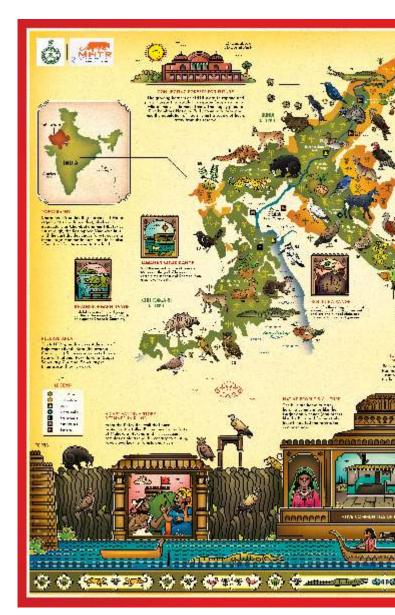
# Amphibians & Reptiles of Mukandra Hills Tiger Reserve

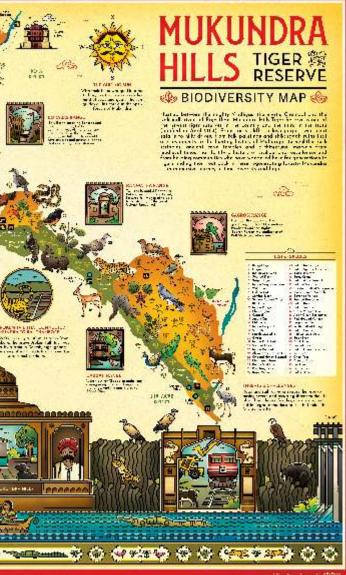
- A Photographic Guide



Ranjit Satrusallya Bitupan Boruah Sourav Dutta Muthu Somasundaram Abhijit Das

## AMPHIBIANS 8 REPTILES OF MUKANDRA HILLS TIGER RFSFRVF





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## Back cover image

Duttaphrynus scaber by Abhijit Das.

## Main description

Photos are denoted by page numbers.Pratyush P. Mohapatra (), Vivek Sharma (), Rocky Deniyal()

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## **FOREWORD**

Rajasthan is a land of enduring beauty and remarkable biodiversity. The diverse ecosystem supports 87 species of mammals, 510 species of birds, 114 fishes, 67 species of reptiles and 14 species of amphibians.

Tucked away in the Vindhyan range of the state, Mukandra Hills Tiger Reserve (MHTR) is a paradise less explored. With a total area of approximately 1135.787 sq. km, this significant protected area encompasses several protected areas: the Mukandra National Park, the Darrah Wildlife Sanctuary, the Jawahar Sagar Wildlife Sanctuary, and the National Chambal Gharial Sanctuary. The scale and integration of these habitats make the MHTR a conservation priority, deserving of comprehensive scientific study across all levels of its life forms

MHTR is defined by its characteristic dry deciduous forest, dominated by Anogeissus pendula (Dhok) and Senegalia catechu (Khair). This forest is complemented by diverse patches of shrublands and grasslands, while the combination of rocky terrains and riparian forests along with its aquatic bodies ensures a sustainable environment for a wide array of organisms.

Prior rapid assessments in MHTR have been known to record 35 species of mammals and 350 species of avifauna. Although the larger fauna has been studied over the past years, meager attention has been given to ectothermic creatures such as reptiles and amphibians; collectively known as the herpetofauna. Both classes function as efficient pest controllers and actively contribute to environmental heterogeneity through vital symbiotic relationships with different organisms. These vital animals face serious threats, including rampant habitat loss and being poached due to old beliefs. Even IUCN Red-Listed species are still exploited outside protected areas. Recognizing this urgent necessity, and in the absence of any previous scientific records of reptiles and amphibians within the MHTR, this volume with dedicated field research, focuses holistically on the taxonomy, natural history, and conservation status of these fauna.

This illustrated volume, created by dedicated researchers from the Wildlife Institute of India, is an important effort to enlighten people. It is the first baseline document on the herpetofauna of Mukandra Hills Tiger Reserve, focusing on the taxonomy, natural history, and ecology of these species. By placing the knowledge of these vital reptiles and amphibians directly into the hands of the people who live in and protect this region, we can ensure a more holistic and effective approach to conservation for the entirety of the Mukandra Hills Tiger Reserve. While many books exist for avian and mammalian fauna, this publication is unique, prioritizing the easy identification and fundamental natural history of creatures that are often ignored.

Dr. Gobind Sagar Bhardwaj, IFS
Director, WII

## **ACKNOWLEDGEMENTS**

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Our heartfelt appreciation to all the dedicated field staff members for their unwavering assistance throughout the project, specially Range Forest Officers Rajpal Sharma, Jasveer Singh Bhati, Vineet Mangal, Parmanand Gochar and the other home guards and cattle guards.

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Last but not the least, we thank our family members for their guidance without whom anything of this would not have been possible.



## **ABOUT THIS GUIDE**

This is the first-ever field guide on the amphibians and reptiles of Mukandra Hills Tiger Reserve. It has been specially designed for frontline forest staff, students, local rescuers, and wildlife enthusiasts who seek to better understand the herpetofaunal diversity of this region.

Out of the 81 species of amphibians and reptiles reported from Rajasthan, this guide features 56 species recorded from Mukandra Hills Tiger Reserve. These include 10 amphibians, 13 lizards, 26 snakes, four turtles, one tortoise, and one crocodile species. Each species is described with colour photographs (some with insets) and accompanied by easy-to-follow descriptions. The species accounts cover important details such as common and scientific names, maximum length, identification, natural history, distribution, legal status under the Wildlife (Protection) Act 1972, amended in 2022 and conservation status according to the IUCN Red List (2025 criteria) are also included. A brief description of the venomous and non-venomous characteristics of a few animals has also been provided in the guide.

In addition to species profiles, the book includes a detailed checklist of the herpetofauna of Mukandra Hills Tiger Reserve. The natural history and distribution data presented here are based on field observations and published literature.

Local status is provided based on field observations. Species that are widely distributed, locally abundant, least concerned and recorded from more than five localities are categorised as Common; species that are restricted, recorded less than five times or globally threatened are categorised as Uncommon; species that are recorded only once during survey, cryptic or protected are categorised as Rare.

We hope this preliminary field guide will trigger further research and encourage more people to understand and appreciate the lesser-known herpetofauna of this region.



## **CONSERVATION OF HERPETOFAUNA**

## Reptiles and amphibians

When it comes to reptiles and amphibians, their poorly known status stands out as a key impediment towards their conservation effort. Protected areas represent the best possible opportunity for the conservation of herpetofauna and their unique ecosystems. Elsewhere, survival of amphibian and reptile populations is under threat due to the rapid growth of the human population and anthropogenic activity. A primary threat to them is the destruction of their natural habitat through deforestation, urbanisation and fragmentation. Lack of awareness leads to superstition and fear resulting in unnecessary killing and persecution of harmless creatures, especially snakes. Even after being protected by law, many species such as sand boa, star tortoises and softshell turtles are exploited leading to sharp declines in their populations outside protected areas. The toxic effects of agricultural chemicals, factory chemical outlets, and the risk of infectious diseases all contribute to these pressures.

Although the country's laws have been successful in protecting snakes, lizards, and turtles, people's ignorance has become a problem that needs to be addressed. A thorough conservation plan is required to combat these threats. This includes the expansion of additional protected areas with critical habitats throughout the region as well as legislative frameworks like the Indian Wildlife (Protection) Act of 1972. However, long-term success depends on advancing scientific knowledge to guide these efforts and developing cooperative partnerships among local residents, government agencies, and conservation organisations to ensure the protection of these creatures.





## HABITATS OF

**Chambal River** 





Clif & Riparian

## HERPETOFAUNA





India is home to a rich diversity of snakes. Around 353 species of snakes are found in India, but the majority are non-venomous. Venomous Snakes are generally shy and bite only in self-defence when they are cornered, handled, or accidentally stepped on. They typically provide threat displays like hissing or coiling before striking. Among venomous snakes, only a handful of species, namely Spectacle Spectacled Cobra, Common Krait, Russell's Viper, and Saw Scaled Viper habitats overlap with human-dominated landscapes. The majority of the snakebite in India occurs from these four venomous snakes and thus they are recognized as "Dangerously Venomous" snakes of India. Anti-Snake Venom (ASV) administered under medical supervision is the only effective treatment available against snake envenomation.

## First Aid for Snakebite

Proper first aid is crucial and can be life-saving. The recommended actions are divided into Do's and Don'ts.

### Do's:

- Arrange for quick transport to the hospital.
- Keep the victim calm and reassured.
- Immobilize the bitten limb and transport the victim to the nearest hospital with antivenom facilities immediately.
- Remove any tight clothing or jewellery near the bite.
- For suspected Krait bites
  (which may have no initial
  local symptoms), apply a
  pressure bandage by wrapping
  a cloth or crepe bandage as
  tightly as for a sprain to slow
  the venom's spread.



