



PICTORIAL
GUIDE
AMPHIBIANS,
REPTILES
AND
MAMMALS
OF
EAST KOLKATA
WETLANDS

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ZOOLOGICAL SURVEY OF INDIA
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY

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CONTENTS

01
INTRODUCTION •

05
AMPHIBIANS •

27
REPTILES •

87
MAMMALS •

109
ACKNOWLEDGEMENT •

110
REFERENCES •



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Foreword



The East Kolkata Wetlands is a classic example of harnessing natural resources of a wetland ecosystem for sewage-fed pisciculture and agriculture through the ingenuity of the local communities having their traditional knowledge developed over decades. This unique wise use practice has earned this wetland system the recognition of a wetland of international importance in 2002 under the Ramsar Convention. This wetland ecosystem is also a home of rich biodiversity .

In 2016, the East Kolkata Wetland Management Authority (EKWMA) published a book named “Birds of East Kolkata Wetlands” which was successful in documenting the birds of these wetlands. Now, EKWMA in collaboration with Zoological Survey of India is bringing out a publication entitled “Pictorial guide on Amphibians, Reptiles and Mammals of East Kolkata Wetlands”. The present document captures the diversity of amphibians, reptiles and mammals found in this wetland hitherto unknown to the common public.

I hail the efforts of the Zoological Survey of India and other contributors in bringing out this document. I also hope that publication of such a valuable document will be helpful for all of us.

Prof. (Dr.) Saumen Kumar Mahapatra

Preface



The East Kolkata Wetlands, a multifunctional wetland ecosystem, houses a huge diversity of flora and fauna and is a unique example of utilizing the natural resources of a wetland system for development of sewage-fed fisheries and farms through the traditional knowledge base of local communities which supplies the metropolis of Kolkata with its daily requirements of fish and vegetables. This wise use practice has earned it the recognition as a Ramsar Site in 2002 as a wetland of International Importance.

The East Kolkata Wetland Management Authority was constituted as part of the Environment Department of the Government of West Bengal for the conservation and management of the East Kolkata Wetlands. However for documenting the faunal resources of this unique wetland, Zoological Survey of India, the premier research institute of the country for exploring and documenting the faunal resources of the Republic of India was called upon. In the last century, the East Kolkata wetland has undergone a vast change in its habitat structure. Since then ZSI has documented 10 species of amphibians, 9 species of lizards, 1 species of turtle, 19 species of snakes, 264 species of birds and 10 species of mammals from EKW which had not been properly documented before. ZSI has also described the only endemic mammal, the Marsh Mongoose from these wetlands in 1965. Later the habits, food preference and family life of that mongoose have been studied by ZSI.

ZSI and EKWMA have therefore jointly produced this document, which will be a useful reference work on amphibians, reptiles and mammals found in the East Kolkata Wetlands for the researchers, students, nature lovers and every citizen concerned with the faunal diversity of these wetlands.

I congratulate the authors from ZSI and the EKWMA for their commendable job in producing this important publication.

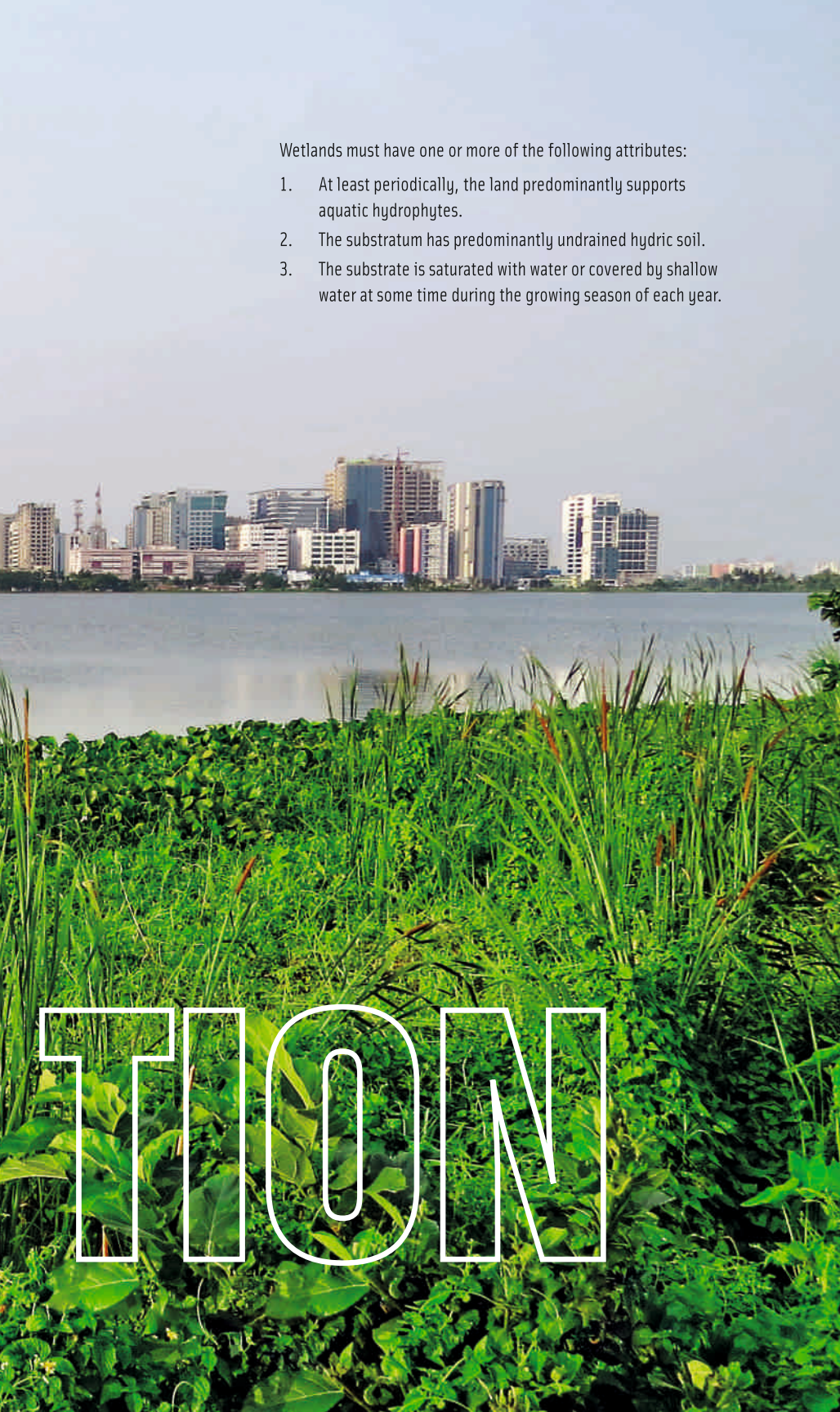
A handwritten signature in black ink, appearing to read 'Kailash Chandra', with a long, sweeping horizontal stroke extending to the right.

Dr. Kailash Chandra
Director

Known as one of the most productive ecosystems in the world, wetlands consist of areas on the surface of the earth which are between aquatic and terrestrial ecosystems. In the past fifty years many definitions of wetlands have been published. Although the one given by the Convention on Wetlands of International Importance, especially as Waterfowl habitat in 1971 (better known as the Ramsar Convention) is widely accepted, the definition given by U.S. Fish and Wildlife Service in 1979 is more specific since it includes attributes which is useful in delimiting a wetland. It states that "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water".



INTRODUC



Wetlands must have one or more of the following attributes:

1. At least periodically, the land predominantly supports aquatic hydrophytes.
2. The substratum has predominantly undrained hydric soil.
3. The substrate is saturated with water or covered by shallow water at some time during the growing season of each year.

East Kolkata Wetlands (EKW) is an intertributary marsh formed due to shifting of the Bhagirathi or Hugli river and its distributaries like the Bidyadhari and Matla. It is located between latitudes $22^{\circ}25''$ to $22^{\circ}40''$ North and longitudes $88^{\circ}20''$ to $88^{\circ}35''$ East. It is a low lying area between the river Hugli to the west, which is the main distributary of the river Ganga and the Bidyadhari river, now dry to the east (Ghosh & Sen, 1987). Though at present the water bodies contain only fresh water, in the past the area was under tidal influence through its connection with the Bay of Bengal through various canals. Pollen analysis and Radio Carbon Dating shows that EKW was once part of the Sunderbans. In the 14th Century the main flow of the Ganga changed course from the Bhagirathi-Hugli to the Padma in Bangladesh. The flow of fresh water into the EKW was subsequently reduced due to this shift of the river course. The resultant change in salinity must have brought a big change to the flora and fauna of the EKW area. Apart from these natural causes, when Kolkata was born three hundred years ago, man made changes started greatly to affect the environment.

