

1. The Himalayas are less than 25 million year old, amongst the youngest mountains in the world!
2. The chain of mountains lying in between the Brahmaputra and the Indus constitute the Himalayas.
3. Himalayas stretch 1900 Miles long and between 50-200miles wide
  - a. The Himalayas are divided into three zones depending on their altitudes
  - b. Outer or lower Himalayas: Not more than 3000Feet above MSL these are known as the Siwaliks (Shivalik)
  - c. Middle or greater Himalayas: Extend from Kashmir to Bhutan and China between 6000 feet to 14000Feet high
  - d. Inner Himalayas: Consist of Zanskar, Ladakh, Hindu Kush and Karakoram
4. The Indian Himalayas consists of, Arunachal Pradesh (Also known as the Assam Himalayas), Sikkim, Kumaun, Garhwal, Kinnaur, Spiti, Kullu, Lahaul, Kishtwar, Kashmir, Zanskar, Ladakh and the Eastern Karakoram.
5. The Eastern Himalayas are considerably wetter than the Western because the rain clouds coming from Bay of Bengal drain themselves in the southern section losing moisture quickly as they move northwest.
6. Rugged but traversable parallel ranges running from northwest to southeast. Passes across the northern Ladakh range between Shyok and Indus rivers are 17000 to 18000ft in elevation. Lowest elevation in all of Ladakh region outside the Suru valley (near Kargil) is higher than 9000ft. Row of poplar or willow is a sight to be savoured in Nubra and Parts of Ladakh. Atmosphere is extremely dry with the sun scorching in mid-summer.
7. In general the temperature drops about 1 degree C for every 300Mtrs rise in altitude.
8. Even in winters, one may see grasshoppers and agamid Lizards feeding or basking in the sun on one side of the slope, while a few meters away the ground is covered by deep snow and all animals are hibernating.
9. Ladakh is a region of harsh and bleak winters, daily winds, notable paucity of rainfall or even winter snow
10. The alpine zone in Ladakh has very little plant life and virtually no trees, except those that have been planted by people and the odd stunted Juniper that grows in protected places. All plants in this region are adapted to conditions of extreme dryness.

**LADAKH**

**Some Facts**

- “Ju’ le, Ju’ le” Welcome in Ladakhi. Actually a word for almost any kind of greeting.
- All Ladakhis or Zanskaris are of Mongolian extraction
- Most Ladakhi muslims live in Kargil district and along the Indus valley
- Ladakhi is a dialect of Tibetan
- For more than a thousand years Ladakh was a part of western Tibet
- Buddhism came to Ladakh before it went to Tibet
- Padmasambhava is the man responsible to spread Buddhism here
- Earlier religion was Bon Po which was shamanistic
- The gompas and monasteries were never destroyed as against in Tibet due to the Chinese invasion
- There is a royal family in Ladakh in Stok
- The mosque in Leh was built in the late seventeenth century. It is 300 years old.
- In early 19<sup>th</sup> century Ladakh was one of the several west Tibetan states.
- In 1834 Ladakh fell to a Dogra led by Zorawar Singh. Since then Ladakh has formed 70% of the total area of J&K
- Caravans from Turkestan, Tibet and Kashmir converged in Leh
- In Leh before the road was paved and there were no gutters, merchants would close their street-facing doors to permit bazaar-long polo games
- Beneath Leh’s castle, the old city’s narrow, twisting lanes and underpasses are reminiscent of any medieval town
- Coss: attractive maroon woolen gown
- Jibi or Sahru a cap worn in the countryside is a top hat cut out in the front with upturned ear flaps
- Perag is a larger head dress with rows of turquoise and a charm box called Kagu
- Tsaroo worn along with Perag is two wings of sheep wool joined on either side of the Perag
- Tsampa: roasted barley flour (also called Sattu)
- It was discovered that the population of Dras suffers from high blood pressure because, with nothing else to do, everyone drinks salted tea to an excess

