



# MOUNTAIN MIGRANTS

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**Survey of Tibetan Antelope (*Pantholops hodgsonii*) and  
Wild Yak (*Bos grunniens*) in Ladakh, Jammu & Kashmir, India**

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## EXECUTIVE SUMMARY

The Tibetan antelope (*Pantholops hodgsonii*), locally called chiru, is mainly confined to the Tibetan plateau in China. A small population migrates into Chang Thang in eastern Ladakh in the state of Jammu and Kashmir in India. The chiru has a geographical range extending approximately 1,600 km across the Tibetan Plateau, with an eastern limit near Ngoring Hu (Tibet Autonomous Region) and a western limit in Ladakh (India). Large-scale hunting for wool and meat has resulted in a decline of its population and only an estimated 75,000 individuals of this species survive in the world today. Its status in India has not been studied in any detail, although sporadic spot surveys have been done in the past.

Similarly, very little information is available on status of wild yak (*Bos grunniens*), the progenitor (closest ancestor) of the domestic yak in India. The animal is distributed mainly in the highlands of the Tibetan plateau including the Qinghai province, Tibetan and Xinjiang autonomous regions and the Quilian mountains in the Gansu province. Small nomadic isolated populations are reported from Ladakh in Jammu and Kashmir (J&K), and even smaller numbers occasionally from Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh in India.

To obtain further information primarily about these two species, the Department of Wildlife Protection, Jammu & Kashmir (DWP) along with the Wildlife Trust of India (WTI) and the Indian Army initiated surveys in Ladakh in the years 2005 and 2006.

Surveys were conducted in the Chang Thang and Karakoram Wildlife Sanctuaries of Ladakh in Jammu & Kashmir. The Chang Chenmo (*Chang Thang*) area lies in the eastern part of Ladakh just north of the famous Pangong Lake, while the Karakoram WLS lies in the north-eastern part of Ladakh, south of the Karakoram Pass.

The team found 250 – 300 chiru in the Karakoram area in addition to other mammal species. Both male and female chiru were sighted here between altitudes of 4735 m and 5336 m. A total of 230 individuals were sighted (after deleting double counts) in the year 2005 and 45 individuals in 2006. Based on this, it is estimated that between 250-300 individuals occur in this area. Mean group size of chiru was  $4.66 \pm 0.435$  and varied between one to 34 individuals during 2005, and  $4.5 \pm 2.77$  (SE) during 2006. Apart from chiru, other species encountered from the area includes Tibetan wolf (*Canis*

*lupus chanco*), red fox (*Vulpes vulpes*), pale or mountain weasel (*Mustela altaica*), snow leopard (*Uncia uncia*), Ladakh urial (*Ovis vignei*), blue sheep (*Pseudois nayaur*), woolly hare (*Lepus oiostolus*), Ladakh pika (*Ochotona ladacensis*), Royle's pika (*Ochotona roylei*), Nubra pika (*Ochotona nubrica*), plateau pika (*Ochotona curzoniae*), Stoliczka's mountain vole (*Alticola stoliczkanus*) and silvery mountain vole (*Alticola argentatus*).

In the Chang Chenmo area, a total of 55-60 individuals of only adult male chiru were sighted in 2005. Mean group size was  $6.18 \pm 0.82$  and ranged between one to 12 individuals. During 2006, only 18 individuals in 5 groups were sighted. Mean group size was  $3.58 \pm 1.6$  (SE) and ranged between one to 8 individuals. Other animals sighted include wild yak, Tibetan wolf, blue sheep, woolly hare, long tailed marmot (*Marmota caudata*), wild ass (*Equus kiang*) and Tibetan Argali or Nayan (*Ovis ammon*).

Apart from chiru, wild yak was also sighted in the Chang Chenmo area between 4700 – 5300 m. A total of 79 individuals were sighted in 2005 and 22 individuals in 2006. Mean herd size was 19.75 (2 to 57 individuals) during 2005 and 3.14 (1 to 7 individuals) in 2006.

The male chiru seemed to occupy lower altitudes (mean  $4936 \text{ m} \pm 41.55$ ) than the females ( $5255 \text{ m} \pm 17.33$ ) in DBO. In the Chang Chenmo area, male chiru were found at a mean altitude of  $4797 \text{ m} \pm 27.3$ .

Chiru seemed to prefer lowlands rather than slopes and ridge tops in Chang chenmo. In DBO possibly because there were mainly females in the population, the animals seemed to be dispersed along the altitudinal gradient.

Major threats to chiru and its habitat were from solid waste accumulated from the defense personnel stationed in the area, feral dogs present in the area and livestock grazing by nomads from the village of Phobrang in the Chang Chenmo valley.

In order to provide long-term conservation of the species, it is recommended that the defense personnel stationed in these areas are made aware of the wildlife of the area and possibility of its illegal trade so that they can play a role in monitoring and prevention of wildlife crimes. It is also recommended to control the feral dog population threatening chiru. Grazing ground of the domestic and wild yak to be identified and segregated to prevent possible competition and hybridization.

Table 2 : Mammals other than chiru and wild yak seen during the survey in Ladakh.

| SL No. | Species                   |                              | Nature of evidence | Distribution |              |
|--------|---------------------------|------------------------------|--------------------|--------------|--------------|
|        | Common name               | Scientific name              |                    | Karakoram    | Chang Chenmo |
| 1      | Tibetan Wolf              | <i>Canis lupus chanco</i>    | Sighting           | √            | √            |
| 2      | Red Fox                   | <i>Vulpes vulpes</i>         | Sighting           | √            |              |
| 3      | Pale or Mountain Weasel   | <i>Mustela altaica</i>       | Sighting           | √            |              |
| 4      | Snow Leopard              | <i>Uncia uncia</i>           | Scats              | √            |              |
| 5      | Wild Ass                  | <i>Equus kiang</i>           | Sighting           |              | √            |
| 6      | Ladakh Urial              | <i>Ovis vignei</i>           | Horn               | √            |              |
| 7      | Blue Sheep                | <i>Pseudois nayaur</i>       | Sighting           | √            | √            |
| 8      | Argali or Nayan           | <i>Ovis ammon</i>            | Horns              |              | √            |
| 9      | Woolly Hare               | <i>Lepus oiostolus</i>       | Sighting           | √            | √            |
| 10     | Ladakh Pika               | <i>Ochotona ladacensis</i>   | Sighting           | √            |              |
| 11     | Royle's Pika              | <i>Ochotona roylei</i>       | Sighting           | √            |              |
| 12     | Nubra Pika                | <i>Ochotona nubrica</i>      | Sighting           | √            |              |
| 13     | Plateau Pika              | <i>Ochotona curzoniae</i>    | Sighting           | √            |              |
| 14     | Stoliczka's Mountain Vole | <i>Alticola stoliczkanus</i> | Sighting           | √            |              |
| 15     | Silvery Mountain Vole     | <i>Alticola argentatus</i>   | Sighting           | √            |              |
| 16     | Long tailed marmot        | <i>Marmota caudata</i>       | Sighting           |              | √            |



Long tailed marmot (*Marmota caudata*)



Blue sheep (*Pseudois nayaur*)



Woolly hare (*Lepus oiostolus*)



Tibetan wolf (*Canis lupus chanco*)

## 2. Birds

A total of 59 species of birds belonging to 19 families were recorded from the two survey areas. A full bird list of both the areas is provided in Annexure-II