## Don'ts:

- Do not delay in taking patient to hospital.
- Do not panic or allow the victim to move excessively.
- Do not cut or squeeze the wound.
- Do not apply a tourniquet, as it can cause severe tissue damage.
- Do not rely on traditional healers (tantriks or ojhas).
- Do not give the victim alcohol or other stimulants.

### **Prevention Measures**

- Preventing snakebites involves making the environment less attractive to snakes.
- Keep your house and surroundings clean and free of rodents, which are a primary food source for snakes.

- Remove potential snake shelters like piles of logs, bricks, or garbage.
- Seal cracks and holes in walls and floors.
- Use a torch when walking at night, especially during the monsoon season when snakes are most active.
- Use mosquito nets when sleeping on the floor.

## ABBREVIATIONS & GLOSSARY

- Aestivation: Reducing activity and metabolism during high temperaturesAmbush predator: Captures prey by hiding and launching a surprise attack
- ASV: Anti Snake Venom
- · Aquatic: Lives in water
- Arboreal: Adapted for living on trees
- Basking: Exposing the body to a heat source
- Blotches: Different types of marks on the body
- Camouflage: Colour or shape matches its surroundings and makes it difficult to be spotted
- Carapace: The hard, upper shell on the back of animals like turtles
- Crepuscular: Active in twilight, before sunrise and after sunset
- Dewlap: A loose fold of skin on the neck or throat
- Diurnal: Active during the day
- Dorsal: Pertaining to the upper surface or back of an organism
- Dorsum: The back or upper side of an organism
- Femoral pores: A series of pores on the underside of the thigh on geckos and other lizards
- Flank: Side of an animal's body
- Fossorial: Adapted for living underground
- Granular: Having a grain-like surface texture
- Hibernate: Reducing the activity and metabolism of animals during cold
- Insectivorous: Feeds on insects
- IUCN: International Union for

## Conservation of Nature

- Keels: Raised ridges on scales
- Lamellae: The pads under the fingers of geckos, which help to climb surfaces
- Lateral: Relating to the sides of an organism
- Limbs: Forelimbs and hind limbs with their specific functions
- Metatarsal tubercle: Hard, shapedlike projection in heel of hind foot, helps to dig soil
- MHTR: Mukundara Hill Tiger Reserve
- Nape: The back of the neck region
- Nocturnal: Active during the night
- Nostril: Opening of nose
- Nuchal: Neck
- Ocelli: Eye-like spots
- Omnivorous: The animal eats both plant and animal matter
- Oviparous: Reproducing by laying eggs
- Ovoviviparous: Eggs hatch inside the mother, followed by live birth
- Parotid Gland: An external skin gland, secretes defensive toxins
- Plastron: The lower shell portion of a turtle
- Posterior: Back of the animal
- Prehensile: Ability to grasp or wrap
- · Proboscis: Long nose of animal
- Rostral shield: The scale covering the tip of the snout
- Scutes: The individual plates that

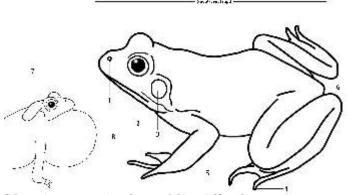
make up a turtle's shell

- Snout: Nose
- Stocky: Having a short and solid body
- Stout: Having a large, bulky, or heavy build
- Supra tympanic: Located above the tympanic membrane (eardrum) of the ear
- · Tectiform: roof-shaped
- Terrestrial: Pertaining to habitat preferences on land
- Tubercle: A small, wart-like projection on the skin
- Tympanum: The external eardrum visible in amphibians and reptiles
- Ventral: Pertaining to the lower surface of an organism
- Viviparous: Giving birth to live young that develop inside the body
- Vocal sac: A loose fold of skin on the ventral side of a male frog's throat
- Warts: Small-sized growths on the skin
- WPA · Wildlife Protection Act.
- WLS: Wildlife Sanctuary

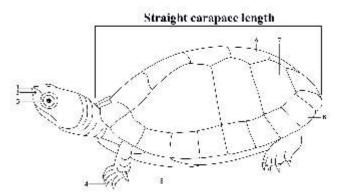
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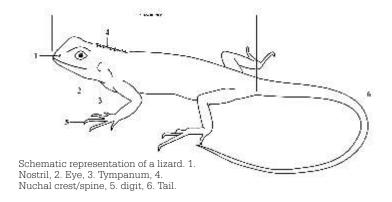
## SCHEMATIC REPRESENTATION OF CHARACTERS MENTIONED IN TEXT

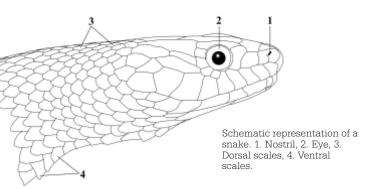


Schematic representation of an amphibian. 1. Nostril, 2. Eye, 3. Tympanum, 4. Digit, 5. Webbing, 6. Vent, 7. Parotid gland, 8. External vocal sac of male.



Schematic representation of a snake. 1. Snout, 2. Nostril, 3. Eye, 4. Claw, 5. Plastron, 6. Vertebral, 7. Costal, 8. Marginal







## COMMON ASIAN TOAD

Duttaphrynus melanostictus (Schneider, 1799)



Length: 96 mm

## Distribution

Recorded from Borabas and Jawahar Sagar ranges of MHTR. Elsewhere. Central and Northern India, Easternmost Iran, and Southern Afghanistan to Bangladesh.

## **Conservation Status**

Not listed in Wildlife (Protection) Act,

IUCN Status: Least concern Local Status: Uncommon

## **Identifying characters**

Moderate-sized toad; dorsal skin with warts; keratinized ridges on head absent; tympanum rounded; parotid glands distinct; fingers free, toes partially webbed. Dorsal colour dark brown to pale yellowish brown; ventral whitish; yellowish white spot on limbs and upper body, breeding male vocal sacs pale white to vellowish in colour.

## Natural history

Nocturnal. Terrestrial. Common in dry and semi-desert regions. Found near semiurban areas, grasslands, near the streams and plantations. Hibernate during winter. Insectivorous; also feeds on snails, arthropods and earthworms. Breeding occurs after heavy showers.



Commonly recorded in all ranges of MHTR. Found from Punjab to Kerala and throughout east and south India. Elsewhere outside, Pakistan, Western Myanmar, China, and Sri Lanka.

## **Conservation Status**

Not listed in Wildlife (Protection) Act. 1972

IUCN Status: Least concern
Local Status: Common

## **Identifying characters**

Flat oblong body; head flat and triangular; eyes and nostrils dorsally placed; snout absolutely pointed; tympanum distinct; males have black paired vocal sac; dorsal skin covered with small tubercles; slender and pointed finger; hind limbs muscular; toes fully webbed. Dorsally pale olive-brown; ventrally pale cream coloured or white; sometimes, black dots or lines present on belly.

## Natural history

Active at night, hides near the aquatic edge during the day. Skitters on the water surface when disturbed. Aquatic, floats on the water surface; commonly found in temporary or permanent water bodies. Feeds on insects and occasionally small fish. Breeding occurs in the rainy season.



## MARBLED TOAD

Firouzophrynus stomaticus (Lütken, 1864)



## Distribution

Recorded from Borabas and Jawahar Sagar ranges of MHTR. Elsewhere. Central and Northern India, Easternmost Iran, and Southern Afghanistan | Local Status: Uncommon to Bangladesh.

## Conservation Status:

Not listed in Wildlife (Protection) Act,

IUCN Status: Least concern;

## **Identifying characters**

Moderate-sized toad; dorsal skin with warts; keratinized ridges on head absent; tympanum rounded; parotid glands distinct; fingers free, toes partially webbed. Dorsal colour dark brown to pale yellowish brown; ventral whitish; yellowish white spot on limbs and upper body, breeding male vocal sacs pale white to vellowish in colour.

## Natural history

Nocturnal. Terrestrial. Common in dry and semi-desert regions. Found near semiurban areas, grasslands, near the streams and plantations. Hibernate during winter. Insectivorous; also feeds on snails, arthropods and earthworms. Breeding occurs after heavy showers.



Commonly recorded in all ranges of MHTR. Found from Punjab to Kerala and throughout east and south India. Elsewhere outside, Pakistan, Western Myanmar, China, and Sri Lanka.

## Conservation Status

Not listed in Wildlife (Protection)

Act. 1972

IUCN Status: Least concern

Local Status: Common

## Identifying characters

Flat oblong body; head flat and triangular; eyes and nostrils dorsally placed; tympanum distinct; males have paired vocal sac; dorsal skin covered with small tubercles; pointed finger; hind limbs muscular; toes fully webbed. Dorsally pale olive-brown; ventrally pale cream coloured or white; sometimes, black dots or lines present on belly.

## Natural history

Active at night, hides near the aquatic edge during the day. Skitters on the water surface when disturbed. Aquatic, floats on the water surface; commonly found in temporary or permanent water bodies. Feeds on insects and occasionally small fish. Breeding occurs in the rainy season.



## PIERRE'S CRICKET FROG

Minervarya pierrei (Dubois, 1975)

Length: 33 mm

## Distribution

Recorded in all ranges of MHTR. Found in Central India, Northern and Northeast India. Elsewhere Pakistan, Bhutan, Nepal, and Bangladesh.

