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REPTILES OF KANHA TIGER RESERVE, MADHYA PRADESH

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INTRODUCTION

The class Reptilia comprises the cold-blooded amniotic vertebrates, which are exothermic or poikilothermic secretive creatures with a crawling mode of locomotion. They may be diurnal or nocturnal and are dwellers on land, freshwater, sea (sub-pelagic) and trees (arboreal). Respiration in reptiles is by lungs (pulmonary) and they may be oviparous or viviparous. Body may be covered by scales or shields which may be soft or hard. Horny plates over the body were present in ancient Dinosaurs and ancestral stem reptiles. Reptiles may or may not be with limbs. If limbs are present, they may be bi-dactyl, tri-dactyl or penta-dactyl, many species (snakes) are devoid of limbs, girdles and toes with exceptions of Pythons, Boas and worm snakes where limbs are represented by rudimentary spurs. Reptiles inhabit different ecosystems all over the world and are presently represented by tortoises, turtles, crocodilians, snakes, lizards and Rhyncocephalia (*Sphenodon*). Most of the reptiles came in to existence about 210 million years back during the upper Permian period.

Snakes have elongated, tubercular, elastic and agile body, covered with overlapping scales and chitinous shields. Body scales in snakes may be oval, rhomboidal, and sub triangular with keels, pits and sutures. Tail in snakes may be small, moderate or long. They may be cylindrical (Land snakes), prehensile (Arboreal snakes) or flat (Marine snakes). Eyelids in snakes are fused to form a transparent spectacle over the eye in which lower eyelid takes a major part. Pupil exhibits strong variations and has evolved according to the habitats (round in terrestrial species, horizontal or vertically elliptical in arboreal species, rudimentary in fussorial species. Snakes are devoid of tympanum or external ears. Tongue in snakes is long, narrow, forked at tip and retractile into a basal sheath. olfactory organ is connected directly with the posterior olfactory lobe of the brain. Bones of the skull are most flexible and ligamentus. Teeth are aglyphous or solid in non-poisonous

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species, opisthoglyphous partly in poisonous snakes, proteroglyphous in Elapid and Hydrophid snakes, and solenoglyphous in vipers. Teeth are sharp, set in grooves on the inner sides of jaws (Pleurodont) recurved, and replaced after certain intervals. Left lung much reduced, right lung widely spread in body. Male organs are two (Hemipenis). Urinary bladder is not available, cloaca serves its purpose. Out of 3273 species known throughout the world, 240 species are reported from India. Total 52 poisonous species are known, in which 32 are over land including Cobras, King cobra, Kraits, Vipers and coral snakes, and 20 are sea snakes.

A review of literature reveals that Smith (1931, 1935, 1943) did a comprehensive study of the reptiles of India and showed distribution of 33 species of reptiles in Central India and Central Province. Later on some workers studied the reptilian fauna of Kanha National Park. Agrawal (1976) recorded 8 species of reptiles from Kanha National Park. Sanyal and Sur (1995) reported the occurrence of 22 species of reptiles in this conservation area. Negi (2004) also reported Copperhead Snake (*Elaphe radiata*) from Kanha National Park. Chandra and Gajbe (2005), while compiling the information on Herpetofauna of Madhya Pradesh and Chhattisgarh included 85 species/ subspecies of reptiles from these two states, where in total 22 species of reptiles were reported from Kanha Tiger reserve.

The present inventory of reptiles of this area comprises 39 species/subspecies belonging to 30 genera under 12 families. Of which, about 80% species have been currently observed by survey team of Zoological Survey of India, Jabalpur from May 2004 to December 2004, whereas the rest of the reptile species have been compiled on the basis of published information of Agrawal (1976), Sharma (1976), Sanyal & Sur (1995) and Negi (2004). The systematic list of reptiles observed during different months in KTR and their density is given in Table-1 and the list of their common names, localities and status is given in Table-2.

