

Herpetofauna of the Annapurna Conservation Area

अन्नपूर्ण संरक्षण क्षेत्रका उभयचर र सरिसृपहरू

Herpetofauna of the Annapurna Conservation Area - 2025



9789937188326



✍️ *Rishi Baral &
Dr. Rabin Kadariya*

National Trust for Nature Conservation Annapurna Conservation Area Project

Hariyo Kharka, Pokhara, P.O. Box: 183, Kaski, Nepal
Tel: +977-61-434102, 434802, Fax: +977-61-434203
Email: acap@ntnc.org.np | Website: www.ntnc.org.np

Snake Conservation Society, Nepal

Pokhara Metropolitan City, Ward No. 01,
Simpani, Kaski, Nepal.
Email: info@scsn.org.np
Website: www.scsn.org.np



Herpetofauna of the Annapurna Conservation Area

अन्नपूर्ण संरक्षण क्षेत्रका उभयचर र सरिसृपहरू

© Snake Conservation Society, Nepal and National Trust for Nature Conservation (NTNC), Annapurna Conservation Area Project (ACAP), 2025

All rights reserved

Any reproduction in full or in part must mention the title and credit.

Publisher

Snake Conservation Society, Nepal and National Trust for Nature Conservation (NTNC), Annapurna Conservation Area Project (ACAP)

Author

Rishi Baral & Dr. Rabin Kadariya

Citation:

Baral R., Kadariya R. 2025. Herpetofauna of the Annapurna Conservation Area. Snake Conservation Society, Nepal and National Trust for Nature Conservation (NTNC), Annapurna Conservation Area Project (ACAP), Nepal. pp 84.

First edition 500 Copies

ISBN: 9789937188326

Front Cover Photo: King Cobra (*Ophiophagus hannah*) by Rishi Baral

Back Cover Photo: Burmese Spadefoot Toad (*Megophrys parva*) by Suman Sapkota

Middle Photo: White Lipped Pit Viper (*Trimeresurus albolabris*) by Rishi Baral

Printing: Rojina Offset Press Bostolathar, Pokhara Tel.: 061-571070

Printed in Nepal

Herpetofauna of the Annapurna Conservation Area

अन्नपूर्ण संरक्षण क्षेत्रका उभयचर र सरिसृपहरू



**National Trust for Nature Conservation
Annapurna Conservation Area Project**

Hariyo Kharka, Pokhara, P.O. Box: 183, Kaski, Nepal
Tel: +977-61-434102, 434802, Fax: +977-61-434203
Email: acap@ntnc.org.np | Website: www.ntnc.org.np



Snake Conservation Society, Nepal

Pokhara Metropolitan City, Ward No. 01,
Simpani, Kaski, Nepal.
Email: info@scsn.org.np
Website: www.scsn.org.np

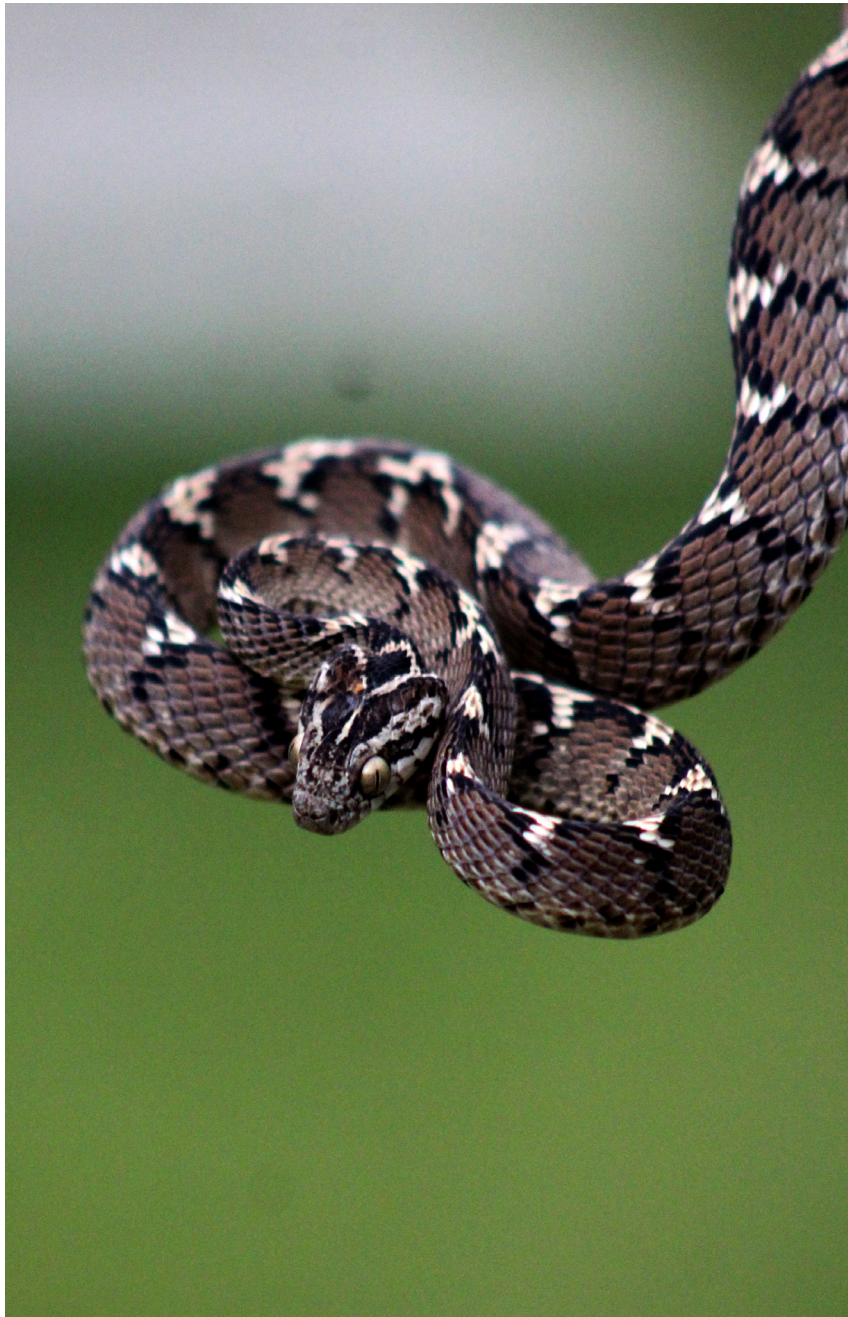
Contents

Forewords	
Abbreviations and Acronyms	
Acknowledgments	
Status of herpetofauna in Nepal	1
Status of Herpetofauna in the Annapurna Conservation Area	1
Annapurna Conservation Area Project (ACAP)	3-6
Herpetofauna recorded for the first time from the Annapurna Conservation Area and were new to Nepal	8
"Paha Hunting" and Ethnoherpetology relation: A threats to conserve amphibians in Annapurna	9-11
Threats to herpetofauna found in ACA	12
Order : Anura [Amphibians (Frogs and Toads)]	13-14
Nomenclature of the body parts of Frog and Toad	15
Order : Anura	
Bufonidae	16-17
Microhydidae	18
Megophryidae	19
Ranidae	20-21
Dicroglossidae	22-25
Rhacophoridae	26
Order: Squamata [Lizards, Skinks and Geckos]	27-28
Nomenclature of the body parts of Lizard	29
Order : Squamata/Sauria	
Agamidae	30-32
Geckonidae	33-35
Scincidae	36-38
Varanidae	39
Order: Squamata Snakes	40-42
Nomenclature of the body parts of Snakes	43

Typhlopidae	44
Boidae/ Pythonidae	45
Colubridae/Natricidae	46-57
Elapidae	58-60
Viperidae	61-64
References	65-67

Herpetofauna species excluded in the current book from previous list	69
IUCN Red list Categories	71
Appendix	72-73
IUCN Global status of herpetofauna of ACA	74
CITES Details	75
CITES listed Herpetofauna in ACA	76
Endemic specie from Annapurna	77
Snake bite and it's managment	78
Order and Family with Species	81
Activities done by NTNC-ACAP on Herpetofauna Conservation	84





Common Cat Snake (*Boiga trigonata*) © Rishi Baral



Government of Gandaki Province
Ministry of Forest and Environment



☎ : 061-467654, 4676699, 467670
 ✉ : moitfc4@gmail.com,
 info@mofesc.gandaki.gov.np

Ref No. : 2082/83

Date: 22 July, 2025

Foreword

Gandaki Province is exceptionally rich in wildlife and biodiversity, home to two important conservation areas: the Annapurna Conservation Area (ACA) and the Manaslu Conservation Area (MCA). Among these, the ACA stands out as Nepal's largest protected area, encompassing 35.10% of the total area of Gandaki Province. It spans 15 rural municipalities (formerly 57 Village Development Committees) and 87 wards across five districts: Kaski, Manang, Mustang, Lamjung, and Myagdi. This region is renowned globally as a premier trekking destination for both national and international visitors.

Established in 1986, the Annapurna Conservation Area Project (ACAP) has played a pioneering role in blending conservation with active community participation. Covering an area of 7,629 sq. km, ACA is adorned with majestic snowcapped peaks such as Annapurna I, Annapurna II, Machhapuchhre, Annapurna South, and Lamjung Himal. The region also boasts natural wonders like the world's deepest river gorge, the Kali Gandaki Valley; Nepal's highest glacial lake, Tilicho Lake (4,919 m); and the largest rhododendron forest in Ghorepani. These features not only define the beauty of ACA but also contribute to the ecological richness of Gandaki Province.

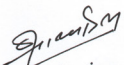
The Annapurna Conservation Area, with its breathtaking landscapes and rich biodiversity, is a sanctuary for countless species of flora and fauna. Its innovative, community-led Integrated Conservation and Development Programme (ICDP) stands as a model for participatory conservation—both nationally and globally.

This book on the herpetofauna of ACA highlights yet another facet of its ecological importance. The documentation of 91 species of herpetofauna (30 amphibians and 61 reptiles) demonstrates that this region is equally significant as a habitat for reptiles and amphibians. Such findings underscore ACA's role as a hotspot of herpetofaunal diversity in Nepal.

I am confident that this remarkable work will serve as a valuable resource for researchers, local communities, trekkers, and conservation organizations alike. It will further elevate the profile of ACA as an important area for herpetofaunal species conservation.

I sincerely commend the research team and the review members for their dedicated efforts in bringing this important book to fruition.

Thank you.


 Jiba Nath Paudel
 Province Secretary
 Secretary



King Cobra is only the snake who build their nest and female guard till the egg hatch and inhabiting the southern belt of ACA © Yam Bahadur Gurung /NTNC-ACAP



NATIONAL TRUST FOR NATURE CONSERVATION

Date: 29 July 2025

Foreword

The Annapurna Conservation Area (ACA) is Nepal's largest and first conservation area, spanning 7,629 sq. km-about 5% of the country's total area and 35% of Gandaki Province. Managed by the National Trust for Nature Conservation (NTNC), the ACA stretches across five districts: Kaski, Manang, Mustang, Lamjung, and Myagdi.

The Annapurna Conservation Area Project (ACAP) began as a pilot initiative in 1986 in Ghandruk (Kaski), where it demonstrated the effectiveness of community-driven conservation. This success laid the foundation for ACA to become a national and international model of participatory conservation, pioneered through its Integrated Conservation and Development Programme (ICDP).

Today, ACA is home to more than 75,000 people representing diverse ethnic, cultural, and linguistic groups. Ecologically, it is equally rich-harboring 1,856 species of flowering plants, 128 species of mammals, 523 species of birds, and 392 species of butterflies. To manage this vast landscape, NTNC has established 24 field offices, including its headquarters in Pokhara, seven Unit Conservation Offices (UCOs), one museum, two site offices, four tourist permit counters, and nine check posts and information centers. UCOs in Lomangthang, Jomsom, and Manang oversee the northern belts, while those in Ghandruk, Lwang, Sikles, and Bhujung manage the southern belts.

ACA covers 22 distinct forest types with ecosystems ranging from subtropical Sal forests to sub-alpine meadows and trans-Himalayan cold deserts-providing critical habitats for countless species. Remarkably, ACA has recorded four herpetofaunal species new to Nepal: *Scutiger boulengeri* (Boulenger's high-altitude toad), *Nanorana rostandi* (Mustang frog/Rostand's paa frog), *Cyrtodactylus annapurnaensis* (Annapurna bent-toed gecko), and *Protobothrops himalayanus* (Himalayan pit viper). In addition, eight species (four frogs, two geckos, and two skinks) are endemic to Nepal, underscoring ACA's global importance for herpetofaunal diversity.

I extend my heartfelt gratitude and congratulations to all researchers, reviewers, and the compilation team for their dedication in producing this work. I am confident that this publication will serve as a valuable resource for organizations, agencies, and individuals dedicated to conserving Nepal's herpetofauna and their habitats.

Dr. Naresh Subedi
Member Secretary



Abbreviations And Acronyms

ACA	Annapurna Conservation Area
ACAP	Annapurna Conservation Area Project
BCN	Bird Conservation Nepal
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DNPWC	Department of National Parks and Wildlife Conservation
VDC	Village Development Committee
RM	Rural Municipality
NTNC	National Trust for Nature Conservation
BCC	Biodiversity Conservation Centre
BCP	Bardiya Conservation Program
GCA	Gaurishankar Conservation Area
ICDP	Integrated Conservation and Development Programme
IUCN	International Union for Conservation of Nature and Natural Resources
MCA	Manaslu Conservation Area
NP	National Park
OIC	Office In-charge
PA	Protected Area
SCP	Suklaphanta Conservation Program
UCO	Unit Conservation Office
SCS	Snake Conservation Society
FON	Friends of Nature

Acknowledgements

I would like to thank the following individuals and organizations for their help and support during the preparation of this book.