The past state of the EKW passed through many phases as silt brought in by the great river systems raised the original seabed into mangrove wetlands. We do not have any account about the biodiversity of this area in its mangrove phase but we can reasonably be sure that it was somewhat like those of the mangrove ecosystems of Sunderbans as it was part of that system then. Earliest account (1748) depicts the EKW as a very extensive lake which in no part was more than 18 inches deep. When the British first settled in this area, the EKW was left alone. The immediate vicinity was considered inhospitable for settlement

TION



being a breeding ground of malaria and other insect borne diseases (Ghosh & Sen, 1987). The area of that lake was estimated to comprise of about 26 square miles. The western part of the lake was traversed in a diagonal direction about 5 miles by a navigable channel in which tidal current was rapid and which contained 12–20 feet of water. It was evident that tidal flow was still active in the EKW in 1879. Subsequently the region passed through many phases as the mangrove wetlands changed into an estuarine intertidal marsh with emergent grasses criss-crossed by embankments and other man-made channels. Together with the changing course of the Hugli river and consequent changes in the course of its distributaries, human intervention played an important role in shaping the landscape and land-use of the region (Ghosh & Sen, 1987).

Historical Perspectives

In 1777 excavation of Tolly's Nullah through an old bed of river Hugli resulted in the joining of Hugli and Bidyadhari river. This resulted in the diversion of head waters of the Bidyadhari and consequent siltation in the lower reaches of the river. This was possibly the first human intervention that finally led to the death of Bidyadhari 150

years later. In 1810 the Beleghata Canal was excavated. This canal was an old channel through the EKW and further extends westwards into the city. In 1829 the Circular Canal was excavated from Entally to the Hugli river. During 1880–1884 excavation of several east and west cuts, including the Bhangore Canal distributed the tidal equilibrium of the spill-channels of the Bidyadhari and Kulti series of rivers. In 1859 the New Cut Canal was excavated from Ultadanga to Beleghata. From 1865 land filling started in the EKW. A square mile area was acquired for dumping of city's garbage and for sewage farming and fisheries. Around 1880 cultivation on garbage started. In 1883 Dhapa lock gate was constructed which led to the exclusion of entire tidal water from Dhapa to Entally, lead to deterioration of the central lake. In 1896 cross-damming of one of the bigger spill-channels of the Bidyadhari river resulted in final silting of that river. During 1897–1898 canalization of the Bhangor Khal and construction of the Bamanghata Lock Gate to facilitate inland navigation caused further deterioration of the central lake. The construction of Krishnapur Canal in 1910, to make a shorter route between New Cut Canal and Bhangor Khal, cut off more than 78 sq km of the spill area



of the Bidyadhaririver. In 1928, the Bidyadhari river was officially declared dead by the Bengal Government.

One can visualize the changes in the environment brought about by the intensive human interventions. The face of the wetland changed from wild swamps to a cultured habitat. This continued through the next century causing the dramatic change in the landscape that gave shape to the EKW of the present. In 1962–1967 reclamation of the EKW for the extension of the city resulted in huge conversion of wetlands into urban areas and aggravation of drainage problems of the city during the monsoons. In 1980s the Eastern Metropolitan Bypass was constructed (Ghosh & Sen, 1987).

The traditional fisheries of EKW suffered greatly when the Bidyadhari river receded. The need for an alternative was found when the city's sewage water could be utilized. From 1930 all over EKW sewage treatment fisheries grew. This makeshift drainage system sustains the entire range of these fisheries even today. Farming on garbage as practised now started far back in 1870. Garbage was distributed throughout this area known as Dhapa with the help of railway carriage at that time. During this 100 years period the dumping of garbage has resulted in raising of EKW by about a

meter (Ghosh, 1985). Basically the waste recycling region of EKW now covers about 12500 hectares. The average daily production of vegetables irrigated by sewage ponds is about 150 tons. These are the earliest garbage fed fisheries in the world and this wise use sustainable pattern of these wetlands has gained it the status of Ramsar Site in 2002.

Zoological Survey of India has documented 248 species of birds in EKW between 1964–1969 based on extensive collections (Ghosh, 1990). PrakritiSamsad, a NGO has documented 123 bird species between 1978–1983 (Roy Chowdhury, 1984). Presently due to reclamation and change in wetland use pattern very few birds survive although some migratory birds still visit the EKW especially in winter. It seems that reptiles, amphibians and mammals in EKW has never been properly documented. This book is thus the first attempt in that direction.



AMPHIBIANS



10

COMMON INDIAN TOAD

Duttaphrynus melanostictus
(Schneider, 1799)

Local name
Kuno bang

Distinguishing features

Large-sized toads. Head is broader than long with cornified bony ridges. Parotoid glands are large and bean-shaped. Fingers are without webbing. Toes are partly webbed with three segments of the fourth toe free. Skin is rough with several black-tipped spiny warts.

Habits

Terrestrial and nocturnal. They are neither good swimmers nor leapers but do breast strokes while crossing a pool of water. During the rainy season when insects are abundant, the toads locate them by vision and capture them by flipping the tongue.

Breeding behaviour

Breeding takes place from May to September, coinciding with the monsoons. The species is a prolific breeder and a single female may lay over a thousand eggs in a convenient patch of water.

Size

Snout to vent length: 45–130 mm. The females are much larger than the males.

Colour

Uniformly greyish or dark brownish with few yellow or pinkish spots on the back. Ventrums dull white with a yellowish tinge. The throat of the breeding male becomes light orange and the vocal sacs turn black.

Habitat

During the daytime, they hide under logs, stones, brick piles, moist holes and crevices of tree-trunks. Solitary but congregate during the breeding season, when they are seen near water.

Distribution

All the districts of West Bengal and common throughout the plains of India.



02

MARBLED TOAD

Duttaphrynus stomaticus
(Lutken, 1864)

Local name
Kuno bang

Size

Snout to vent length: 30-90 mm.
The females are much larger than
the males.

Distinguishing features

Medium to large sized toads with
smoother texture of the skin. The
skin lacks the horny warts typical
of the Common Indian toads. There
are several irregular flat warts on
the upper side. Ventrums are
coarsely granular except the throat
and the chin. Head is broader than
long and without any bony ridges.
Parotoid glands are elongated and
elliptical but not bean-shaped.

Colour

Upper side brownish or olive-
yellow or olive-grey with or without
darker markings. Ventrums
including the upper lip is whitish.
The males develop a bright
yellowish tinge at the time of
breeding and the vocal sac turns
black.

Habits

They are mostly active at nights
but may be seen roaming about
during daytime in the breeding
season.

Habitat

They are found near water in the
breeding season.

Breeding behaviour

Breeding season lasts from June to
September during the monsoons.
They breed in shallow pools.

Distribution

South Bengal including many
areas of East Kolkata Wetlands.
West Bengal and throughout the
plains of the country from Jammu
and Kashmir to Kerala and Tamil
Nadu.





03

ORNATE NARROW MOUTHED FROG

Microhyla ornata
(Dumeril & Bibron, 1841)

Local name
Cheena bang

Size

16-27 mm (snout to vent length).
The females are bigger than the
males.

Distinguishing features

Small-sized, vividly patterned, active frogs. The head is rather small with a narrow pointed snout which projects beyond the mouth, Ear-drum is indistinct. Rudiment of webbing between the toes. Two small but distinct and oval inner and outer pedal tubercles are present. The skin is smooth.

Colour

Dorsum is light brown to bronze with distinct dark brown diamond-shaped marking over the back, beginning between the eyes, extending to both the eyelids, narrowing behind the head and widening above the shoulder, then narrowing again and finally broadening out and sending a stripe to the groin and the thigh. A dark streak extends along the sides from behind the eye to the shoulder.

Habits

They are terrestrial and nocturnal but are active during even in daytime in the rainy season. They normally move about and feed amongst grass, herbs and bushes growing on moist soil and under fallen bamboo leaves on the banks of ponds and lakes. They are very agile and in comparison to their size can cover a considerable distance by leaping.

Habitat

They have a wide habitat preference ranging from urban gardens to wetlands.

Breeding behaviour

The breeding season commences with the onset of the rains in June and extends upto September. The males call in chorus, beginning in the evening, near stagnant temporary pools of water, puddles and inundated paddy fields.

Distribution

All the districts of West Bengal and throughout India.





04

INDIAN PAINTED FROG

Uperodon taprobanicus
(Parker, 1934)

Local name
Sundari bang
and *Rupasi bang*

Size

28-58 mm (snout to vent length).

Distinguishing features

It is a medium-sized, colourful, stocky-built, stout-bodied, short-legged frog. The ear-drum is hidden. Fingers are without webs, the tips of the fingers bear short well-developed triangular discs. Toes are about one-third webbed and terminated with dilated triangular discs. Inner pedal tubercle is well-developed, large and shovel-shaped. Outer pedal tubercle is small.

Colour

Dorsum is grayish-brown or blackish-brown with deep red irregular patches margined with black. These patches sometimes form a dark reddish lateral band running on each side from the eyes to the groin. The belly is grayish, finely spotted with brown. In breeding males, the throat is black.

