Azad Jammu and Kashmir, Muzaffarabad- Pakistan

*Corresponding Author: jahangeer_khushikhlaq@yahoo.com

Peer Reviewed



Citation: Jahangeer, M., R.A. Minhas, S. Awan. 2019. Current distribution and status of Himalayan Grey Langur (*Semnopithecus ajax*) in Lachhrat forest Range, Azad Jammu and Kahmir-Pakistan. Journal of Wildlife and Ecology. 3(1): 10-20.

Received: 11, 01, 2019

Accepted: 07, 02, 2019

Published: 01, 03, 2019

Competing interests: The authors have declared that no competing interests exist.

Funding: Authors have no source of funding for this work.

Availability of data: Authors have included all data in the manuscript that were collected during the field survey.

ABSTRACT

Himalayan grey langur belongs to the family Cercopithecidae. It is found from the snow covered peaks of the Himalayas in the north to tropical areas, and is even found in the Great Indian Desert in the southern west. It is reported in India, Nepal, Bhutan, Tibet, Sri Lanka, Bangladesh and Pakistan. It is noted that Himalayan grey langur is Endangered (EN) species due to anthropogenic impacts. Keeping in view the importance of the animal in question, the current study was carried out in Lachrat Forest Range with following objectives too determine the current distribution and population status of Himalayan Grey Langur in Lachhrat forest Range. To document the current distribution, population status and general habitat utilization of Himalayan Grey Langur, surveys were carried out from May to November 2014-2015 in Lachhrat Forest Range. For this purpose the area was divided into eight (8) zones, each zone comprising 3 compartments. Eight troops were found in the forest range. These langurs were found distributed in 8 different localities on the 29.6 km² area with total length of 106 km at the elevation range between 1520 to 3200 m above sea level.

Key words: Himalayan, Azad Jammu and Kashmir, anthropogenic impacts, Survey

INTRODUCTION

Himalayan Grey Langur belongs to the family Cercopithecidae (Osterholz *et al.*, 2008). Previously only *Semnopithecus entellus* was recognized as a species and all other similar langurs group were considered as its sub-species (Pocock, 1928). Now all these sub-species have been upgraded into species status and thus the previous name of Himalayan Grey Langur (*Semnopithecus entellus ajax*) has replaced by new name *Semnopithecus ajax* (Groves *et al.*, 2005).

Common langurs are found in a wide variety of habitats, ranging from arid areas to tropical evergreen rainforests. The common langur is the most widely distributed of the 19 non-human primate species found on the Indian subcontinent. Being a highly adaptive species, it is found from the snow covered peaks of the Himalayas (up to about 4,100 m altitude) in the north to tropical areas, and is even found in the Great Indian Desert in the southern west (Chhangani and Mohnot, 2004). It is found in India, Nepal, Bhutan, Tibet, Sri Lanka, Bangladesh and in the Indus valley of Pakistan (Koeing and Borries, 2002; Karanath, 2010; Robert, 1997; Sheikh and Muler, 2004; Groves, 2008).

The Himalayan Grey Langur (*Semnopithecus ajax*) is a large-sized monkey as compare to rhesus monkey. Its coloration varies across species and range from grey to brown, with a black face, the body is lithe and lean with deep chest and the long legs are grey hound in appearance. The ears are naked and concealed by the facial ruff. Hand and feet are black in northern population (Fleagle, 1988; Pocock, 1982; Tritsch, 2001).

The long tail is covered by brownish-grey fur with a tip having longer creamy white hair, forming a terminal tuft. The naked skin around the eyes, cheeks and muzzle is purplish-black and is framed by a ruff of radiating creamy white hair. In winter the hair on the shoulders and back of adult individual become much longer, forming a mane (Robert, 1997).

In India, langurs are considered as sacred and their population is quite high and hence are not threatened (Gotch, 1997). Langurs are protected in Nepal under the National Park and wildlife conservation act, 1973 (Minhas, 2006). In Pakistan these monkeys are protected under the Khyber Pakhtun Khawa (KPK) Wildlife Act, 1975 and similarly in Azad Kashmir under Azad Kashmir Wildlife Act, 2014.