National Trust for Conservation - Annapurna Conservation Area Project, Headquarters, Pokhara: for providing the resources and research opportunity till the final stage.

Snake Conservation Society, Nepal: for providing feedback on this book upto its final stage.

NTNC-ACAP Office and Personnel: Raj Kumar Gurung, Dr. Rajan Paudel, Santosh Sherchan, Yam Bahadur Gurung, Rajesh Prasad Gupta, Tulsi Prasad Dahal, Babulal Tiruwa, Utsav Neupane, Pramod Raj Regmi, Umesh Paudel, Surendra Pariyar, Narendra Kumar Shrestha, Pooja Khanal, Bijaya Gurung, Suresh Thapa, Shree Krishna Neupane, Pawan Kumar Yadav, Basudev Neupane, Bishnu Prasad Poudel, Lekhnath Gautam, Khushi Kurmi, Dhan Kumari Gurung, Pratima Dhunganga, Om Bahadur Gurung, Netra Lal Mahatara : for support during field work and for sharing checklists.

Likewise, I would like to thank Prof. Karan Bahadur Shah, Dr. Ramji Gautam, and Raju Acharya, as well as Dr. Paras Bikram Singh, for their valuable feedback and suggestions on this book. I am also grateful to Sagar Pandey, Akash Bhandari, Arson Chhetri, Vidhyaman Thapa, Tashi R. Ghale, and the organizations Friends of Nature (FON) Nepal, Snake Conservation Society Nepal (SCS Nepal), Project Abroad Nepal, and the Prithvi Narayan Campus team for providing the necessary information and support.

Special thanks to all photographer who contribute photograph to this book. Photo by Suman Sapkota, Yam Bahadur Gurung, David Emmett, Sherman Gurung, Shiva Purja, Ramji Gautam, Yadav Ghimirey, Basudev Neupane, Santosh Bhatarai, Manju Mahatara (Anjel Mohi), Anita Gyawali, Keshab Raj Sapkota, Kalyan Baral, Bikash Singh Lama. Prekshya Gurung, Abhisek Sapkota, Dil Pun, Ayush Maharjan, Juna Chhanhyal, Late. Mahendra Prasad Katila, Promod Raj Regmi.

Rojina Offset Press, Bastolathar, Pokhara: for design and layout.

Marbled Toad/Assam Toad (*Firouzophrynus Stomaticus*) © Rishi Baral

अन्नपूर्ण संरक्षण क्षेत्रमा पाइने अविषालु सर्पहरू



अन्नपूर्ण संरक्षण क्षेत्रमा पाइने विषालु सर्पहरू



Status of Herpetofauna in Nepal

Herpetofauna refers to species of reptiles and amphibians, including snakes, lizards, frogs, turtles, crocodilians, and salamanders. Amphibians and reptiles are considered important faunal groups due to their unique ecological roles, such as regulating insect populations and serving as prey for other wildlife (Chaudhary, 1998; Shrestha, 2001). They play significant roles in food chains and ecosystem functioning. Globally, there are over 11,904 species of reptiles and 7,899 species of amphibians. These animals are ectothermic (cold-blooded), with body temperatures that vary according to the environment.

In Nepal, herpetofauna are distributed across a wide altitudinal range, from 80 meters to 5,490 meters above sea level. Currently, Nepal is known to host 200 species of herpetofauna, including 57 species of amphibians and 143 species of reptiles, with 19 species endemic to the country (Rai et al., 2022).

Amphibians: Worldwide, amphibians number around 7,899 species, including approximately 6,975 anurans (frogs and toads), 71 caudatans (newts and salamanders), and 208 gymnophionans (caecilians). In Nepal, there are 57 amphibian species—comprising 47 frogs, 4 toads, 1 newt, and 1 caecilian. Among these, 2 species are listed under CITES Appendix II, indicating regulated trade due to their conservation status.

Reptiles:

Globally, there are about 11,904 species of reptiles (The Reptile Database, July 2025). Nepal hosts 143 reptile species, including snakes, lizards, turtles, and crocodilians. Of these, 29 species are listed under CITES Appendices, with 8 species in Appendix I (strictly protected) and 21 species in Appendix II (regulated trade).

Status of herpetofauna in the Annapurna Conservation Area

This book is based on research and surveys of amphibians and reptiles conducted by NTNC-ACAP and its Unit Conservation Offices. Many records are derived from opportunistic observations made during routine forest patrolling and regular conservation program activities. In addition, literature records, photographs, and rescue data are incorporated as references. The report titled Biodiversity Conservation Data, prepared by the Biodiversity Conservation Data Project team and submitted to the King Mahendra Trust for Nature Conservation (KMTNC) in July 1994, serves as a primary reference.

A total of 91 species of herpetofauna are recorded in the Annapurna Conservation Area (ACA), including 61 species of reptiles and 30 species of amphibians. These belong to 2 orders and 15 families. Among the most species-rich groups are the amphibian family Dicroglossidae with 13 species, and the reptile family Colubridae with 25 species. Of Nepal's three nationally prioritized protected herpetofauna species, one is found in ACA.

Furthermore, five species found in ACA are listed in the CITES appendices (Appendix I = 1 species, Appendix II = 4 species), including one amphibian and four reptiles. Two species included in previous checklists are excluded from this book due to inconsistencies in scientific naming and distribution records.

Of the 61 reptile species, 23 species are lizards, skinks, and geckos, and 38 species are snakes. Notably, four species discovered from the ACA are new records for Nepal: Boulenger's High Altitude Toad (*Scutiger boulengeri*), Mustang Frog / Rostand's Paha Frog (*Nanorana rostandi*), Annapurna Bent-toed Gecko (*Cyrtodactylus annapurnaensis*), Himalayan Pit Viper (*Protobothrops himalayanus*)

In total, eight species of herpetofauna recorded in ACA are endemic to Nepal, comprising four amphibians and four reptiles.

At the global level, six species found in ACA are listed as Vulnerable (VU), including *Duttaphrynus microtypum*, *Scutiger nepalensis*, *Nanorana rostandi*, *Python bivittatus*, and *Ophiophagus hannah*. In addition, *Nanorana ercepeae* is listed as Near Threatened (NT), while *Liopeltis rappi* and *Boiga multifasciata* are classified as Data Deficient (DD).

This book presents an updated checklist of herpetofauna in the Annapurna Conservation Area, compiled from diverse data sources. Further research and systematic surveys are likely to reveal additional species from this biologically rich region.



Seriously Injured King Cobra (*Ophiophagus hannah*) from Lumley Kaski © Rishi Baral

Herpetofauna of the Annapurna Conservation Area

Annapurna Conservation Area Project (ACAP)

Launched in 1986, the Annapurna Conservation Area Project (ACAP) is the largest undertaking of NTNC and also the first Conservation Area and largest protected area in Nepal. It covers an area of 7,629 sq. km. and is home to over 75,000 residents of different cultural and linguistic groups. Annapurna Conservation Area (ACA) is rich in biodiversity and is a treasure house for 1,856 species of plants, 128 wild mammals (recent), 523 birds (recent), 392 butterflies, 61 reptiles and 30 amphibians.

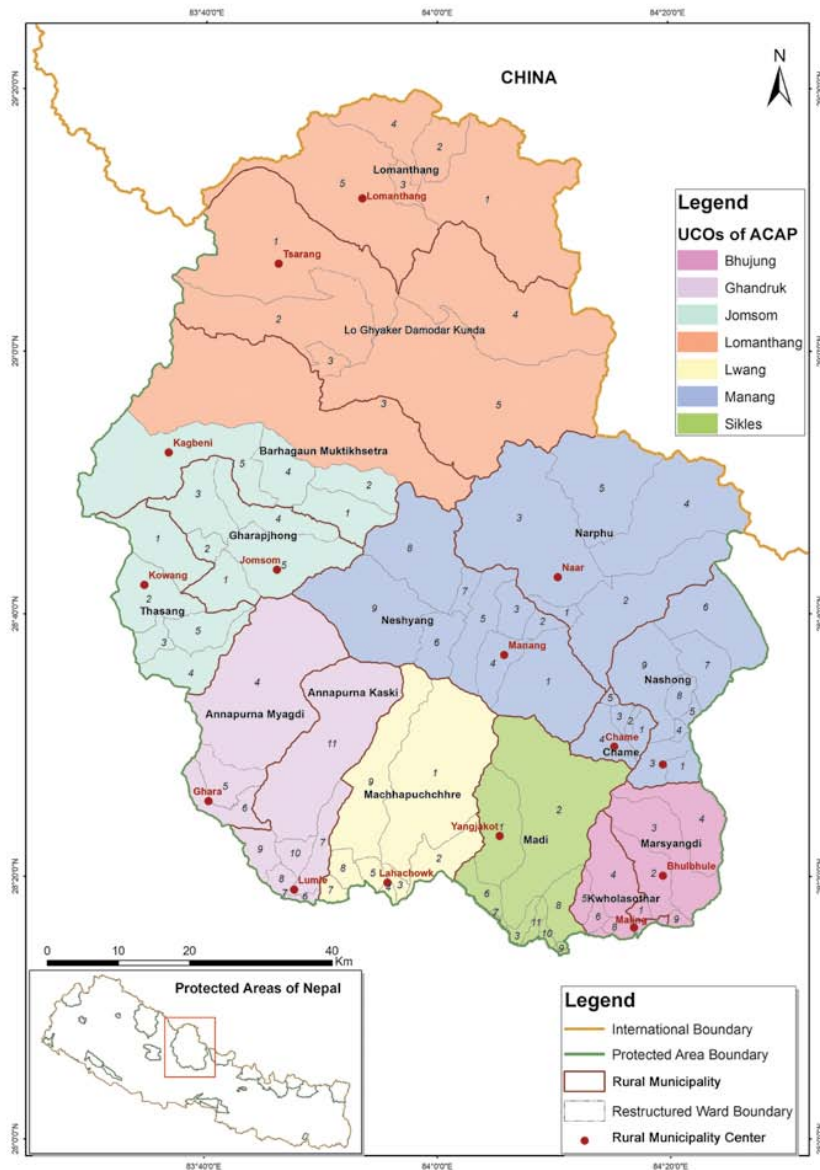
There are several features that make the Annapurna region a unique place in the world. It contains world's deepest river valley - Kali Gandaki Valley, a valley with fossils from the Tethys Sea dating back 60 million years ago. The region contains the world's largest rhododendron forest in Ghorepani. Tilicho lake, located in Manang - north of Annapurna massif, is the world's highest large altitude fresh water lake of its size.

The biological diversity of the Annapurna region is equally rivaled by its cultural diversity. Gurung and Magar are the dominant groups in the south, whereas Thakali, Manange and Loba are dominant in the north. Each of these groups speaks their own dalit, and have unique cultures and traditions. Besides, there are also Brahmin, Chhetri and other occupational castes although in comparatively smaller numbers. Hindu, Buddhist and pre-Buddhist Bon religions along with a mixture of all these are prevalent across the region. The local people reside in the 15 Rural Municipalities of 5 districts and 87 wards (Previous 57 Village Development Committees (VDCs) of the Annapurna Conservation Area (ACA). The natural and cultural features of ACA have made it the most popular trekking destination in the country, drawing more than 30 percent of the country's total trekkers. Tourism, over the years, has been firmly established as one of the most important and competitive sectors of the local economy. There are over 1,000 lodges, teashops and hundreds of other subsidiary services to cater to the thousands of trekkers, pilgrims and their support staff.

The soaring number of visitors, whose fuel wood consumption is twice as much as that of local people, has exerted immense pressure on forest resources already stressed by the growing local population. Similarly, litter, particularly the waste produced by trekkers and hoteliers, is another major concern. It is estimated that an average trekking group of 15 people generates about 15 kgs of non-biodegradable and non-burnable garbage in a 10 days trek, producing tons of garbage in the Annapurna region annually.

Herpetofauna of the Annapurna Conservation Area

WARD BOUNDARY OF ANNAPURNA CONSERVATION AREA



The multifaceted problems of ACA have been addressed through an integrated, community based conservation and development approach, an experimental model which has been in the vanguard of promoting the concepts of “Conservation Area” through an “Integrated Conservation and Development Programme” approach in the country and abroad. ACAP was first tested as a pilot Program in the Ghandruk Village Development Committee (VDC) in 1986. After being notified in the Gazette as a “Conservation Area” in 1992, ACAP’s program covered the entire area.

Additionally, ACA is the first protected area that has allowed local resident to live within the boundaries as well as own their private property and maintain their traditional rights and access to the use of natural resources. It is also the first protected area in Nepal, which has refrained from using army assistance to protect the dwindling natural resource base on which the region depends. Instead, it invests whatever financial resources available for community development and social capital building in the region. NTNC receives no regular funding support from the government for the operation of ACAP, but has been granted the right to collect entry fees from visiting trekkers. The revenue is ploughed back to implement conservation and development activities in ACA. Additional funds are raised from national and international donors and funds earned in the more popular areas are also spend in the less popular ones. This is an exemplary achievement of a Non-Government Institution’s ability to manage a significant portion of the protected area system in Nepal.