Habits

They are burrowing and nocturnal. The adults are sluggish, staying underground for most of the year. They emerge from their burrows in the early monsoon. They hop slowly but swim well. The adults mainly feed on black ants, termites, various small beetles and other insects.

Habitat

Although well-adapted to live in rural, agricultural areas they are sometimes seen in urbanized towns where they dwell in dirty drains and ditches. They mostly breed in stagnant dirty water of pools and ponds.

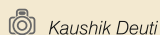
Breeding behaviour

The breeding activities start with the first rains in June and extend upto end of July. After a heavy shower, they emerge from their hiding places and visit a pool of dirty water where the males inflate their single vocal sacs and use them as floats in water. During pairing the mated pairs float passively in water as they lay eggs.

Distribution

Found in all the districts of West Bengal except the Darjeeling hills. Elsewhere in Assam, Bihar, Jharkhand, Odisha, Madhya Pradesh, Chattisgarh, Maharashtra and Peninsular India. Outside India in Nepal, Bangladesh and Sri Lanka.





50

SKITTERING FROG

Euphlyctis cyanophlyctis
(Schneider, 1799)

Local name
Jal bang
and kat-kati bang

Size

30-69 mm (snout to vent length).
The females are normally larger
than the males.

Distinguishing features

Medium-sized aquatic frogs,
normally seen floating in open
water. The eyes are placed above
the head and protrudes out of the
water when the frog is floating.
Fingers are without webbing, the
tips of the fingers are pointed. Toes
are fully webbed.

Habits

Float passively in water but when
disturbed can skip smoothly over
the water for some distance to the
middle of the pond and then float
gracefully above the surface with
the hind legs held parallel.

Sometimes they dive to escape
intruders. They spend most of their
life in water or in the vicinity of
water bodies but may migrate onto
land in the summer months, when
the temporary pools of water dry
up. The adults are known to
capture aquatic insects and small
fishes and even feed on
earthworms, beetles and crickets.
Some aquatic vegetation is also
taken.

Breeding behaviour

The breeding season begins with
the first rains and lasts till the end
of the monsoons.

Colour

The back is dark olive-brown or
grayish-brown or grayish-black
with darker rounded spots on the
back and stripes on the limbs.
Belly is white with black spots on
the flanks.

Habitat

The commonest and most adaptive
of all frogs in West Bengal, found
in all kinds of water bodies from
ponds, canals, ditches, rain-water
puddles, irrigation channels, rice
fields etc.

Distribution

Common in all the districts of
West Bengal and throughout the
plains in the rest of the country.
Elsewhere in Sri Lanka, Pakistan,
Afghanistan, Middle East, Nepal,
Bhutan, Bangladesh, Myanmar,
Thailand and south-east Asia.





06

GREEN POND FROG

Euphlyctis hexadactylus
(Lesson, 1834)

Local name
Sabuj bang

Size

60-144 mm (snout to vent length).

Distinguishing features

A giant leaf-green frog, which spends most of the time in water, tending to stay within the cover of floating or emergent aquatic plants and blending totally with the background of those water plants. The eyes are placed on the top of the head and the ear-drum is large and distinct. Fingers are without webbing, the tips of the fingers and toes are pointed. Toes are fully webbed. There is strong dermal fringe on the outer toes.

Colour

Olive-green or deep grass green on the back, mostly with a pale yellowish-white median streak. The sides and webbing on the toes are yellow as is the throat which may be stippled with brown. Ventrums white or yellowish-white.

Habits

They are found floating in old ponds and bheries where dense green floating vegetation like Eichhornia, Pistia, Lemna etc grow abundantly. The adults have the unique habit of feeding on aquatic plants. Feed mainly on weeds but also on various insects especially dragonflies and their larvae. Snails, small fishes and smaller frogs are also found in the stomach.

Habitat

Found more in ponds, canals and ditches choked with water plants.

Breeding behaviour

Breeding season commences with the start of the monsoons in June-July and extends upto October.

Distribution

24 Parganas, Haora, Hugli, Medinipur, Bardhaman, Bankura, Birbhum and Nadia districts of West Bengal. Peninsular India, Maharashtra and Gujarat. Elsewhere in Sri Lanka and Bangladesh.



07

INDIAN BULL FROG

Hoplobatrachus tigerinus
(Daudin, 1802)

Local name
Kola bang
and *Sona bang*

Size

60–160 mm (snout to vent length).
The males are smaller and darker
than the females with large nuptial
pad on the first finger.

Colour

Yellowish or olive-green with
darker leopard-like spots and
patches. A yellowish median stripe
runs from the tip of the snout to the
vent. A broad white band runs
along the side separating the
darker colour of the back from the
white belly. The breeding males
turn bright lemon yellow.

Habits

They are nocturnal, semi-aquatic,
good swimmers and hide among
grasses, bushes and burrows at the
edge of ponds, ditches and canals.
When frightened, leap erratically
following a zig-zag course towards
the nearest source of water and
dive headlong into it. Feeds on
almost anything from insects,
spiders, land crabs, earthworms,
centipedes, snails, scorpions,
small fishes, turtles, skinks, mice,
squirrels, garden lizards, small
birds and even small snakes upto a
meter long.

Habitat

Common in the plains mainly in
paddy fields, irrigation channels,
village ponds and ditches.

Distribution

All the districts of West Bengal and
throughout India from the base of
the Himalayas to the south.
Elsewhere in Sri Lanka, Pakistan,
Nepal, Bangladesh, Myanmar,
Thailand, south China and south-
east Asia.

Breeding behaviour

With the onset of the rains, from
June to September. Attracted by
the males' call the females
congregate at the calling sites.





80

SYHADRA CRICKET FROG

Fejervarya syhadrensis
(Annandale, 1919)

Local name
Jhi-jhi bang

Size

Snout to vent length 30-62 mm.

Distinguishing features

Small to medium-sized frogs. Snout is somewhat pointed and projects beyond the mouth. A prominent skin fold runs from behind the eye, over the ear-drum to the shoulder. Some short and interrupted longitudinal glandular folds are present on the back. Tips of the fingers and toes are swollen but not disk-like.

Colour

Greyish or olive-brownish above, usually with distinct darker markings which assume regular or irregular symmetrical patterns. There is a V-shaped black band between the eyes. Lips and limbs are barred. A yellowish or whitish median streak is often present.

Habits

Quite agile and usually seen near water. If disturbed, they jump into water but soon return to the banks as they are not good swimmers.

Habitat

Found near bushes growing at the edges of ponds, ditches and canals.

Breeding behaviour

After a heavy shower, the females come out of their hiding places attracted by the mating calls of the males and visit the breeding grounds which are pools of rain water accumulated in shallow depressions. Amplexing frogs are seen in the evenings near these rain water pools.

Distribution

All the districts of West Bengal and very common in the East Kolkata Wetlands.



60

REED FROG

Hylarana tytleri
(Theobald, 1868)

Local name
Pana bang

Size

Snout to vent length 30-45 mm.

Distinguishing features

Medium-sized slender elongated frogs. Snout is more or less pointed and projects beyond the mouth. Ear-drum is very distinct and nearly equal to the diameter of the eye. Fingers are slender with rudimentary web. Tips of the fingers and toes are dilated into prominent disks. Hind leg is long and slender. Toes are partly webbed with two segments of the fourth toe free.

Colour

The colouration is cryptic, camouflaging the frog against the surrounding vegetation. Yellowish-brown to leaf-green above during mature stage. Two golden or yellowish lines run along the back from the upper eyelid to almost the vent. Two similar lines run along each side from the jaw to below the ear-drum and then extend almost up to the thighs. Ear-drum is pinkish. Limbs yellowish-brown speckled with black.

Habits

Active mainly at night, they are quite agile and can leap well.

Habitat

Found in thick floating aquatic vegetation, on lily pads and among reed beds or bushes growing at the edges of ponds and marshlands.

Breeding behaviour

The breeding season coincides with the onset of the rains during May-June. Breeds in stagnant ponds or slowly running canals filled with dense aquatic vegetation.

Distribution

Most of the districts of South Bengal including the East Kolkata Wetlands.



10

COMMON INDIAN TREE FROG

Polypedates maculatus
(Gray, 1834)

Local name
Gecho bang,
Kath bang

Size

35-85 mm (snout to vent length).
The females are larger than the
males.

Distinguishing features

Medium to large-sized, slim,
narrow-waisted tree frogs with
slender elongated limbs and
goggling eyes. Fingers are with
rudimentary webbing. Toes are
almost half-webbed with two
segments of the fourth toe free.
Tips of fingers and toes are dilated
into flattened spherical adhesive
discs.

Colour

The overall colour is dark brown to
grayish-yellow with a distinct
chocolate-brown, blackish-brown
band extending from the tip of the
nostril on both sides of the head,
passing through the eyes, up to the
middle of the belly. The limbs are
cross-barred and the rear side of
the thighs are yellow with dark
brown spots.