- Monasteries were set up to propagate *dharma* as stated by Lord Gautam Buddha, the basis of which are the 4 noble truths
  - Suffering
  - Its cause
  - Its suppression
  - The eightfold path leading to its suppression
- The Vajrayana or Diamond Vehicle of Tibetan Buddhism has four schools or orders
  - Nyingmapa
  - Kagyupa
  - Sakyapa
  - Gelugpa
- Every monastery in Ladakh belongs to one of these subsects
- Monasteries around Leh
  - Tingmo Gang (Temisgang) near Nurla Village 10 Kms east of Khaltse; 70 Km from Leh
  - Ri Dzong meaning 'mountain fortress'; newest Gelugpa Monastery about just over a 100 years old.
  - Alchi sits in a low valley unlike other gompas, 49 Km from Leh, is more than a thousand years old and was never devastated by invading armies
  - Likir is a well-kept Gelugpa Shrine; 43 km from Leh; the monks from here take care of the Alchi gumpa
  - Basgo is a palace in ruins and its still utilized shrine were once the centre of the largest Indus Valley state. It is the second oldest Gumpa in Ladakh after Alchi
  - Phyang, just 20 Km northwest of Leh has a Kagyupa Gumpa affiliated to Lamayuru
  - Spituk monastery overlooks the airport. It is a Gelugpa Monastery built on several levels of a solid rock crag above the Spituk village. Has an image of the deity Bhairava for the benefit of the locally stationed soldiers
  - Stok has the only royal palace that has been maintained and lived in since the 1842 Dogra invasion. The palace has many thangkas, ceremonial clothing, and other belongings of the royal family
  - Shey is 11 Km from Leh and its ruined palace sits on top of a knife edge ridge. A temple here has a Buddha gilded in bronze by eight Newari craftsmen of Nepal
  - Thikse is a beautifully situated multi structured monastery halfway between Hemis and Leh
  - Stakna – literally meaning tiger's nose is called so because of the shape of the hill on which it stands. Grand stand view of the Indus valley and neighboring Gompas of Thikse, Matho and Stok.
  - Matho is the only Sakyapa monastery in Central Ladakh
  - Chendey (Chemrey) is a small Kagyupa Monastery connected with Hemis
  - Trakthok means "top of the rocks"; is the only Nyingmapa monastery in this part of Ladakh; has a small cave at the base said to have been linked with Padmasambhava founder of the Nyingmapa sect of the Vajrayana Buddhism
- Hemis is the wealthiest monastery in Ladakh. A short hour of walk behind the Gumpa up a side valley to Kotsang is a hermitage and shrine not directly connected to Hemis. The building have been constructed above a sacred cave the ceiling of which oozes a firm, sticky black substance called Shilajit. Shilajit is known to have curative properties and is taken orally or plastered on the skin. The High Altitude Hemis National Park is home to the Ibex, bharal, wolf and the Pallas cat.
- Ladakh was opened to Tourism in the late summer of 1974
- Ladakh was opened for tourism when the Indian Government removed Zaskar and much of central Ladakh from the Inner Line restrictions that had been enforced prior to mid-1974
- 1978: Commercial flights began

Ladakh represents the westernmost extension of the vast Tibetan Plateau, covering an altitude range from 2700 to 7650 m. Two major mountain chains, the mighty Himalayas and the Karakoram, demarcate its natural borders towards the south and the north respectively, with the Zaskar and Ladakh ranges running through it cut by the flow of the Indus. It constitutes over 80% of the Trans-Himalayan tract in India and is home to a unique assemblage of flora and fauna. The region is also known as a cold-desert and is characterized by severe, arid conditions. Temperature may drop to  $-40^{\circ}\text{C}$  in the long winter months between December and April and may rise to  $35^{\circ}\text{C}$  in the short summer season from July–August. The vegetation in the region is sparse and productivity peaks only in the short summer season. This harsh environment is thus home to only highly adaptable flora and fauna.

Several species of mammals are found in the region, such as the Blue Sheep (*Pseudois nayaur*), Tibetan Argali (*Ovis ammon hodgsoni*), Tibetan Wild Ass (*Equus kiang kiang*), Himalayan Marmot (*Marmota himalayana*), Red Fox (*Vulpes vulpes*), Tibetan Gazelle (*Procapra picticaudata*), Snow Leopard (*Uncia uncia*), Lynx (*Lynx isabellina*), Tibetan Wolf (*Canis lupus chanco*), Tibetan Antelope (*Pantholops hodgsoni*), and Wild Yak (*Bos grunniens*). Lying as it does to the North of the main Himalayan range, most of Ladakh falls in the Palearctic rather than the oriental region. Ladakh possesses virtually no natural forests, though along riverbanks and valleys some greenery does exist. In this extremely harsh environment the untrained eye would hardly see any evidence of wildlife at all. Animals, which have adapted to the rigorous conditions however, thrive on the minimal vegetation, poor shelter, rocky terrain and bitter cold. Nevertheless, most creatures, notably the ungulates, do migrate to lower regions in winter while others, like the brown bear and marmots, choose to hibernate. Ironically, at this altitude many animals suffer from "mountain sickness" because of the lack of oxygen! Their bodies however, seem to adapt to this condition, as the number of red blood corpuscles increases along with blood acidity. Most large mammals have a unique device for protection against the cold-- a highly insulated shaggy coat. They, therefore, have less need for shelter from the elements. This is perhaps why more species of goat and sheep live here in open country than anywhere else on earth.