In order to manage ACA more effectively, it has been divided into 7 unit conservation offices - Jomsom, Manang and Lo-Manthang in the trans-Himalayan region and Bhujung, Sikles, Ghandruk, and Lwang on the southern flank of the Annapurna range. The focus of Jomsom, Manang and Ghandruk, which are among the most popular trekking destinations, is on integrated tourism management and other development activities that benefit the local communities and the environment. The Program priorities for Bhujung, Sikles and Lwang are poverty alleviation and integrated agriculture development and agro-forestry. Similarly, while the focus in upper Mustang, which came under the jurisdiction of ACA in 1992, has been on managing controlled tourism on a sustainable basis, and promoting heritage conservation which is the major tourist attraction. The Conservation Education and Extension Program is being implemented in the entire region of ACA and forms the backbone of all its endeavors.

The first management mandate given by the Government to NTNC to manage ACA ended in 2002. The Government has extended given management authority to NTNC. NTNC believes that areas such as the ACA will ultimately have to be managed by the local people themselves in perpetuity. Therefore, the focus is on building local capacity, both at the institutional and individual levels, to meet all

the conservation and development aspirations of the people.

Goal

"To achieve sustained balance between nature conservation and socio-economic improvement in the Annapurna Conservation Area (ACA) and thereby assist the National Trust for Nature Conservation in achieving its goal."

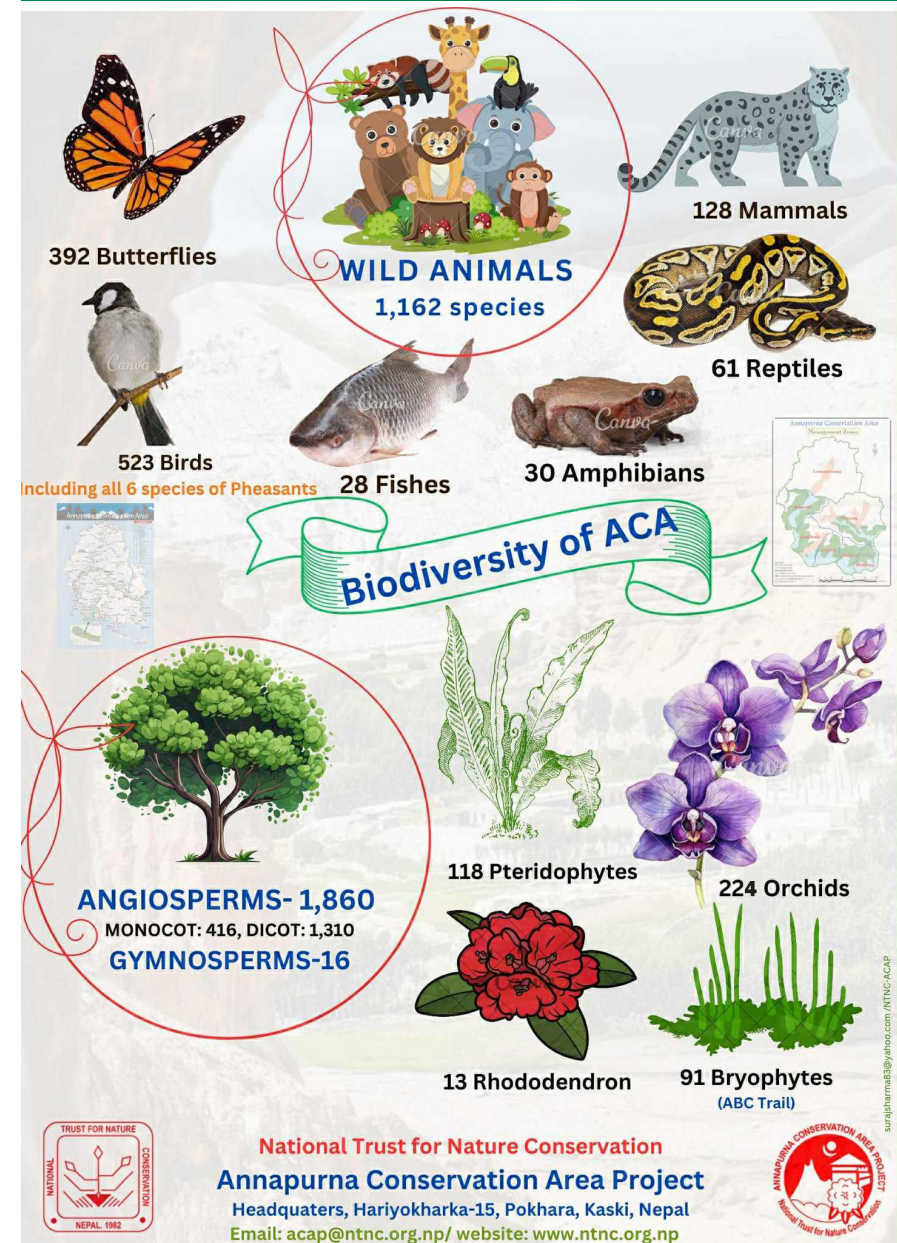
Objectives

- Conserve the natural resources of ACA for the benefit of present and future generations.
- Bring sustainable social and economic development to the local people.
- Develop tourism in such a way that it will have minimum negative impact on the natural, socio-cultural and economic environments.



Defencing behavior of Common Asian Toad (*Duttaphrynus melanostictus*) © Rishi Baral

Biodiversity of ACA



Herpetofauna recorded from the Annapurna Conservation Area and were new to Nepal



Boulenger's High Altitude Toad (*Scutiger boulengeri*), Upper Mustang © Rishi Baral



Mustang Frog/ Rostand's Paha Frog (*Nanorana rostandi*) © David Emmett



Annapurna Bent-toed Gecko (*Cyrtodactylus annapurnaensis*) © Rishi Baral



Protobothrops himalayanus © Rishi Baral

Herpetofauna of the Annapurna Conservation Area

"Paha Hunting" and Ethnoherpetology relation: A threats to conserve amphibians in Annapurna



Liebig's Frog / Liebig's Paha Frog (*Nanorana liebighii*) © Suman Sapkota

Amphibians and reptiles in Nepal face severe threats of extinction. Major threats include rapid deforestation, soil and water pollution, land-use changes, habitat loss, and the widespread use of pesticides. The construction of hydropower dams, which alters the natural flow of rivers, also negatively impacts herpetofauna. Additionally, people utilize various natural resources, including herpetofauna, for food, medicine, and other traditional purposes. Amphibians and reptiles are used in Nepal for food and in traditional medicinal practices.

Indigenous communities around the world traditionally consume reptiles and

Herpetofauna of the Annapurna Conservation Area

amphibians as regular sources of protein or luxury food items, a practice that continues to this day. However, in Nepal, there is limited documentation of the use of amphibians and reptiles for food and medicinal purposes (Shrestha, 1981 & 1982; Nanhoe and Ouboter, 1987; Shah and Giri, 1992; Shah, 1995; Shah & Tiwari, 2004). A study by Shah (1997) explores the traditional and modern uses of herpetofauna across different ethnic communities in Nepal. In



Dried Paha for medicine purpose © Rishi Baral

some communities, there are practices of consuming smoked and dried meat of frogs such as Paha and Amolops during specific seasons.

Paha hunting is often practiced as a group recreational activity in the mountainous regions of Nepal. The collection is primarily for food, but it is also believed to have medicinal value. Ethnic groups such as the Magar, Rai, Gurung, Jirel, and others across different regions participate in this practice (Shrestha B & Gurung M.B, 2019). In the high mountain regions, communities consume manpaha (*Nanorana liebigii*) and pirepaha (*Amolops marmoratus* and *Amolops formosus*) both as food and for medicinal purposes. Despite being an illegal activity, many people engage in the mass collection of frogs.

The skinned meat of Paha and Amolops frogs (locally known as pirepaha or hariyopaha) is considered tastier than mutton or chicken. The fresh or dried eggs of manpaha (*Nanorana liebigii*) are believed to treat fresh wounds. Meat consumption is believed to restore strength and vitality, especially for pregnant women, nursing mothers, and individuals recovering from illness. Frog meat and its by-products are used to treat typhoid, diarrhea, dysentery, stomachache, headache, fever, cough, cold, urinary problems, asthma, and more. The frog skin is applied as an antiseptic for wounds, and crushed bones are used to treat fractures. Dried eggs are believed to cure impotency (Shrestha B & Gurung M.B, 2019).

A soup prepared from dried Paha, without salt or spices, is used to treat dysentery, cough, cold, fever, and vomiting. Crushed dried Paha powder mixed with water is taken orally to cure dysentery and also used topically to heal fresh wounds (Shah & Tiwari, 2004). The medicinal value of Paha is believed to increase if collected on a Tuesday or Saturday. The meat of the common bullfrog is fed to children suffering from rickets, and its dried meat is used to treat marasmus (malnutrition) and joint pain. In another practice, 4–10 live manpaha frogs are



Paha drying on sun © Sherman Gurung

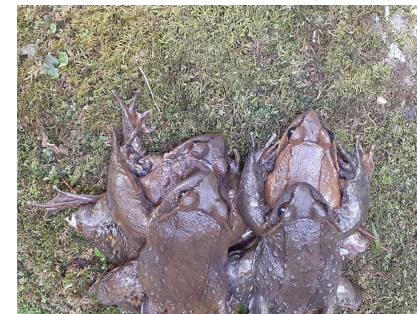


Paha chopping for meat © UCO Sikles

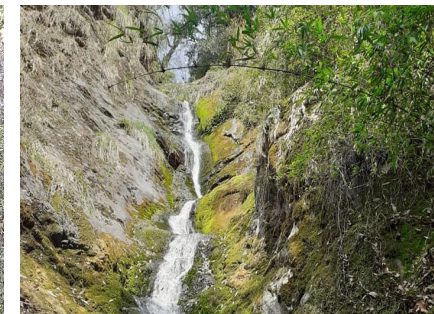
kept in a vessel of water for 2–3 days, and the water in which they urinate is consumed orally to treat measles and tuberculosis (Shah & Tiwari, 2004).

In the southern part of the Annapurna Conservation Area (ACA), people collect Paha during the rainy season. They hunt frogs using torches, by flipping rocks, damming streams, and placing handmade bamboo snares along riverbanks. During heavy rains at night, the muddy floodwater sweeps Paha species downstream, where they become trapped in the snares. Early in the morning, people check their traps, collect the frogs, and prepare them for consumption. This traditional activity is widely known as Paha hunting in the hills and mountains of Nepal.

The southern part of ACA contains many small rivers and waterfalls that serve



Collection of Paha © Shiva Purja / Narchyang, Myagdi



River where people collect Paha species for meat © Shiva Purja / Narchyang, Myagdi

as hotspots for Paha hunting. Areas like Narchyang village (Myagdi), Ghandruk, Lwang, Sikles (Kaski), and Bhujung village (Lamjung) are especially known for this practice. Although Paha hunting originates from cultural and traditional beliefs, it remains an illegal activity under national law and poses a significant threat to amphibian conservation in the region.

THREATS TO HERPETOFAUNA IN ACA



Green pit viper was killed by people by lack of education © Rishi Baral



Trinket was killed by people by lack of education © Rishi Baral



Paha hunting © NTNC-ACAP / UCO-Sikles



Road Killed © Rishi Baral



A child killed the copper headed trinket due to lack of education © Rishi Baral



King Cobra Nest Damage © Rishi Baral

ORDER: ANURA AMPHIBIANS (Frogs and Toads)



Common Asian Toad in its natural habitat inside Annapurna © Suman Sapkota

ORDER: ANURA AMPHIBIANS (Frogs and Toads)

Frogs and Toads are amphibians that lose their tails after the larval or tadpole stage. Their group name, Anura, literally means “tailless.” Most species are nocturnal. Toads typically have dull, dry, wrinkled, warty, or pimply skin and move slowly, often walking laboriously or making short hops. In contrast, common frogs have moist, bright, and smooth skin (Shah & Tiwari, 2004).

Globally, there are about 7,899 species of amphibians, including 6,975 anurans (frogs and toads), 71 caudatans (newts and salamanders), and 208 gymnophionans (caecilians). In Nepal, there are currently 57 amphibian species, comprising 47 frogs, 4 toads, 1 newt, and 1 caecilian. Among these, 2 species are listed in CITES Appendix II.

Several families with interesting and distinctive features are found in the Annapurna region:

Family Bufo

This family includes true toads. In Nepal, Bufo is represented by a single genus with 4 species, all of which occur in the Annapurna region. These toads have a short, robust body and thick, glandular skin covered with numerous warts. They have a wide distribution across Nepal, from the Terai lowlands to high mountain areas.

Family Microhylidae

Known as narrow-mouthed frogs, Microhylidae consists of 3 genera and 5 species in Nepal, with 1 species recorded in Annapurna. These are generally small frogs, some exhibiting arboreal habits. Notably, *Microhyla ornata*, one of the smallest frogs in Nepal, is found in this region.

Family Megophryidae

Represented by 2 genera and 6 species in Nepal, 4 species occur in the Annapurna region. These frogs are small to medium-sized and typically inhabit elevations ranging from 1,000 m to over 5,000 m. They are large-headed, forest-floor dwellers known for their distinctive vocalizations.

Family Ranidae

The largest frog family in Nepal, Ranidae includes diverse species with significant ecological, economic, and cultural importance. They are distributed from the lowland Terai to high mountainous zones. This family contains 5 species in the Annapurna area.