All above mention points provide concrete evidence that grey langur is endangered species and very important in conservation point of view because its population is facing lot of threats in terms of habitat degradation in Azad Jammu and Kashmir and Pakistan. Grey langur is also present in Lachrat Forest Range of Azad Kashmir, but they have never been explained in the area before. Keeping in view the importance of the animal in question, the current study was carried out in Lachrat Forest Range with following objectives too determine the current distribution and population status of Himalayan Grey Langur in Lachhrat forest Range.

MATERIALS AND METHODS

Study area: Study area located in between Jhelum and Neelum valley lies at N 34°35.22' latitude and E 73°22.22 longitude, covering an area of about 30991

acres, between 900 m to 3500 m above the sea level (asl). According to forest department, the area comprising different forest compartment no. 1, 2, 3 (a, b), 4 (a, b), 5, 6, 7 (a, b), 8 (a, b), 9, 10, 11 (a, b), 12, 13, 14, 15 (a, b), 16, 17 (a, b), 18, 19 (a, b), 20, 21, 22 (a, b, c), 23 (a, b) 24 and 25 (GoAJK, 2015).

The area of Lachhrat Forest Range is steep and rocky. The area consists of high ridges, with very steep slopes. The only flat ground is to be found along the bank of the rivers. Elsewhere the ground is steep to precipitous all over the division (GoAJK, 2015).

The climate of area varies according to the aspect and elevation. The area with a wide range of altitude (900-3500) has variety of climate. Whereas the lower area has subtropical condition, above 1400 (asl) elevation the climate is temperate, with pleasant weather in summer and extreme cold from November to March. Snow falls from November onwards and lays northern aspect and higher peaks till late after spring (March-April) (GoAJK, 2015).

The area is dotted with fresh water springs and drained by many perennial streams with cold and clean water. There is an abundance of springs in the area which feed networks of side nallahs that join the main streams. All aspects are met with, the principal along the Kishen-Ganga (Neelum River), being northern and north-western and along the Jhelum Southern and North western (GoAJK, 2015).

The area comprises sub alpine zone with large patches of moist temperate forest including variety of angiosperms, gymnosperms, fungi, ferns mosses, and medicinal plants. The important wild life species are *Cedrus deodara*, *Pinus willichiana*, *Abies pindrow*, *Picea smithiana*, *Aesculus indica*, *Viburnum nervosum*, *Sassurea lappa*, and *Pyrus pashia* (Termizi, 2001).

A number of animals and birds found in the area, including some endangered and globally threatened species, common leopard (*Panthera pardus*) black bear (*Ursus thibetanus*), Kashmir Koklas (*Pucrasia macrolopha*), Himalayan monal (*Lophophorus impeyanus*), Kleej Pheasant (*Lophura leucomelana*) and Cheer Pheasant (*Catreus wallichiana*) (Termizi, 2001).

Methodology: To document the current distribution, population status and general habitat utilization of Himalayan Grey Langur, Surveys were carried out from May to November 2014-2015 in Lachhrat Forest Range. For this purpose the area was divided into eight (8) zones, each zone comprising 3 compartments (Table 1).

Distribution: Initial information about the distribution of grey langur was collected through informal interviews with villagers and herders. Surveys carried out in the potential of grey langur habitats with the help of field staff, local shepherds and hunters. Global positioning system device (Etrex 20) was used to record elevation and coordinates of the grey langur occurrence sites. Animal sighting and other signs (fecal pellets, foot prints, hair, etc.) recorded to confirm the presence or absence of langurs. Total eight transect were taken randomly in different zones covering 29.6 km² area (Table 1).

Table 1: Coordinates and length of Transect in study area.

