



Encounter of Asiatic Black Bear (*Ursus thibetanus*) from the Low Elevated Area of District Battagram, Pakistan

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Abstract: Asiatic black bear (*Ursus thibetanus*) is widely distributed in various countries of Asia including different areas of Pakistan such as District Mansehra, Swat, Kohistan, Battagram, Gilgit Baltistan, and Azad Jammu and Kashmir. The present research was conducted in District Battagram, Khyber Pakhtunkhwa, Pakistan where new and abundant evidence of the Asiatic Black bear was reported. Data were collected during field reports, questionnaire-based surveys and oral interviews, and discussions with the local community from March 2022 to December 2022. The black bear was encountered by local peoples at a low elevated area (1259 m) of Jesol village (N 34° 41' 53" E 73° 03' 05") and was killed collectively (May 12, 2022). During such an encounter, a young man was also injured in conflict. Within one day, local people carried every part of the bear's body and left the remaining skeleton. The wildlife department of Khyber Pakhtunkhwa took immediate action against the involved people. Similarly, the second black bear was also observed in the same village after one week but this time local people did not take any action against the black bear due to strict enforcement of wildlife law implemented by the wildlife department. On the other hand, questionnaire-based surveys and oral interviews were conducted in different areas of Battagram such as Baliga, Chail, and Shumlai about the black bear population. According to the perception of the local community, a quite good population of bears n=14 (6 males, 4 females, and 4 cubs) are present in the entire district. During the field survey, bear signs were also observed in Balija Mountain such as pug marks, track routing in snow, scat samples, and setting place. Bone samples collected from a killed black bear will be genetically identified for further genotypic study. The black bear population could be conserved by the strict implementation of rules and regulations by the government and conservation agencies. Awareness among the local community also plays an important in black bear conservation.

Keywords: Killed Black Bear, New Evidence, Conflict, Population, Battagram, *Ursus thibetanus*

1. INTRODUCTION

Eight bear species have been reported worldwide as of late, according to historical perspective and fossil records (Polar bear, *Ursus maritimus*, Asiatic black bear, *Ursus thibetanus*, Sloth bear, *Ursus ursinus*, American black bear, *Ursus americanus*, Brown bear, *Ursus arctos*, Sun bear, *Helarctos malayanus*, and Giant Panda). In addition to these three species, there were two in Europe, one in South America, and six in Asia. The northern regions of Pakistan and Azad Jammu Kashmir are home to two species of bears: black bears and brown bears [23].

The population of the Asiatic black bear

(*Ursus thibetanus*) is widely distributed in various countries of Asia including Afghanistan, Pakistan, India, Iran, Japan, Korea, Indo-China, Laos, Taiwan, and Vietnam [1]. Black bears live in a variety of environments that include broad-leaved and coniferous woods and range in height from sea level to 4300 metres (14,108 feet) [1]. Several studies were conducted on the population density of black bears in different countries throughout the world [2].

According to some studies in Asia, the Population of Asiatic black bears in China ranges from 15000 to 46,000 [3], however later an official government survey was conducted in 2003, indicating that there

is about 28,000 Asiatic black bear present in China [4]. Japan formerly hosted quite a big population of Asiatic black bears, it is estimated that about 8,000–14,000 bears are present on Honshu Island. Russian biologists have presented abundant density estimated at 5,000–6,000, but the reliability of these is unreal [5]. Similarly, rough density was also estimated in some portions of India and Pakistan as 7000-9000 in India [4], and 1000 in Pakistan [5]. Black bears may be found in several regions of Pakistan in numbers of about 1000. According to earlier estimations, the population density ranges from one to ten bears per square kilometre, with the average density being around two bears per square kilometre [6].

Feeding habits and geographical diversity indicated that the black bear is one of the adjustable and adoptable animals. The black bear is a nocturnal species that mostly comes out at dawn and Dusk, goes to hibernate in the winter season and remains highly active in summer searching for better food to gain more fat [7, 21]. Seasonally, individual bears migrate to various habitats and altitudes in their hunt for food [8]. Springtime foods contain succulent plants (shoots, forbs, and leaves), summertime foods include a range of fruits from trees and shrubs, and autumnal foods include nuts [8]. In certain areas, a substantial component of the diet consists of flesh from mammalian ungulates that are either killed or scavenged [9].