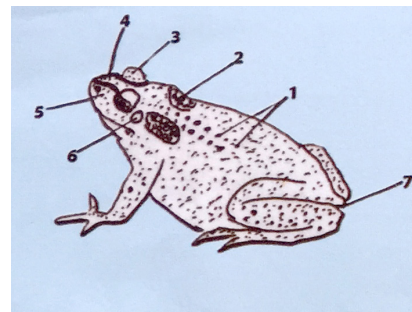
Family Dicroglossidae

Once included within Ranidae, Dicroglossidae is now recognized as a separate family and includes some of Nepal's largest frogs, such as *Nanorana liebigii*. This family contains 13 species in the Annapurna area, making it the most species-rich amphibian family in the region.

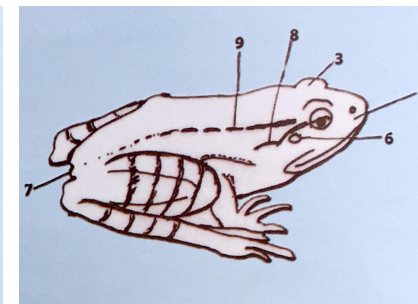
Family Rhacophoridae

Comprising 3 genera and 6 species in Nepal, 3 species are recorded in the Annapurna region. This family includes some of Nepal's most beautiful tree frogs, which are highly arboreal. Species in genera like *Polypedates* and *Rhacophorus* lay their eggs in foam nests attached to trees overhanging water bodies, allowing tadpoles to drop into the water after hatching.

NOMENCLATURE OF THE BODY PARTS OF Frog AND Toad



[A] External features of a toad

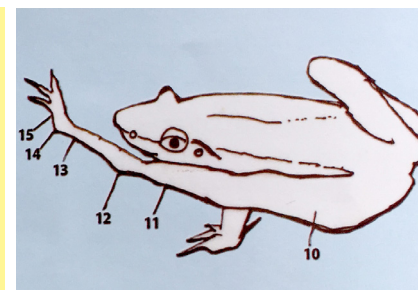


[B] External features of a frog

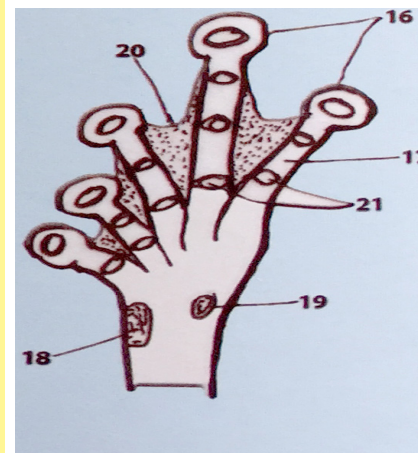
1. Warts
2. Parotoid gland
3. Eyelid
4. Cornified or Horny ridges
5. Canthus rostralis
6. Tympanum (Ear-drum)
7. Vent
8. Supra-tympanic fold
9. Dorso-lateral fold
10. Thigh
11. Tibia
12. Position of tibiotarsal articulation when limb is kept parallel to body
13. Tarsus
14. Joint between the ankle and foot
15. Foot
16. Adhesive discs
17. Segment of the toe
18. Inner metatarsal tubercle
19. Outer metatarsal tubercle
20. Web of toe
21. Subarticular tubercles

Source:

Shah, K.B & Tiwari, S. (2004)



[C] Method of determining hind leg extension



[D] Details of the hind foot of a frog

ORDER: ANURA

Family: Bufonidae



Common Asian Toad (*Duttaphrynus melanostictus*) © Rishi Baral



Common Asian Toad (*Duttaphrynus melanostictus*) © Suman Sapkota



Himalayan Toad (*Duttaphrynus himalayanus*) © Suman Sapkota

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
AMPHIBIANS					
ORDER: ANURA					
	Family: Bufonidae				
1	<i>Duttaphrynus melanostictus</i> (Schneider, 1799)	Common Asian Toad / Black-spined Toad	कालो काँडे खसे भ्यागुतो	Least Concern	
2	<i>Duttaphrynus himalayanus</i> (Günther, 1864)	Himalyan Toad	हिमाली खसे भ्यागुतो	Least Concern	
3	<i>Duttaphrynus microtypanum</i> (Boulenger, 1882)	Small-eared Toad / Southern Hill Toad	सानो काने खसे भ्याकुतो	Vulnerable 1ab(iii)+2ab(iii)	
4	<i>Firouzophrynus stomaticus</i> (Lütken, 1864)	Marbled Toad / Assam Toad	मटेंगो खसे भ्यागुतो	Least Concern	

Herpetofauna of the Annapurna Conservation Area

Family: Microhylidae



Ornate Narrow-mouthed Frog (*Microhyla ornate*) © Suman Sapkota

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Microhylidae					
5	<i>Microhyla ornate</i> (Duméril & Bibron, 1841)	Ant Frog / Ornate Narrow-mouthed Frog/ Black-throated Frog/ Ornate rice Frog	थुतुने भ्यागुतो / मुख चुचे/पाग्रे भ्यागुतो / ब्यांग	Least Concern	

Family: Megophryidae



Boulenger's High Altitude Toad (*Scutiger boulengeri*) found from Chhonup, Upper Mustang
© Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Megophryidae					
6	<i>Megophrys parva</i> (Boulenger, 1893)	Concave-crowned Horned Toad/ Burmese spadefoot Toad	फरी भ्यागुतो	Least Concern	
7	<i>Megophrys major</i> (Boulenger, 1908)	Glandular Horned Toad/ White-lipped Horned Toad	दुलो सिडे भ्यागुता	Least Concern	
8	<i>Scutiger boulengeri</i> (Bedriaga, 1898)	Boulenger's High Altitude Toad / Boulenger's lazy Toad	बोल्लिगर उच्च हिमाली खस्रे भ्यागुतो	Least Concern	Endemic
9	<i>Scutiger nepalensis</i> Dubois, 1974	Nepal High altitude Toad / Khaptad pelobatid Toad/ Nepal Lazy Toad	नेपाली उच्च हिमाली खस्रे भ्यागुतो	Vulnerable B2ab(iii)	Endemic
10	<i>Scutiger sikkimensis</i> (Blyth, 1854)	Sikkimese pelobatid Toad / Sikkim high altitude Toad / Sikkim Spade Foot Frog	सिक्किमे उच्च हिमाली खस्रे भ्यागुतो	Least Concern	

Family: Ranidae



Beautiful stream Frog (*Amolops formosus*) © Suman Sapkota



Marbled Cascade Frog (*Amolops marmoratus*) © Ramji Gautam



Mahabharat Torrent Frog (*Amolops mahabharatensis*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Ranidae					
11	<i>Amolops formosus</i> (Günther, 1875)	Beautiful stream Frog / Assam Cascade Frog	हरियो पाहा / सिस्ने पाहा	Least Concern	
12	<i>Amolops marmoratus</i> (Blyth, 1855)	Marbled Cascade Frog / Marbled sucker Frog / Meghalaya stream Frog	मन पाहा / सिन्ने ५ पाहा / डल्ले पानी भ्यागुतो	Least Concern	
13	<i>Amolops monticola</i> (Anderson, 1871)	Cascade Frog/ Mountain Cascade Frog/ Mountain Stream Frog/ Mountain Sucker Frog/ Mountain Torrent Frog	पहाडी पानी भ्यागुतो / सुर पतेक	Least Concern	
14	<i>Amolops mahabharatensis</i> (Khaliwada, Shu, Wang, Zhao, Xie & Jiang, 2020)	Mahabharat Torrent Frog	महाभारत भ्यागुतो	Vulnerable B1ab(iii,v)	

Family: Dicroglossidae



Sikkimese Frog (*Ombrana/Chaparana sikimensis*) © Suman Sapkota



Indian Bull Frog (*Hoplobatrachus tigerinus*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Dicroglossidae					
15	<i>Ombrana/Chaparana sikimensis</i> (Jerdon, 1870)	Sikkimese / Sikkim Asian Frog	रातो पाहा / पहेलो पाहा	Least Concern	
16	<i>Euphlyctis cyanophlyctis</i> (Schneider, 1799)	Skittering Frog	आहाले भ्यागुतो / टिकटिके पाहा / ढोलवाजे पाहा	Least Concern	
17	<i>Hoplobatrachus tigerinus</i> (Daudin, 1802)	Indian Bull Frog / Tiger Frog	माले पाहा / सिगारे भ्यागुतो / सिक्रे पाहा / मेघा	Least Concern	CITES II



Nepal Cricket Frog (*Minervarya nepalensis*) © Rishi Baral



Syhadra Frog (*Minervarya syhadrensis*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Dicroglossidae					
18	<i>Minervarya nepalensis</i> (Dubois, 1975)	Nepal Wart Frog/ Nepalese Cricket Frog / Nepal Cricket Frog	दबांग-दबांग पाहा	Least Concern	
19	<i>Minervarya syhadrensis</i> (Annandale, 1919)	Bombay Wart Frog/ Hill Cricket Frog / Syhadra Frog	अहाले भ्यागुतो	Least Concern	

Family: Dicroglossidae



Blanford's Paha Frog (*Nanorana blanfordii*) © Suman Sapkota

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Dicroglossidae				
20	<i>Nanorana parkeri</i> (Stejneger, 1927)	High Himalaya Frog / Parker's Slow Frog	मन पाहा / हिउँ भ्यागुतो	Least Concern	
21	<i>Nanorana blanfordii</i> (Boulenger, 1882)	Blanford's Paha Frog / Blanford's Hill Frog	पाहा / भ्यागुतो	Least Concern	
22	<i>Nanorana liebighii</i> (Günther, 1860)	Liebig's Frog / Liebig's Paha Frog	मन पाहा / कालो पाहा / लिविगको पाहा	Least Concern	
23	<i>Nanorana polunini</i> (Smith, 1951)	Langtang Frog / Polunin's Paha Frog	लाङ्गटाङ्गे पाहा / सानो पाहा / पाउलेनीको पाहा	Least Concern	
24	<i>Nanorana rostandi</i> (Dubois, 1974)	Mustang Frog / Rostand's Paha Frog	सिन्दुरे पाहा / मुस्ताङ्गे पाहा	Vulnerable B2ab(iii)	
25	<i>Nanorana ercepeae</i> (Dubois, 1974)	Torrent Paha Frog	पाहा	Near Threatened	
26	<i>Nanorana minica</i> (Dubois, 1975)	Nepal Paha Frog	नेपाली पाहा	Vulnerable	
27	<i>Sphaerotheca breviceps</i> (Schneider, 1799)	Indian Burrowing Frog / Short Headed Burrowing Frog	रानी भ्यागुतो / भारती खपुल्टे भ्यागुतो	Least Concern	



Nepal Paha Frog (*Nanorana minica*) © Suman Sapkota

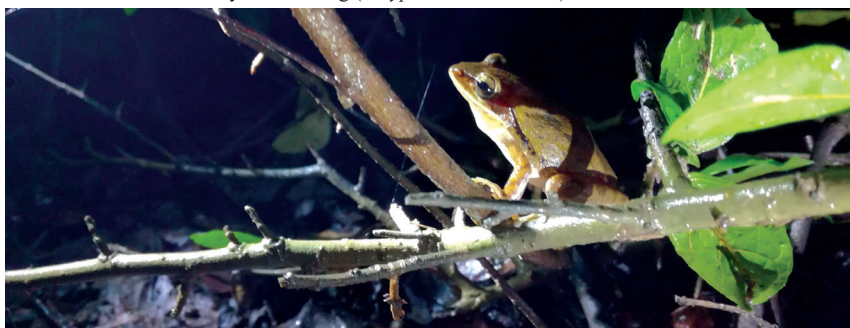


Liebig's Frog / Liebig's Paha Frog (*Nanorana liebighii*) © Suman Sapkota

Family: Rhacophoridae



Himalayan Tree Frog (*Polypedates maculatus*) © Rishi Baral



Himalayan Tree Frog (*Polypedates maculatus*) © Suman Sapkota

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Rhacophoridae				
28	<i>Polypedates himalayensis</i> (Annandale, 1912)	Himalayan Tree Frog	पाहाडी रुख भ्यागुतो / कटकटे पाहा / रुख पाहा / कटमेघी	Least Concern	
29	<i>Polypedates maculatus</i> (Gray, 1834)	Chunam Frog / Indian Tree Frog	कटकटे पाहा / रुख पाहा / कटमेघी	Least Concern	
30	<i>Rhacophorus maximus</i> (Günther, 1858)	Large Tree Frog/ Giant tree Frog	रुख पाहा / कटमेघी / कुयुर्का	Least Concern	

ORDER: SQUAMATA
LIZARDS, SKINKS AND GECKOS



Annapurna Bent-toed Gecko (*Cyrtodactylus annapurnaensis*) © Rishi Baral

ORDER: SQUAMATA LIZARDS, SKINKS, AND GECKOS

Lizards, Skinks, and Geckos

Lizards, including skinks and geckos, represent a widely diversified group of reptiles. Unlike snakes, lizards have movable eyelids and external ear openings. Their tongues are notched rather than forked, and the two halves of their lower jaws are fused. Limb morphology varies significantly depending on their mode of life; in some burrowing or sand-dwelling species, limbs are reduced or entirely absent. Many lizards have the ability to shed their tails (autotomy) as a defense mechanism against predators.