## Conservation Status:

Not listed in Wildlife (Protection) Act,

IUCN Status: Least concern

## **Identifying characters**

Moderate-sized frog; triangular head with pointed snout; tympanum rounded; supratympanic fold distinct; males have bilobate paired vocal sac; small irregular skin folds on dorsum; fejervaryan line present; fingers free, rounded tips; toes partially webbed. Dorsally brown with small dark brown patches; ventral white; limbs marked with dark bands; a yellow or orange mid-dorsal line may be present or absent. Males exhibit a black throat during the breeding season.

## Natural history

Nocturnal, but active during rainy days. Semiaquatic. Mostly found near water bodies, grasslands, and agricultural fields. Hibernate under rocks, logs and leaf litter in winter. Insectivorous. Breeds in monsoon.



Recorded in Borabas and Kolipura and Bhainsrodgarh Wildlife Sanctuary area of MHTR. Elsewhere, South, Central, and East India, Sri Lanka, Nepal, and Bangladesh.

## Conservation Status

Schedule-II in Wildlife (Protection)

Act. 1972

IUCN Status: Least concern Local Status: Uncommon

## Identifying characters

Moderate sized frog: body stout: triangular head and pointed snout: tympanum large and rounded; supratympanic fold distinct; dorsum with longitudinal skin folds; limbs muscular; fingers free; toes partially webbed. Dorsal colour brown with irregular olive-green blotches; ventral white; throat with olive-green patches.

## **Natural history**

Nocturnal. Semiaquatic. Prefer lowland areas, agricultural fields and swamps. Hibernate inside loose soil and below the rocks. Carnivorous. Breed in stagnant pools during June-July.



## INDIAN BULL FROG

Hoplobatrachus tigerinus (Daudin, 1802)

## Length: 13 cm

## Distribution

Found throughout MHTR. Throughout South Asia including India, Afghanistan, Pakistan, Bangladesh, Bhutan, and Central | Local Status: Common Myanmar.

## Conservation Status:

Schedule-II in Wildlife (Protection) Act, 1972

IUCN Status: Least concern

## **Identifying characters**

Large sized frog; body stout; snout pointed; tympanum large and round; supratympanic fold distinct; strong longitudinal skin folds on dorsum; limbs muscular; fingers free; toes partially webbed. Males are smaller than females. Dorsal colour olive-brown or yellowish with olive-green patches; yellow middorsal line present from snout to vent; dark patches absent on throat. During breeding season, males show a pair of cobalt blue vocal sacs.

## **Natural history**

Nocturnal. Semi-aquatic. Commonly found in wells, ponds, near stagnant water pools, forest fringes, agricultural land, and grasslands. Carnivorous. Breeds at the onset of monsoon in shallow water and water-logged fields. Males produce loud croak sounds to attract females.



Commonly recorded in Borabas, Jawahar Sagar and Bhainsrodgarh WLS of MHTR. Distributed in Peninsular India (including Madhya Pradesh, Gujarat, Maharashtra, Himalayan foothills), Pakistan, and Nepal.

## Conservation Status

Not listed in Wildlife (Protection)

Act. 1972

IUCN Status: Least concern Local Status: Common

## **Identifying characters**

Moderate-sized frog; body globular; snout short and rounded; tympanum rounded; supratympanic fold distinct; dorsal skin smooth or granular with irregular short skin folds on back; belly granular; limbs short, fingers free; strong shovel-shaped metatarsal tubercle present on base of foot; males have bilobate vocal sac. Dorsal colour light brown with irregular pale patches or reddish-brown or pale yellowish; ventral white.

## Natural history

Nocturnal. Fossorial. Prefer sandy soil and leaf litter in grassland, sal forest and near the streams; burrows soil quickly by using a digging apparatus (metatarsal tubercle) present on foot; found under the rocks or in burrows in the non-breeding season. Insectivorous. Breeds during the monsoon.



## INDIAN BALLOON FROG

Uperodon globulosus (Günther, 1864)



Length: 55 mm

## Distribution

Recorded in Borkoi region of Jawahar Sagar range of MHTR. Endemic to India, Nepal, Bangladesh, and possibly in Bhutan.

## Conservation Status:

Not listed in Wildlife (Protection) Act,

IUCN Status: Least concern Local Status: Uncommon

## **Identifying characters**

Moderate sized frog; stocky-bodied frog. Head comparatively small; rounded snout; eye small; tympanum concealed; limbs short and stout; finger free, rounded tips; shovel-shaped metatarsal tubercle (digging apparatus) present on foot; dorsal and ventral skin smooth. Dorsally brown with yellow marbling and spots; lateral side of the head and body yellowish-brown; ventrally pale yellow; throat grey in males.

## **Natural history**

Nocturnal, Fossorial, Found in moist open forest; near termite mounds, fallen tree logs and stagnant rainwater pools. Insectivorous. Breeding occurs during heavy showers. Males have very loud calls. Hibernate and aestivates under the loose soil.



Recorded in Borabas, Jawahar Sagar, Kolipura, Gagron, and Bhainsrodgarh WLS of MHTR. Found across northern Pakistan, extending southeast to Nepal, Bhutan, and northern India to Assam. Also distributed in Northwestern Bangladesh.

## **Conservation Status**

Not listed in Wildlife (Protection) Act. 1972

IUCN Status: Least concern
Local Status: Common

## Identifying characters

Small-sized frog. Body compact, almost triangular; snout short and rounded; tympanum concealed; fingers free and toes partially webbed. Dorsally pale yellowish brown or pale brown with pinkish tinge; a dark patch starting from posterior part of head, continuing to dorsum where it bifurcates posteriorly; two enlarged dark patches on posterior dorsum; another dark stripe on lateral side of the body; short dark cross bars on limbs; ventrally white; males have dark throat.

## Natural history

Nocturnal. Semi-fossorial. Inhabits moist habitats, leaf litter and grass fields, and settlements. Calling aggregation occurs near temporary water puddles; Insectivorous. Breeds from May-August in stagnant rainwater pools; hibernates



Lissemys punctata (Bonnaterre, 1789)

## Length: 37 cm

## Distribution

Recorded in Borabas and Jawahar Sagar range of MHTR. Found in North and Northeast, and Eastern India. Elsewhere in Pakistan, Nepal, Bangladesh, and Myanmar.

## **Conservation Status:**

Schedule-I in Wildlife (Protection)

Act, 1972

IUCN Status: Vulnerable Local Status: Common

## **Identifying characters**

Medium-sized turtle. Oval and smooth carapace; plastron with soft femoral flaps; snout prolonged and pig-like; neck elongated; limbs webbed. Carapace olive green to greyish-brown in colour with or without yellow markings; tail olive in colour;

## **Natural history**

Diurnal. Aquatic; inhabits a wide range of freshwater environments like ponds, lakes, rivers, rice fields and marshes; prefers to live in shallow water with aquatic vegetation. Omnivorous; feeds on snails, fish, frogs, tadpoles and insects, also known for scavenging on dead animals. Oviparous; known to lay 5–14 eggs during summer.



Recorded in Jawahar Sagar range of MHTR. Distributed in North, North Western and Northeast India. Elsewhere in Nepal, Pakistan, and Bangladesh.

## **Conservation Status**

Schedule-I in Wildlife (Protection) Act. 1972

IUCN Status: Vulnerable Local Status: Rare

## Identifying characters

Large growing turtle. Snout with a proboscis; carapace flat and oval; femoral flaps on plastron absent; neck long; webbed feet. Females larger than males. Carapace olive green and plastron whitish in colour. Youngs have ocelli which diminishes with age. Head with arrow shaped markings on top.

## Natural history

Diurnal. Aquatic; inhabits rivers, lakes, ponds and streams. Omnivorous; feeds on aquatic plants and other vertebrates and invertebrates. Breeds during monsoon. Oviparous, known to lay up to 35 eggs.



Found in rivers, streams and canals throughout MHTR. Occurs in Peninsular India (except Tamil Nadu and Kerala), Central India, northern | Local Status: Uncommon India and parts of North-east region. Elsewhere in Bangladesh, Nepal, and Pakistan

## Conservation Status:

Schedule-I in Wildlife (Protection) Act,

1972

IUCN Status: Vulnerable

## **Identifying characters**

Medium-sized turtle. Carapace oval, elevated and tectiform, especially in juveniles; third vertebral keel more spine-like and fourth vertebral scute longer than the other scutes; webbed feet. Carapace dark olive and plastron yellowish with black markings; head blackish, neck with frequent bright yellow or orange lines; pink mark behind eye.

## Natural history

Primarily diurnal. Aquatic; found in freshwater ecosystems; bask on rocks, floating logs and the edge of river. Omnivorous; feeds on aquatic plants, fish and freshwater prawns. Oviparous: known to lay 2-10 eggs; breeds in winter.



Found in river canals throughout MHTR. Distributed throughout India except in South and Northwest India. Also found in Nepal and Bangladesh.