Habits

Nocturnal and arboreal. They avoid
daylight and hide among green
vegetation especially within the
sheaths of banana or the crevices
of rocks and brick walls, mud
walls, under barks of trees but
come out at dusk in search of food.
They are fond of inhabiting human
dwellings mostly preferring the
dark and moist places of
bathrooms. They consume large
insects including beetles,
grasshoppers, crickets,
cockroaches, ants and spiders.

Habitat

The species is generally found in
urban, semi-urban areas and in
vegetation around villages.

Distribution

Common all over the plains of
West Bengal State (in all the
districts) and all over the plains of
North and South India except the
very arid areas. Also found in
Pakistan, Nepal, Bangladesh and
Sri Lanka.





10

COMMON GARDEN LIZARD

Calotes versicolor
(Daudin, 1802)

Local name
Girgiti

Size

Head and body 14 cm. Tail 31 cm.
Males are bigger than the females.

Distinguishing features

Scales on body pointing backwards and upwards. Dorsal crest of lance-shaped spines from shoulder to the base of the tail which is more prominent in males. Cheeks are muscular and swollen in males. Tail long, cylindrical and swollen at the base.

Colour

Brownish or sandy grey above, uniform or with a pattern of dark brown spots and bars on the back and sides. In breeding males, head becomes bright red with a black patch on the side of the throat.

Habits

A diurnal and arboreal lizard which is adept at making itself inconspicuous by its immobility and colour. An agile climber, it can move with speed and dexterity when necessary.

Habitat

Lives in a variety of habitats from roadside vegetation, gardens, hedges and human habitations. Prefers shrubs and undergrowth.

Breeding behaviour

Seasonal, from April to end of September. Each male maintains a territory and displays from an elevated site, usually the bare trunk of a tree or tree-stump from where it can see the surroundings and can itself be seen. The display in the form of press-ups and solemn nodding of the head acts both as courtship and threat display. The male often chases the female but mating is brief, the male holding the female and twisting his tail under hers to copulate.

Distribution

Abundant and most common lizard, widespread throughout all the districts of West Bengal and all over India.



02

YELLOW GREEN HOUSE GECKO

Hemidactylus flaviviridis
(Ruppell, 1835)

Local name
Tiktiki

Size

Head and body 8 cm. Tail 10 cm.

Distinguishing features

A medium-sized, smooth textured common house gecko. Head oval, body flattened without tubercles.

Pupil vertical. Fingers and toes dilated with two series of lamellae and a free slender claw at the end. 7-10 lamellae under the first toe and 11-14 lamellae under the fourth toe.

Colour

Pale yellowish-green during day to pale greyish at night with some indistinct markings on the back. Belly light yellow.

Habits

Nocturnal but highly territorial, occupying the same retreat day after day. They move with speed and dexterity on the surface of the walls to capture insects. Smaller insects are captured whole but larger ones battered to death.

Habitat

Normally found on inside walls of houses. Also arboreal in some areas.

Breeding behaviour

The call is a subdued grinding noise tik-tik-tik-tik usually uttered on sighting another gecko and acts as a challenge to other males and an attraction to the female. When copulating, the male holds the female by the neck and partially covers her with his body. Mating occurs in March-April. Usually two oval or elliptical hard-shelled eggs are laid in crevices of walls.

Distribution

Widespread in northern and eastern India and in all the districts of West Bengal.





03

ASIAN HOUSE GECKO

Hemidactylus frenatus
(Dumeril&Bibron, 1836)

Local name
Choto Tiktiki

Size

Head and body 6.5 cm. Tail 6 cm.

Distinguishing features

A small house gecko that makes a loud noise. Head is large. Body is slender and depressed with scattered tubercles. Back smooth without any tubercles but sides of tail with enlarged tubercles. 4-5 lamellae under first toe and 9-10 lamellae under fourth toe. Males with 28-36 femoral pores.

Colour

Upper surface yellowish-brown to greyish-brown. A light brown streak on side of the head which sometimes continue along the side of the body. Belly unpatterned cream.

Habits

Nocturnal. Retreat into crevices during daytime. Call is a loud tik-tik-tik consisting of a series of 4-5 loud notes.

Habitat

Inhabit human habitations and plantations.

Breeding behaviour

Breeding season is April-May. Lays two eggs at a time. Eggs hatch after about 42 days.

Distribution

Very common throughout India and South-east Asia.



 Pratyush Mohapatra

04

BROOKE'S GECKO

Hemidactylus parvimaculatus
(Deraniyagala, 1953)

Local name
Metho Tiktiki

Size

Head and body 6 cm. Tail 7 cm.

Distinguishing features

A common rough-skinned gecko. Head is oval, body is flattened with granular scales and conical tubercles arranged in regular rows. Tail with spiny tubercles on the sides. 5-6 lamellae under the first toe and 7-10 lamellae under the fourth toe.

Colour

Upper surface dark brown with varying shades of grey and with dark brown spots arranged in groups. Two dark lines along nostrils and eyes. Belly whitish.

Habits

Nocturnal and ground-dwelling. It is active during hot and wet months, hibernating during winter. Its loud chuck-chuck-chuck call is often heard after dusk.

Habitat

Often seen on ground. Hides under stones, rocks etc.

Breeding behaviour

Breeds during hot weather. Lays two spherical eggs between May-August. More than one clutch may be laid in a year. Eggs hatch after 39-43 days.

Distribution

Common throughout northern and eastern India including West Bengal.





Pratyush Mohapatra

50

COMMON GRASS SKINK

Eutropis carinata
(Schneider, 1799)

Local name
Baro Ghaser Anjoni

Size

Head and body 13 cm. Tail 16 cm.

Distinguishing features

The commonest skink with a robust, elongated and flattened body, covered with uniform-sized dorsal scales with 3-5 strong keels. Snout elongated. Eyes are large and lower eyelid is scaly. Fingers and toes are well-developed with lamellae and claws. Tail is thick at the base but gradually tapers to the tip.

Colour

Dorsum shiny brown or bronze-brown or olive with or without light spots. A yellow dorso-lateral band from behind the eye to the base of the tail always more or less distinct. Belly creamish white or yellow. During the breeding season, the flanks and sides of the jaws of the male turn orange red or scarlet while the belly remains yellow.

Habits

Diurnal and terrestrial, frequently seen basking or foraging in open areas. Primarily a ground dweller, actively searching through leaf litter for prey. Normally bask on rocks in the mornings. The skink returns to a particular night roost.

Habitat

They are generally found on the ground around rocks, piles of stones or bushes, cultivated fields, gardens, human habitations, semi-urban areas and residential localities.

Breeding behaviour

8-23 eggs are laid under soil heaps, logs in a self-excavated hole between March and August. Hatchlings 26-27 mm (snout-vent length) emerge between April-September.

Distribution

Widespread throughout India and in the East Kolkata Wetlands.



96

BRONZE GRASS SKINK

Eutropis macularia
(Blyth, 1853)

Local name
Tamate Ghaser Anjoni

Size

Head and body 7.5 cm. Tail 9 cm.

Distinguishing features

A small skink with a slender body. Body shortened and depressed with well-developed limbs. Dorsal scales with 5-7 strong keels. Tail is somewhat longer than the body.

Colour

Dorsum bronze-brown with or without dark elongated spots forming longitudinal lines. Sides of the body darker brown with white spots in juveniles and males and grey in females. The males of this species have a bright orangish-red colouration on the throat and neck in the breeding season.

Habits

Diurnal as well as crepuscular. Terrestrial, dwelling among leaf litter. Mostly on the ground, under bricks and rocks, below logs. Usually forages or basks among low vegetation.

Habitat

Inhabits leaf litter in moist marshlands and grasslands, plantations.

Breeding behaviour

2-4 eggs are deposited by digging a hole in the ground under dead leaves or thick pile of decaying grass between April and September. More than one clutch is laid annually. Eggs hatch in 15-28 days up to September. Hatchlings at birth measure 19-22 mm (snout-vent length) and 27-28 mm (tail length).

Distribution

Very common and widespread throughout India.



70

WHITE SPOTTED SUPPLE SKINK

Lygosoma albopunctata
(Gray, 1846)

Local name
Futkijukto choto anjoni

Size

Head and body 6 cm. Tail 7 cm.

Distinguishing features

A common little skink found in gardens in both towns and villages. Body slim and elongate. Head small scarcely distinct from neck. Eyelids well-developed and movable. Lower eyelid scaly. Limbs short and weakly developed.

Colour

Back shiny brown or reddish-brown, each scale with a distinct dark spot, forming 4-6 thin dark brown longitudinal lines. Flank with a dark brown or blackish streak, with the anterior third of the trunk thickly spotted with white. Belly is yellowish-white.

Habits

Diurnal and terrestrial, often seen hiding under rotten logs, accumulated leaf litter and rock piles or stones and rubbish. Take refuge under loose soil.

Habitat

Inhabit moist marshland areas and village gardens.

Breeding behaviour

Oviparous but not much is known about their breeding behavior or life history.