Lizards inhabit all terrestrial habitats in Nepal, from the lowland Terai to high mountains over 4,000 meters. None of the lizard species found in Nepal are venomous. The lizard fauna of Nepal includes five families: Agamidae, Anguinae, Gekkonidae, Scincidae, and Varanidae. Except for the Anguinae family, species from all other families are recorded in the Annapurna region.

Family: Agamidae

Agamids typically have scaly bodies, well-developed limbs, and moderately long tails. They include both ground-dwelling and arboreal species. A total of 6 species of this family are recorded in the Annapurna region.

Family: Gekkonidae

This family includes 4 genera and 11 species in Nepal, of which 7 species are recorded from the Annapurna region. Geckos have specialized feet with adhesive pads made of microscopic setae, enabling them to climb smooth surfaces. They are arboreal, ground, or rock dwellers. Like skinks, they can shed their tails to distract predators. This family includes 3 species endemic to Nepal. None of the geckos in Nepal are venomous.

Family: Scincidae

Skinks are represented by 5 genera and 15 species in Nepal, with 9 species occurring in the Annapurna Conservation Area. Skinks are one of the most diverse squamate families. They usually have cylindrical bodies, smooth or keeled shiny scales, and relatively small limbs. Many species have reduced or absent limbs, an adaptation for burrowing. Like geckos, they can shed their tails when threatened.

Family: Varanidae

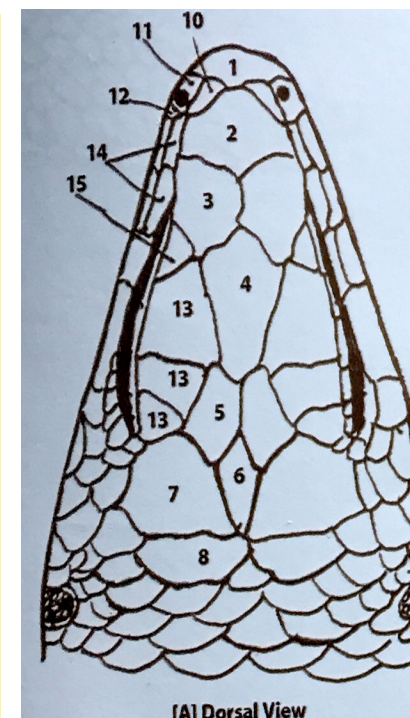
This family is represented by 1 genus and 2 species of monitor lizards in Nepal, with 1 species recorded in the Annapurna region. These are the largest extant lizards, with elongated snouts, necks, bodies, and tails. They possess snake-like features, such as long, forked tongues and well-developed Jacobson's organs. However, they lack the ability to shed their tails. Monitor lizards are distributed from the Terai to the mid-hills.

NOMENCLATURE OF THE BODY PARTS OF LIZARD

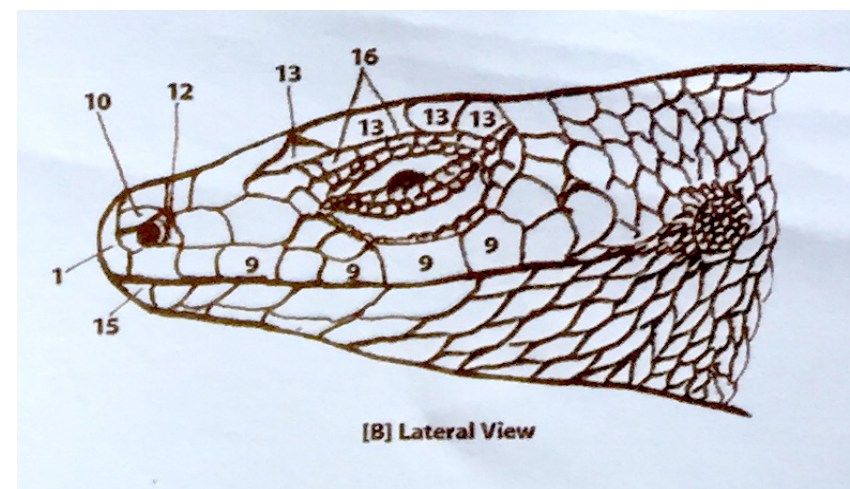
1. Rostral
2. Fronto-nasal
3. Prefrontal
4. Frontal
5. Fronto-parietal
6. Interparietal
7. Parietal
8. Nuchal
9. Upper labials
10. Supranasal
11. Nasal
12. Postnasal
13. Supraoculars
14. Loreals
15. Mental
16. Supraciliaries

Source:

Shah, K.B & Tiwari, S. (2004)



[A] Dorsal View



[B] Lateral View

Head of a Scincid Lizard to explain the nomenclature of the Scales

ORDER: SQUAMATA/SAURIA

Family: Agamidae



Common Garden Lizard (*Colotes versicolor*) © Rishi Baral



Kashmir Rock Agama (*Laudakia tuberculata*) © Rishi Baral



Large Mountain Lizard / Greater Forest Agama (*Japalura major*) © Rishi Baral



Three Keeled Forest Agama (*Japalura tricarinata*) Sikles area © Yadav Ghimirey / FON, Nepal



Himalayan Toad-headed Agama (*Phrynocephalus theobaldi*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Agamidae				
31	<i>Calotes versicolor</i> (Daudin, 1802)	Oriental/Common Garden lizard	बगैचे छेपारो / गिरगिट	Least Concern	
32	<i>Laudakia tuberculata</i> (Hardwicke & Gray, 1827)	Kashmir Rock Agama	पत्थर चटुवा छेपारो / पिठोचोर / भीर छेपारो	Least Concern	
33	<i>Japalura major</i> (Jerdon, 1870)	Large mountain Lizard / Greater Forest Agama	ठुलो वन छेपारो	Least Concern	
34	<i>Japalura tricarinata</i> (Blyth, 1854)	Three keeled Forest Agama/ Three -keeled mountain lizard / Cloud forest Japalure	तीन धकें हरिया छेपारो / हरियो छेपारो	Least Concern	
35	<i>Japalura variegata</i> (Gray, 1853)	Theobald's Toad Agama / Himalayan Toad-headed Agama/ Toad Mounted lizard	हिमाली छेपारो	Least Concern	
36	<i>Phrynocephalus theobaldi</i> Blyth, 1863	Theobald's Toad Agama / Himalayan Toad-headed Agama/ Toad Mounted lizard	छेपारो / हिमाली छेपारो / हिउँ छेपारो	Least Concern	

Family: Geckonidae



Spotted House Gecko (*Hemidactylus brookii*) © Rishi Baral



Yellow-belly Gecko (*Hemidactylus flaviviridis*) © Basudev Neupane



Frilled House Gecko/ Asian House Gecko (*Hemidactylus platyurus*) © Rishi Baral



Assam Greyish Brown Gecko (*Hemidactylus garnotii*) © Rishi Baral



Common House Gecko (*Hemidactylus frenatus*) © Rishi Baral



Annapurna Bent-toed Gecko (*Cyrtodactylus annapurnaensis*) © Santosh Bhattarai

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Geckonidae				
37	<i>Hemidactylus brookii</i> Gray, 1845	Brook's House Gecko / Spotted House Gecko	थोप्ले घर भित्ती / माउसुली / भित्ती / चिपकिने / छिपकली / पुच्छर कटुवा	Least Concern	
38	<i>Hemidactylus flaviviridis</i> (Rüppell, 1835)	Yellow-belly gecko/ Saffron-bellied Wall Gecko	पहेलो थोप्ले घर भित्ती / माउसुली / भित्ती / चिपकिने / छिपकली / पुच्छर कटुवा	Least Concern	
39	<i>Hemidactylus platyurus</i> (Schneider, 1797)	Flat-tailed House Gecko/ Frilled House Gecko/ Asian House Gecko	माउसुली / भित्ती	Least Concern	
40	<i>Hemidactylus garnotii</i> (Dumeril & Bibron, 1836)	Indo-Pacific Gecko/ Garnot's House Gecko/ Fox Gecko/ Assam Greyish Brown Gecko	खैरो माउसुली / भित्ती	Least Concern	
41	<i>Hemidactylus frenatus</i> (Dumeril and Bibron, 1836)	Common House Gecko / Asian House Gecko	भल्लरी घर भित्ती / माउसुली / भित्ती / चिपकिने / छिपकली / पुच्छर कटुवा	Least Concern	
42	<i>Cyrtodactylus nepalensis</i> (Schleich & Kastle, 1998)	Nepalese Rock Gecko	नेपाली ढुङ्गे भित्ती	Data Deficient	Endemic
43	<i>Cyrtodactylus annapurnaensis</i> Bhattarai, Gautam, Prasad Neupane, Khandekar, Thackeray, Agarwal, Tillack, Olson, Hogan & Wright, 2025	Annapurna Bent-toed Gecko	अन्नपूर्ण माउसुली / भित्ती	Data Deficient	Endemic

Family: Scincidae



Annapurna Ground Skink/ Large Ground Skink (*Scincella capitanea*) © Rishi Baral



Glacier Skink (*Asymblepharus ladacensis*) © Rishi Baral



Brahminy Skink / Common Skink (*Eutropis carinata*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Scincidae				
44	<i>Scincella capitanea</i> (Ouboter, 1986)	Annapurna Ground Skink/ Large Ground Skink	ठुलो भुईँ भानेमुंगू / भानेमुंगू / चिकनी गिरगिट	Least Concern	Endemic
45	<i>Asymblepharus himalayanus</i> (Günther, 1864)	Himalaya Ground Skink	हिमाली भानेमुंगू / चिकनी गिरगिट	Least Concern	
46	<i>Asymblepharus ladacensis</i> (Günther, 1864)	Glacier Skink / Glacier Gound Skink / Ladak Ground Skink	हिमनदी भानेमुंगू / चिकनी गिरगिट	Least Concern	
47	<i>Asymblepharus nepalensis</i> Eremchenko & Helfenberger, 1998	Nepal Gound Skink / Nepalese Ground Skink	नेपाली भुईँ भानेमुंगू / चिकनी गिरगिट	Least Concern	Endemic
48	<i>Asymblepharus sikkimensis</i> (Blyth, 1854)	Sikkim Ground Skink / Bronzy-brown Skink / Sikkim Skink	सिक्किम भुईँ भानेमुंगू / चिकनी गिरगिट	Least Concern	



Striped Grass Mabuya/ Striped Grass Skink (*Eutropis dissimilis*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
49	<i>Eutropis carinata</i> (Schneider, 1801)	Brahminy Skink / Keeled Indian Mabuya/ Common Skink	भारतीय भानेमुंग्रो / चिकनी गिरगिट	Least Concern	
50	<i>Eutropis dissimilis</i> (Hallowell, 1857)	Striped Grass Mabuya/ Striped Grass Skink	धर्स धर्स भानेमुंग्रो	Least Concern	
51	<i>Mabuya maclaria</i> (Blyth, 1853)	Bronze Mabuya/ Bronze Skink /Grass Sun Skink	कसी धर्स भानेमुंग्रो / चिकनी गिरगिट	Least Concern	
52	<i>Sphenomorphus maculatus</i> (Blyth, 1853)	Spotted litter Skink / Sikkimese forest Skink/ Spotty Skink / Forest Skink/ Maculated Forest Skink	सिकिमे जंगली भाने मुंग्रो / चिकनी गिरगिट	Least Concern	

Family: Varanidae



Golden Monitor (*Varanus flavescens*) © Manju Mahatara (Anjel Photography)

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Varanidae					
53	<i>Varanus flavescens</i> (Hardwicke & Gray, 1827)	Golden Monitor / Yellow Land Lizard/ Yellow Monitor	सुन गोहोरो	Least Concern	

ORDER: SQUAMATA SNAKES



King Cobra (*Ophiophagus hannah*) © Rishi Baral

ORDER: SQUAMATA SNAKES

Snakes of the Annapurna Region

Snakes are completely different from lizards due to several distinct anatomical features. The two halves of a snake's lower jaw are not fused but are connected by ligaments, allowing independent movement. Snakes lack eyelids, external ear openings, and limbs. The forelimbs and pectoral girdle are entirely absent, while vestiges of the hind limbs or pelvic girdle are retained in some primitive families such as Typhlopidae and Boidae. These unique adaptations are evident in Nepalese snakes like the blind snakes (Family *Typhlopidae*) and pythons (Family *Pythonidae*).

The venom apparatus in snakes is highly developed and serves multiple purposes—capturing prey, defense, and aiding digestion (Shah & Tiwari, 2004). Globally, around 11,904 species of reptiles have been recorded, including approximately 3,000 species of snakes. Nepal is home to 143 species of reptiles, among which 29 species are listed under the CITES appendices: 8 species in Appendix I and 21 species in Appendix II.

In Nepal, snakes are categorized into five families:

1. Typhlopidae (non-venomous)
2. Pythonidae (non-venomous)
3. Colubridae (non-venomous and mildly venomous)
4. Elapidae (venomous)
5. Viperidae (venomous)

All five families are represented in the Annapurna Conservation Area (ACA). Snakes play an important ecological role by maintaining the balance of ecosystems and serving as both predators and prey.

Family Summaries Found in Annapurna Region:

1. Family: Typhlopidae (Blind Snakes) — Non-venomous

This family is represented by 2 genera and 4 species in Nepal. One species, *Indotyphlops braminus*, is found in the Annapurna region. These small, worm-like snakes range from 6–7 inches (maximum 1–2 feet) in length, with cylindrical bodies, blunt heads, and short tails. They are the smallest snakes in Nepal and are fossorial, living underground and feeding on small invertebrates.