STUDY AREA

Kanha Tiger Reserve (KTR) is located about 68 km. south-east of Mandla and approximately 164 km. from Jabalpur. The reserve falls in two districts of Madhya Pradesh occupying southern part of Mandla district and north-eastern part of Balaghat district and lies between 80°26' and 80°03' E longitudes and 22°07' and 22°27' N latitudes. The reserve comprises three units, namely the core zone of National Park, multiple use area of buffer zone and satellite micro core zone of Phen sanctuary. The reserve has a core area of 940 sq. km. in the tourist zone. The buffer zone is 1009 sq. km. and Phen sanctuary is 110.74 sq km. Total area of Kanha Tiger Reserve is 2059.74 sq km. The area represents typical deciduous forest of the tropical region. The Sal forests are found on the lower slopes and in the valleys, the mixed forests on the upper slopes and top of hills, and the grassland in the valleys and on plateaus, which constitute diversified habitat for a large variety of flora and fauna.

Table-1: Month wise observation of reptiles (number of reptiles & density) in KTR.

SI. No.	Order/Family/ Species	May 2004	June 2004	July 2004	Aug. 2004	Sept. 2004	Oct. 2004	Nov. 2004	Dec. 2004	Total
1.	Order TESTUDINES Family EMYDIDAE Melanochelys trijuga (Schweigger)		15							15/0.45
2.	Family TRIONYCHIDAE Lissemys punctata punctata (Lacépède)						1	1		2/0.06
3.	Trionyx gangeticus (Cuvier)			-		1				1/0.03
4.	Order SQUAMATA Suborder SAURIA Family GEKKONIDAE Cyrtodactylus collegalensis (Beddome)									
5.	Cyrtodactylus nebulosus (Beddome)									
6.	Hemidactylus brooki Gray		1							1/0.03
7.	Hemidactylus flaviviridis Ruppell			2						2/0.06
8.	Hemidactylus gracilis Blanford									
9.	Hemidactylus leschenaulti Dumeril &Bibron			1	1	4				6/0.18
10.	Hemidactylus maculatus (Dumril & Bibron)	-						2		2/0.06
11.	Family AGAMIDAE Calotes versicolor (Daudin)	2	7	4	4	3	5	8	5	38/1.15
12.	Psammophilus blanfordanus (Stoliczka)			-	_					
13.	Sitana ponticeriana Cuvier									
	Family SCINCIDAE									
14.	Riopa punctata (Gmelin)		1			1	1	1		4/0.12
15.	Riopa albopunctata Grey									
16.	Mabuya carinata (Schneider)	4		12		14	30	45	24	129/3.93
17.	Mabuya macularia (Blyth)		191	35	30	50	30	22	35	393/ 11.99
18.	Family LACERTIDAE Cabrita leschenaulti (Milne-Edwards)									

Table-1: (Cont'd.).

SI. No.	Order/Family/ Species	May 2004	June 2004	July 2004	Aug. 2004	Sept. 2004	Oct. 2004	Nov. 2004	Dec. 2004	Total
19.	Family VARANIDAE Varanus bengalensis (Linnaeus)	1						1	1	3/0.09
20.	Suborder SERPENTES Family TYPHLOPIDAE Ramphotyphlops braminus (Daudin)		1							1/0.03
21.	Family BOIDAE Python molurus (Linnaeus)	5				1	1			7/0.21
22.	Family COLUBRIDAE Ahaetulla nasutus (Lacepede)		1	1	1				1	4/0.12
23.	Amphiesma stolata (Linnaeus)			7		5	8	7		27/0.82
24.	Atretium schistosum (Daudin)		1				2			3/0.09
25.	Argyrogena fasciolatus (Shaw)									
26.	Dendrelaphis tristis (Daudin)			1		3	2	1		7/0.21
27.	Elaphe helena (Daudin)				1					1/0.03
28.	Elaphe radiata (Schlegel)									
29.	Lycodon aulicus (Linnaeus)					3	2			5/0.15
30.	Macropisthodon plumbicolor (Cantor)					1				1/0.03
31.	Ptyas mucosus (Linnaeus)		2		1		4	3	2	12/0.36
32.	Sibynophis sagittarius (Cantor)		,							
33.	Xenochrophis piscator (Schneider)					3	1	3		7/0.21
34.	Family ELAPIDAE Bungarus caeruleus (Schneider)				1		1			2/0.06
35.	Naja naja naja (Linnaeus)	-	3		3		1	1		8/0.24
36.	Naja naja oxiana (Eichwald)			1			1		1	3/0.09
37.	Family VIPERIDAE Echis carinatus (Schneider)						1	1		2/0.06
38.	Trimeresurus gramineus (Shaw)						2			2/0.06
3 9.	Vipera russelii (Shaw)						-			
	Total no.of Reptiles & Density	12	231	64	42	93	93	96	79	710/ 21.67

