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CONSERVATION

An encounter in snow

TEXT & PHOTOGRAPH: KULBHUSHANSINGH SURYAWANSHI

In the trans-Himalayan region, a conservation effort has reduced conflicts between snow leopards and pastoralists.



A PAIR OF snow leopards in the high altitudes of the trans-Himalayan region. Project Snow Leopard, launched by the Ministry of Environment and Forests in 2009, focusses on conservation on a landscape level rather than in just protected areas.

AN hour of hard climbing through knee-deep snow took me to the crest of the plateau at an altitude of 4,500 metres. I gasped for breath in the rarefied air of the endless Tibetan steppe grassland that extended in front of me. Resting my weight on an ice axe, I was admiring the panoramic view when a silhouette on the snow caught my eye. It was a snow leopard moving gently, almost like an elf, hardly leaving a footprint. It was about 200 metres away, perpendicular to my line of sight, and seemed unaware of my presence. I sank to my knees and reached for my binoculars.

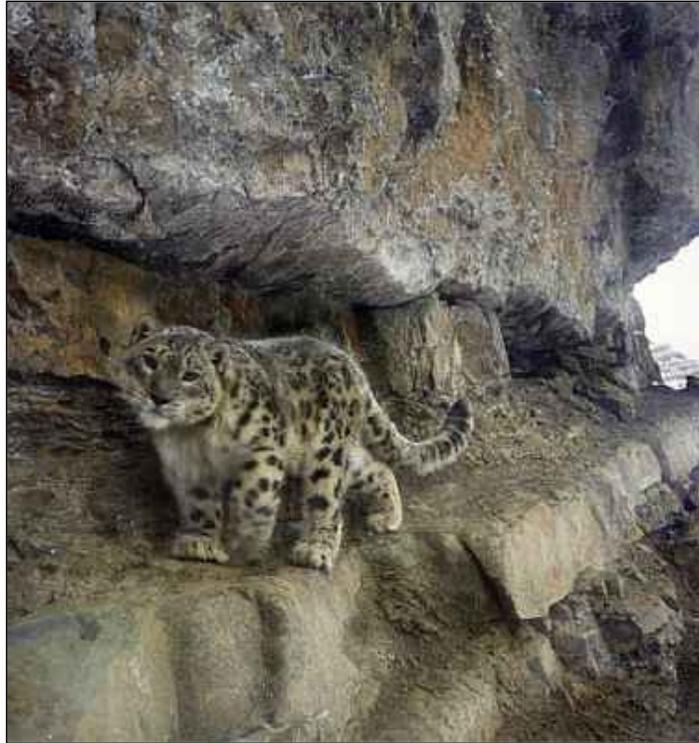
The snow leopard is the most shy and elusive of all the big cats in the world. Very little information is available on its ecology and behaviour. In fact, until a few decades ago, it was as if the majestic beast was a mythical creature. Very few outsiders have seen it in its natural environment in the high altitudes of the Himalayas. I got this rare opportunity in Spiti Valley in the remote trans-Himalayan region of Himachal Pradesh.



THE CARCASS OF a bharal killed by a snow leopard and later scavenged by vultures, in the Rungalong plateau in the trans-Himalayan region of Himachal Pradesh.

Suddenly, the snow leopard stopped, crouched low, and started staring at something. From my position I could not see what it was looking at. I crawled to the top of a small hump in the rolling plains, taking care to avoid being seen by the animal. A group of about 30 bharal (*Pseudois nayaur*) was grazing on a small patch of grass about 300 metres from the snow leopard.

The bharal is a species of wild goat found in the Himalayan and Tibetan plateau region and is one of the most important prey of the snow leopard. In appearance it is more similar to the hypothetical common ancestor of goats and sheep than either of the two. Of stocky build, it weighs, on an average, about 55 kilograms. The males have beautiful curled horns and sometimes reach well over 70 kg, while the females have thin horns that are only a few centimetres in length.



A CAMERA-TRAP PICTURE of a snow leopard up close. The ledges seen above the leopard are often used by it for spraying (marking with urine mixed with an anal gland secretion). Very little information is available on the snow leopard's ecology and behaviour. Until a few decades ago, it was as if the majestic beast was a mythical creature.

The snow leopard had moved behind a clump of caragana (*Caragana brevifolia*) bushes and, from a crouched position, was intently watching the bharal. Local legend has it that snow leopards can 'dissolve' in the mountains. Indeed, the leopard had merged completely with the ground and almost melted in front of my eyes. It was incredible to see an animal as large as the snow leopard 'disappearing' in an open plain. Although I knew exactly where it was, I could not see its shape or outline or anything for that matter. I caught an occasional glimpse of it when it moved.

Using the cover of small rocks and bushes, it now started moving closer to the bharal. There was an unnerving silence all around. Just when I expected the snow leopard to move closer to the bharal, the silence was broken by the loud 'honking' of a donkey. It came from behind me; the livestock of the village had moved closer and was now about 500 metres behind me. There were over 50 donkeys, 150 cows/cow-yak hybrids, and 250 sheep and goats, and they were being herded by two elderly men and two boys who were barely in their teens.



A VIEW OF Kibber village, a reserved area where residents had stopped grazing their livestock so as to help revive the bharal population.