The flora of Ladakh falls under the Alpine and High Alpine zones and many species recorded from the area are medicinal in nature. Some of the widely used medicinal plants are *Podophyllum hexandrum*, *Aconitum violaceum* and *Picrorhiza kurroa*.

### Some Mammals Described

**Yak** The largest animal of the cold desert is the yak (*dong*), a wild ox. First described only a century ago by the famous Russian naturalist-- explorer, N. M. Przewalski, the wild yak is definitely more imposing than its placid domestic counterpart. Immensely shaggy and weighing about a tone it has curved horns whose tips can be as wide apart as 90 cm. and measure 76 cm. over the curves. It can easily be distinguished by its long black hair, which is tinged with gray at the muzzle. Spending its summers at a height above 6,000 meters, in winter it moves in herds to the lakes, marshes and lower valleys

**Nyan** All the world's sheep are closely related and zoologists generally believe that each kind is only a variation of the same species. The largest and most magnificent of wild sheep is the nyan also called the Great Tibetan sheep (*Ovis ammon*). Roughly 200 of these antelope - like animals are found in the extreme eastern portion of Ladakh. The horns of the nyan measure up to 145 cm and the animal normally remains at a great height, rarely descending to a level below 4,500 meters.

**Urial** The urial or shapu, (*Ovis orientalis*), which weighs 85 Kg and has horns measuring up to 99 cm, is the smallest of the sheep in eastern Asia, its body just about as tall as its horns. These sheep prefer the grassy mountain slopes, usually at a height of 3,000 - 4,000 meters. The meeting of this species, as is the case with most sheep during December-January and they give birth to their young around May. The need for protection of the urial is great as they are within easy reach of hunters. Their numbers have been declining rapidly and it is estimated that there are no more than 500 in Ladakh, while a survey by the Wildlife Department of Jammu & Kashmir puts another population in the Markha and Rumbak valleys at only around 34-50.

The most common and wide spread of the sheep in the Ladakh region is the **Bharal** or the blue sheep (*Pseudois nayaur*). Found at an altitude of almost up to 6,000 meters, in summer they graze in huge herds on the rich and abundant grasses of the alpine meadows. Their brownish-gray coloring provides them with protective camouflage and as they often stand motionless they can be extremely difficult to spot but, when alarmed, bharal will bolt swiftly to safety. Strangely, bharal seem to bear some morphological traits of both sheep and goats. Typically **Bharal** are Sheep like in appearance; males are 3 feet at shoulder; slaty

blue body colour, black flank stripes and dark chests; cylindrical horns curve outwards; easily seen in high altitude parks of Ladakh; found in large herds of 80 and is an Important diet for Snow Leopard.

**Chiru:** The Chiru or **Tibetan Antelope** is an endangered animal. The fine wool from its underbelly was used to make Shahtoosh - an incredible soft woollen fibre made into shawls and stoles. Seen in the Aksai Chin region, Chiru are usually seen in small herds and are a protected species. Trade in Shahtoosh has also been banned by the government to ensure the survival of the Chiru. Typically, the **Tibetan Antelope** show following features – Adult males are 36 inches at shoulder and have dark (20-25 inches) horns. A black face, pale tawny fur with reddish tinges on the flanks and white rump patches short tail. Females do not have horns.

**Pika** - Found amongst rocks above tree line. Also known as mouse-hare. Has short muzzle, rounded ears and no visible tail.

**Marmot** – Lives in large colonies. Give loud whistles when sighting an intruder. Mostly encountered above timberline, Can be seen frequently in the outskirts of small towns. 2 feet long with a 5 inch tail; the long tailed marmot has tail one-third the total body length

**Wolf** – Seen in Zangskar in small packs. Usually trapped and shot by villagers

**Brown Bear** – Found in wetter alpine and sub-alpine meadows. Fur is sandy or reddish brown.

**Snow Leopard** – Found at 12000 feet and above. Smokey grey pelt with a tinge of yellow and open-rosetted spots. Ibex and Bharal are its main prey. Solitary. Zangskar is a stronghold for the Snow Leopard

**Lynx** – About the size of a large domestic cat and long tail

**Kiang** – Almost 4 feet at shoulder with reddish summer coat. Herds of 5-10 can be often spotted. We spotted these in herds at Tso Moriri Lake, Tso Kar and a loner at Pang.

