

## Large Mammals of the Himalaya

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The Himalaya, along with the marginal mountains of the Tibetan plateau, the Trans-Himalaya, sustain a rich assemblage of highly specialized wildlife that play a crucial role in the mountain ecosystem by being both ecologically and economically important. The wild herbivores form the most significant group of wildlife in this mountainscape. While some of the wild herbivore species namely Himalayan tahr, Himalayan serow, musk deer, Himalayan goral, Kashmir stag or hangul and markhor are typical to the main Himalayan range, species like Kiang, Tibetan gazelle, Tibetan argali, wild yak, Ladakh urial are typical to the Trans-Himalaya. Asiatic ibex and bharal or blue sheep occur in both the mountain ranges usually above 3000 m altitude. Apart from maintaining and regulating vegetation structure and plant species diversity, wild herbivores serve as prey to the endangered predator species in the region like the snow leopard, Tibetan wolf, brown bear, common leopard and Asiatic black bear. Moreover, most of these Himalayan and Trans-Himalayan species are not restricted to protected areas but occur across the landscape. With such a vast diversity of wild herbivores and carnivores, the Himalaya and Trans-Himalaya together constitute one of the most ecologically significant regions of the world. Many of these charismatic large mammals of the Trans-Himalaya were introduced in *HJ* 70. Here, we present some of the large mammals of the Himalaya.

### **Image 1 : Pir Panjal or Kashmir markhor (*Capra falconeri*)**

Markhor, a wild goat inhabits the forested tracts along tree-line and serves as a prey to snow leopard. Once widespread and abundant in the rugged, cliff-dominated mid-altitudes of the Pir Panjal range, the present-day distribution of markhor is restricted to a few pockets of small protected areas along volatile international boundary in the Kashmir valley. Since India's independence, markhor habitat has been severely affected by multiple wars and sustained heavy militarization. Currently, populations are fragmented and small (usually < 50 individuals). Pervasive livestock grazing, developmental projects and hunting continue to be the most important threats to this majestic goat.

**Image 2 : Himalayan goral (*Naemorhedus goral*)**

Goral is a cloven-hoofed ruminant mammal occurring across a wide range of altitude from about 1000 m to 4000 m along the Himalaya. Goral inhabits steep rocky forested slopes being well adapted to cliffs. Males are usually single, otherwise found in small groups of 4-12 individuals. Goral is a small ranging species with home-range size of about 0.4 square km. Habitat of goral in lower and middle elevation areas are disturbed and fragmented due to human activities such as livestock grazing, forest clearing and agriculture. Often during winter local communities hunt goral for meat by driving them into deep snow.

**Image 3 : Himalayan tahr (*Hemitragus jemlahicus*)**

This large-bodied wild goat is found in all the major river valleys, mainly along the southern face of the Himalaya, from Jammu and Kashmir to Sikkim. Tahr are adapted to a wide altitudinal range from c. 2500 m to c. 5200 m and are usually seen on exposed rocky outcrops and cliffs. The endangered snow leopard often feed on Himalayan tahr. Tahr is hunted for meat. Competition with livestock grazing for forage, especially during summer, limits tahr population. Tahr habitat along most river valleys across the Himalaya, continue to face intense developmental activities in the form of road construction and hydro-power projects.

**Image 4 : Himalayan serow (*Capricornis thar*)**

Serow, a medium-sized goat-antelope, is sparsely distributed along the southern forested tracts of the Himalaya, from Jammu and Kashmir to the hill region of north-east India. Serow inhabits a wide range of habitats from gentle forested slopes to rugged, steep, rocky areas between 300 m and c. 3000 m altitude. Forested habitat, natural low densities and secretive nature of serow are serious constraints towards surveying or systematic monitoring of serow population. Considerable parts of serow habitat has been lost or heavily disturbed due to logging, clearing land for agriculture and fuel-wood collection. Serow is hunted for meat and traditional medicinal purposes.

**Image 5 : Takin (*Budorcas taxicolor taxicolor*)**

Takin is large goat-antelope found in northern and north-eastern Arunachal Pradesh and possibly Sikkim. They are found in the sub-

tropical moist and evergreen forests from 1000 m to 4000 m. Takin are known to be attracted to hot sulphur springs and salt licks where they can be seen in larger numbers. It is hunted in parts of Arunachal Pradesh for its meat and also faces threat due to fragmentation and loss of habitat with increasing construction for road network.

**Image 6 : Musk deer (*Moschus* sp.)**

Musk deer is a small, shy and solitary species of deer found throughout the Himalayas. It is distributed across Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh. Musk deer are found from elevations of 1500 m up to 5000 m on the alpine scrub and meadows as well as the sub-alpine rhododendron and oak forests. Unlike other deer species that grow antlers, musk deer have small tusk-like teeth used to compete with other males during the breeding season. Known for the 'musk', the male secretes the substance to mark territories and communicate with other individuals. However, its alleged medicinal properties in traditional medicines and the highly valued scent in perfumes in addition to habitat degradation and hunting for meat have caused an alarming decline in musk deer populations in the wild.

**Image 7 : Asiatic black bear (*Ursus tibetanus*)**

Asiatic black bear has a thick black fur with a distinct V-shaped whitish marking on its chest and a white patch on the chin. They prefer densely forested coniferous and broadleaved forests and are found between 1500 m and 3500 m throughout the Himalayas from Jammu & Kashmir to Arunachal Pradesh. They are known to be largely nocturnal and are good tree climbers. Apart from disturbances due to human activities and loss of suitable habitat, black bears are killed in retaliation and poached for their skin, claws and the highly priced gall bladder assumed to have medicinal properties in traditional medicines.

**Image 8 : Kashmir stag or Hangul (*Cervus elaphus*)**

Hangul or the Kashmir stag is a large species of deer with a magnificent spread of antlers. Once occurring in large numbers across the Kashmir valley, the species is now restricted only to the Dachigam National park and few adjoining areas in Jammu & Kashmir from 1500 m to 3600 m. During winter, they live in the lower elevation riverine forests and open scrub, whereas in summer they migrate higher to the pine forests and alpine meadows. Intensive hunting, loss of summer

habitat due to livestock grazing and other anthropogenic disturbances have pushed the Hangul population to less than 10% of its original population size over the last six decades.

### **Image 9 : Himalayan brown bear (*Ursus arctos isabellinus*)**

Himalayan brown bears are found between 3000 m and 5000 m inhabiting alpine meadows and pastures above the treeline in Jammu and Kashmir, Himachal Pradesh and Uttarakhand. Brown bears have a uniformly brown coat and unlike most other bears, they do not have any markings on their body. They are known to hibernate in winter. Himalayan brown bear is largely threatened due to persecution by herders to protect livestock. Extraction of fuel-wood and other non-timber forest products by humans and developmental activities continue to disturb brown bear habitat. Brown bear is occasionally poached for its skin.

### **Photo Credits**

Pir Panjal or Kashmir markhor – Riyaz Ahmed; Himalayan goral and Himalayan tahr, Himalayan serow – Dr. Bivash Pandav; Takin, musk deer, Kashmir stag or Hangul and Asiatic black bear – Sandesh Kadur; Himalayan brown bear – Prakash Mardaraj.

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