I thought a donkey had noticed the snow leopard and was braying in alarm, but through my binoculars I saw that the donkeys were just running after each other in a playful fight. The snow leopard withdrew further into the rocks and kept a close eye on both the livestock and the bharal.

Livestock is an equal or better alternative prey for the snow leopard. It can sneak close to the herds and when the herders are busy with their tea or chatting make off silently with a goat or a sheep or sometimes even a donkey or a cow. The snow leopard even attacks free-ranging horses and yaks, taking the young and the weak. Pastoralists from certain areas sometimes lose up to 18 per cent of their livestock to the snow leopard and other predators such as the Tibetan wolf. This behaviour of the snow leopard gets it into conflict with pastoralists, sometimes drawing serious retaliatory action from them. This is one of the biggest challenges for snow leopard conservation throughout its distribution range in Central Asia.



A GROUP OF bharal, or blue sheep, grazing on a patch of grass.

Livestock numbers up

The trans-Himalayan region is extremely low in productivity, comparable to the Arctic region or deserts. As a result, livestock and wild herbivores, such as the bharal, compete for the limited fodder available in the rangelands. The entire region is covered by over two feet of snow throughout winter, making it even more difficult for wild herbivores to find food. During this season, livestock are fed on fodder that pastoralists have stored. Thus, in the past couple of decades wild herbivore populations have declined even as livestock numbers have increased. This has led to the increased dependence of predators such as the snow leopard and the Tibetan wolf on livestock, intensifying the conflict between predators and pastoralists.

In the trans-Himalayan region, wildlife populations are spread across the landscape, the contiguity being broken only by natural barriers such as high mountain ridges and rivers and, more recently, by the large human settlements with a large number of livestock. Even wild herbivores are spread across the entire landscape but are found in extremely low densities. Project Snow Leopard, which the Ministry of Environment and Forests launched in 2009, recognises these problems and focusses on conservation on a landscape scale rather than in just the protected areas.



A YEARLING BHARAL sharpening its skills on the rugged and snow-clad mountain slopes.

Here, I had the rare opportunity of seeing the snow leopard faced with the choice of hunting a wild herbivore or livestock. Although just the presence of livestock would not tempt a snow leopard to take the risk, a hungry carnivore would not ignore the chance of picking up straying cattle.

The snow leopard retreated further into the rocks and I could not see it any more. I held my position for a long time. Before I realised it, evening was upon us. It got colder and dark. The livestock had also retreated towards the village. The stalemate had been resolved. The livestock had been ignored over the bharal, saving the herder and the snow leopard a lot of trouble.



THE EFFORTS OF the Nature Conservation Foundation, Mysore, in the reserved area of Kibber village have had a positive impact on several wildlife species. Besides the snow leopard, the village reserve is now home to the bharal, the Himalayan ibex (above), the Tibetan wolf, the stone marten, the pale weasel and many bird species such as the golden eagle, the lammergeier and the Himalayan griffon (below).

The next morning I went back to the Rungalong plateau, the site of the pervious day's encounter with the snow leopard. A scanning of the landscape drew my attention to a flock of vultures. They led me to the place where the snow leopard had made its kill the previous night – a male bharal, about four years old. The vultures were tearing at whatever remained of the kill. The snow around the kill was sprayed in red, and the pugmarks told the story. There were few signs of a struggle; the marks on the throat indicated a swift kill. There was still some portion of the kill left, and I expected the leopard to return for it in the evening.



I returned to the village where I met the livestock herder. I told him what I had seen the previous day. He was first disappointed because I had not warned him of the danger. But then he added that snow leopards did not attack livestock very often in areas with a good bharal population.

Rungalong is adjacent to the reserved area of Kibber village, where the people, with support from the Nature Conservation Foundation, a non-governmental organisation based in Mysore, had stopped grazing their livestock so as to help revive the bharal population.

Local initiative

Charudutt Mishra of the NCF, who first came to this region as a PhD student, understood the problem of conflict between pastoralists and the snow leopard. He convinced the local people to set aside a certain area of their rangeland to facilitate the recovery of wild herbivores such as the bharal. At the same time, along with the youth of the village, he started a livestock insurance scheme that compensated pastoralists for loss of livestock to wild carnivores at the current market price of the livestock.

Changing attitudes



THE TIBETAN WOLF. In the past couple of decades, the decline in wild herbivore populations and the growth in livestock numbers have led to the increased dependence of predators such as the snow leopard and the Tibetan wolf on livestock.

These initiatives have helped increase the populations of wild herbivores and change people's attitudes towards wild carnivores in Spiti Valley and a few other places where this model has been replicated. In the eight years since the launch of this initiative, the region has seen an over-sixfold increase in the population of the bharal. Although its effect on the foraging pattern of the snow leopard is still scientifically unclear, local people strongly believe that an increase in the bharal population has reduced the danger to livestock from snow leopards and wolves.

The conservation effort has also had a positive impact on other wildlife species. The village reserve is today home to many animals such as the bharal, the Himalayan ibex, the Tibetan wolf, the snow leopard, the stone marten, the pale weasel and many bird species such as the golden eagle, the lammergeier and the Himalayan griffon. Also, encountering a snow leopard is much more common today than it was before.

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