Recently in Pakistan, various studies have been conducted on human-black bear conflict and their causes including crop damage, local hunting, and attack on livestock. One of the recent human-black bear conflicts was reported from Siran and Kaghan valleys which highlighted the severe rate of incidence regarding the human-Asiatic black bear conflict in 2022 [22]. In addition to other difficulties, illicit trade and hunting are seen to be the greatest obstacles to conservation, particularly in developing nations [10]. Due to overhunting and illicit exports, some intriguing species, such as rhinoceroses (*Rhinoceros* sp.), snow leopards (*Panthera uncia*), and tigers (*Panthera tigris*), are becoming endangered [10, 11]. The population of wild tigers and rhinoceroses has dropped dramatically (by 90 %) during the previous fifty years, signalling a worrisome condition of their conservation [12]. According to some assessments, the greatest

danger to wildlife in the developing world is the illegal wildlife trade [13]. The region with the highest demand for illegal trafficking in wildlife and animal parts is thought to be Asia, particularly South and Southeast Asia [13]. The increased national, regional, and worldwide initiatives for effective wildlife legislation in accordance with the CITES accords are thought to be the cause of this rise in demand for illegal wildlife trading. The demand for wildlife species' parts exchanged for nutrition and medicine is largest in Asian nations such as China, India, Bhutan, South Korea, Nepal, and Japan [14]. For instance, the number of brown bears in Mongolia is fast decreasing as a result of illicit shootings and trade with the neighbouring East Asian nations, where body parts are sought after for use in traditional medicine [15].

The current study indicated the new and frightening evidence of a dead Asiatic black bear during the conflict with a young man (injured) in a low elevated area of Battagram, Khyber Pakhtunkhwa, Pakistan, similarly, another black bear individual was also observed in the same after the incidence and local community facing a severe threat from bear attacks.

2. MATERIALS AND METHODS

2.1 Study Area

The present study was conducted in District Battagram in Khyber Pakhtunkhwa, Pakistan, from 2020 to 2022. The district's coordinates are 34° 33' to 34° 47' (N) and 72° 54' to 73° 15' (S) (E). Geographically, District Battagram is situated in Khyber Pakhtunkhwa's extremely significant ecological zone, which is also a section of the Himalayan mountain ranges. District Mansehra, Shangla, Kohistan, Tor Ghar, and a portion of Gilgit Baltistan's northern regions encircle District Battagram. According to the 2018 census, Battagram has a population of 476,612 people living in a 1,301 km² area [24-28] (Figure 1).

2.2 Methods

2.2.1. Field Sighting and dead body observation of black bear

A dead body of an Asiatic black bear was observed

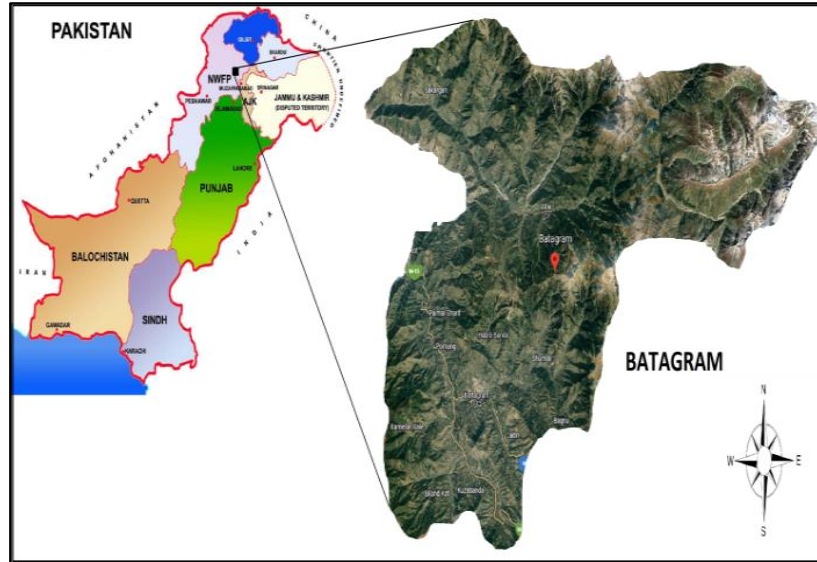


Fig. 1. Map of the study area (District Battagram)

on May 12, 2022, in the low elevated area of district Battagram. Black bear usually inhabits higher elevation areas of the mountain of the district but this time bears came down to the local village Jesol about 1259 m (N 34°41'53 E 73°03'05) [16-18]. The second black bear was also reported by the local community from the same villages and pointed out the route of bear migration from the mountains (Figure 2).