## **Conservation Status**

Schedule-I in Wildlife (Protection)

Act, 1972

IUCN Status: Vulnerable Local Status: Uncommon

## **Identifying characters**

Medium-sized turtle. Oval shaped carapace with prominent vertebrate keels similar to Indian roofed turtles; webbed feet. Carapace olive green to brownish; plastron yellowish with black patterns; pink mark behind eye absent; red spot present behind tympanum; less frequent line on neck.

## **Natural history**

Diurnal. Aquatic; inhabits both large and small rivers with muddy or sandy banks. Omnivorous; feeds on aquatic plants, fish, snails and insects. Oviparous; lays up to 10 eggs during winter.



Recorded in Jawahar Sagar locality of MHTR, can be found in Kolipura and Rawabhata area. Elsewhere from east India (Odisha) to Kutch in the west, southward to the tip of the peninsula.

## **Conservation Status:**

Schedule-I in Wildlife (Protection) Act,

1972

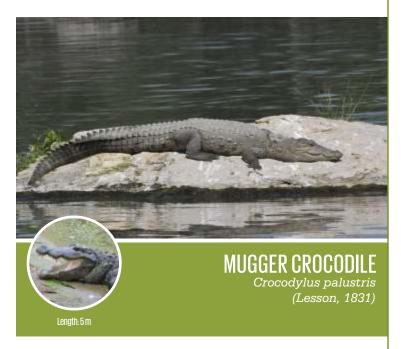
IUCN Status: Vulnerable Local Status: Rare

## Identifying characters

Medium-sized. Elongated and lumpy carapace. Small head with non-projecting snout; limbs and tails with irregular tubercles; webbing absent on foot. Females have larger and broader carapaces than males; males have longer and thicker tails. Carapace and plastron with black star shaped marking.

## Natural history

Diurnal. Terrestrial; found in scrub forests, grasslands and rocky areas. Mostly herbivorous, feeds on wild plants. Known to scavenge on dead animals. Oviparous; nesting seasons vary according to geographic location.



Commonly recorded in all riverine systems of MHTR, including canals and streams. Distributed throughout India except extreme North and North-east India. Occurs in Nepal, Iran, Pakistan, Myanmar, and Sri Lanka.

## **Conservation Status**

Schedule-I in Wildlife (Protection)

Act, 1972

IUCN Status: Vulnerable Local Status: Uncommon

## **Identifying characters**

Large body with rough dorsal scales and tough skin; head flat with eyes, ears and nostrils on the top; broad snout; webbed limbs; long tapered tail. Colour varies from grey to brownish with dark bands on the tail.

## Natural history

Found in marshes, lakes, rivers, reservoirs and dams. Juveniles feed on fish, frogs and other small vertebrates. Bask on rocks, river banks and sand bars. Adults feed on larger mammals, large fish, snakes and turtles. Also known for opportunistic feeding. Known to dig burrows; hole nesting species; lay up to 50 eggs during dry season.



Common throughout MHTR. Widespread throughout Peninsular India, Central India and East India. Elsewhere in South Asia.

## **Conservation Status:**

Not listed in Wildlife (Protection) Act,

1972

IUCN Status: Not Assessed
Local Status: Common

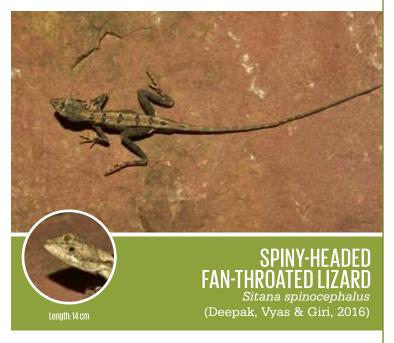
## Identifying characters

Medium-sized lizard; body laterally compressed and tail long; tympanum distinct; two conical scales above the tympanum; nuchal spines present; dorsal scales keeled and posteriorly pointed. Normally brown or yellowish brown in colour; during breeding, males attain black and bright reddish gular colour.

## Natural history

Diurnal. Arboreal, dwells in scrublands, deciduous forests, rocky areas and even in human settlements. Ambush predator. Insectivorous; feeds on insects and smaller vertebrates. They breed during the pre-monsoon season; females lay eggs by digging soil.





Recorded from Jawahar Sagar and Bhainsrodgarh areas of MHTR. Elsewhere in Rajasthan, Maharashtra, and Gujarat.

#### Conservation Status

Not listed in Wildlife (Protection)  $\,$ 

Act, 1972

IUCN Status: Least concern
Local Status: Uncommon

#### **Identifying characters**

A medium-sized lizard; slender body; large, weakly serrated dewlap; five large spine-like scales present back of the head; light colour, enlarged, keeled, projecting scales on lateral side of the thigh; long tail; hind limb covered with keeled scales. Dorsum is pale yellow and dark brown in colour; 5–6 dark kite-shaped patterns on the mid dorsal line; dewlap with a single blue line.

### **Natural history**

Diurnal. Terrestrial. Inhabits grasslands and scrub lands. Insectivorous, prefer to feed on insects, spiders and arthropods. Frequently seen basking on rocks. Fastmoving. Breeding recorded in May and June.



# INDIAN CHAMELEON

Chamaeleo zeylanicus (Laurenti, 1768)

# Length: 27 cm

### Distribution

Recorded in Borabas locality of MHTR Elsewhere in Peninsular India, . Pakistan, and Sri Lanka.

#### Conservation Status:

Schedule-II in Wildlife (Protection) Act,

IUCN Status: Least Concern Local Status: Rare

### **Identifying characters**

Medium-sized lizard; body laterally compressed; head with crest like bony projection; elongated, conical spines on ventral side of lower jaw; eyes large and movable orbit; limbs with opposable fingers; serrated mid-dorsal crest; tail prehensile. Colour varies from light yellow to dark green, sometimes with blotches and markings.

### **Natural history**

Diurnal. Arboreal. Found in dry thorny and evergreen forests; they prefer to live on bushes. Slow-moving bush-dwelling lizards with camouflaging ability. Inflates the body and produces a hissing sound when threatened. Insectivorous. Breeding takes place during June-July. Juveniles are seen during the post-monsoon season



Throughout MHTR. Widely distributed in Rajasthan, Gujarat and Pakistan.

#### **Conservation Status**

Not listed in Wildlife (Protection) Act. 1972

IUCN Status: Data deficient Local Status: Common

### Identifying characters

Medium-sized gecko. Head distinct from neck; flattened body; dorsal body covered with tubercular scales; tails have many spikes like tubercles; 10–14 femoral pores present. Body grey brown with dark spots. Camouflage colour depends on the habitat.

### Natural history

Nocturnal. Commonly found near human habitation, forest areas, caves and rock cliffs, inhabiting lower strata. Insectivorous. Oviparous; known to lay 2–3 eggs between March to October.



Found in fringe areas of MHTR. Common in Peninsular India and some parts of Northeast India and South Asia.

#### Conservation Status:

Not listed in Wildlife (Protection) Act, 1972

Length: 14 cm

IUCN Status: Least concern Local Status: Common

### **Identifying characters**

A large-bodied wall-dwelling gecko. Body robust, dorso-ventrally flattened; head distinct from neck; eye large; thick tail base with muscular fold; scales granular, smooth; 5–7 femoral pores on underside of hindlimb; well-developed lamellae beneath fingers and toes. Body and tail pale or dark greyish brown or yellowish shade, -wave like bands on dorsum; ventral yellowish.

### Natural history

Nocturnal. Inhabits forested and human habitations; commonly seen house wall, rocky crevices, caves and sometimes on trees. Breeds in summer; known to lay up to two eggs.



Recorded from Borabas and Kolipura localities of MHTR; expected to be found in Darrah and Bhainsrodgarh WLS areas also. Also recorded from Maharashtra, Gujarat, and Madhya Pradesh in India.

#### Conservation Status

Not listed in Wildlife (Protection)

Act. 1972

IUCN Status: Data deficient Local Status: Uncommon

### **Identifying characters**

A medium-sized stout-bodied gecko large eye; enlarged tubercles on dorsum; tail covered with posteriorly pointed, enlarged spines; 13–15 femoral pores present; well-developed lamellae beneath fingers and toes. Light brown dorsum with 12-13 dark edge light bands present; juveniles have brighter and darker dorsum colour than the adults.

### **Natural history**

Nocturnal. Primarily rupicolous, occasionally seen on ground; inhabit rocky slopes associated with dry open scrub areas; often found near termite mounds, under rocks and rock crevices. Insectivorous. Hatchlings can be seen between May to June.



Recorded throughout MHTR. Endemic to the Aravalli range and Vindhya hills (Rajasthan and Kuno, Madhya Pradesh).

#### **Conservation Status:**

Not listed in Wildlife (Protection) Act, 1972.

IUCN Status: Vulnerable Local Status: Common

### **Identifying characters**

Medium-sized gecko. Body dorso-ventrally flattened; head distinct from neck; snout blunt; conical scales present on dorsum; tail with spine-like projections; fingers and toes curved; lamellae not divided. Dorsum light brown or grey with a small, irregular black spot; a dark brown stripe behind eye; ventral light brown or off-white in colour.