Distribution

Common in Eastern and North-eastern India.



80

WATER MONITOR LIZARD

Varanus salvator
(Laurenti, 1768)

Local name
Jal Godhika,
Tarkel, Gorkel

Size

Head & body 172 cm, Tail
145 cm.

Distinguishing features

The largest monitor lizard in India commonly seen in or near water bodies. The head is triangular. Snout is elongated and flattened. Nostrils oval and near to the tip of the snout than to the eye. Body is robust and cylindrical. Limbs thick with strongly developed claws. Tail strongly compressed with a crest above.

Colour

Adults with yellow rings in transverse rows on a greyish-brown back. Lips black barred. Belly is yellow. Juveniles with large yellow spots on the back and the tail banded with black and yellow.

Habits

Diurnal and solitary. Adapted to live in fresh as well as salt waters. Good swimmer. Bask in the mornings and afternoons. Can readily climb trees. Swift and active predators but also scavenge for food.

Habitat

Inhabits a variety of habitats from mangrove swamps to all types of wetlands and marshlands, estuaries, rivers, canals even village ponds.

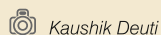
Breeding behaviour

Breeds at the end of the rains. 7-30 eggs are laid between May and October inside burrows on mud-banks or in tree holes. Eggs take 8-9 months to hatch. Hatchlings measure 25-28 cm.

Distribution

Abundant in the Sunderbans of West Bengal and adjoining areas of South and North 24 Parganas including East Kolkata Wetlands besides Howrah, Hugli and Midnapur. Also abundant in Bhitarkanika area of Odisha and Andaman & Nicobar Islands and some areas of North-eastern India.





60

YELLOW MONITOR LIZARD

Varanus flavescens
(Hardwicke & Gray, 1827)

Local name
Sonali Godhika,
Sonali Gui

Size

Head & body 36 cm, Tail 46 cm.

Distinguishing features

Smallest of the monitor lizards. Head relatively short and convex. Nostril is an oblique slit closer to the tip of the snout than to the eye. Eyes are large. Tongue is long and forked. The ear-drum is a large hole at the end of the head. Body is cylindrical. Tail is strongly compressed.

Colour

Brightly coloured with reddish brown blotches or bands on a yellow or yellowish-brown background which are more evident during the rainy season but indistinct at other times of the year. Lips, throat and belly with dark brown cross bars, otherwise yellow below.

Habits

Diurnal. Hides in burrows when approached. Incessantly searches for prey near water bodies.

Habitat

Associated with low-lying wetlands of Indus-Ganga-Brahmaputra flood plains and agricultural fields and swamplands.

Breeding behaviour

Nesting takes place inside burrows during the monsoon between August-October when 4-30 eggs are laid. Eggs take 149-155 days to hatch.

Distribution

Occurs throughout the Gangetic plains from Punjab to Bengal. Commonly seen in the East Kolkata Wetlands.



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10

INDIAN FLAP SHELL TURTLE

Lissemys punctata
(Bonnaterre, 1789)

Local name
Chiti Kachim

Size

Carapace 37 cm.

Distinguishing features

An oval, domed soft-shell turtle with semi-circular plastral flaps, which accommodate the retractable hind limbs. Limbs are fully webbed with three large claws in each foot.

Colour

Carapace grey or olive-green with or without black bordered yellow spots. Plastron yellowish brown. Head with some longitudinal markings.

Habits

Aquatic, carnivorous, omnivorous and even scavenges on animal corpses. Voracious feeder feeding on fishes, frogs, snails, shrimps, aquatic plants. Aestivate during dry summer. Seen hibernating in agricultural fields, banks of ponds and in marshlands.

Habitat

Inhabits a wide range of habitats – marshlands, ponds, waterlogged paddy fields, lakes, rivers, canals, even drains.

Breeding behaviour

Breeding takes place during early summer. 5-15 eggs are laid inside soil. Incubation period is very long, upto 9 months.

Distribution

Widespread throughout India, South Asia and northern Myanmar.



BUFF STRIPED KEELBACK

Amphiesma stolatum
(Linnaeus, 1758)

Local name
Hele

Size

Total length 80 cm.

Distinguishing features

A dainty striped snake with a slender, cylindrical body, neck slightly distinct, large eyes, round pupil, keeled body scales and pointed tail.

Colour

Two yellowish or buff stripes on olive-grey to greenish-grey dorsum. Black spots or reticulated cross-bars on the back. 2-3 black bars from eye to upper jaw. Underside whitish.

Habits

Diurnal and terrestrial. Docile but active in the mornings and at dusk, when they hunt frogs, insects, scorpions and small lizards. Very common during early monsoon. Hibernate below rocks and stones during winter.

Habitat

Inhabits grasslands, plantations, backyard gardens usually in the vicinity of lakes, ponds and marshlands as well as paddy fields.

Breeding behaviour

Eggs are laid during monsoon season in a coherent clutch of 5-17 below rocks and heaps of stones which hatch 36-62 days later. Two clutches may be produced in a year.

Distribution

Widespread throughout the plains of India, South and South-east Asia and China.



12

OLIVE KEELBACK WATER SNAKE

Atretium schistosum
(Daudin, 1803)

Local name
Kerul

Size

Total length 100 cm.

Distinguishing features

A small to medium-sized snake from moist areas close to water bodies. Body cylindrical, head slightly distinct from neck. Snout short, nostrils slit-like and valvular and placed on top of snout. Eyes with round pupil.

Colour

Dorsum olive-brown or greenish-grey, unpatterned or with two series of small black spots. Upper lip, outer row of scales and belly yellow.

Habits

Crepuscular, it is found near water bodies and other moist areas and is a good swimmer as well as adept in climbing low bushes. Diet comprises frogs, tadpoles, fish, prawns and crabs.

Habitat

Fond of damp places near water on the plains and is also known from brackish coastal areas and near agricultural fields.

Breeding behaviour

Clutches of 10-32 eggs are laid between December to April. Hatchlings measure 16-18 cm.

Distribution

Plains of India, Bangladesh, Nepal and Sri Lanka.



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13

DOG FACED WATER SNAKE

Cerberus rynchops
(Schneider, 1799)

Size

Total length 125 cm.

Distinguishing features

Upper jaw projecting, giving a dog-like appearance. Head long and distinct from neck. Eyes beady with rounded pupil. Scales prominently keeled.

Colour

Dorsum dark grey with faint dark blotches and a dark line across eyes. Belly yellowish cream.

Habits

Hide in crab holes, emerges at night. Feeds on fishes such as mudskippers and gobies as well as crabs and frogs.

Habitat

Mangrove swamps and mudflats as well as river mouths.

Breeding behaviour

6-30 young are born, remaining together for a while before disappearing.

Distribution

Widespread along the east coast of India and Andaman Islands, extending up to Australia.



COMMON SMOOTH WATER SNAKE

Enhydris enhydris
(Schneider, 1799)

Local name
Metuli

Size

Total length 80 cm.

Distinguishing features

Head rather small, somewhat depressed and only slightly distinct from neck. Snout rounded, nostrils situated on upper surface of head. Eyes small, pupils vertical. Body robust and stout and cylindrical. Tail small and pointed.

Colour

Dorsum greyish-brown or olive-brown, with a dark vertebral and two light lateral stripes from upper surface of head to tail. Belly yellowish-cream or white with brown spots that form three lines.

Habits

Aquatic, found in both fresh and brackish-water. Commonly seen resting inside water during day-time with the head projecting outside. Diurnal and crepuscular. Feeds on fishes, frogs, tadpoles etc.

Habitat

Inhabits fresh-water water bodies with dense aquatic vegetation and brackish water swamps including slow-moving rivers, marshes, ponds and wet paddy fields.

Breeding behaviour

Mating occurs in October. It is ovoviviparous, laying several clutches every year between January and June. 4-20 young hatch out that measure 15-16 cm.

Distribution

A common and widespread water snake of eastern India besides Bangladesh, Nepal, Myanmar, east to southern China and south-eastern Asia.



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15 COMMON WOLF SNAKE

Lycodon aulicus
(Linnaeus, 1758)

Local name
Gharchiti

Size

Total length 80 cm.

Distinguishing features

A common house-dwelling snake.
Body slender with pointed tail.
Head flattened, neck distinct from
head. Snout projecting beyond
lower jaw. Eyes small and black.
Belly white. Scales smooth.

Colour

Dorsum chocolate brown with 12-
19 white cross bars, enclosing
triangular patches. The bars may
be pure white or heavily speckled
with brown. Upper lip white or
spotted with brown. Belly cream or
yellowish white.

Habits

Nocturnal, emerging after dark to
feed on geckos (house lizards),
skinks, frogs and mice. The prey is
caught from behind the neck and
slowly swallowed even when alive.
Due to its tremendous climbing
ability, it can overcome rough
vertical surfaces. Bites
aggressively when handled and
discharge foul smelling excreta in
defence.