Table-2: Reptiles of KTR showing common name, localities and status.

SI. No.	Order / Family / Species	Common Name	Localities / References	Status (Protected Under WL(P)A, 1972)
1.	Order TESTUDINES Family EMYDIDAE *Melanochelys trijuga (Schweigger)	Black Turtle	Kisli, Kanha & Mukki range	Sch. I
2.	Family TRIONYCHIDAE *Lissemys punctata punctata (Lacépède)	Indian Flap-shell Turtle	Kisli, Kanha & Mukki range	Sch. I
3.	*Trionyx gangeticus (Cuvier)	Indian Soft-shell Turtle	Kisli, Kanha & Mukki range	Sch. I
4.	Order SQUAMATA Suborder SAURIA Family GEKKONIDAE Cyrtodactylus collegalensis (Beddome)	South Indian Rock-Gecko	(Agrawal, 1976; Sanyal & Sur, 1995	Near vulnerable
5.	Cyrtodactylus nebulosus (Beddome)	Clouded Ground Gecko	(Sharma, 1976; Sanyal & Sur, 1995)	Rare
6.	Hemidactylus brooki Gray	Spotted House Gecko	Kisli & Supkhar range (Agrawal, 1976; Sanyal & Sur, 1995)	Very Common
7.	Hemidactylus flaviviridis Ruppell	Yellow-Bellied House Gecko	Kisli, Kanha, Mukki, Supkhar range & Whole Ranges of Buffer Zone. (Sanyal & Sur, 1995)	Very Common
8.	Hemidactylus gracilis Blanford	Square spotted Gecko	(Agrawal, 1976; Sanyal & Sur, 1995)	Common
9.	*Hemidactylus leschenaulti Dumeril &Bibron	Bark Gecko	Whole Ranges of Buffer Zone	Abundant
10.	*Hemidactylus maculates (Dumeril& Bibron)	Rock Gecko	Kisli range	Common
11.	Family AGAMIDAE Calotes versicolor (Daudin)	Common Garden Lizard	Kisli, Kanha, Mukki, Supkhar range & whole Ranges of Buffer Zone (Agrawal, 1976; Sanyal & Sur, 1995)	Very Common
12.	Psammophilus blanfordanus (Stoliczka)	Blanford's Rock Agama	(Sanyal & Sur, 1995)	Abundant
13.	Sitana ponticeriana Cuvier	Fan-throated Lizard	Mukki range (Sanyal & Sur, 1995)	Common

Table-2: (Cont'd.).