### Natural history

Nocturnal. Rock-dwelling gecko. Common in rocky and dry areas. Inhabits grasslands, dry lands and thorn forests. Insectivorous. Oviparous, lays two eggs between April to July.



Recorded in Jawahar Sagar, Borabas and Kolipura of MHTR, expected to be found in Gagron, Rawatbhata and Bhainsrodgardh WLS. Endemic to Central India (part of Rajasthan and Madhya Pradesh).

#### **Conservation Status**

Schedule-I in Wildlife (Protection)

Act, 1972

IUCN Status: Not assessed Local Status: Uncommon

### **Identifying characters**

Medium-sized gecko. Body robust, dorso-ventrally flattened. Head distinct from neck, covered with irregularly sized scales; granular scales on dorsum intermixed with enlarged, rounded tubercles; short limbs with curved digits; lamellae subdigital; 13 pre-cloacal pores present. tail short, thick and cylindrical. Dorsally light brown in colour with yellowish transverse bands and longitudinal stripes, ventral white. Juveniles dark brown with brighter bands.

### Natural history

Nocturnal. Terrestrial. Inhabits open rocky terrain and dry forest. Feeds on arthropods, insects and small lizards. Oviparous, known to lay 2–3 eggs between June and July.



Commonly recorded throughout all ranges in MHTR. Throughout India, common in Central and Peninsular India and rare in North-east India. Also found in Bangladesh, Nepal, Sri Lanka, Maldives and Pakistan.

#### Conservation Status:

Not listed in Wildlife (Protection) Act,

IUCN Status: Least concern Local Status: Common

### **Identifying characters**

Medium-sized skink. Robust body, dorso-ventrally flattened; head indistinct from neck; large eyes with keeled and movable eyelids; large circular tympanum; dorsal scales with 3–5 distinct keels; tail broad, gradually tapering. Dorsally brownish to bronze in colour; a pale yellow stripe dorsolaterally running from head to base of tail; a broad, dark brown lateral stripe present starting behind the eye; ventral yellowish.

### Natural history

Diurnal. Terrestrial. Found in dry deciduous forests, scrublands or grasslands under leaf litter or rock crevices. Feeds on insects, beetles, other invertebrates and small vertebrates. Breeding occurs between March and August. OviparKnown to lay 8–23 eggs in soil heaps or fallen logs.



Recorded throughout MHTR. Elsewhere, India, Bangladesh, Nepal, Bhutan, Pakistan and Southeast Asia

#### **Conservation Status**

Schedule-I in Wildlife (Protection) Act. 1972

IUCN Status: Least concern Local Status: Common

#### Identifying characters

Small-sized skink; head indistinct from neck; eyes small with scaly eyelids; body scales with 5–7 keels. Dorsal bronze, sometimes with dark longitudinal lines; lateral side of the body dark brown with pale yellow spots; ventral creamish. In the breeding season, males assume an orange colour around the throat and neck.

### Natural history

Diurnal. Terrestrial; inhabits grasslands, dry or moist forests, open forests or scrublands; lives in fallen logs, tree trunks, or leaf litter of the forest floor. Insectivorous. Breeding occurs in the monsoon; known to lay up to 3 eggs.



# COMMON DOTTED GARDEN SKINK

Riopa punctata (Linnaeus, 1758)



#### Distribution

Recorded in Kolipura of MHTR, expected to be found in Bhainrodgarh, Darrah, Ranwatha and Gagron. Found in the Northwest, East and peninsular India, also found in Pakistan, Nepal, Sri Lanka and Bangladesh.

#### **Conservation Status:**

Not listed in Wildlife (Protection) Act,

IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Small-sized, shiny-bodied skink. Body slender; head indistinct from neck; body scales without keels; movable eyelids with a developed semi-transparent covering; short limbs; tail thick and cylindrical and gradually tapering. Dorsal colour dark brown with yellow dorso-lateral stripes starting from snout to base of the tail; tail reddish in colour, more pronounced in juveniles.

#### **Natural history**

Diurnal and terrestrial; lives in moist deciduous and dry deciduous forests. Hides under rotten logs, leaf litter, rock piles, and loose soil. Insectivorous. Oviparous; known to lay 22–34 eggs per clutch.





Found throughout MHTR. Elsewhere in Northern and central India, Odisha. Outside Pakistan and Afghanistan.

#### **Conservation Status**

Not listed in Wildlife (Protection)

Act, 1972

IUCN Status: Least concern Local Status: Common

#### **Identifying characters**

Small-sized lizard; body slender; tail twice the body length; head scales enlarged with irregular ridges; dorsal scales strongly keeled, weakly keeled towards lateral side; ventral scales larger than the dorsals and smooth. The upper body colour is copper-brown or olive brown with black spots; two pale golden lines run on the lateral body; ventral yellowish white.

### Natural history

Diurnal. Terrestrial. Prefers to live in dry thorn forest, grasslands and rocky areas. Fast-moving. Oviparous; known to lay up to seven eggs during pre-monsoon. Found under the rocks and leaf litter.



Recorded in Borabas, Jawahar Sagar, Kolipura ranges and Bhainrodgarh WLS of MHTR. Common in India. Distributed in Afghanistan, Pakistan, Bangladesh, Nepal, Sri Lanka, Southern China, Malaysia, Cambodia, Thailand, Singapore, Indonesia and Vietnam.

#### **Conservation Status:**

Schedule-I in Wildlife (Protection) Act, 1972

1972

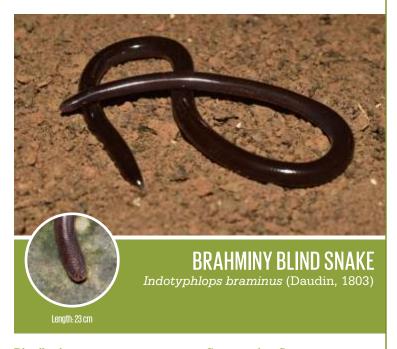
IUCN Status: Vulnerable Local Status: Common

### Identifying characters

Large-bodied lizard with muscular tail and limbs; snout elongated; nostril positioned at midpoint between eye and snout; tongue bifurcated; tail laterally compressed and gradually pointed. Dorsal colour varies from dark to light grey or brown with light spots; juveniles are more brightly coloured with yellow spots and dark bands on the dorsum.

### **Natural history**

Diurnal and primarily terrestrial. Lives in dry as well as moist forests; bask on fallen logs, tree trunks, rocky outcrops and forest trails. Feeds on insects, crabs, frogs, rodents, lizards and other reptiles. Breeds during the monsoon. Prefer to lay eggs in old termite mounds; clutch size up to 30 eggs.



Recorded throughout MHTR. It is widely spread throughout tropical and subtropical Asia, Africa, Middle East Asia and Australia.

#### **Conservation Status**

Schedule-II in Wildlife (Protection)

Act, 1972

IUCN Status: Least concern Local Status: Uncommon

### Identifying characters

Small worm-like snake; snout blunt, tiny eyes covered with scales; blunt tail ends in a spine; smooth scales and glossy body. Blackish brown or reddish brown dorsal; ventral creamy or sometimes tail whitish in colour.

### Natural history

Crepuscular & Fossorial. Inhabits grasslands, agricultural land and hills. Common in human habitation. Comes above the ground after heavy rainfall. Insectivorous; prefer to feed on ants, termite and their eggs. Parthenogenic. Known to lay 2-7 eggs during the monsoon.



Recorded in Jawahar Sagar, Borabas ranges of MHTR. Found in Rajasthan, Gujarat and Peninsular India. Elsewhere in Nepal, Bangladesh and Sri Lanka

#### Conservation Status:

Schedule-II in Wildlife (Protection) Act, 1972

Length:1m

1972

IUCN Status: Near threatened Local Status: Uncommon

### **Identifying characters**

Body stout. Head slightly distinct from neck; eyes small with vertical pupil; head scales small; dorsal scales keeled; tail short and strongly keeled. Dorsally brownish grey or reddish brown with irregular edged blotches; ventrally yellowish.

### Natural history

Nocturnal. Semi-fossorial. Common in drier regions, agricultural areas and near human habitation. Ambush predator; prefers to feed on rodents, birds, and lizards. Kills prey by constriction. Ovoviviparous; gives birth up to 8 young during May-July.



Recorded from Borabas and Jawahar Sagar ranges of MHTR. Elsewhere, throughout Western and peninsular India, except the Northeast and the Islands. Also distributed from Nepal, Pakistan, Afghanistan and the Eastern part of Iran.

#### **Conservation Status**

Schedule-I in Wildlife (Protection) Act. 1972

IUCN Status: Near threatened Local Status: Uncommon

### Identifying characters

Body stout; head indistinct from neck; eyes with vertical pupil; tail short and blunt; head scales slightly large; dorsal scales smooth. Dorsally dark brown or brownish red; ventrally brown.

#### Natural history

Nocturnal. Prefer to live in coastal scrubland, grassland, rocky habitats and animal burrows, Feeds rodents and frogs. Ovoviviparous; known to give birth to 6–8 young during April-May. Semi-fossorial.