Habitat

Inhabits plain lands, in parks,
gardens and human habitations,
where they occupy thatched roofs.
Found below boulders, in tree-
holes, cracks and crevices of
houses.

Breeding behaviour

Lays 3-11 eggs between February
and July. More than one clutch
may be produced every year.
Hatchlings emerge in September-
October, measuring 4-19 cm.

Distribution

Widespread all over India and also
Bangladesh, Nepal, Sri Lanka and
Myanmar.



16

INDIAN RAT SNAKE

Ptyas mucosus
(Linnaeus, 1758)

Local name
Daras, Dhamna

Size

Total length 300-370 cm.

Distinguishing features

A fairly long snake, head narrow, distinct from body. Eyes large with rounded pupil. Scales smooth.

Colour

Yellowish-brown, olivaceous brown to greyish black above with irregular but strongly marked black cross-bars on the posterior half of the body. Belly yellowish-white to greyish-white. Lips and throat whitish, the scales edged with black.

Habits

Diurnal, it is a good climber and is often found in trees at a considerable height. Agile and fast-moving. It produces a variety of sounds from a hiss to a large growl. Feeds on frogs, toads, lizards, snakes, turtles, rats, mice, bats, birds and their eggs. Combat dances are frequently reported when two males are partially entwined with the fore bodies raised.

Habitat

Mainly plain lands frequenting open country, wetlands, agricultural fields, gardens and in the vicinity of human habitations.

Breeding behaviour

Clutch comprises of 5-18 eggs. The female guards the eggs. Incubation period is two months. Hatchlings measure 36-47 cm.

Distribution

Widespread in India, Pakistan, Nepal, Bhutan, Sri Lanka east to southern China and south-east Asia.



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CHECKERED KEELBACK WATER SNAKE

Xenochrophis piscator
(Schneider, 1799)

Local name
Jaldhora

Size

Total length 175 cm.

Distinguishing features

The most common water snake in the wetlands. Body cylindrical, eye with rounded pupil. Dorsal scales strongly keeled.

Colour

Dorsum olive-brown or grayish.
Body with black checkered pattern. Underside usually white.

Habits

Active during both day and night.
Feeds on fish and frogs.
Aggressive when threatened, may display a narrow hood and hiss.
Bite readily if caught or stepped upon.

Habitat

Abundant in the waterways, such as flooded paddy fields, ponds, lakes, marshes, swamps, drains and canals.

Breeding behaviour

30-70 eggs are laid. Females guard the eggs and incubation period is 37-90 days. Hatchlings measure 11 cm.

Distribution

Widespread in India, Pakistan, Nepal, Bangladesh, Myanmar, southern China to Thailand.



18

BAR NECKED KEELBACK

Xenochrophis schnurrenbergeri
(Kramer, 1977)

Local name
Jaldhora

Size

Total length 150 cm.

Distinguishing features

A medium-sized snake rather similar to the Checkered Keelback. Head flattened, neck slightly distinct. Eyes with rounded pupil. Nostrils directed upwards. Dorsal scales keeled.

Colour

Yellowish or olivaceous above with 5-6 alternating rows of black spots quincuncially arranged. Belly uniform whitish or yellowish.

Habits

Active during day and night. Extremely active in its movements, it bites fiercely when caught, also rolls its body. Feeds on fishes and frogs.

Habitat

Semi-aquatic, found in all varieties of aquatic habitats like ponds, pools, lakes, canals, paddy fields and marshy areas.

Breeding behaviour

Breeds throughout the year, number of eggs laid is 8-87.

Distribution

Widespread in India, Pakistan, Nepal, Bangladesh, Myanmar, southern China and south-east Asia.



19
11

PAINTED KEELBACK

Xenochrophis cerasogaster
(Cantor, 1839)

Size

Total length 120 cm.

Distinguishing features

A medium-sized snake with stout, cylindrical body.

Colour

A colourful snake with a reddish-brown dorsum and bright yellow ventrum below chin and throat.

Habits

Abundant in the East Kolkata wetlands and more aquatic than the Checkered Keelback. Feeds on frogs, aquatic insects and small fishes.

Habitat

Ponds and fishing bheries with aquatic, semi-aquatic vegetation and emergent reeds.

Breeding behaviour

Reproductive habits poorly known.

Distribution

Besides India, this species has been recorded from Bangladesh, Nepal, Myanmar.



20

ORNAMENTAL FLYING SNAKE

Chrysopelea ornata
(Shaw, 1802)

Local name
Kalnagini

Size

Total length 170 cm.

Distinguishing features

A medium-sized slender snake with depressed head. Neck distinct. Eyes large with round pupil. Dorsal scales smooth or feebly keeled. Vertebral scales not enlarged. Ventrals with distinct keels. Tail considerably long.

Colour

Dorsum greenish-yellow or pale green. Orange or red spots between dark cross bands. Head black dorsally, with yellow and black cross bars. Belly pale green or lemon yellow.

Habits

Diurnal and arboreal. It has remarkable climbing capacity and is capable of making spectacular glides or leaps of about 50 meters between trees from higher to lower branches, when body is flattened like a ribbon. Feeds on lizards mainly geckos, birds, bats, rodents, small snakes and insects.

Habitat

Inhabits old trees, gardens, secondary vegetation and cultivations or reed beds in wetlands.

Breeding behaviour

6-20 eggs are laid in tree holes or in suitable shady places between May-July. Incubation period is 65-80 days. Hatchlings measure 15-26 cm.

Distribution

Himalayan foothills to whole of northern India up to Gujarat and Western Ghats. Also North-eastern India and Nepal, Bangladesh, Myanmar and China.



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21

BANDED KUKRI SNAKE

Oligodon arnensis
(Shaw, 1802)

Local name
Udaykal

Size

Total length 64-85 cm.

Distinguishing features

This medium-sized harmless snake superficially resembles the venomous banded krait. Snout short and blunt. Body stout and cylindrical. Tail short and pointed.

Colour

Light or dark brown above with black cross bars, the bands are often edged with white markings. Head and neck with three dark arrow-shaped marks. Belly cream with indistinct lateral spots.

Habits

Terrestrial and nocturnal, mostly active during the evening hours. Agile, active, easily alarmed and quick to conceal itself. Feeds on small rodents, lizards and reptile eggs.

Habitat

Parks, gardens and disturbed areas in the plains. Ground-dwelling, found in leaf-litter of forest floor and also crevices of tree holes.

Breeding behaviour

4-9 elongate eggs are laid.

Distribution

Throughout India.



22

COMMON VINE SNAKE

Ahaetulla anomala
(Mohapatra et al. 2017)

Local name
Laudaga

Size

Total length 2 meters

Distinguishing features

A bright green, long and slender snake with a very long snout that ends in a pointed tip (a pointed dermal appendage). Large and elliptical eyes. Pupils forming horizontal slits.

Colour

Bright green or olive-green body. When excited, it displays typical oblique black and white interstitial skin. Tongue pinkish speckled with brown spots. Undersides off white or green or bluish.

Habits

Diurnal and arboreal, lives on trees and bushes occasionally coming down to the ground while moving from one tree to another. When threatened, it opens the mouth showing the tongue and inflates the anterior part of the body to display the interstitial skin. Waits in ambush for lizards, tree frogs, small birds and small mammals.

Habitat

Secondary forests and plantations. Remain well camouflaged in thickets and shrubs.

Breeding behaviour

Ovoviviparous, mates during March–June. 3–10 young are born during monsoon season after about 170 days. Young are 35 cm in length.

Distribution

India and Bangladesh.



23

COMMON BRONZE BACK TREE SNAKE

Dendrelaphis tristis
(Daudin, 1803)

Local name
Betanchara

Size

Total length 12-15 cm.

Distinguishing features

A fairly long and elegant tree snake. Elongate head distinct from slender neck. Eyes large, lustrous with rounded pupil and golden iris. Tail long, prehensile and nearly one-third of the total length.

Colour

Bronze-brown or purplish brown above, belly light yellowish or greyish. A buff flank stripe from neck to vent. Light blue on neck between scales that is revealed during display.

Habits

Diurnal and arboreal. Very active and fast moving during daytime. Can climb a bare tree trunk at great speed and disappear among branches. Can make long jumps between trees. Feeds on tree frogs and lizards as well as insects.

Habitat

Inhabits open areas and around human habitation in rural areas especially on thatched roofs.

Breeding behaviour

6-7 elongate eggs are deposited in tree hollows or deserted bird nests. Eggs hatch in 4-6 weeks in June-July.

Distribution

Throughout India, Bangladesh, Nepal, Pakistan and Sri Lanka.



24

PAINTED BRONZEBACK TREE SNAKE

Dendrelaphis proarchos
(Wall, 1909)

Local name
Kharichur

Size

Total length 125 cm.

Distinguishing features

An elegant slim and slender tree snake. Head distinct from neck. Eyes large with round pupil. Iris golden. Tail nearly one-third of total length. Dorsal scales smooth and narrow.