**Tibetan Gazelle** – 2 feet at shoulder, s shaped horns 11-15 inches, pale, slaty gray coat with distinctive rump and buttocks. Singly or in small groups.

**Himalayan Tahr** – Large handsome goat; found on steepest of slopes; males stand 3 feet at shoulder and have large shaggy shoulder ruffs of straw colour; horns are about 12 inches and curve backwards

**Ibex** – Large horns and have a beard; males are 40 inches at shoulder; found on steep cliffs

**Argali** – 42 inches high; sandy coloured with massive horns and white rump patches; small herds; found near Hemis Gompa.

### AviFauna in Ladakh

Ladakh, dotted with some of the world's most unique and spectacular wetlands, also holds the distinction of being the only known breeding ground of **Black-necked Crane** (*Grus nigricollis*) in India. Most of these wetlands are of glacial origin and remain frozen from December to March. A unique tent dwelling tribe, the Changpas, move around the wetlands of Ladakh in search of pasturelands. Several species of birds also use these wetlands as their breeding grounds, such as **Bar-headed Goose** (*Anser indicus*), **Brown-headed Gull** (*Larus brunicephalus*), **Great-crested Grebe** (*Podiceps cristatus*), **Ruddy Shelduck** (*Tadorna ferruginea*), **Lesser Sand Plover** (*Charadrius mongolus*).

Home to some of the most unique avifaunal species, Ladakh's vast and remote landscape has drawn the attention of many researchers over the years. Some of them have had the opportunity and resources to conduct in-depth studies on site. Bird species typical of the Palearctic and the Indo-Malayan zoogeographic regions (Ladakh lies on the border between these two regions) have been documented. Also, eastern Ladakh lies within the home range of characteristic Tibetan bird species. Till date, more than 300 avifaunal species have been recorded in Ladakh. The unique habitat is an important breeding and feeding ground for birds during the short and dry summer months. It also serves as an important staging ground for birds while they are crossing

the mighty Himalayan range during the spring and winter migrations. On the basis of the time of occurrence, four bird groups have been identified in Ladakh (Pfi ster 2004). They are:

**Resident birds** – This group comprises of species adapted to high altitudes. They are known to consume seeds, shoots, fruits and insects (opportunistic feeders). They breed in summer primarily at very high elevations and retreat to the lower valley bottoms during the harsh winter months.

**Summer visiting birds** – Arriving in huge numbers from the South Asian plains and the Tibetan plateau, these birds use the high altitude steppes, wetlands, meadows and fi elds as breeding ground during April and May. As winter arrives, they return to their warmer wintering areas.

**Wintering birds** – October marks the arrival of the smallest group of birds from northern breeding grounds. Due to the harsh weather conditions, they are mainly found around villages and along the valley bottoms (especially near the Indus borders and sunny areas). They are known to return to their breeding ground in the months of April-May.

**Migrant birds** – This group is considered to be the largest and most diverse of all four. These birds can be observed for a short period of time in the region during the spring and autumn migrations.

According to records, the avifaunal species encountered during the two migration periods differ. Also, diversity in the migratory group is lesser during spring since Ladakh’s frozen lakes and marshes prompt wetland-dependent birds to opt for alternate migratory routes. Further, migratory birds frequent the central and eastern regions of Ladakh more than the western region.