Recorded in Bhainsrodgarh WLS, Borabas, Kolipura and Jawahar Sagar ranges of MHTR. Endemic to India (except North East). Also found in Sri Lanka and East Pakistan.

#### Conservation Status:

Schedule-I in Wildlife (Protection) Act, 1972

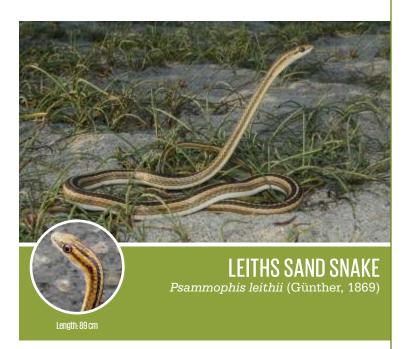
IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Large, stout, glossy-bodied snake. Head lance-shaped, distinct from neck; sensory pits present among lip scales; lip scales touch eye; tail short and prehensile; two spurs on two sides of the cloacal region. Dorsum brown with irregular shaped dark brown or grey blotches; tongue pinkish coloured; arrowshaped pattern on head; ventral white.

#### Natural history

Both diurnal and nocturnal. Commonly found in grasslands, agricultural lands, mangrove, dense forests and near water bodies. Climb and swim well; . Ambush predators prefer to feed on mammals, birds, and monitor lizards. Oviparous; known to lay up to 108 eggs.



Rare, recorded in Borabas of MHTR. Also found in Northern and western India and East Pakistan.

#### **Conservation Status**

Schedule-II in Wildlife (Protection) Act. 1972

IUCN Status: Least concern
Local Status: Bare

#### Identifying characters

Slender and tubular body. Head elongated; large eye with rounded pupil; long tail, scales smooth. Dorsally, yellowish brown or yellowish grey with two dark brown stripes running all along the body and two lines running behind the eye. Ventral yellowish white.

### Natural history

Diurnal. Semi-arboreal. Inhabits grassland and deserts, also found in scrublands. Prefer to feed skink and lizards. Oviparous; known to lay up to 10 eggs during March to June.



Rare, recorded from Bhainrodgarh WLS of MHTR. Found in Rajasthan, Gujarat, Madhya Pradesh, Jharkhand and throughout the Peninsular India. Sri Lanka.

#### Conservation Status:

Schedule-II in Wildlife (Protection) Act,

1972

IUCN Status: Least concern

Local Status: Rare

#### **Identifying characters**

Slender-bodied snake. Head indistinct from neck, blunt; pupil rounded; scales smooth. Dorsally light brown with a vertebral series of black dots, lateral greyish brown; head blackish with a yellow ring-mark on the nape; ventral yellow.

#### Natural history

Diurnal, sometimes active at night. Terrestrial; lives under the moist leaf litter, rocks and under the rotten logs. Prefer to prey on blind snakes and small geckos. Oviparous; known to lay up to 6 eggs.



Recorded from Borabas, Kolipura and Bhainrodgarh WLS areas of MHTR. Widely distributed across Peninsular India and North-Eastern India. Pakistan, Bangladesh and Sri Lanka.

#### Conservation Status

Schedule-II in Wildlife (Protection)

Act. 1972

IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Long, slender snake. Smooth-scaled; head slightly broader than neck; blunt, rounded snout; large eye with round pupil; vertebral scales slightly enlarged. Dorsum bronze-brown or purplish-brown; buff grey and dark brown stripes along the lateral sides; a pale yellow spot on head; throat yellowish.

### Natural history

Diurnal. Arboreal; inhabits bushes, open areas and human habitats. Fastmoving. Feeds on lizards, small birds and geckos. Known to lay up to 8 eggs..



Recorded from Jawahar Sagar area of MHTR, expected to be found in Kolipura, Bhainsrodgarh WLS. Found in Rajasthan, Odisha, Madhya Pradesh, Gujarat, Maharashtra.

#### Conservation Status:

Schedule-II in Wildlife (Protection) Act,

1972

IUCN Status: Least concern

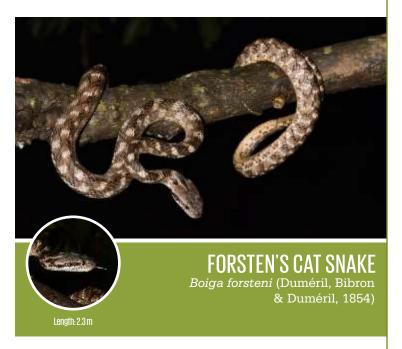
Local Status: Rare

### **Identifying characters**

Long and slender-bodied snake. Head pointed; snout tip upturned; pupil horizontal; a strong ridge on ventrolateral side. Dorsum chestnut brown with scarce black spots; ventral light orange in colour; two longitudinal lines running parallelly along belly.l.

### Natural history

Diurnal. Arboreal, may remain camouflaged among climbers; found in dry thorny and riparian forest. Prefer to feed geckos, lizards and small birds. Breeding unknown.



Recorded from Bhainrodgarh WLS. Borabas and Jawahar Sagar ranges of MHTR. Elsewhere Peninsular India, Sri Lanka and Nepal.

#### Conservation Status

Schedule-II in Wildlife (Protection)

Act. 1972

IUCN Status: Least concern Local Status: Uncommon

### Identifying characters

Medium growing species: body slightly compressed: head somewhat triangular: smooth scales; eyes with vertical pupil. Dark stripes on the head and postocular stripes behind the eyes. Two morphs are common in India. I) Grey and whitish with a dark checkered pattern along the body. II) Reddish yellow with a brown checkered pattern along the body. Ventral whitish and orange reddish.

### Natural history

Nocturnal. Arboreal; lives in dry and moist deciduous forests, in caves or in tree holes. Feed on bats, agamas, lizards and small birds. Oviparous; known to lay up to 10 eggs between April to June. Produced low hissing sounds when feeling threatened





Recorded from Borabas, Jawahar Sagar, Kolipura and Bhainsrodgarh WLS areas of MHTR. Widely distributed in India, Bangladesh, Afghanistan, Nepal and Sri Lanka.

#### **Conservation Status:**

Schedule-II in Wildlife (Protection) Act,

1972

IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Laterally flattened, slender body; triangular head, eyes with vertical pupil; long tail; scales smooth. Arrow shaped mark on head; light yellow or greyish brown dorsum, with white and dark brown zigzag markings along the body; ventral white or yellowish in colour.

### **Natural history**

Nocturnal. Terrestrial and arboreal. Found in dry deciduous forest in rock crevices, bushes, and tree holes. Displays a threatening posture by raising its fore body and vibrating its tail. Oviparous; known to lay 3–11 eggs inside tree hollows and beneath rocks during July to September.



Recorded from Borabas, Jawahar Sagar and Bhainsrodgarh WLS areas of MHTR. Widespread in India, except in the Islands.

#### **Conservation Status**

Schedule-II in Wildlife (Protection) Act, 1972

IUCN Status: Least concern Local Status: Common

#### Identifying characters

A slender-bodied snake. Head elongated, slightly distinct from neck; eyes with a rounded pupil; body scales smooth. Dorsum olive or chocolate brown; short oblique streak behind eyes; posterior body with broad dark brown stripes along the lateral side, which continues up to the tail tip. Ventral white. Subspecies Coelognathus helena nigriangularis (inset image) is identified by the black arrow or inverted 'Y' shaped marking on its head.

### Natural history

Diurnal and crepuscular. Inhabits deciduous and thorn forests, also capable of adapting to plantation and human habitation. Prefer to feed on rodents, birds and lizards. Oviparous; known to lay up to 12 eggs during the pre-monsoon.





Ptyas mucosa (Linnaeus, 1758)

#### Length: 3.7 m

#### Distribution

Widespread throughout MHTR. Also commonly found throughout India. South and Southeast Asia.

#### Conservation Status:

Schedule-I in Wildlife (Protection) Act,

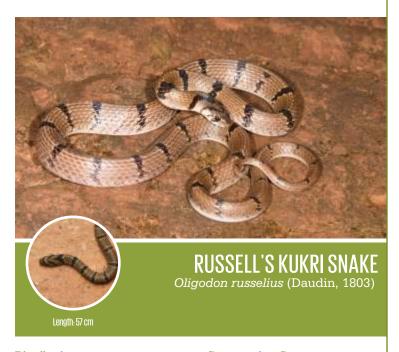
IIICN Status: Least concern Local Status: Common

### **Identifying characters**

Robust body, narrow head with large eyes; pupil round; scales on body smooth. Dorsum olive brown to blackish in colour, black vertical lines on lips; ventral side greenish yellow or whitish colour.

### Natural history

Diurnal, Arboreal, Commonly found in agricultural fields, near human habitation, open forests, grasslands and plantation areas. Fast-moving. Feeds on rats, frogs, bats, small birds and their eggs. Oviparous, known to lay 5-20 eggs under the rock during March to September.



Recorded from Kolipura range of MHTR. Also found in Central, Eastern and Northern India.