Evidence of the bear population was also estimated by following a questionnaire-based survey (Appendix-I), oral interviews, and a sign

survey [17, 19]. Data were collected from different potential sites in the study area such as Balija Maidan, Shumlai (Donga and Tapka), and Chail Mountain. During a field, survey researchers visited the field for search bear signs, questionnaire filling, and informal interviews with the local community of the area. A total of 50 structured questionnaires were filled out from the study area. Among the totals, 18 questionnaires were filled from Donga and 12 from Topka villages (parts of the Shumlai mountain) followed by Chail (18) and Balija (7). Each questionnaire is composed of multiple questions related to the black bear population and

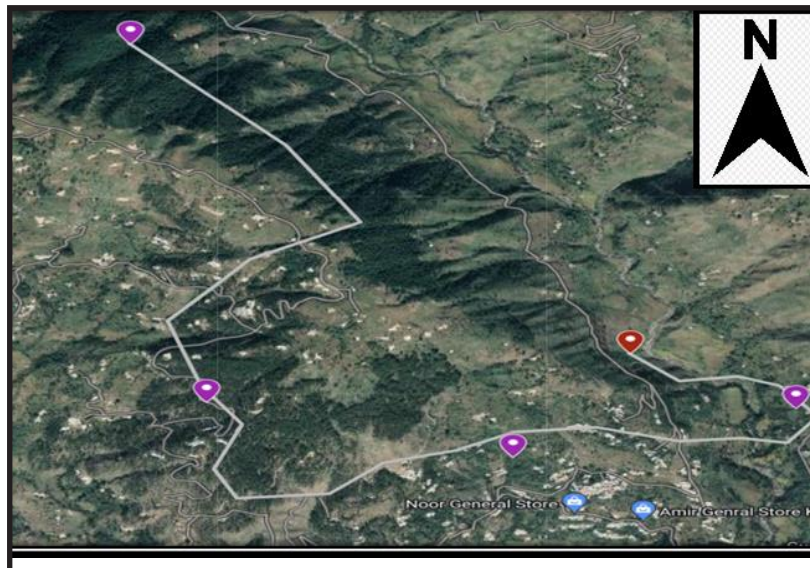


Fig. 2. Route of irregular movement and destination where a black bear was killed in Jesol

human-bear conflict. Questions were asked in the local language “Pashto” and then translated into English during questionnaire filling.

3. RESULTS

3.1 Field Report

Firstly the black bear was observed by local people in populated villages such as Arghashori, Bazargay, and Jesol and then move back toward the mountainous region. During such movement of bears in the local villages, the local people get scared and panic is created among the community. Among the local community, a young man who took a gun trying to protect other people from a bear attack was encountered in the side area, due to this severe conflict, the person was afraid and then jumped from a steppe rock and was seriously injured (Figures 3). After such an incident, people of the nearby village fired on the black bear and were killed moment (Figure 3).

The dead body of the black bear was seized by the local community and cut every part and transported for multiple purposes and left the bear skeleton (Figure 3). One of the witnesses points out that peoples in the area are not aware of the bear’s importance subjectively but they try to use its parts like skin, fat, paws, and many internal organs

for different medicinal purposes to treat some incurable diseases. The wildlife department of District Battagram and Khyber Pakhtunkhwa took immediate action against those people who killed the innocent black bear and warn them to avoid such incidents and conflicts in the future time.

After one week on May 19, 2022, another individual black bear was also encountered in the same villages during the daytime, but this time people did not take any action against the black bear and moved back to its natural habitat. The key factors of bear conservation are local community awareness and the implementation of rules and regulations against illegal hunters and traders to protect these animals when they are displaced. The population of black bears is not been recorded from the district Battagram previously, this incident indicated that quite a good population of black bears is present in the district. But here in the district bears face multiple threats and challenges such as illegal killing, parts trading, shortage of food sources, habitat degradation, and increasing the rate of grazers in the mountain.

3.2 Activity Timing of Asiatic Black Bear

Most of the black Bears attacked livestock, crops, and human at night time in different localities of the study area. In Balija, 16% Local community told



Fig. 3. Evidence of killed black bear in Jesol, Battagram (A: claw of black bear; B: head region; C: the full body of bear; D: 2nd day bear remains; E: 4th day of bear remains; F: injured victim due to conflict)

that black bears attack their livestock at night time and 35% of people in the Balija community told that black bears attacked livestock during the day time. The local community of Chail Mountain told that black bears mostly attack in the daytime, 6% of people observed that black bears attack during the daytime and 13% of local people of the area told that black bear attacks at night time. Similarly, 40% local community of Donga and Tapka tell that bear attack at night time and 25% of people told that black bears attacked their livestock during the day time and other people told that they have no idea about black bear activities timing (figure 4).