Transect	Zone	Forest	Localities		Coordinates	Length of Transect (km)	Area (km ²)
			From	To			
1	Z1	1, 2, 3 (a)	Peer chanasi	Grang Nala	N 34°23.08, E 73°36.241	12	4.2
2	Z2	6, 7 (a, b)	Gati	Soka da Nar	N 34°23.33, E 73°37.243	10	6.3
3	Z3	19 (b), 20,21	Ali sher Dna	Batnaryaan	N 34°22.35, E 73°37.234	8	5.4
4	Z4	8 (a, b), 9	Mohri,Gli	Niki Mohri	N 34°22.39, E 73°38.237	9	3.2
5	Z5	10, 11 (a, b)	Thala	Nar,khotyror	N 34°24.30, E 73° 38.275	11	3.3
6	Z6	4 (a, b), 5	Kheter	Chambran	N 34°23.46, E 73°39.272	12	3.1
7	Z7	22 (a, b, c)	Hotar	Khor mang	N 34°21.47, E 73°36.273	8	2.1
8	Z8	23 (a, b) 24	Shesha Mali	Pathyali	N 34°17.62, E 73°43.274	6	2.5
Total						76	29.6

Population Censes: For population census, visual counts of each group were made carefully during the transect walks. Eight (8) transect walks were carried out with a total length of 76 km on existing forest trails, occasionally without forest tracts covering on an average of 12 km per day. Individual characteristics such as permanent injury marks, missing digits of feet etc. were recorded to minimize the possibilities of recount of the individuals of different groups (Imam and Ahmad, 2013). The walk transect was initiated in the morning and terminated in the evening. I walked slowly through the transect pausing at regular intervals of 600 m. On sighting langurs, the GPS co-ordinates, altitude, group structure and individual detail like age, sex and number of individuals were recorded.

Habitat Utilization: For assessment of habitat, vegetation type (grasses, herbs, shrubs and trees) topography and dominant plant species were recorded. To supplement the field data, local people were also interviewed. Photograph of habitat and vegetation were also taken using the digital camera.

RESULTS

Distribution: Eight troops were found in the forest range. These langurs were found distributed in 8 different localities on the 29.6 km² area with total length of 106 km at the elevation range between 1520 to 3200 m above sea level (Table 2 and Figure 1).

Population status: The Population of langur in Lachhrat Forest Range was organized in eight bands Named assigned as “A”, “B”, “C”, “D”, “E”, “F”, “G”, “and H”. Total 401 individuals were found with population density of 13.13 individual /km² in Lachhrat (Table 3 and Figure 2). Total area surveyed was 29.6 km² total eight troops were found. Total population was recorded 401 individuals

out of which 242 was adults while 142 were juveniles with group mean size of 50.125 individual/ km².