#### **Conservation Status**

Schedule-II in Wildlife (Protection) Act. 1972

IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Stout and cylindrical body. Head indistinct from neck; snout with enlarged rostral shield (protective scale); scales on body smooth; tail comparatively long and thick. A black band connecting the eyes followed by another inverted 'V' shaped marking on head; inverted 'Y' marking on neck; 30–45 black bands on dorsum; Body colour pale olive to pale brown; ventral yellowish in colour.

### Natural history

Crepuscular. Inhabit deciduous and scrub forests and near human settlements. Active during the daytime in the monsoon and winter months. Feeds on reptile and bird eggs and small rodents. Oviparous; known to lay five elongated eggs.





Widespread throughout MHTR. Also commonly found throughout India. South and Southeast Asia.

#### Conservation Status:

Schedule-I in Wildlife (Protection) Act,

Length: 59 cm

1972

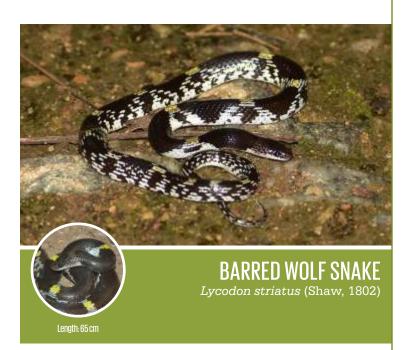
IUCN Status: Least concern Local Status: Common

### **Identifying characters**

Stout bodied snake with smooth scales; head indistinct from neck; snout with enlarged rostral shield. Two dark brown inverted 'V' patterns on head; dark patch on neck; pale yellow mid-dorsal line runs from the neck to tail; body colour varies from light brown to pale brown with dark brown cross bars; irregular white spots present on the body.

### Natural history

Crepuscular and Nocturnal. found in forests as well as modified areas. Feeds on reptile and bird eggs; juveniles feed on small insects and spiders. Oviparous; Breeding occurs in June; lays 3–9 eggs. Displays a coiled underside of the tail when threatened. Known for climbing ability.



Record in Borabas and Kolipura areas of MHTR. Distributed throughout India (except North-East). Elsewhere in Pakistan, Nepal, Sri Lanka, Uzbekistan, Tajikistan, Turkmenistan and Iran.

#### **Conservation Status**

Schedule-II in Wildlife (Protection)

Act, 1972

IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Slender-bodied, smooth-scaled snake; head flattened and broader than neck; eyes round and black; tail short and narrow. Dorsum black colour with white or yellow cross bands, which widens laterally to form triangular spots; faint bands near the tail.

### Natural history

Nocturnal and terrestrial. Lives in dry scrub forest, open forest, near human settlements and agricultural fields. Feeds on geckos, skinks and other lizards. Breeding occurs between July and August. Oviparous, lays up to 4 eggs.



# COMMON WOLF SNAKE

Lycodon aulicus (Linnaeus, 1758)

Length: 85 cm

#### Distribution

Recorded throughout MHTR. Distributed throughout India, Nepal, Bhutan, Bangladesh, Myanmar and South-east Asia.

#### **Conservation Status:**

Schedule-II in Wildlife (Protection) Act,

1972

IUCN Status: Least concern Local Status: Common

### **Identifying characters**

Slender-bodied, smooth-scaled snake. Head flat and slightly broader than neck; small and rounded eyes. Dorsally brown to greyish brown with a broad cream or yellowish collar on neck; body with white or yellow cross bands which laterally bifurcate. Ventrally plain white.

### Natural history

Nocturnal. Feed on geckos, small lizards and frogs. Found in and around caves, wells, hollow trees, logs and human habitation. Known to lay up to 7 eggs during December-January. Discharges foul-smelling excreta in defence. Bites aggressively when handled. Partially arboreal.



Found throughout MHTR. Occurs throughout South Asia..

#### **Conservation Status**

Schedule-II in Wildlife (Protection) Act. 1972

IUCN Status: Least concern Local Status: Common

### Identifying characters

Moderate-sized, slender-bodied snake with keeled scales; eyes large with round pupil; tail long, gradually tapering. Dorsally olive greenish to brownish with black or brown cross-bars that faded towards tail; two pale yellow or buff coloured stripes run from neck to tail; lateral side of the neck yellow.

### Natural history

Diurnal. Found in forests, plantations, agricultural areas and human habitation, often near moist areas. Feeds on tadpoles, frogs, lizards, insects and rodents. Oviparous, lays up to 15 eggs.



Rhabdophis plumbicolor (Cantor, 1839)

Length: 94 cm

#### Distribution

Recorded from Borabas, Gagron and Bhainsrodgarh WLS of MHTR. Distributed throughout India, Bangladesh and Sri Lanka.

#### **Conservation Status:**

Schedule-II in Wildlife (Protection) Act,

1972

IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Stout body with keeled dorsal scale; head distinct from neck; large eye with round pupil. Greenish dorsum with black irregular marks; young individuals have an inverted-shaped black mark on head and bright yellow or orange mark on neck.

### Natural history

Crepuscular. Found in grasslands and deciduous forests. The diet includes frogs, toads and rats. Oviparous; known to lay up to 14 eggs during July to September.



Widespread throughout MHTR. Distributed throughout India, Pakistan, Bangladesh, Myanmar, Nepal, Bhutan and Srilanka.

#### **Conservation Status:**

Schedule-II in Wildlife (Protection) Act, 1972

IUCN Status: Least concern Local Status: Common

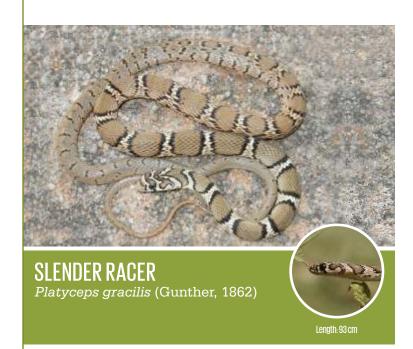
### **Identifying characters**

A moderate-sized snake; head pointed; eye with rounded pupil; body scales keeled. Dorsum olive-brown or olive-green with dark checkered pattern throughout; black streaks present behind eye; ventrally off-white.

### Natural history

Both diurnal and nocturnal. Inhabits a variety of habitats ranging from rivers, forest streams, marshes, paddy fields, ponds to human settlements. Feeds on fish, toads, frogs, and small rodents. Oviparous; breeds throughout the monsoon season, large females may lay up to 80 eggs. raise a narrow hood when threatened.





Recorded in Bhainsrodgarh WLS area of MHTR and Kota outskirts. Elswhere in Rajasthan, Gujrat, Maharashtra and Madhya Pradesh.

#### Conservation Status:

Schedule-II in Wildlife (Protection) Act,

1972

IUCN Status: Data deficient

Local Status: Rare

### **Identifying characters**

Slender body with smooth scales. Head distinct from neck; large eye with rounded pupil; long tail. Dorsum pale brown or pale yellowish-brown; 2 or 3 black edged brown bars on head; black edged brown blotches on body starting from neck, blotches posteriorly diffused in the form of bands; ventral yellowish with small dark dots.

### Natural history

Diurnal. Terrestrial; inhabits dry decidious forest, rocky terrain and near urban areas. Fast-moving. Feeds on rodents, skinks and other small-sized lizards. Oviparous.



Recorded in Borabas range of MHTR. Elsewhere in Peninsular India, Central, Northwest, and Eastern India. Known also from Pakistan.

#### **Conservation Status**

Schedule-II in Wildlife (Protection) Act. 1972

IUCN Status: Least concern Local Status: Rare

### Identifying characters

Slender and elongated snake with smooth scales. Head slightly distinct from neck; tapered snout. Dorsum light or dark olive-brown with white bands running from nape to mid body, sometimes bands are absent in adults.

### Natural history

Diurnal. Terrestrial. Inhabits plains, plateaus, mixed deciduous forest, scrub forest and rocky areas. Fast-moving. Prefer to feed on rats and frogs. Breed during October; lay up to six eggs. If threatened, it shows a narrow hood and flattens its forebody.



# SPECTACLED COBRA Naja naja (Linnaeus, 1758)

Length: 2.2 m

#### Distribution

Recorded from Borabas, Jawahar Sagar and Bhainsrodgarh areas of MHTR. Distributed in Northern and Eastern India up to western Assam. Also occurs in Pakistan, Nepal, Bhutan, Sri Lanka, and Afghanistan.

#### **Conservation Status:**

Schedule-I in Wildlife (Protection) Act, 1972

1972

IUCN Status: Least concern Local Status: Uncommon

### **Identifying characters**

Stout body; head indistinct from neck; snout rounded; smooth and glossy grainshaped scales; tail stout. Dorsum brown, yellowish brown, or dark black; hood pattern varies from specs shape to "V" shape, sometimes diffused.

### Natural history

Diurnal. Inhabit lowland scrub forest, deciduous forest, near agricultural land, plantations and around human habitation. Feeds on rodents, toads, birds, other reptiles and eggs. Raise its hood and produce a hissing sound in defence. Oviparous; known to lay up to 30 eggs between April—August.



Recorded throughout MHTR. Found all over India except Northeast India. Elsewhere in Afghanistan, Myanmar, Nepal, Pakistan, and Sri Lanka.