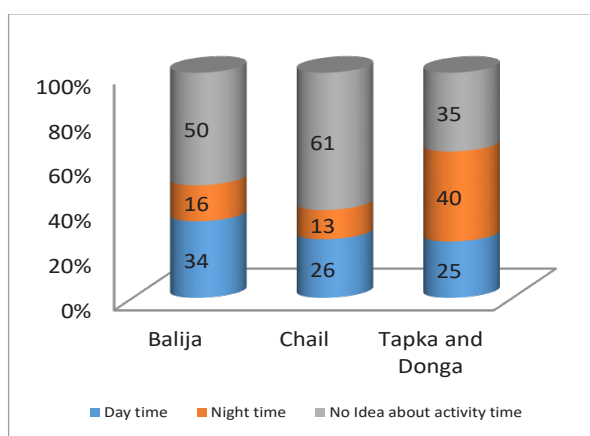


Fig. 4. Activity timing of Asiatic Black bear in Balija, Chail, and Tapka & Donga

3.3 Black Bear Population

According to the questionnaire-based survey, the local community responded that few families of black bears were seen in the different areas of the forest. In Balija Mountain there are 4 black bear individuals were observed by local people of the area. According to the perception of the locals, three bears (with a single cub) were observed on Chail Mountain. Similarly, in Tapka and Donga very high population of bears was recorded, a total of seven black bears (with two cubs) were seen in the forest multiple times. A total of (n=14) black bears were seen in the study area. Among all these, a total of 6 males, 4 female individuals, and 4 cubs were recorded from three potential sites in the area (figure 5).

3.4 Oral Interview

Data about black bears were also collected from

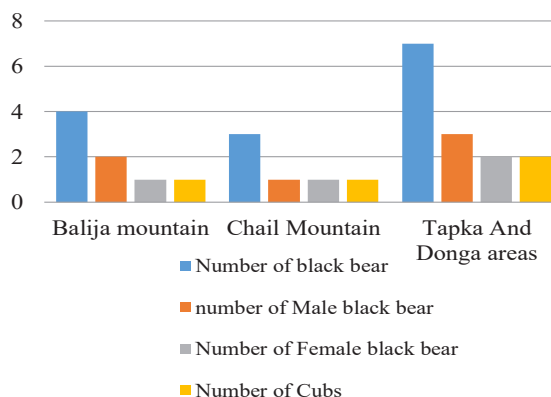


Fig. 5. Population of Asiatic black bear in three potential sites.

local people through oral interviewees and informal discussions. The local community of the district claimed that the black bear population is present in different areas of the district and mostly the population has been confirmed by local villagers, farmers, hunters, and wildlife staff in the district. Similarly, black bear families were also observed during the winter season in Shumlai (Donga, Tapka, Ghabrai), Balija, and Chail Mountains.

3.5 Sign Survey of Black Bear

During the field survey, a pug mark, scat sample, following track, and a setting place of a black bear was observed in Balija Mountains. On the other hand, a mature black bear was sighted on 14 April 2021 at Balija Maidan during the late winter (Figure 6).



Fig. 6. A: Pug Mark; **B:** Following Track; **C:** Scat Samples; **D:** Setting Place

4. DISCUSSION

Hunting poaching evidence of Asiatic black bears was reported from the Kaghan and Siran valleys of district Mansehra, Khyber Pakhtunkhwa Province. We discover that residents in both valleys actively monitor hunting and poaching in the study region. The structured interviews from the local community of both valleys claimed that peoples of District Battagram and Kohistan target black bear mothers in both valleys, and carry their cubs into different megacities of Pakistan illegally. Every winter, parties of 10 to 25 hunters and dealers were spotted with their poaching equipment, which included firearms, pistols, and well-trained domestic dogs. Rout of black bear poaching and parts trading were also identified such as Kunda Gali, Door Gali, and Raam Gali into neighbouring districts. During each season, on average bases, approximately two to five mothers are killed and carry 12 to 20 cubs [18]. Field report and questionnaire-based survey of the present study indicated that quite a good population of black bears is present in district Battagram. Recently a mature black bear was killed in a low elevated area (Jesol) of Battagram district where the human population is high. Parts of black bears have very high market demand which is why people in the local area seized different parts of the dead body illegally. A young man has also injured during the conflict in the populated area the entire village was dreaded by a bear attack. Similarly, the second black bear was also observed in the same village after one week. Black bear observation in low elevated and the populated area is not usually black bear was displaced from their natural habitat and come down to the village and frightening conflicts were created.