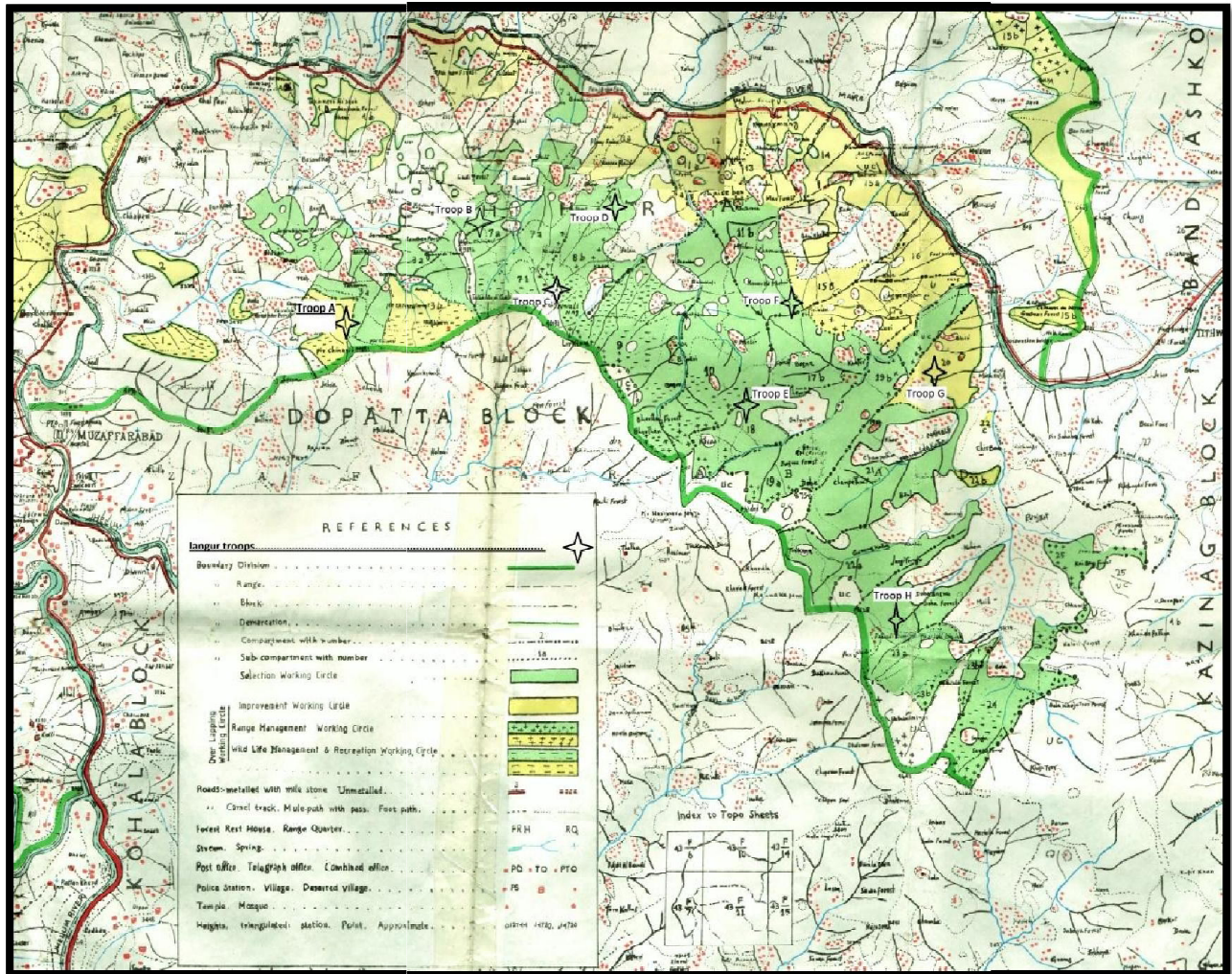


Figure 1: Map of the study area.

Table 2: Distribution of langur population in study area.

Sr.	Troops name	Localities	GPS location	Elevation (m)	Population
1	A	Peer Chenasi	N 34°23.390, E 73°34.241	2352	52
		Tar kana	N 34°23.331, E 73°34.243	2350	
		Garang Nala	N 34°23.354, E 73°34.234	2250	
		Qameer Gali	N 34°23.691, E 73°34.244	2150	
		Keraan	N 34°23.601, E 73°34.211	2040	
		Nagaan	N 34°23.605, E 73°34.215	3200	
2	B	Soka Da naar	N 34°22.701, E 73°35.115	2700	85
		Gati	N 34°22.708, E 73°35.112	1520	
		Bojni	N 34°22.709, E 73°35.140	1890	
		Thala	N 34°22.715, E 73°35.243	2200	
		Naar	N 34°21.340, E 73°35.250	2505	
		Katha semiri	N 34°21.408, E 73°35.252	2620	

3	C	Ali sher Dana	N 34°21.440, E 73°36.352	2735	104
		Bat Nariya	N 34°21.499, E 73°36.325	3120	
		Mohri	N 34°21.480, E 73°36.355	2950	
		Gbri	N 34°20.550, E 73°36.356	2040	
		Peryiaaan	N 34°20.513, E 73°36.357	2130	
4	D	Niki Mohri	N 34°20.583, E 73°37.158	2450	38
		Gali	N 34°19.214, E 73°37.159	2630	
		Dana	N 34°19.215, E 73°37.160	2840	
		Seraaa	N 34°19.235, E 73°37.161	2130	
5	E	Thala	N 34°19.219, E 73°37.162	2150	32
		Kohla	N 34°18.742, E 73°38.163	2140	
		Khotaroraa	N 34°18.753, E 73°38.164	2052	
		Bri behak	N 34°18.739, E 73°38.165	2650	
6	F	Kheter	N 34°18.830, E 73°39.513	2740	20
		Chambraan	N 34°18.809, E 73°39.523	2630	
		Tki	N 34°18.855, E 73°39.568	2650	
		Lara Da pareen	N 34°18.842, E 73°39.569	2120	
7	G	Hotar naka	N 34°18.115, E 73°39.470	2250	45
		Khormang	N 34°20.125, E 73°39.371	2050	
		Cheri	N 34°20.173, E 73°39.372	2135	
		Nala	N 34°21.184, E 73°36.373	2052	
8	H	Pathyali	N 34°17.950, E 73°43.474	2153	25
		Phamran daDana	N 34°17.899, E 73°43.475	3200	
		Shesha Mali	N 34°17.930, E 73°43.476	2430	
Total					401

