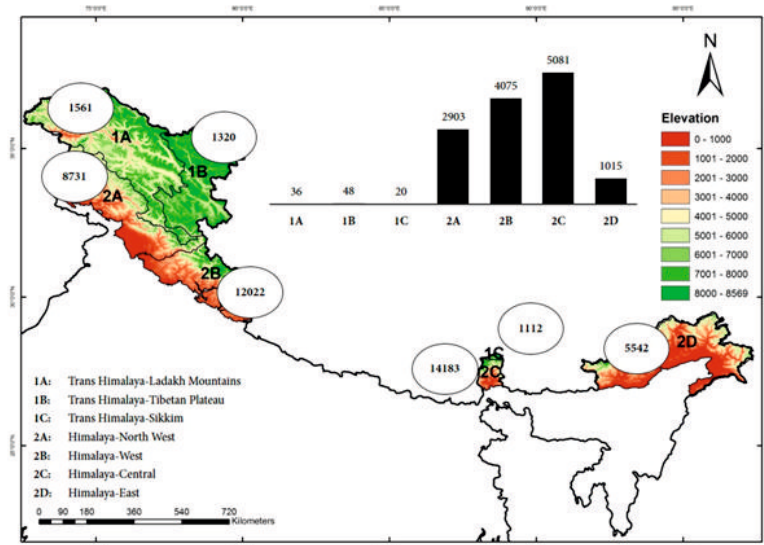


Map showing number of species in different biotic provinces of Indian Himalayan Region.



PROTECTED AREA NETWORK IN INDIAN HIMALAYA

Indian Himalaya possesses 131 PAs (20 National Parks, 71 Wildlife Sanctuaries, and 40 Conservation Reserves), 5 Tiger Reserves, 4 Biosphere Reserves, 3 Natural World Heritage sites and 7 Ramsar Wetland Sites. The percentage of protected area cover (9.6%) in the Himalaya is more than double in contrast to the countries (about 5%) and is almost same of the Western Ghats (Another Global Hotspot) (10%).

THREATENED VERTEBRATES

A total of 133 species of vertebrates are in threatened category, followed by 84 species are vulnerable, 35 species are endangered and 14 species are critically endangered.

There are about 43 species of mammals, 52 species of birds, 15 species of reptiles, 4 species of amphibians, and 19 species of fishes known from IH, under different threatened categories.

GAP AREAS AND WAY FORWARD

There is an urgent need to make extensive collection cum field surveys, applying standardized methods of data collection techniques to inventorize the fauna of Tans Himalayan bio-geographic zone and East Himalayan biotic province (Arunachal Pradesh) thoroughly.

Some of the phyla/groups such as Protozoa, Platyhelminthes, Rotifera, Acanthocephala, Annelida, Tardigrada, and Mollusca are still understudied from IH. Though phylum Arthropoda has been well represented taxonomically with about 26,392 species known from IH, minor insect

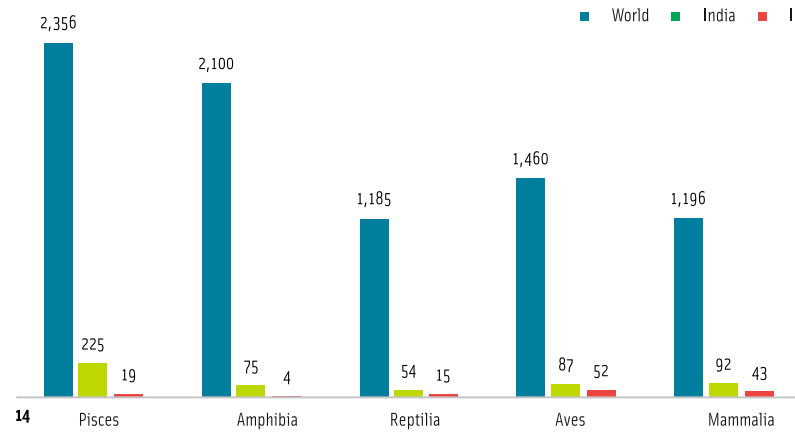
orders, like Archaeognatha, Zygentoma, Ephemeroptera, Phasmida, Embioptera, Psocoptera, Phthiraptera, Strepsiptera, Megaloptera, Raphidioptera, Siphonaptera, and Mecoptera needs proper taxonomic revisions based on the thorough study of the collection materials, deposited in the museums. There is scope for finding various new taxa even in the well-documented groups and the most diverse insect orders such as Coleoptera, Lepidoptera, Hymenoptera, Diptera, and Hemiptera.

Many of the species recorded from IH are still known from their type localities only, so there is an urgency to revisit and resurvey those collection localities for the evaluation of the status of those species.

The species-habitat interaction, systematic surveys and monitoring of species diversity in connection with the habitat degradation through standard sampling and analyzing methodologies, need to be addressed appropriately.

Regarding taxonomic studies, the fauna of IH needs attention, focusing more on advanced tools of identification and species delimitation such as the use of male genitalia and DNA barcodes for a better understanding of differences in the population, inhabiting in different ecological zones of the region.

Figure showing number of threatened species of vertebrates reported from Indian Himalayan Region.