The least well-known species of animal is the Asiatic black bear, although the study is being done to learn more about its condition and dietary habits, especially in Pakistan's northwest. In the Pakistani western Himalayan area of the Kaghan Valley, we looked at the dietary preferences and altitude distribution of the Asiatic black bear [8]. The result of the questionnaire-based survey from this study indicated that there (n=14) bears present in three sites in the area. In Topeka and Donga, a very high population of bears was recorded, a total of seven black bears (with two cubs) were seen in the forest multiple times followed by Baliija (4) and Chail

three mature with a single cub. Among all these, a total of 6 males, 4 female individuals, and 4 cubs were recorded from three potential sites in the area. A mature black bear and bear signs such as pug mark, walking track and a scat sample were also observed in Baliija Mountain which indicated that a quite good population of black bears is present in the district Battagram that is previously reported.

5. CONCLUSION

The Asiatic black bear is distributed to different areas of Pakistan including the District Battagram, where the present study was conducted and new frightening evidence of the Asiatic Black bear was reported. A black bear was encountered by local peoples of a low elevated area (1259 m) of Jesol village (N 34°41'53" E 73°03'05") and dread was spread among the community, and finally, the black bear was killed collectively on May 12, 2022. During such an encounter, a young man was also injured in conflict. After the immediate conflict, local people carried every part of the bear's body illegally and left the remaining skeleton. The wildlife department of Khyber Pakhtunkhwa took immediate action against the involved people. Similarly, the second black bear was also observed in the same village after one week but this time local people did not take any action against the black bear due to rules implemented by the wildlife department. On the other hand, questionnaire-based surveys and oral interviews with the local community revealed that a quite good population of bears n=14 (6 males, 4 females, and 4 cubs) are present in different areas of the district. Such evidence was also confirmed by a sign survey where multiple signs of black bears were observed. The black bear population faces a severe threat from the local community and immediate conservation efforts are needed with the help of the wildlife department and other conservation agencies.

6. CONFLICT OF INTERESTS

All the authors declare that there is no competing interest in this article.

7. ETHICS APPROVAL CONSENT TO PARTICIPATE

Data were collected from dead black bears with proper permission from the wildlife department of District

Battagram. However, there are no living organisms involved in this study. On the other hand, the young man was injured during the conflict with the black bear, proper permission was taken from the relatives and families of the victim during data collection.

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Appendix-I

Recent encounter of Asiatic black bear in Battagram

Structured Interview Questionnaire for collecting information about black bear (*Ursus thibetanus*) population and conflicts

Form No: _____

Date	Time	Interview	GPS location
/ /	:		

1) Personal Information:

Name _____ Age _____
 Address _____ district _____

Occupation _____
 Education: i) Illiterate ii) Primary iii) Secondary iv) Higher Secondary v) University

1. Do you have idea about black bear appearance in your local area? (Yes No)
2. If yes, specific their number and proper location -----
3. Do you think that human- black bear conflict increased in the area (Yes No)
4. How many times you suffered from livestock attack by black bear? (-----)
5. Which type of loss-----and about -----PKR.

Type of Livestock	Sheep	Goat	Dog	Poultry	Others	Total
Killed						
Injured						

6. Black bear population in the study area has increased? (Yes No)
7. What the causes of black bear population declining in the area -----?
8. Attack on human: Where the attack took place?

In village: _____ in field: _____ in forest: _____ Edge of forest: _____

In summer pastures _____ during grazing livestock _____ if any other _____

Animals present nearby at the time of attack

i) Dog ii) Cattle iv) Sheep v) Goat vi) others

Explain time and date of attack

Time _____ Day _____ Night _____ Date _____ / _____ / _____ (dd/mm/yy)

9) Consequences of attack

i) Victim injured ii) victim killed

10) What action you have taken against the black bear?

i) Chased ii) Fire gun iii) loud noise iv) Stand still v) Did nothing

11) Predator was killed?

i) Yes ii) No if yes, then

First seen in your area	Number of black bear seen	Male	Female	Cubs
When was last seen (Approximate Date/ brief details)				
Do you have any idea about black bear killed in your area?	Bear Poaching	Observation of black bear population since -----?		
Have you seen any black bear family in the forest? Yes: No: if yes, where: and when:				
Activity timing (attack time)	Day or night			
Specific Remarks about black bear:				

Much thanks for your precious time