Table 3: Detail of Population densities of Himalayan Grey Langur in study area.

Sr. #	Troop Name	Localities	Number of juveniles	Number of adults	Total population	Area Surveyed(Km ²)	Population Density
1	A	Peer Chenasi	17	35	52	4.2	13
2	B	Soka da Naar	30	55	85	6.3	14.16
3	C	Ali Sher Da Dana	45	59	104	5.4	20.8
4	D	Gali/Niki Mohri	15	23	38	3.2	9.5
5	E	Thala/Khoty roar	11	21	32	3.3	16
6	F	Kheter/Chambran	8	12	20	3.1	6.6
7	G	Hotar/Khormang	18	23	45	2.1	15
8	H	SheshaMali/Pathyali	11	18	25	2.5	10
			155	246	401	29.6	13.13

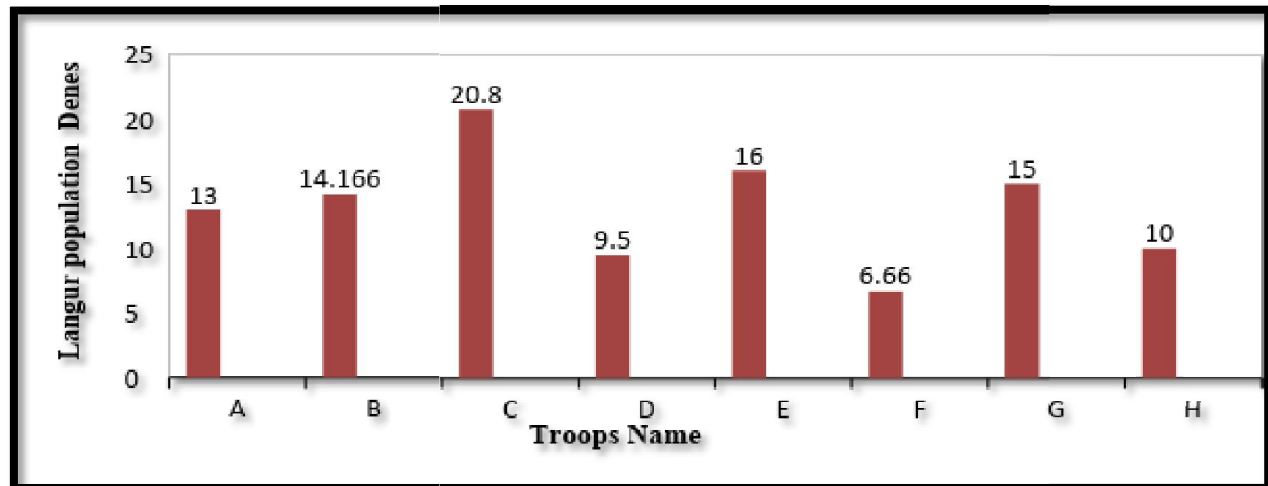


Figure 2: Population densities of different langur troops in study area (code shown in Table 2).