### Sample Checklist of the Birds of Ladakh

S.NO.	SCIENTIFIC NAME	COMMON NAME
1	<i>Grus nigricollis</i>	Black-necked Crane
2	<i>Anthropoides virgo</i>	Demoiselle Crane
3	<i>Ciconia nigra</i>	Black Stork
4	<i>Egretta garzetta</i>	Little Egret
5	<i>Ardea cinerea</i>	Grey Heron
6	<i>Casmerodius albus</i>	Great Egret
7	<i>Bubulcus ibis</i>	Cattle Egret
8	<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron
9	<i>Ardeola grayii</i>	Indian Pond Heron
10	<i>Ixobrychus minutus</i>	Little Bittern
11	<i>Botaurus stellaris</i>	Great Bittern
12	<i>Phalacrocorax carbo</i>	Cormorant
13	<i>Plegadis falcinellus</i>	Glossy Ibis
14	<i>Ibidorhyncha struthersii</i>	Ibisbill
15	<i>Fulica atra</i>	Common Coot
16	<i>Gallinula chloropus</i>	Common Moorhen
17	<i>Rallus aquaticus</i>	Water Rail
18	<i>Gallinago stenura</i>	Pintail Snipe
19	<i>Gallinago solitaria</i>	Solitary Snipe
20	<i>Himantopus himantopus</i>	Black-winged Stilt
21	<i>Recurvirostra avosetta</i>	Pied Avocet
22	<i>Vanellus vanellus</i>	Northern Lapwing
23	<i>Charadrius leschenaultii</i>	Greater Sand Plover
24	<i>Charadrius mongolus</i>	Lesser Sand Plover
25	<i>Charadrius alexandrinus</i>	Kentish Plover
26	<i>Actitis hypoleucos</i>	Common Sandpiper
27	<i>Calidris minuta</i>	Little Stint
28	<i>Arenaria interpres</i>	Ruddy Turnstone
29	<i>Calidris temminckii</i>	Temminck’s Stint
30	<i>Calidris ferruginea</i>	Curlew Sandpiper

**HANDLING YOUR MONIES**

- Though most of your trip costs are paid for, you may need cash at hand for
  - Meals not included in the itinerary
  - Purchase some essentials
  - Tipping the various staff on the trip
  - Make small purchases, memorabilia
  - Rides like Bactrian Camel,
- PLEASE NOTE THAT FEW ESTABLISHMENTS IN LEH DO NOT ACCEPT CREDIT CARDS OF ANY SORT. IN CASE OF EMERGENCIES "STATE BANK OF INDIA" MAY ONLY MAKE A SMALL CASH ADVANCE ON YOUR SBI CREDIT CARD. Note that there is usually a very long queue at this ATM and can be frustrating to withdraw if you or your friends are in a big rush. There are other ATMs now, but these are usually crowded or even out of order. In case you need monies in emergencies, the ATMs cannot be depended upon entirely.
  - There is a J&K bank ATM in the main market. But the queues are frustrating. The ATM is open only during daytime due to security reasons. One may wonder if the ATM runs dry at your turn due to the pressure of churning out currency continuously. This machine surely scans cards from all over the world with demand being placed on rupees. Last time I tried using it, the ATM was down due to power shortage.
- There exists a Western Union Money Transfer branch but using this may become a real frustrating long process. In 2002 we could manage to transfer about Rs.36000/- from France in a day!
- Traveller's Cheques are accepted at only very few establishments but these may be shut just when you may require them the most. Again SBI may be a key in this.
- In September, 2004, there was a flash strike declared by the Muslim clergy in Leh due to the murder of an Imam in Iran.
- MORAL OF THE STORY: Carry enough cash in case you want to shop.

**WHAT WITH THE SHOPPING?**

- Cow bells are interesting pick but may cost Rs.500 upwards
- The Tibetan markets are worth a visit, but insist on bargains.
- Tibetan trinkets are best picked in bulk at the various exhibition grounds. Tiny Ganesha idols are available Rs.100/- upwards and lockets made of small silver prayer wheels and Dorjes are available Rs.150/- upwards.
- Prayer flags can be interesting and attractive for their colours.
- Other interesting items that can be brought here are Paper lamps, wall hangings.
- Pashmina shawls will almost always catch your attention but the price varies so greatly that you will immediately question the quality and their authenticity. It is easy to fall in a trap here and with very little knowledge about this material. SO BEWARE WHEN YOU BUY PASHMINA. We may take the help of a local to identify good and genuine Pashmina in case you are serious of picking one.
- You may find better and cheaper stuff if you visit the everyday market (read kirana shops) and explore the items used for religious ceremonies. We found some incense holders and hanging incense urns worth the money.
- Thangka paintings are available at reasonable price in the market at a location whom we have made friends with. Excellent and exquisitely decorated Thangkas can cost from Rs.750 upwards with some priced at Rs.20000/-. So are some other wall hangings.
- Woodwork and paper-mache is very fine but tends to be expensive and difficult to transport if not packed well.
- There are enough bakeries here and they serve fresh bread varieties. This can be a valuable alternative to everyday momos and chowmein.
- Fruits are cheap. Apricots, apples and peaches are abundant.
- There is one stall / restaurant (Neha Snacks) next to the post office in main town. This one serves some of the best Indian dishes. Parathas are cheap and filling, Samosas mind Blowing and the Gulab Jamuns mouth-Watering.