Colour

Dorsum bronze-brown or brownish olive with a cream stripe, edged with black along flanks. Black stripe separates cream dorso-lateral stripe from whitish underside. Forehead brown with a black lateral stripe from nostril to neck. Tongue pink.

Habits

Diurnal and arboreal. Agile and can move fast in thickets. Remain motionless like a branch while basking or hiding in bushes. Can make spectacular leaps between trees. When disturbed, it emits a foul-smelling musk from its anal glands and expand fore body revealing sky blue inter scale skin. It hunts for geckos and tree frogs.

Habitat

Inhabits forested edges, plantations, bamboo groves and backyard gardens.

Breeding behaviour

Lays 3-8 eggs in tree holes during May-June. Several clutches may be produced in a year. Incubation period is 75-76 days and hatchlings measure 20-30 cm.

Distribution

Eastern and North-eastern India and Nicobar Islands. Also Bangladesh, Nepal, Myanmar and south-east Asia.



25

COMMON KRAIT

Bungarus caeruleus
(Schneider, 1801)

Local name
Kalaj

Size

Total length 150 cm.

Distinguishing features

A medium-sized terrestrial snake. Head round, slightly distinct from neck. Eyes small. Body cylindrical. Scales shiny. Vertebral scales enlarged and hexagonal.

Colour

Dorsum steel-blue or black with paired narrow white cross bands across the body. The cross bars on the anterior part of the body may be entirely absent. Upper lip and belly unpatterned cream. Tongue pinkish.

Habits

Nocturnal when foraging, it hides under piles of bricks and debris at other times. During the day it is non-aggressive, flattening the body and attempting to hide its head under its body. Produces a short hiss when disturbed. At night it may bite without any provocation. Feeds almost exclusively on other snakes, although mice, frogs and lizards are occasionally taken. The fangs are rather short but the venom is highly toxic, causing respiratory failure.

Habitat

Widespread in the plains, in thinly wooded forests, agricultural fields and wetlands and at the edges of human habitations. Frequents water bodies like ponds, pools, dams also old houses, rodent burrows.

Breeding behaviour

Mating takes place in February-March. Lays 6-15 eggs that are guarded by the females. Eggs hatch between May and July. Hatchlings measure 27-30 cm.

Distribution

Throughout India except the North-east. Widespread from Pakistan to Sri Lanka and Bangladesh.



26

BANDED KRAIT

Bungarus fasciatus
(Schneider, 1801)

Local name
Sankhamuthi

Size

Total length 150 cm.

Distinguishing features

An unmistakable dark and light banded elongated snake. Body triangular in cross-section. Head depressed, oval and distinct from body. Eyes small and black. Tail short and stumpy. Mid-dorsal scales large and hexagonal.

Colour

Dorsum with alternating black and yellow bands that are almost equal in size. The first blackband on the nape continues towards the head.

Top of head with V-shaped marking. Lips and backside of head yellow and rest of top of head black. Belly banded in continuation with bands on the body.

Habits

Although timid and non-aggressive during the daytime, it is a highly venomous snake and known to become bold at night. Basically a snake eater, it also takes lizards, frogs and fish.

Habitat

Inhabits lowland swampy and marshy areas, near ponds and dams, agricultural fields and in the vicinity of villages.

Breeding behaviour

4-14 eggs are laid in April, which hatch after an incubation of 60 days. Hatchlings measure 25-34 cm.

Distribution

Widespread in Eastern and North-eastern India up to South-east Asia.



27

MONOCELLATE COBRA

Naja kaouthia
(Lesson, 1831)

Local name
Keute

Size

Total length 220-230 cm.

Distinguishing features

A fairly large dangerously venomous snake that is responsible for a large number of human deaths annually and is easily identifiable by the monocle-like marking on the expanded hood. Head broader than neck. When threatened the fore body is raised and expanded to form a hood. Scales are smooth.

Colour

Dorsum brown, greyish brown or blackish brown. Hood marking typically a light circle with a darker center. On the front side of the hood there are two black spots on either side with one or two broad black crossbars at the base. Ventrally grayish.

Habits

Diurnal or crepuscular. More or less semi-aquatic and found in plenty in the East Kolkata Wetlands. Very bold, showing aggression at the slightest disturbance. When pursued, raise the fore body, expand the hood, hiss loudly and strike repeatedly. During winter mornings, many individuals seen basking on the mud-banks of East Kolkata Wetlands.

Habitat

Marshes, swamps, ponds, low-lying agricultural fields, near rivers and canals, in crab holes and rat burrows near the water. Feeds on fishes (mostly cat fishes), frogs and rats.

Breeding behaviour

Clutches of 15-30 eggs are laid between March-August. Females guard the eggs during incubation period of about 50 days.

Distribution

Eastern and North-eastern India, Nepal, Bangladesh and south-eastern Asia.



28

RUSSELL'S VIPER

Daboia russellii
(Shaw & Nodder, 1797)

Local name
Chandrabora

Size

Total length 180-200 cm.

Distinguishing features

Body cylindrical and stout with a relatively short and narrow tail. Head large, flat, pear-shaped, quite distinct from neck. Snout short and rounded. Eyes large with vertical pupils.

Colour

Dorsum pale brown or greyish brown with three distinct longitudinal rows of large, rounded or elliptical dark bordered spots. Chin and throat white. Belly yellowish-white spotted with black dots.

Habits

Terrestrial and nocturnal. Moves slowly but can move faster when disturbed. Threats by forming S-shaped coils, arching the neck, hissing loudly, lunging and biting. The haematotoxic venom causes intensive burning pain, swelling and discolouration. Feeds on rats, crabs, frogs, lizards and small birds.

Habitat

Open dry grassy plains, margins of marshes, agricultural fields, gardens and plantation

Breeding behaviour

Gives birth to 6-60 young ones between May-July.

Distribution

Whole of India except north-east, Bangladesh, Pakistan and Sri Lanka.



29

COMMON BLIND SNAKE

Ramphotyphlops braminus
(Daudin, 1803)

Local name
Puye saap

Size

Total length 6-10 cm.

Distinguishing features

Small and slender, worm-like snake resembling an earthworm. Head blunt, not distinct from neck. Mouth small. Eyes very small but visible under the scales. Tail very short and ends in a spine.

Colour

Scales smooth and glossy. Uniform blackish brown or chestnut brown above but lighter below.

Habits

Excellent burrower. Crepuscular in habit, sometimes found on soil surface after heavy rainfall during daytime. When grasped, it can prick with its tail spine and smear foul odorous secretion. Feeds on insect larvae, termites, ants and their larvae and earthworms.

Habitat

Inhabits plains, cultivated lands, gardens, plantations and forests. Lives under stones, logs and rotten leaves.

Breeding behaviour

Parthenogenetic, 2-8 oval eggs are laid at a time in loose soil.

Distribution

Throughout India and most Asiatic countries.



MAMMALS



 Amitava Majumdar

10

ASIAN PALM CIVET

Paradoxurus hermaphroditus
(Pallas, 1777)

Local name
Bham

Size

Head and body length: 42-69 cm;
Tail length: 40-60 cm.

Distinguishing features

It is a common civet possessing long, course, shaggy hair and short limbs; its coat colour varies from brownish black or dark black with spots on the flanks; three longitudinal stripes running on the dorsal surface; there is a white mask across the forehead; long hairy tail with uniform dark colour without any bands.

Habit, Habitat and Ecology

It is mainly arboreal, nocturnal and solitary but comes to ground for food; found in various habitats including forests, plantations and near human habitations. It is omnivorous, feeding on fruits, honey, insects, small animals and birds.

Distribution

India: Throughout the country except arid parts of Rajasthan and Gujarat and Jammu and Kashmir and high Himalayas. Elsewhere: Bangladesh, Nepal, Bhutan, Myanmar, China, Thailand, Cambodia, Laos, Vietnam, Malaysia, Philippines and Sri Lanka.

Threats

Habitat loss, human interference and poaching.

Use and Trade

Poaching for local consumption; traditional medicinal use; pet trade.

Conservation status

IUCN (Red List): Least Concern;
IWPA: Sch- II; CITES: App- III.



02

BENGAL MARSH MONGOOSE

*Herpestes
javanicus palustris*
(Ghose, 1965)

Local name
Beji

Size

Head and body length: 35-50 cm;
Tail length: 25-29 cm.

Distinguishing features

The Bengal marsh mongoose is almost similar to Small Indian mongoose but slightly smaller; possess soft and silky grizzled coat that is dark brown with individual hairs having alternating white and dark brown rings; black dorsal guard hairs on the snout that extends upto the eyes unlike the Small Indian mongoose.