Habitat utilization: In Lachhrat the langurs were confined to moist temperate forests with mixed deciduous vegetation. The common vegetation in their habitat are *Abies Pindrow*, *Pinus wallichiana*, *Taxus wallichiana*, *Picea smithiana*, *Cedrus deodara*, *Prunus cornuta*, *Rubus* spp., *Dryopteris stewartii*, *Fragaria nubicola*, *Solanum tuberosum*, *Betula utilis*, *Ziziphus jujub*, *Diospyros lotu*, *Quercus incan*, *Rosa moschat*, *Viburnum nervosu*, *Betula utilis*, *Datura stramonium*, *Ziziphus mauritiana*, *Skimmia laureola*, *Impatiens edgeworthii* and *Asphodelus tenuifolius* (Table 4).

Table 4: Habitat utilization by langurs troops in study area.

Sr.	Localities	Important Vegetation	Topography	Elevation (m)
1	Peer Chenasi	<i>Quercus incana</i> , <i>Pinus wallichiana</i> , <i>Picea smithiana</i> , <i>Betula utilis</i> , <i>Taxus wallichiana</i> , <i>Indigofera heterantha</i> , <i>Cedrus Deodara</i> , <i>Viburnum nervosum</i> , <i>Cymbopogan martini</i> , <i>Polygonum amplexicaule</i> and <i>Bergenia ciliate</i>	Z1 Slopes and mountains and dense ground vegetation	2352
2	Soka da Naar	<i>Bergenia stracheyi</i> , <i>Cymbopogan martini</i> , <i>Euphorbia</i> spp., <i>Juniperus communis</i> , <i>Pinus wallichiana</i> , <i>Podophyllum emodi</i> , <i>Quercus incana</i> , <i>Taxus wallichiana</i> and <i>Viburnum nervosum</i>		2415
3	Ali Sher Da Dana	<i>Abies Pindrow</i> , <i>Bergenia ciliate</i> , <i>Euphorbia</i> spp. <i>Geranium wallichianum</i> , <i>Indigofera heterantha</i> and <i>Pinus wallichiana</i> ,	Z2 Moist temperate with steep slopes and dense ground vegetation	2620
4	Gali	<i>Aconitum heterophyllum</i> , <i>Aesculus indica</i> , <i>Berbri saristidae</i> , <i>Malva</i> spp., <i>Poa annua</i> , <i>Prunus cornuta</i> , <i>Salix denticulate</i> , <i>Thymus serpyllum</i> , <i>Viburnum nervosum</i> and <i>Vitis vinifera</i>		2220
5	Thala	<i>Aesculus indica</i> , <i>Bistorta</i> spp., <i>Poa annua</i> , <i>Prunus cornuta</i> , <i>Rhodendron hypenanthum</i> , <i>Rumex nepalensis</i> , <i>Salix denticulate</i> , <i>Thymus serpyllum</i> , <i>Urtic adioica</i> , <i>Viburnum erubeseens</i> and <i>Viscum album</i>		2350