#### **Conservation Status**

Schedule-I in Wildlife (Protection) Act. 1972

Act, 1972

IUCN Status: Least concern
Local Status: Common

#### **Identifying characters**

Body slender, triangular in cross section; short, rounded and indistinct head; tail relatively short; eyes small with black pupil; body scales smooth; vertebral scales large and hexagonal. Dorsum black with more than 40 narrow milky-white bands throughout the body and tail, except the anterior-most body; ventrally white or yellowish white.

### Natural history

Nocturnal. Terrestrial; inhabit wide-ranging habitats from forests, plantations and urban areas. Feeds on snakes; sometimes small rodents, skinks and amphibians. Known to lay 6–14 eggs in March to May.



# SAW-SCALED VIPER

Echis carinatus (Schneider, 1801)

### Length: 50 cm

#### Distribution

Found throughout MHTR. Occurs in dry zones of India except in North and North-east India.

#### Conservation Status:

Schedule-I in Wildlife (Protection) Act,

IUCN Status: Least concern Local Status: Common

### Identifying characters

Body short relatively stout; head short and oval, distinct from neck; eyes large with vertical pupils; body scales strongly keeled. Dorsal colour varies from light or dark brown to greyish brown, marked with dark edged light reticulation pattern throughout the body and tail. An arrowhead-shaped marking on top of the head. Underside speckled with brown.

### Natural history

Nocturnal and terrestrial, can also climb low bushes. Inhabit deciduous or dry deciduous forests. When threatened it forms an S-shaped coil and rubs its body to produce sound like a wood-cutting saw. Ovoviviparous; females give birth up to 19 live young during April to August.



#### Distribution

Recorded from Kota near the MHTR. Elsewhere, throughout India, to Assam excluding extreme North and Northeast. Distributed in Pakistan, Nepal, Bhutan. Bangladesh, Sri Lanka and parts of South-east Asia.

### Conservation Status

Schedule-I in Wildlife (Protection)

Act. 1972

IUCN Status: Least concern Local Status: Uncommon

## Identifying characters

A stout-bodied snake with large, distinct, triangular-shaped head; nostrils large; tail relatively short; body scales strongly keeled. Dorsum light brown with ovalshaped blotches along the body; top of the head with "\" shape marking, bordered by two large blotches on the posterior side; board dark stripes behind eve and below it.

## Natural history

Both diurnal and nocturnal. Inhabit open grassy areas, scrub land, deciduous forest, mangroves, agricultural land, plantations, gardens, and human settlements. Feeds on birds, rodents, frogs and lizards. When threatened, it produces a loud hissing sound and forms an "S" shaped coil in defence. Ovoviviparous; females lay up to 40 live young during May to July.

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# **CHECKLIST**

# Amphibia (Anura)

#### Bufonidae

Duttaphrynus melanostictus Common Asian Toad
 Duttaphrynus scaber Schneider's Toad
 Firouzophrynus stomaticus Marbled Toad

### Dicroglossidae

4. Euphlyctis cyanophlyctis Indian Skittering Frog
5. Minervarya pierrei Pierre's Cricket Frog
6. Hoplobatrachus crassus Jerdon's Bull Frog
7. Hoplobatrachus tigerinus Indian Bull Frog
8. Sphaerotheca maskeyi Maskey's Burrowing Frog

### Rhacophoridae

9. Polypedates maculatus

#### Microhylidae

10. Uperodon globulosus

11. Microhyla nilphamariensis Froq Indian Tree Frog

Indian Balloon Frog

Nilphamari Narrow-Mouthed

# Testudines (Turtles & tortoise)

## Trionychidae

12. Lissemys punctata Indian Flapshell Turtle
13. Nilssonia gangetica Indian Softshell Turtle

### Geoemydidae

14. Pangshura tectaIndian Roofed Turtle15. Pangshura tentoriaIndian Tent Turtle

## Testudinidae

16. Geochelone elegans Indian Star Tortoise

# III. Crocodylia

### Crocodylidae

17. Crocodylus palustris Mugger Crocodile

# IV. Squamata (Lizards, Geckos & Snakes)

# A. Lizards (Sauria)

### Agamidae

18. Calotes versicolar Oriental Garden Lizard

19. Sitana spinocephalus Spiny-Headed Fan-Throated Lizard

Chamaeleonidae

20. Chamaeleo zeylanicus Indian Chameleon

Gekkonidae

21. Hemidactylus gleadowi
 22. Hemidactylus flaviviridis
 23. Hemidactylus sahgali
 24. Gleadow's House Gecko
 25. House Gecko
 26. Northern House Gecko
 27. Sahgal's Termite Hill Gecko

24. Cyrtopodion arravalensis Delhi Rock Gecko

Eublepharidae

25. Eublepharis macularius Common Leopard Gecko

Scincidae

26. Eutropis carinata Common Grass Skink27. Eutropis macularia Bronze Grass Skink

28. Riopa punctata Common Dotted Garden Skink

Lacertidae

29. Ophisops jerdonii Jerdon's Snake-Eyed Lacerta

Varanidae

30. Varanus bengalensis Bengal Monitor Lizard

Typhlopidae

31. Indotyphlops braminus Brahminy Blind snake

# B. Serpentes (Snakes)

#### Boidae

32. Eryx conicus Common Sand Boa 33. Eryx johnii Red Sand Boa

Pythonidae

34. Python molurus Indian Rock Python

Psammophiidae

35. Psammophis leithii Leith's Sand Snake

Colubridae

36. Sibynophis subpunctatus

Dumeril's Black-headed Snake

Common Bronzeback Tree Snake

Raudankia Vine Snake

38. Ahaetulla laudankia Laudankia Vine Snak
39. Boiga forsteni Forsten's Cat Snake
40. Boiga trigonata Common Cat Snake

40. Boiga trigonata Common Cat Snake
41. Coelognathus helena helena Common Trinket Snake
42. Ptyas mucosa Oriental Rat Snake
43. Oligodon russelius Russell's Kukri Snake

44. Oligodon taeniolatus
 45. Lycodon aulicus
 46. Lycodon striatus
 47. Rhabdophis plumbicolor
 48. Amphiesma stolatum
 49. Variegated Kukri Snake
 40. Common Wolf Snake
 41. Green Keelback
 42. Green Keelback
 43. Buff Striped Keelback

49. Fowlea piscator Checkered Keelback
50. Platyceps gracilis Slender Racer

51. Platyceps plinii Banded Racer

Elapidae

52. Bungarus caeruleus Common Krait

53. Naja naja Indian Spectacled Cobra

Viperidae

54. Daboia russelii Russell's Viper55. Echis carinatus Saw-Scaled Viper

# ABOUT THE AUTHORS

#### Oindrila Paul

Oindrila Paul is a researcher from Barasat, West Bengal. She completed her Master's degree from the University of Kota in 2023 and is currently working as a Project Associate at the Wildlife Institute of India. With a keen interest in herpetofauna, her research primarily focuses on the taxonomy, ecology, and evolution of reptiles and amphibians. Beyond her scientific pursuits, she is passionate about encouraging and mentoring young women to build careers in herpetology. In her leisure time, she enjoys painting, photography, and reading.



### Ranjit Satrusallya

Ranjit Satrusallya is a researcher from Balugaon, Odisha. He holds a Master's degree in Wildlife and Biodiversity Conservation from Maharaja Sriram Chandra Bhanja Deo University (2022). A naturalist from an early age, his interests lie in the taxonomy and ecology of amphibians and reptiles, particularly snakes and lizards. He has contributed to scientific research through his publications and actively engages in conservation awareness and education initiatives in his region.



## Bitupan Boruah

Born and brought up in Assam, he completed his Master's degree from Maharaja Sriram Chandra Bhanja Deo University (formerly North Orissa University) in 2015. He is currently pursuing his doctoral studies at the Wildlife Institute of India. His research focuses on the taxonomy and biogeography of amphibians and reptiles, and he has published several scientific papers, including descriptions of species new to science. Beyond herpetology, he also takes a keen interest in other faunal groups such as butterflies.



#### Souray Dutta

Sourav Dutta, born in Assam, is a passionate wildlife enthusiast with a particular focus on herpetofauna. His primary interest lies in documenting the rich diversity of snakes, and he has contributed to the scientific community with several articles on the subject. His work often emphasizes the unique species found in the region, shedding light on the biodiversity of Assam and the broader areas he studies. Through his documentation and research, Sourav aims to raise awareness about the importance of herpetofauna and its conservation



Muthu Somasundaram is an Tamil Nadu born officer of the Indian Forest Service, 2020 batch. He holds a Bachelor of Technology in Industrial Biotechnology and a Postgraduate Diploma in Advanced Wildlife Management from the Wildlife Institute of India, Dehradun. Apart from serving as the DCF of Mukandra Hills Tiger Reserve, he also takes interest in photography, birding and conservation education.

## Dr. Abhijit Das

Abhijit Das is a herpetologist currently working as a faculty at Wildlife Institute of India, Dehradun. He received his PhD from Utkal University, Odisha. His research area includes the taxonomy, systematics and conservation biology of Indian reptiles and amphibians.