Habit, Habitat and Ecology

Lives in swampy marshlands and fishing bheries. Inhabits burrows on mud-banks near the water's edge in East Kolkata Wetlands. Diurnal and active during morning (6-9 am) and afternoon (3-5 pm). It is quite cautious, running away into its burrow when approached. When out for hunting, stand up on its hind legs to take a good look around. The prey include bivalves like *Lamillidens marginalis* and gastropods like *Bellamya bengalensis* and *Lymnaea* spp. Besides various aquatic bugs, beetles, dragonfly nymphs, terrestrial grasshoppers, crickets, centipedes, crabs etc are taken (Deuti, 2008).

Distribution

South & North Parganas and Howrah districts of West Bengal.

Threats

Habitat loss, illegal trade and poaching.

Use and Trade

Poaching for local consumption; hairs used to make painting brushes.

Conservation status

IUCN (Red List): Least Concern;
IWPA: Sch- II; CITES: App- III.



03

ASIATIC JACKAL

Canis aureus
(Linnaeus, 1758)

Local name
Siyal

Size

Head and body length: 60-80 cm;
Tail length: 20- 27 cm.

Distinguishing features

The Asiatic jackal is related to the wolf, but is smaller in size, having shorter legs and lacks the elevated forehead and the arching brows, and possesses bushy tail. Its coat colour is variable seasonally and general colour is mixture of black and white washed with buff around the shoulders, ears and legs; head is light brown in colour. The mid dorsal region and tail bears predominantly black hairs.

Habit, Habitat and Ecology

It is mainly crepuscular in habit; spends day in burrow and come out at dusk, and retire at dawn. Lives in all kinds of forests and urban, rural environments and adaptable to any favourable environment; feeds on carrion, small animals, birds, insects and fruits and also scavenges wild animal carcasses.

Distribution

India: Throughout the country;
Elsewhere: Afghanistan, Iran, Central, South western and South Asia, North and East Africa, South-eastern Europe, Thailand and Sri Lanka.

Threats

Habitat loss and degradation, poisoning, disease like rabies and poaching.

Use and Trade

Poaching for its skin and body parts.

Conservation status

IUCN (Red List): Least Concern;
IWPA: Sch- II; CITES: App- II.





04

FIVE STRIPED PALM SQUIRREL

Funambulus pennantii
(Wroughton, 1905)

Local name
Kath birali

Size

Head and body length: 13-16 cm;
Tail length: 14- 16 cm.

Distinguishing features

A common squirrel in northern India. There are five lightly coloured stripes on the back; three median pale stripes flanked on each side with a supplementary pale stripe. The dorsal pelage ranges from grayish brown to almost black, while the head is usually grayish to reddish brown.

Habit, Habitat and Ecology

It is gregarious, mostly arboreal living with up to 10 other individuals in the same tree. Herbivorous and omnivorous in diet; feed on seeds, nuts, buds, young bark, leaves, insects, flowers, and grubs. Its habitats include grasslands, scrublands, plantations and forests.

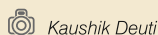
Distribution

India: Central, north and north-eastern India, Andaman & Nicobar Is. (introduced), Andhra Pradesh and Karnataka. Elsewhere: Iran, Afghanistan, Pakistan, Nepal and Bangladesh.

Conservation status

IUCN (Red List): Least Concern;
IWPA: Sch- II; CITES: App- II.





50

GREATER BANDICOOT RAT

Bandicoota indica
(Bechstein, 1800)

Local name
Metho Indur

Size

Head and body length: 21-34 cm;
Tail length: 16- 34 cm.

Distinguishing features

It is one of the largest and common rat species in India. It is slightly larger than the lesser bandicoot rat (*Bandicota bengalensis*). The upper pelage is dark gray-brown with a profusion of long, black hairs. Lateral side is gray with a few long, black hairs. The ventral surface is light gray. The tail is longer than the head and body and is scaly, dark and naked. The feet are dark with light-coloured claws.

Distribution

India: Throughout the country.
Elsewhere: Nepal, Bangladesh, Myanmar, China, Thailand, Cambodia, Laos, Vietnam, Malaysia and Sri Lanka.

Habit, Habitat and Ecology

Inhabits alongside of human habitation, cultivated fields, wasteland. Consumes any human food that is accessible.

Conservation status

IUCN (Red List): Least Concern;
IWPA: Sch- V; CITES: NE.



90

HOUSE MOUSE

Mus musculus
(Linnaeus, 1758)

Local name
Choto Indur

Size

Head and body length: 5-10 cm;
Tail length: 6- 9 cm.

Distinguishing features

House mice is a small rodent with a short, blunt nose and tend to have longer tails and darker fur when living closely with humans. Their fur ranges in colour from light brown to black and they generally have white or buffy belly. They have long tails that have very little fur and have circular rows of scales.

Habit, Habitat and Ecology

It is both territorial and colonial when living commensally with humans; generally live in human habitation, barns, cultivated fields etc. Consumes any human food that is accessible.

Distribution

India: Throughout the country.
Elsewhere: Spread throughout most of world due to association with human beings.

Conservation status

IUCN (Red List): Least Concern;
IWPA: Sch-V; CITES: NE.



101

ASIAN HOUSE SHREW

Suncus murinus
(Linnaeus, 1766)

Local name
Chucho

Size

Head and body length: 10–16 cm;
Tail length: 4–9 cm.

Distinguishing features

They are mouse-like in appearance with a long pointed nose considerably beyond the lower lip.

The fur colour varies from light gray to black. Pelage is short and has a velvety texture. Eyes are comparatively small and ears are round in shape. The teeth are unique, the front incisors differ from other mammals. It has a short, thick tail with few bristle hairs that tapers to a point.

Habit, Habitat and Ecology

It is primarily terrestrial, solitary and nocturnal in habit; found in forested areas, in agricultural lands, and in areas associated with human activity. Mainly insectivorous in diet.

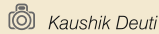
Distribution

India: Throughout the country.
Elsewhere: Widespread, mainly found in South Asia but introduced widely throughout Asia.

Conservation status

IUCN (Red List): Least Concern;
IWPA: NA; CITES: NE.





80

INDIAN FLYING FOX

Pteropus giganteus
(Brünnich, 1782)

Local name
Baro badur

Size

Head and body length: 19-30 cm;
Wingspan: 120 cm.

Distinguishing features

It is one of the megachiroptera; having long hairy snout with visible nostrils, large eyes, triangular ears and no facial ornamentation. Dark brown, gray, or black body colour with a contrasting yellowish mantle. The large black wings are often held over its orange belly. Males are generally larger than females.

Habit, Habitat and Ecology

It is a social species, with large groups of several hundred individuals living in the same tree. Can be found in forests and swamps. Large groups of individuals roost in trees such as banyan, fig, and tamarind. Roosting trees are usually in the vicinity of a body of water. It is frugivorous, feeds on many different species of fruit, including guava, mango, and fig.

Distribution

India: All over the country in mainland.

Elsewhere

Pakistan, Bangladesh, Nepal, Bhutan, China, Myanmar, Pakistan and Sri Lanka.

Conservation status

IUCN (Red List): Least Concern;
IWPA: V; CITES: NE.



69

GREATER SHORT NOSED FRUIT BAT

Cynopterus sphinx
(Vahl, 1797)

Local name
Choto Badur

Size

Head and body length: 7-11 cm;
Tail length: 1 cm.

Distinguishing features

It is half the size of Indian flying fox. It has a relatively long snout.

Their upper parts are typically bright orange with paler underparts. The fur is very fine and silky. The white margined wings, nearly naked ears and divergent nostrils are distinctive. The first and second digits have two claws. A small tail, half free of membrane between the thighs is a distinctive feature.

Habit, Habitat and Ecology

It is gregarious, and typically roosts in same sex groups of 8-9 individuals. Typically found in tropical forests and areas where fruit crops are cultivated. Their frugivorous diets include ripe guava, banana dates and lichis.

Distribution

India: All over the country in mainland.

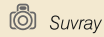
Elsewhere

widely distributed from much of South Asia, through southern China, most of mainland and insular Southeast Asia.

Conservation status

IUCN (Red List): Least Concern;
IWPA: V; CITES: NE.





10

INDIAN PIPISTRELLE

Pipistrellus coromandra
(Gray, 1838)

Local name
Chamchike

Size

Head and body length: 3-5 cm

Distinguishing features

The dorsal pelage of this bat is either brown or chestnut and beige. Tip of the muzzle is black and ears are brown. Crown of head and forehead between eyes densely furred. Muzzle is blunt and naked, without fur up to the eyes in the adult. Ears are subtriangular and rounded at the tips.

Habit, Habitat and Ecology

Primarily roosts in the roof of houses and buildings and also flies into houses occasionally in search of insects and to roost in bamboo thatch roofs. It flies with slow fluttering flight. It appears to remain out throughout the night retiring a quarter of an hour before dawn.

Distribution

India: Throughout India except Rajasthan. Elsewhere: Afghanistan, Pakistan, Nepal, Bhutan, Bangladesh, Myanmar, China, Cambodia, Laos, Vietnam and Sri Lanka.

Conservation status

IUCN (Red List): Least Concern;
IWPA: NA; CITES: NE.

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Authors

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