6	Kheter/Chambran	<i>Vitis vinifera</i> , <i>Viscum album</i> , <i>Viburnum</i> spp., <i>Salix denticulate</i> , <i>Quercus incana</i> , <i>Prunus cornuta</i> , <i>Poa annua</i> , <i>Juniper communis</i> and <i>Aesculus indica</i> ,	Z3 Moist temperate mixed coniferous forest, subalpine scrubs	2130
7	Hotar	<i>Aesculus indica</i> , <i>Polygonum amplexicaulis</i> , <i>Prunus cornuta</i> , <i>Salix denticulate</i> , <i>Thymus serpyllum</i> , <i>Viola</i> spp. and <i>Viscum album</i>		2022
8	Grang Nala	<i>Abies pindrow</i> , <i>Aesculus indica</i> , <i>Cedrus deodara</i> , <i>Malva</i> spp., <i>Poa annua</i> , <i>Prunus cornuta</i> , <i>Quercus incana</i> , <i>Salix denticulate</i> , <i>Viburnum</i> spp. and <i>Vitis vinifera</i>		2456
9	Khormang	<i>Aesculus indica</i> , <i>Juglans regia</i> , <i>Malva</i> spp., <i>Poa annua</i> , <i>Salix denticulate</i> and <i>Viburnum erubeseens</i>		2150
10	Bojni	<i>Adiantum incisum</i> , <i>Aesculus indica</i> , <i>Arundo donax</i> , <i>Cedrus deodara</i> , <i>Celtis australis</i> , <i>Juglans regia</i> , <i>Poa annua</i> , <i>Rhodendron hypenanthum</i> and <i>Thymus serpyllum</i>	Z4 Moist temperate with strewn slopes	2520
11	Gati	<i>Betula utilis</i> , <i>Celtis australis</i> , <i>Juglans regia</i> , <i>Poa annua</i> , <i>Viburnum nervosum</i> , <i>Viburnum erubeseens</i> and <i>Viscum album</i>		1520
12	Niki Mohri	<i>Abies pindrow</i> , <i>Adiantum incisum</i> , <i>Arundo donax</i> , <i>Bistorta</i> spp., <i>Juglans regia</i> , <i>Poa annua</i> , <i>Viburnum erubeseens</i> and <i>Viscum album</i>		2030
13	Batnariyaan	<i>Adiantum incisum</i> , <i>Cedrus deodara</i> , <i>Juglans regia</i> , <i>Poa annua</i> , <i>Taxus wallichiana</i> , <i>Thymus serpyllum</i> and <i>Viburnum nervosum</i>	Z5 Slopes and mountains and dense ground vegetation	2110
14	Khoty roar	<i>Adiantum incisum</i> , <i>Bergenia ciliate</i> , <i>Cedrus deodara</i> , <i>Pinus wallichiana</i> , <i>Quercus incana</i> , <i>Thymus serpyllum</i> and <i>Viburnum erubeseens</i>		1950
15	Naar	<i>Betula utilis</i> , <i>Cedrus deodara</i> , <i>Polygonum amplexicaulis</i> , <i>Rhodendron hypenanthum</i> , <i>Senecio</i> spp., <i>Thymus serpyllum</i> , <i>Viburnum nervosum</i> and <i>Viscum album</i>		2210
16	Phamran Da dana	<i>Adiantum incisum</i> , <i>Bistorta</i> spp., <i>Polygonum amplexicaulis</i> , <i>Prunus cornuta</i> , <i>Viburnum erubeseens</i> , <i>Viola</i> spp. and <i>Viscum album</i>	Z6 Hilly area with small mountain patches.	2641
17	Ali kooh	<i>Juglans regia</i> , <i>Polygonum amplexicaulis</i> , <i>Prunus cornuta</i> , <i>Rhodendron hypenanthum</i> , <i>Salix denticulate</i> , <i>Viburnum</i> spp. and <i>Viscum album</i>	Z7 Moist temperate with strewn sloppy Rocky with steep gorges	2530
18	Richh Mar	<i>Viburnum</i> spp. <i>Bistorta</i> spp., <i>Adiantum incisum</i> and <i>Polygonum amplexicaulis</i>		2214
19	Peer Semaar	<i>Adiantum incisum</i> , <i>Juglans regia</i> , <i>Malva</i> spp., <i>Polygonum amplexicaulis</i> , <i>Prunus cornuta</i> , <i>Salix denticulate</i> , <i>Viburnum</i> spp., <i>Viburnum erubeseens</i> and <i>Vitis vinifera</i>		2850
20	Jabri	<i>Abies pindrow</i> , <i>Adiantum incisum</i> , <i>Bergenia stracheyi</i> , <i>Impatiens edgeworthii</i> , <i>Indigofera heterantha</i> , <i>Juniperus communis</i> , <i>Malva</i> spp., <i>Pinus wallichiana</i> , <i>Salix denticulate</i> , <i>Thymus serpyllum</i> and <i>Vitis vinifera</i>	Z8 Moist temperate with strewn slopes	2233

DISCUSSION

During surveys in Lachhrat Forest Range eight (8) troops were found at eight different localities between 1520 to 3200 m asl. In Lachhrat Forest Range, Himalayan grey langurs were found in different localities including Peerchansi, Gati, Bojni, Soka da Nar, Thala, Nar, Katha Semiri, Bat Nariya, Mohri, Gabri, Ali Sher Dana, Gali, Niki Mohri, Periyar, Seraa, Thala, Khoty Rora, Laar, Kheter, Chambran, Tki, Lara Da Pareen, Hotar Nka, Khor Mang, Cheri, Nala, Shesha Mali, Phamraan Da Dana and Pathyali.