2. Family: Pythonidae (Pythons and Boas) — Non-venomous

Nepal hosts 2 genera with 2 species and 2 subspecies in this family. The Burmese Python (*Python bivittatus*) is found in the Annapurna region. These large, water-associated snakes can grow over 20 feet in length. They possess small spurs—vestiges of hind limbs. Although non-venomous, they are powerful constrictors.

3. Family: Colubridae (Typical Snakes) — Non-venomous and Mildly Venomous

This is the largest snake family in Nepal, represented by 25 genera, 46 species, and 6 subspecies. In the Annapurna region, 25 species from this family have been recorded—more than any other snake family in the area. Members of this family display diverse habits and habitats, and most are non-venomous, though a few have mild venom with no significant threat to humans.

4. Family: Elapidae (Cobras, Kraits, Coral Snakes) — Venomous

This family includes some of the most dangerous snakes such as cobras and kraits. Nepal records 4 genera, 8 species, and 1 subspecies of this family, with 5 species found in the Annapurna region. These snakes have short, fixed, front-positioned fangs capable of delivering potent neurotoxic venom. Cobras are identifiable by their hood, which they expand when threatened. Notably, the King Cobra (*Ophiophagus hannah*)—the largest venomous snake in the world—is also found in Nepal. Cobras hold religious significance in Nepalese culture and are worshipped as Kali Nag and Seti Nag.

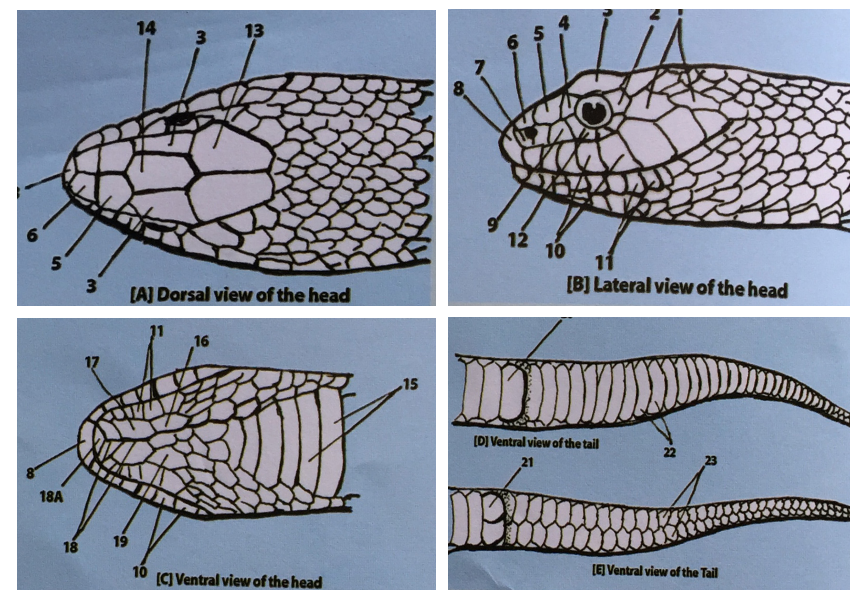
5. Family: Viperidae (Vipers and Pit Vipers) — Venomous

This family includes 5 genera, 9 species, and 2 subspecies in Nepal. Vipers possess long, hollow, hinged fangs located at the front of the upper jaw, which fold back when not in use and with 6 species found in the Annapurna region. Members include both terrestrial and arboreal species, such as pit vipers with prehensile tails for climbing. The Himalayan Pit Viper (*Gloydius himalayanus*) is found at altitudes exceeding 4,800 meters, making it one of the highest-dwelling snakes. The Mountain Pit Viper (*Ovophis monticola*) is one of the most common venomous snakes in Nepal's mid-hill region and is responsible for many snakebite incidents.



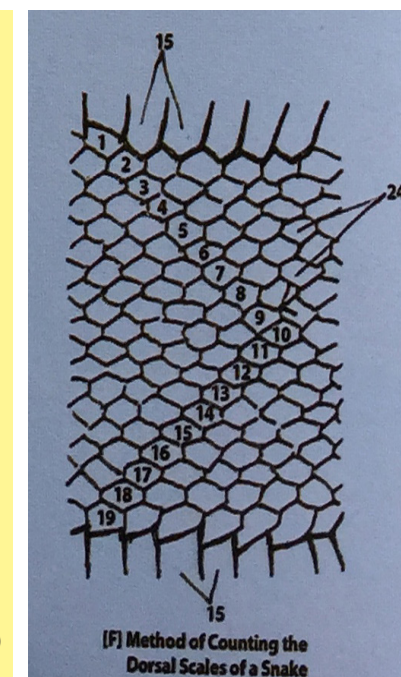
Kramer's Pit Viper/ Nepal Pit Viper (*Trimeresurus septentrionalis*) © Rishi Baral

NOMENCLATURE OF THE BODY PARTS OF SNAKE



- | | |
|-------------------------------------|-------------------|
| 1. Temporals | 2. Postoculars |
| 3. Supraocular | 4. Preocular |
| 5. Prefrontal | 6. Internasal |
| 7. Nasal | 8. Rostral |
| 9. Loreal | 10. Upper labials |
| 11. Lower labials | 12. Subocular |
| 13. Parietal | 14. Frontal |
| 15. Ventrals | |
| 16. Posterior chin shield | |
| 17. Anterior chin shield | |
| 18. Mental groove | 18B. Mental |
| 19. Posterior chin shield | |
| 20. Single anal scale | |
| 21. Divided anal scale | |
| 22. Single rows of subcaudal scales | |
| 23. Double rows of subcaudal scales | |
| 24. Dorsal scales | |

Source: Shah, K.B & Tiwari, S. (2004)



Family: Typhlopidae



Common Blind Snake (*Rhamphotyphlops braminus*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Typhlopidae				
54	<i>Indotyphlops braminus</i> (Daudin, 1803)	Common Blind Snake / Brahminy Worm Snake/ Flowerpot Snake, Brahminy Blindsnake/ Bootlace Snake	तेलिया साँप / आन्धो	Least Concern	Non-venomous

Family: Boidae / Pythonidae



Burmese Python (*Python bivittatus*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Pythonidae				
55	<i>Python bivittatus</i> (Kuhl, 1820)	Burmese Python	ढुलो पाटे अजिगर / सोनाकाटर	Vulnerable A2acd	Non-venomous

Family: Colubridae



Mountain Keelback (*Herpetoreas platyceps*) © Keshab Raj Sapkota



Buff-striped Keelback (*Amphiesma stolatum*) © Rishi Baral



Checkered Keelback/ Asiatic Water Snake (*Fowlea piscator*) © Abhisek Sapkota

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family : Colubridae (Natricidae)					
56	<i>Herpetoreas platyceps</i> (Blyth, 1854)	Mountain Keelback/ Asiatic Keelback / Eastern Keelback	चुखे सर्प / हिमाली धुके सर्प / र तो सर्प	Least Concern	Weakly venomous not fatal to humans
57	<i>Amphiesma stolatum</i> (Linnaeus, 1758)	Buff Striped Keelback / Checkered Keelback	हर-हरा / बाहुनेसाँप	Least Concern	Weakly venomous not fatal to humans
58	<i>Fowlea piscator</i> (Schneider, 1799)	Checkered Keelback/ Asiatic Water Snake	पानी सर्प / ढोडिया सर्प / पर्नापिउँटा	Least Concern	Weakly venomous not fatal to humans
59	<i>Rhabdophis himalayanus</i> (Günther, 1864)	Himalayan Keelback / Himalayan Boigine Snake	नेपाली दलीने साँप / सर्प	Least Concern	Poisonous & venomous not fatal to humans
60	<i>Fowlea sanctijohannis</i> (Boulenger, 1890)	St. John's Keelback	पानी सर्प / ढोडिया सर्प / पर्नापिउँटा	Least Concern	Weakly venomous not fatal to humans



Tawny Cat Snake (*Boiga ochracea ochracea*) © Rishi Baral



Common Cat Snake (*Boiga trigonata*) during shedding © Kalyan Baral



Common Cat Snake (*Boiga trigonata*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family : Colubridae (<i>Natricidae</i>)					
61	<i>Boiga multifasciata</i> (Blyth, 1861)	Many-banded Tree Snake /Himalayan Cat Snake	हिँऊ विराले साप / धेरै धर्कै रङ्ग सर्प	Data Deficient	Weakly venomous not fatal to humans
62	<i>Boiga ochracea</i> (Wall, 1909)	St John's Keelback Water Snake	खरो पहिले विराले सर्प / चुडेउ सर्प	Least Concern	Weakly venomous not fatal to humans
63	<i>Boiga stoliczkae</i> (Wall, 1909)	Tawny Cat Snake	खरो पहिले विराले सर्प / चुडेउ सर्प	Least Concern	Weakly venomous not fatal to humans
64	<i>Boiga trigonata</i> (Schneider, 1802)	Common Cat Snake / Common Indian Cat Snake / Indian Gamma Snake	तिरिसे सर्प /भारती विराले साप	Least Concern	Weakly venomous not fatal to humans



Common Trinket Snake (*Coelognathus helena*) © Rishi Baral



Himalayan Trinket Snake (*Elaphe hodgsoni*) © Rishi Baral



Copper-headed Trinket Snake (*Coelognathus radiatus*) © Rishi Baral



Black-banded Trinket Snake (*Oreocryptophis porphyraceus*) © Bikash Singh Lama



Black-banded Trinket Snake/Red Bamboo Snake (*Oreocryptophis porphyraceus*) © Prekshya Gurung

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family : Colubridae (Natricidae)					
65	<i>Coelognathus helena</i> (Daudin, 1803)	Common Trinket Snake	फिल्के साप / उडने सर्प / सिंगारे सर्प	Least Concern	Non-Venomous
66	<i>Coelognathus radiatus</i> (Boie, 1827)	Copper headed Trinket Snake / Copperhead Rat Snake/ Copperhead Racer	रातो टाउके गहने साप / सिंगारे सर्प	Least Concern	Non-Venomous
67	<i>Elaphe hodgsoni</i> (Günther, 1860)	Himalayan Trinket Snake / Hodgson's Racer	बयना / पिला मटिया	Least Concern	Non-Venomous
68	<i>Oreocryptophis porphyraceus</i> (Cantor 1839)	Black-banded Trinket Snake/Red Bamboo Snake	कालो पाते गहने साप	Least Concern	Non-Venomous



Common Wolf Snake (*Lycodon aulicus*) © Rishi Baral



Common Kukri Snake/ Banded Kukri (*Oligodon arnensis*) © Abhisek Sapkota



Red-bellied Kukri Snake (*Oligodon erythrogaster*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family : Colubridae (Natricidae)					
69	<i>Liopeltis rappi</i> (Günther, 1860)	Himalayan Stripe-necked Snake	हिमाली धर्सै घाटे सर्प	Least Concern	Non-Venomous
70	<i>Lycodon aulicus</i> (Linnaeus, 1758)	Common wolf snake /Indian Wolf Snake	चिचिण्डे सर्प /बुवासे सर्प	Least Concern	Non-Venomous
71	<i>Oligodon erythrogaster</i> (Boulenger, 1907)	Nagarkot Kukri Snake / Red-bellied Kukri Snake	रातो भुडे कुरी साप / नगर कोटे सर्प	Near Threatened	Non-Venomous
72	<i>Oligodon arnensis</i> (Shaw, 1802)	Russet Kukri Snake/ Common Kukri Snake/ Banded Kukri	पाटे कुरी साप	Least Concern	Non-Venomous



Indian False Cobra (*Pseudoxenodon macrops*) © Dil Pun

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Colubridae (Natricidae)					
73	<i>Pseudoxenodon macrops</i> (Blyth, 1855)	Indian False Cobra / (Large-eyed or) Big-eyed Bamboo Snake, Mock Cobra	सर्प	Least Concern	Weakly Venomous, not fatal to human



Asiatic Rat Snake (*Ptyas mucosa mucosa*)) © Rishi Baral



Collared Black-headed Snake (*Sibynophis collaris*) © Ayush Maharjan



Rosebelly Worm-eating Snake (*Trachischium guentheri*) © Juna Chhanthyal

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family : Colubridae (<i>Natricidae</i>)					
74	<i>Ptyas mucosa</i> (Linnaeus, 1758)	Asiatic Rat Snake / Dhaman / Oriental Rat Snake	धामन / सर्प / ढोडया साँप	Least Concern	Non-Venomous /CITES II
75	<i>Sibynophis collaris</i> (Gray, 1853)	Collared Black-headed Snake / Common Black-headed Snake / Common Many-tooth Snake	माले कालो टाउके सर्प	Least Concern	Non-Venomous
76	<i>Sibynophis sagittarius</i> (Cantor, 1839)	Cantor's Black-headed Snake	क्यान्टरको कालो टाउके सर्प	Least Concern	Non-Venomous
77	<i>Trachischium fuscum</i> (Blyth, 1854)	Blackbelly Worm-eating Snake / Darjeeling worm Snake / Darjelling Oriental Slender Snake	चपरे सर्प / माटे सर्प / खुम्ले सर्प	Least Concern	Non-Venomous
78	<i>Trachischium laeve</i> (Peracca, 1904)	Olive oriental slender Snake	चपरे सर्प / माटे सर्प / खुम्ले सर्प	Least Concern	Non-Venomous
79	<i>Trachischium guentheri</i> (Boulenger, 1890)	Coral-bellied WormSnake / Gunther's Oriental Worm Snake / Rosebelly Worm-eating Snake	जुका खाने साप	Least Concern	Non-Venomous