Dr. Kailash Chandra,
Director
Zoological Survey of India
M-Block, New Alipore
Kolkata 700 053

t : 91-33-24006893
e: zsi.kolkata@gmail.com
w: www.zsi.gov.in



A BOOK ON FAUNAL DIVERSITY OF INDIAN HIMALAYA

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The book titled 'Faunal Diversity of Indian Himalaya' enumerates updated information on the faunal diversity of the two biogeographic zones of India, i.e., Trans Himalaya and Himalaya, which contributes 12.03% of total landmass of India, based on the exploration cum faunal-study data available with the Zoological Survey of India as well as from published literature. The range of species spread over the biotic provinces of Indian Himalaya is measured to find out the gap areas for future prospects. Eighty five taxonomic experts and specialists of various groups of fauna, from Protozoa to Mammalia, have actively collaborated and contributed 52 chapters on their respective field of interest and study. Altogether 30,377 species/subspecies of both Protozoa (372), and Animalia (30,005) have been listed from Indian Himalaya, representing about 30.16% of the total Indian fauna (1,00,762 species).

The Himalaya extends over 2,400 km length across India, Nepal, Bhutan, China, and Pakistan and holds the most climaxed peaks and bulkiest glaciers on the face of Earth. More than 30 peaks have the heights of 7,620 m or more, and the Mount Everest (8,848 m), K2 (8,611 m) and the Kangchenjunga (8,586 m) among them are the world's highest mountains.

The great chain of Himalayan Mountains in India extends from Jammu and Kashmir in the West to Arunachal Pradesh in the East, traversing six states, viz., Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, West Bengal (Darjeeling and Kalimpong), and Arunachal Pradesh.

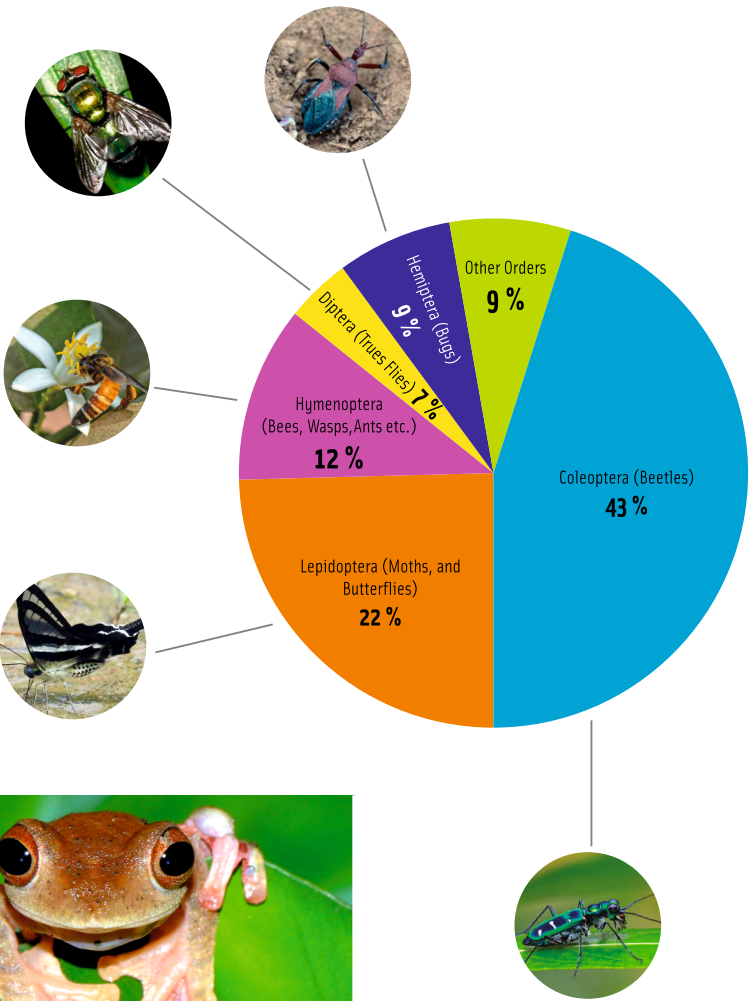
Based on the physiographic, climatic and eco-biological attributes, the Indian Himalaya comprised of two biogeographic zones, out of the ten such diverse zones known from India. These two zones, namely, 1. Trans Himalaya, and 2. Himalaya, together encompass a total area of 3,95,485 sq. km.



Regarding taxonomic richness, phylum Arthropoda with about 26,392 species/subspecies represents approximately 86.9% of the total diversity of Indian Himalaya further including 24,933 species/subspecies of hexapods, 1,075 species/subspecies of arachnids, 277 species/subspecies of crustaceans, 52 species/subspecies of millipedes, and 51 species/subspecies of centipedes.

FAUNAL RICHNESS OF INDIAN HIMALAYA

Altogether 30,377 species/subspecies of both Protozoa (372), and Animalia (30,005) have been listed from Indian Himalaya, representing about 30.16% of the total Indian fauna (1,00,762 species). Indian Himalaya has 280 species of mammals, 940 species of birds, 316 species of fishes, 200 species of reptiles, and 80 species of amphibians, accounting about 27.6% of the total vertebrate diversity of the country. Central Himalaya has the highest faunal diversity with 14,183 species/subspecies followed by West Himalaya (12,022), North-West Himalaya (8,731), East Himalaya (5,542), Ladakh Mountains (1,561), Tibetan Plateau (1,320), and Trans Himalaya- Sikkim (1,112).



THREATS AND CONSERVATION

Being one of the biodiversity hotspots of the world, IH has a surprisingly rich diversity of both flora (10,000 species) and fauna (30,377 species/subspecies), and among them, many are endemic to the region. India's fifth National Report to the Convention on Biological Diversity (2014) state that habitat loss, fragmentation and degradation through conversion of land use, agriculture, urbanisation and industrial development, invasive alien species and overexploitation of natural resources, including plants and animals, are amongst the major threats faced by biodiversity globally and in India.