During present survey in Lachhrat Forest Range population of Himalayan Grey Langur has been estimated as 401 individuals with the group mean size of 50.125 individual/ km². 8 troops with overall population density of 13.13 individual/ km² were found. The highest population density (20.8 individual/km²) was recorded in Ali Sher Da Dana, This high population density could be due to minimum human interference and suitable habitat with dense vegetation, while the lowest population densities was recorded at Chambran (6 individuals/km²) that might be the effect of human interference and habitat degradation.

In the study area langurs were distributed in moist temperate coniferous forests with mixed deciduous vegetation in Lachhrat Forest Range. The common vegetation in these areas includes *Abies pindrow*, *Pinus wallichiana*, *Taxus wallichiana*, *Picea smithiana*, *Cedrus deodara*, *Prunus cornuta*, *Rubus* spp, *Dryopteris stewartii*, *Fragaria Nubicola*, *Solanum tuberosum*, *Betula utilis*, *Ziziphus jujube*, *Diospyros lotus*, *Quercus incana*, *Rosa moschata*, *Viburnum nervosum*, *Betula utilis*, *Datura stramonium*, *Ziziphus mauritiana*, *Skimmia laureola*, *Impatiens edgeworthii* and *Asphodelus tenuifolius*. Minhas et al. (2012) also reported that troops remained confined to the moist temperate coniferous forests mixed with deciduous trees and alpine and subalpine areas at about 1700-4000 m above sea level. Hilton-Taylor (2000) and Roberts (1997) Reported that this species inhabited between 2200 – 4000 m asl in the subtropical, tropical moist temperate, alpine, coniferous, broadleaved forests, including scrublands.

Threats: Although there is a stable population of langur, they are still facing number of threats in study area, and almost all threats are human created. In study area community depends on natural resources of area due to their poor economy. The local community involved in collection of fodder, timber and fuel wood, honey and medicinal plants. Encroachments and cattle grazing are also present which disturbed wildlife population and their habitat adversely. The following threats were commonly observed in the different localities of the study area as; encroachment, selective logging, collection of non-timber forest products, forest fire and livestock grazing.

Conclusion: The specie *Semnopithecus ajax* according to IUCN is endangered but reasonable population of this specie was found in Lachhrat Forest Range. The langurs were found distributed in 8 different localities on the 29.6 km² area at the elevation range between 1520 to 3200 m above sea level. Eight troops of langurs with 401 individuals were observed in the study areas with an overall population density of 13.13 animals /km². The highest population density (20.8 individuals/ km²) was recorded at Ali Sher Da Dana consisting of 104 individuals while the minimum population density was recorded at Kheter Chambran (6 individuals

/km²). In Lachhrat, langurs were found in moist temperate, mixed coniferous forests, moist and dry temperate mixed forests. In Lachhrat, langurs are facing number of natural and man-made threats. Hunting and habitat degradation are major threats to langur population.

Recommendations: To reduce threats and to aware the local community with the benefits of wildlife, seminars and awareness programs should be arranged. The area of Lachhrat Forest Range has great potential for wildlife but due to uncontrolled human interference, the biodiversity of the area is under severe stress. It is strongly recommended that Lachhrat Forest Range should be declared as protected area so that its important biological features can be conserved properly. Local community should be involved in conservation and protection of the langur habitat in the study area. Conservation awareness education to the local people will play a key role to conserve natural resources in the study area. Research studies, awareness programs and conservation project should be launched both by public and private sectors for the conservation and management purpose of the species and its habitats throughout its territory in Azad Kashmir and Pakistan.

Acknowledgements: The all authors are thankful for help in data collection in study area.

Authors' contributions: Jahangeer has designed project, collected data and written this article; Minhas has supervised project and Awan critically analysis this article and approved as final.

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