Family: Elapidae



Greater Black Krait (*Bungarus niger*) © Rishi Baral



MacClelland's Coral Snake (*Sinomicrurus maclellandi*) © Abhisek Sapkota

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Elapidae				
80	<i>Bungarus niger</i> (Wall, 1908)	Greater Black Krait	करेट सर्प / ठुलो कालो करेट	Least Concern	Neutotoxic, Deadly venomous
81	<i>Bungarus lividus</i> (Peters, 1861)	Lesser Black Krait	सानो कालो करेट	Least Concern	Neutotoxic, Deadly venomous
82	<i>Sinomicrurus maclellandi</i> (Reinhardt, 1844)	MacClelland's Coral Snake	मुगा साँप / कर्कट नाग / रातो सर्प	Not Evaluated	Neutotoxic, Deadly venomous



Monocled Cobra / Monocellate Cobra (*Naja kaouthia*) © Rishi Baral



Monocled Cobra (*Naja kaouthia*)
© Rishi Baral



Monocled Cobra (*Naja kaouthia*)
© Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Elapidae				
83	<i>Naja kaouthia</i> (Lesson, 1831)	Monocled Cobra / Monocellate Cobra	एक थोप्ने गोमन / पनियादरद / सेती नाग / सेतो गोमन	Least Concern	Neutotoxic, Deadly venomous / CITES II



King Cobra (*Ophiophagus hannah*) © Rishi Baral



King Cobra (*Ophiophagus hannah*) on it's nest at Dhampus © Rishi Baral



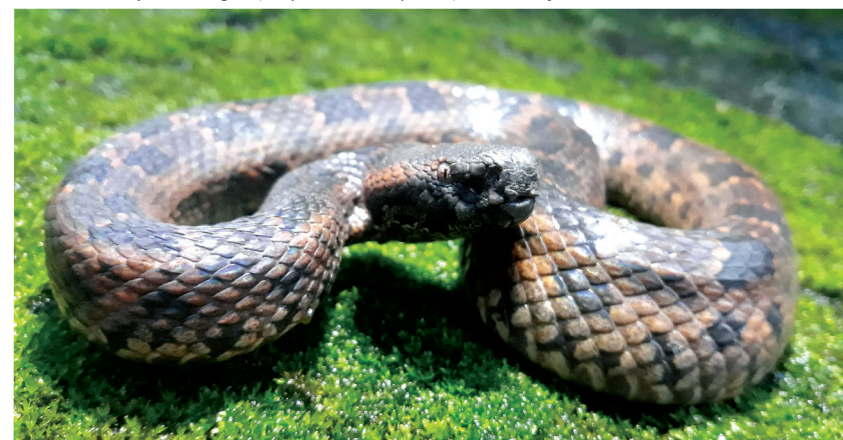
Juvenile of King Cobra at Dhampus © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Elapidae					
84	<i>Ophiophagus hannah</i> (Cantor, 1836)	King Cobra/ Hamadryad	राजगोमन / कालीनाग / नागराजा	Vulnerable A2cd	Neutotoxic, Deadly venomous / CITES II

Family: Viperidae



Himalayan Pit Viper (*Gloydius himalayanus*) from Kunjo © Mahendra Prasad Katila



Oriental Mountain Pit Viper (*Ovophis monticola*) © Abhisek Sapkota

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family: Viperidae					
85	<i>Gloydius himalayanus</i> (Günther, 1864)	Himalayan Pit Viper	हिमाली गेब्रे साप / अँधो सर्प / भ्यागुते सर्प	Least Concern	Hemotoxic, Deadly venomous
86	<i>Ovophis monticola</i> (Günther, 1864)	Chinese Mountain Pit/ Western Blotched Pit Viper/ Oriental Mountain Pit Viper	पहाडी गेब्रे साप / अँधो सर्प / छिरविरे सर्प	Least Concern	Hemotoxic, Deadly venomous



White-lipped Pit Viper (*Trimeresurus albolabris*) © Rishi Baral



Kramer's Pit Viper / Nepal Pit Viper (*Trimeresurus septentrionalis*) © Rishi Baral

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
Family : Viperidae					
87	<i>Trimeresurus albolabris</i> (Gray, 1842)	White-lipped Pit Viper/ White-lipped Tree Viper	सेतो जिबै हन्यौ सर्प / पत्तार	Least Concern	Haemotoxic but rarely fatal to human
88	<i>Trimeresurus erythrurus</i> (Cantor, 1839)	Redtail (bamboo) Pit Viper/ Naga-hill Pit Viper / Spot-tailed Pit Viper	हन्यौ सर्प / पत्तार	Least Concern	Haemotoxic but rarely fatal to human
89	<i>Trimeresurus septentrionalis</i> (Kramer, 1977)	Kramer's pit Viper / Nepal Pit Viper	हन्यौ सर्प / पत्तार	Least Concern	Haemotoxic but rarely fatal to human
90	<i>Trimeresurus yunnanensis</i> (Schmidt, 1925)	Yunnan Bamboo Pit Viper		Least Concern	Haemotoxic but rarely fatal to human



Himalayan Pit Viper (*Protobothrops himalayanus*), new to Nepal
© Rishi Baral (Both)

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status	Remarks
	Family: Viperidae				
91	<i>Protobothrops himalayanus</i> (Pan, Chettri, Yang, Jiang, Wang, Zhang & Vogel, 2013)	Himalayan Pit Viper	हिमालयन हाबु पिटभाइपर	Least Concern	Haemotoxic but rarely fatal to human /New specie to Nepal from Annapurna

References

- Area, A.C., 2019. Wild mammals of the Annapurna conservation area. National Trust for Nature Conservation, Khumaltar, Lalitpur, Nepal.
- Baral, R., B. Adhikari, A. Sapkota, et al. 2025. "Understanding Suitable Habitats and Anthropogenic Mortality Risks for King Cobras in Nepal." *Ecology and Evolution* 15, no. 9: e72030. <https://doi.org/10.1002/ece3.72030>.
- Baral, R., Sapkota, K. R., Katila, M. P., Giri, R., Pandey, S., Bhandari, A., Sapkota, A., Gautam, R. Diversity of Snake in Kaski District of Gandaki Province, Nepal. *Nep. J. Zool.* 2020, 4, 101-107.
- Baral, R., Yadav, S.K., Gautam, R., Katila, M.P., Gurung, R.K., Subedi, A., and Basnet, B. 2019. Status and distribution of King Cobra in Southern Annapurna Conservation Area Nepal. *Friends of Nature, The Himalayan Naturalist*, 2(1): 37-41. <http://fonnepal.org/volume-2-issue-1>
- Baral, R. and Koirala, R., 2020. A King Cobra, *Ophiophagus hannah* (Cantor 1836), Preying on a Green Pitviper (*Trimeresurus* sp.) in Nepal. *Reptiles & Amphibians*, 27(2), pp.211-212.
- Baral et al., 2019. Wild mammals of the Annapurna conservation area. National Trust for Nature Conservation, Khumaltar, Lalitpur, Nepal.
- Bhattarai, S., Gautam, B., Neupane, B.P., Khandekar, A., Thackeray, T., Agarwal, I., Tillack, F., Olson, A.R., Hogan, F. & Wright, W. (2025) A review of the genus *Cyrtodactylus* Gray 1827 (Squamata: Gekkonidae) of Nepal with descriptions of three new species. *Zootaxa*, 5594 (3), 401–451. <https://doi.org/10.11646/zootaxa.5594.3.1>
- Bhattarai S, Thapa KB, Chalise L, Gurung A, Pokheral CP, Subedi N, Thapa TB, and Shah KB. 2017. On the distribution of the Himalayan Stripe-necked Snake *Liopeltis rappi* (Günther, 1860) (Serpentes: Colubridae) in Nepal. *Amphibian & Reptile Conservation* 11(1) [General Section]: 88–92 (e139).

- Chapagain N.R., & Chhetri M. (2006). Biodiversity Profile of Upper Mustang, National Trust for Nature Conservation.
- Department of National Park and Wildlife Conservation. (2075). The list of Threatened mammals and plants listed in CITES, Government of Nepal, Ministry of Forest and Environment, Department of National Park and Wildlife Conservation, Babarmahal, Kathmandu.
- Fleming R.L. and Fleming R.L. Jnr. 1974. Some Snakes from Nepal. Journal of Bombay Natural History Society 3, 426-437.
- García Antón, P., Rai, T. P., Adhikari, S., & Baral, R. (2022). First verified distribution records for *Protobothrops himalayanus* (Squamata, Viperidae) in the mountains of northern Nepal. ARCO Veröffentlichungen – Arco-Nepal Newsletter, 24, 94–99. <http://www.arco-nepal.de/ARCONewsletter24.pdf>
- Gautam, B., Chalise, M. K., Thapa, K. B. ., & Bhattarai, S. (2020). Distributional patterns of amphibians and reptiles in Ghandruk, Annapurna Conservation Area, Nepal. Reptiles & Amphibians, 27(1), 18-28. <https://doi.org/10.17161/randa.v27i1.14440>
- Gautam B, Chalise M.K, Thapa K.B & Bhattarai S. 2020. Distributional Patterns of Amphibians and Reptiles in Ghandruk, Annapurna Conservation Area, Nepal. IRCF Reptiles & Amphibians. 27(1):18–28.
- Giri, R., Baral, R., Giri, R., Shah, K. B., & Tillack, F. (2021). First records of the spitting behavior of Monocled Cobra (*Naja kaouthia*) from Nepal. Russian Journal of Herpetology, 28(2), 122–124. <https://doi.org/10.30906/1026-2296-2021-28-2-122-124>
- Giri B. 2013. Diversity and Distribution of Amphibians in Annapurna Conservation Area, Nepal. The Rufford Small Grants Foundation, London, UK.
- IUCN. (2015). The IUCN Red List of Threatened Species. Version 205-1.
- IUCN 2019. The IUCN Red List of Threatened Species. Version 2019-1. <http://www.iucnredlist.org>. Downloaded on 21 March 2019.

- Majupuria, T.C. 1981. Reptile. In Wild is Beautiful. Introduction to Fauna and Wildlife of Nepal, Majupuria, T.C (eds.). S.Devi, Lashkar, India. PP. 147-177.
- Nanhoe, L.M.R. and Ouboter, P.E. 1987. The Distribution of Reptiles and Amphibians in the Annapurna-Dhaulagiri Region (Nepal). Zoologische Verhandelingen 240, 1-105
- NTNC/ACAP 2016. Draft Management Plan of Annapurna Conservation Area (2016-2020). National Trust for Nature Conservation, Kathmandu, Nepal.
- Rai, T. P., Adhikari, S., & Antón, P. G. (2022). An updated checklist of amphibians and reptiles of Nepal. ARCO-Nepal Newsletter, 23, 1-23.
- Schleich, H. H., & Kästle, W. (2002). Amphibians and reptiles of Nepal. Biology, Systematics, Field Guide. Koenigstein: Koeltz Scientific Books, 1201.
- Schleich H. and Kästle W. 2002. Amphibians and Reptiles of Nepal. A.R.G. Gantner Verlag K.G., Germany.
- Schleich S.H. and W. Kästle (eds.). 2002. Amphibians and Reptiles of Nepal: Biology, Systematics, Field Guide. A.R.G. Gantner Verlag KG, Ruggell, Liechtenstein.
- Schmidt K.P. and Inger R.F. 1957. Living Reptiles of the World. Garden City, New York.
- Shah K.B. (2004): Biodiversity Survey of Damodar Kunda Area, Upper Mustang, Research Report Series 14.
- Shah K. B., & Tiwari, S. (2004). Herpetofauna of Nepal: A Conservation Companion IUCN - The World Conservation Union, Nepal. VII +237 pp.
- Shah K.B. 1998. Checklist of the herpetofauna of Nepal with English vernacular names. NAHSON bulletin, Natural History Society of Nepal. 8, 26-30.
- Shah K.B. 2000. Habitats, distribution and status of King Cobra *Ophiophagus hannah* (Cantor, 1836) in Nepal. Journal of Natural History Museum 10, 135-154.

Shah K.B. 2001. Herpetofauna and ethnoherpetology of the southern Annapurna Region, Kaski District, Nepal. Journal of Natural History Museum, Tribhuvan University 20: 105–128.

Sharma S.K., Pandey D.P, Shah K.B, Tillach F, Chappuis F, Thapa C.L, Aligol E & U.Kuch 2013. Venomous Snakes of Nepal- photographic guide.

Shrestha B & Thapa M.B. 2019. Ethnoherpetological notes regarding the paha Frogs and conservation implication in Manaslu Conservation Area, Gorkha District, Nepal. Journal of Ethnobiology and Ethnomedicine (2019) 15:23 <https://doi.org/10.1186/s13002-019-0304-5>.

Shrestha T.K. (2001): Herpetology of Nepa. A Field guide ot amphibians and reptiles of Trans-Himalayan Region of asia. Mrs Bimala Shrestha, Kathmandu, Nepal. Pp 280.

Shrestha T.K. 2000. Herpetology of Nepal: A Field Guide to Amphibians and Reptiles of Trans-Himalayan Region of Asia. Steven Simpson Natural History Books, Norwich, UK.

Swan L.W. and A.E. Levinton.1962. The herpetology of Nepal: A history, checklist and zoogeographical analysis of the herpetofauna. Proceedings of the California Academy of Sciences 32: 103–147

Herpetofauna species excluded in the current checklist from previous

S.N.	Species	Common name	Remarks
AMPHIBIANS			
ORDER: ANURA			
Family: Ranidae			
1	<i>Amolops afghanus</i>	Meghalaya Stream Frog	Realistic Information not Available/ Previously listing in Modi khola too
Family: Dicroglossidae			
2	<i>Rana Vicinia</i>		Realistic Information not Available





Juvenile of King Cobra © Rishi Baral

IUCN Red list Categories

Extinct (EX)

A taxon is Extinct when there is no reasonable doubt that the last individual has died.

Extinct in the Wild (EW)

A taxon is Extinct in the Wild when it is known only to survive in Cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and /or expected habitat, at appropriate times (diurnal, seasonal, annual), through out its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form

Critically Endangered (CR)

A taxon is Critically Endangered when the best available evidence suggests that it meets any of the criteria of A and E1 for Critically Endangered and it is therefore considered to be facing an extremely high risk of extinction in the wild.

Endangered (EN)

A taxon is Endangered when there is not Critically Endangered but is facing high risk of extinction in the wild indicated by any of the criteria of A or E for Endangered species.

Vulnerable (VU)

A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing high risk of extinction in the wild indicated by any of the criteria of A or E for Vulnerable species.

Near Threatened (NT)

A taxon is Near Threatened when it been evaluated against the criteria but does not qualify for Critically Endangered, Endangered, Vulnerable now, but it close to qualifying for or is likely to qualify for a threatened category in the near future.

Least Concern (LC)

A taxon is Least Concern when it been evaluated against the criteria and does not qualify for any of the above mentioned categories.

Data Deficient (DD)

A taxon is Data Deficient when there is inadequate information to make a direct or indirect, assessment of its risk of extinction based on its distribution and / or population status. This is not a category of threat in itself, but listing of species in this category indicates that more research is required for their assessment.

Not Evaluated (NE)

A taxon is Not Evaluated when it has not yet been evaluated against the criteria.

APPENDIX

Summary of the five criteria (A–E) used to evaluate if a taxon belongs in a Threatened category (Critically Endangered, Endangered or Vulnerable)

Use any of the criteria A–E	Critically Endangered	Endangered	Vulnerable
A. Population reduction	Declines measured over the longer of 10 years or 3 generations		
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3 & A4	≥ 80%	≥ 50%	≥ 30%
A1. Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible AND understood AND have ceased, based on and specifying any of the following: (a) direct observation (b) an index of abundance appropriate to the taxon (c) a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality (d) actual or potential levels of exploitation (e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites. A2. Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased OR may not be understood OR may not be reversible, based on (a) to (e) under A1 A3. Population reduction projected or suspected to be met in the future (up to a maximum of 100 years) based on (b) to (e) under A1. A4. An observed, estimated, inferred, projected or suspected population reduction (up to a maximum of 100 years) where the time period must include both the past and the future, and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible, based on (a) to (e) under A1.			
B. Geographic range in the form of either B1 (extent of occurrence) AND/OR B2 (area of occupancy)			
B1. Extent of occurrence	< 100 km ²	< 5,000 km ²	< 20,000 km ²
B2. Area of occupancy	< 10 km ²	< 5,00 km ²	< 20,00 km ²
AND at least 2 of the following:			
(a) Severely fragmented, OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Herpetofauna of the Annapurna Conservation Area

C. Small population size and decline			
Number of mature individuals	< 250	< 2,500	< 10,000
AND either C1 or C2			
C1. An estimated continuing decline of at least: (up to a max. of 100 years in future)	25% in 3 years or 1 generation	20% in 5 years or 2 generations	10% in 10 years or 3 Generations
C2. A continuing decline AND (a) and/or (b):			
(a i) number mature individuals in each subpopulation:	< 50	< 250	< 1,000
(a ii) % individuals in one subpopulation =	90–100%	95–100%	100%
(b) extreme fluctuations in the number of mature individuals			
D. Very small or restricted population			
Either:			
Number of mature Individuals	< 50	< 250	D1. < 1,000
	Restricted area of occupancy		AND/OR D2. typically: AOO < 20 km ² or number of locations ≤ 5
E. Quantitative Analysis Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations (100 years max)	≥ 20% in 20 years or 5 generations (100 years max)	≥ 10% in 100 years

Source: National IUCN Red List, 2011



Common Asian Toad (*Duttaphrynus melanostictus*) © Pramod Raj Regmi

Herpetofauna of the Annapurna Conservation Area

IUCN Global Status of Herpetofauna of ACA

IUCN Global Status	Amphibians	Lizards, Skinks and Geckos	Snakes
Least Concern (LC)	25	21	34
Vulnerable (VU)	4	0	2
Near Threatened (NT)	1	0	1
Data Deficient (DD)	0	2	1
Total	30	23	38
Grand Total			91



Barking deer on the nesting site of King Cobra (*Ophiophagus hannah*) where the King cobra aware barking deer not to touch the nest at Karai, Dangsing © Rishi Baral (Camera trapping-2018)

CITES Details

CITES

The Convention on International trade in Endangered Species of Wild Fauna and Flora (CITES) is a global mechanism to safeguard biological resources from being extinct on account of the pressure arising from international trade of animals and plants, and their parts or product. This international convention strives to administer the conservation of species through the provisions made under its Appendix I, II and III.

Appendix I

It contains species that country parties have deemed to be threatened with extinction and which are, or may be, affected by trade. For these species, trade is strictly regulated in order not to endanger further their survival and only permitted under special circumstances. Appendix I includes some highly threatened herpetofauna species e.g. crocodiles and some turtles.

Appendix II

It contains species that, although not necessarily threatened, could become so unless their trade is not properly controlled in order to avoid utilization incompatible with their survival. Trade in Appendix II species is only permitted if the exporting as well as the importing countries agree and certify to do so, while in the case of Appendix I species the trade is generally not allowed except for research purpose and under strict control.

Appendix III

It contains species that are identified by any country party as being subject to regulation in that country and which require international cooperation to control trade.



Mating of King Cobra (*Ophiophagus hannah*) © Rishi Baral
Herpetofauna of the Annapurna Conservation Area

CITES listed Herpetofauna in ACA

S.N.	Species	Common name	नेपाली नाम	CITES
LIZARDS, SKINKS AND GECKOS				
ORDER: SQUAMATA/SAURIA				
	Family: Varanidae			
1	<i>Varanus flavescens</i> (Hardwick and Gray, 1827)	Golden Monitor	सुन गहेरो	I
AMPHIBIANS				
ORDER: ANURA				
	Family: Dicroglossidae			
2	<i>Hoplobatrachus tigerinus</i> (Daudin, 1802)	Indian Bull Frog / Tiger Frog	सिक्रे पाहा / मेघा	II
SNAKES				
ORDER: SQUAMATA				
	Family: Pythonidae			
3	<i>Python bivittatus</i> (Kuhl, 1820)	Burmese python	अजिगर / सोनाकाटर	II
	Family: Colubridae			
4	<i>Ptyas mucosa</i> (Linnaeus, 1758)	Asiatic Rat Snake	धामन / सर्प / ढोडयासाँप	II
	Family: Elapidae			
5	<i>Ophiophagus hannah</i> (Cantor, 1836)	King Cobra Hamadryad	राजगोमन / कालीनाग / नागराजा	II

Endemic Species from Annapurna Region

S.N.	Species	Common name	नेपाली नाम	IUCN Global Status
1	<i>Scutiger boulengeri</i> (Bedriaga, 1898)	Boulenger's High Altitude Toad / Boulenger's lazy Toad	बोल्लिगर उच्च हिमाली खसे भ्यागुतो	Least Concern
2	<i>Scutiger nepalensis</i> Dubois, 1974	Nepal High altitude Toad / Khaptad pelobatid Toad/ Nepal Lazy Toad	नेपाली उच्च हिमाली खसे भ्यागुतो	Vulnerable B2ab(iii)
3	<i>Nanorana rostandi</i> (Dubois, 1974)	Mustang Frog / Rostand's Paha Frog	सिन्दुरे पाहा / मुस्ताङ्गे पाहा	Vulnerable B2ab(iii)
4	<i>Nanorana ercepeae</i> (Dubois, 1974)	Torrent Paha Frog	टोरेन्टको पाहा	Near Threatened
5	<i>Cyrtodactylus nepalensis</i> (Schleich & Kastle, 1998)	Nepalese rock gecko	नेपाली ढुङ्गो भित्ती	Data Deficient
6	<i>Cyrtodactylus annapurnaensis</i> Bhattarai, Gautam, Prasad Neupane, Khandekar, Thackeray, Agarwal, Tillack, Olson, Hogan & Wright, 2025	Annapurna Bent-toed Gecko	अन्नपूर्ण माउसुली / भित्ती	Data Deficient
7	<i>Scincella capitanea</i> (Ouboter, 1986)	Annapurna Ground Skink/ Large Ground Skink	ठुलो भुईं भानेमुगु / भानेमुगु / चिकनी गिरगिट	Least Concern
8	<i>Asymblepharus nepalensis</i> Eremchenko & Helfenberger, 1998	Nepal ground skink / Nepalese ground Skink	नेपाली भुईं भानेमुगु / चिकनी गिरगिट	Least Concern

Snake bite and it's management

Snake bite is one of the major problems for poor communities. People who work in forests and farmlands are found to be most affected by snake bites. Farmers, herders, workers, and fishermen suffer from snake bites. In Nepal, many people die from snake bites every year. Though snake bites are more often caused by non-venomous species, venomous snake bite cases also occur, especially more by Cobras and Kraits in the lowlands and vipers in the hilly regions. Sometimes, venomous snakes bite without injecting any venom, which is called a dry bite. Clinical features of envenoming depend on the species of snake.

Cobra and Krait Bites: Cobra bites usually happens in dawn and dusk time but Krait bites usually happens at night while sleeping which may cause death. The symptoms like unable to open eyes, unable to open the mouth, protrude the tongue from mouth, unable to swallow, muscles of hands and feet got paralysis, difficulty in breathing, blocked airway by a paralyzed tongue, swelling, infection, abscess formation and necrosis.

Viper Bites: Viper bites cause bleeding from gingival sulci and bleeding from healed wounds or venepuncture sites. Subconjunctival bleeding, bleeding from abdomen, bleeding inside the skull and into the brain may occur. Local complications at the bite site are common and may include swelling, blisters, necrosis of the skin, soft tissues, connective tissues and muscles.

First Aid Measures: The victims should be reassured not making terrified first. The bitten parts should be immobilized by splint or sling which is important and effective first aid measure. The victims should be allowed to lay down in a comfortable and safe position. The victims should be transported immediately by motorcycle or other vehicles to the nearest hospital where antivenom (anti-snake venom serum) is available to save time.

Prevention of Snake Bite

- The first prevention should be to keep the house without bushes, stones and piles of leaves.
- The things where which is liked by mice and rats should be placed in sealed containers and should be away from house. If rats and mice are in or around the house, snakes will be attracted by their presence.
- To reduce human-snake conflicts, close the holes in and around houses which may be used by snakes as their hiding place. Always use a torch while walking in the night time.
- Should be careful while working on agricultural land, forest and working on stones or wood where the snakes may be hidden.
- Try to know the species of snake that are venomous and non-venomous in the area where you live.
- Avoid sleeping on the ground – indoors as well as outdoors. Many snake bites, especially by kraits, occur on people who sleep on the ground at night.



A case of Snake bite from Rat Snake (Non-Venomous) © Anita Gywali



Checkered Keelback/ Asiatic water Snake (*Fowlea piscator*) bite at gloves of rescuer during rescue event © Rishi Baral



Asiatic Rat Snake (*Ptyas mucosa mucosa*) © Rishi Baral

Order and Family with Species

Order, Family and with Species number			Order and species number			
ORDER	FAMILY	NUMBER	Herpeto-fauna	ORDER	FAMILY	NUMBER
AMPHIBIANS			AMPHIBIANS	1	Bufonidae	4
1. ANURA				2	Microhydidae	1
1	Bufonidae	4		3	Megophryidae	4
2	Microhydidae	1		4	Ranidae	5
3	Megophryidae	4		5	Dicroglossidae	13
4	Ranidae	5		6	Rhacophoridae	3
5	Dicroglossidae	13				
6	Rhacophoridae	3	LIZARDS, SKINKS AND GECKOS	7	Agamidae	6
LIZARDS, SKINKS AND GECKOS				8	Geckonidae	7
2. SQUAMATA				9	Scincidae	9
7	Agamidae	6		10	Varanidae	1
8	Geckonidae	7				
9	Scincidae	9	SNAKES	11	Typhlopidae	1
10	Varanidae	1		12	Pythonidae	1
SNAKES				13	Colubridae	25
11	Typhlopidae	1		14	Elapidae	5
12	Pythonidae	1		15	Viperidae	6
13	Colubridae	25			Total	91
14	Elapidae	5				
15	Viperidae	6				
	Total	91				



White-lipped Pit Viper (*Trimeresurus albolabris*) © Abhisek Sapkota

Activities done by NTNC-ACAP on Herpetofauna Conservation



Nest monitoring of King Cobra from Camera Traps at Dangsing



King Cobra awareness campign near nesting site at Karai, Dangsing, Kaski



King Cobra awareness campaign near nesting site at Dhampus



Camera Trapping and Monitoring of King Cobra Nest



Nesting Site Monitoring and Research



Rescue and release