SI. No.	Order / Family / Species	Common Name	Localities / References	Status (Protected Under WL(P)A, 1972)
	Family SCINCIDAE			
14.	*Riopa punctata (Linnaeus)	Dotted Supple Skink	Kanha & Mukki range	Common
15.	Riopa albopunctata Grey	Brown Dwarf Skink	(Sanyal & Sur, 1995)	Common
16.	Mabuya carinata (Schneider)	Common Skink	Kisli, Kanha, Mukki, Supkhar range & whole ranges of Buffer zone (Agrawal, 1976; Sanyal & Sur, 1995)	Very common
17.	Mabuya macularia (Blyth)	Bronze Glass Skink	Kisli, Kanha, Mukki, Supkhar range & whole ranges of Buffer zone (Agrawal, 1976; Sanyal & Sur,1995)	Very common
	Family LACERTIDAE			
18.	*Cabrita leschenaulti (Milne–Edwards)	Leschenault's Snake-eye	Kisli range	
19.	Family VARANIDAE Varanus bengalensis (Linnaeus)	Bengal Monitor	Kisli, Kanha, Mukki, Supkhar range & whole ranges of Buffer zone (Sanyal & Sur, 1995)	Sch. II
	Suborder SERPENTES			
	Family TYPHLOPIDAE			
20.	Ramphotyphlops braminus (Daudin)	Common Worm Snake	Mukki range (Sanyal & Sur, 1995)	Sch. IV
	Family BOIDAE			
21.	Python molurus (Linnaeus)	Indian Rock Python	Kisli, Kanha, Mukki, Supkhar range. (Sanyal & Sur, 1995)	Sch. I
	Family COLUBRIDAE			-
22.	*Ahaetulla nasutus (Lacepede)	Common Green Whipe Snake or Vine Snake.	Kisli, Kanha & Mukki range	Sch. IV
23.	*Amphiesma stolata (Linnaeus)	Striped Keelback	Kisli, Kanha, Mukki range & whole ranges of Buffer zone	Sch. IV
24.	*Atretium schistosum (Daudin)	Olivaceous Keelback	Mukki range	Sch. II
25.	Argyrogena fasciolatus (Shaw)	Banded Racer	(Agrawal, 1976; Sanyal & Sur, 1995)	Sch. IV

Table-2: (Cont'd.).

SI. No.	Order / Family / Species	Common Name	Localities / References	Status (Protected Under WL(P)A, 1972)
26.	*Dendrelaphis tristis (Daudin)	Common Bronzeback or Tree Snake	Kisli, Kanha, Mukki, Supkhar range	Sch. IV
27.	*Elaphe helena (Daudin)	Comman Indian Trinket Snake	Kisli range	Sch. IV
28.	Elaphe radiata (Schlegel)	Copperheaded Trinket Snake	Kanha range (Sharma, 1976; Negi, 2002)	Sch. IV
29.	Lycodon aulicus (Linnaeus)	Comman wolf Snake	Kisli, Kanha, Mukki range & whole ranges of Buffer zone. (Sanyal & Sur, 1995)	Sch. IV
30.	*Macropisthodon plumbicolor (Cantor)	Green keel back	Kanha, Kisli & Mukki	Sch. IV
31.	Ptyas mucosus (Linnaeus)	Indian Rat Snake	Kisli, Kanha, Mukki, Supkhar range (Agrawal, 1976; Sanyal & Sur, 1995)	Sch. II
32.	Sibynophis sagttarius (Cantor)	Contor's black headed Snake	(Sanyal & Sur, 1995)	Sch. IV
33.	*Xenochrophis piscator (Schneider)	Checkerd keel back Water Snake	Kisli, Kanha & Mukki range	Sch. II
34.	Family ELAPIDAE Bungarus caeruleus (Schneider)	Common Indian Krait	Kisli, Kanha & Mukki range (Sanyal & Sur, 1995)	Sch. IV
35.	Naja naja naja (Linn.)	Spectacled Cobra or Binocellate Cobra)	Kisli, Kanha & Mukki range (Sanyal & Sur, 1995)	Sch. II
36.	*Naja naja oxiana (Eichwald)	Black Cobra	Kisli, Kanha & Mukki range	Sch. II
-	Family VIPERIDAE			
37.	*Echis carinatus (Schneider)	Saw Scaled Viper	Mukki range	Sch. IV
38.	*Trimeresurus gramineus (Shaw)	Green or bamboo Pit Viper	Mukki range	Sch. IV
39.	Vipera russelli (Shaw)	Russell's Viper	Kanha & Mukki range (Sanyal & Sur, 1995)	Sch. II

WL (P) A, 1972-The Wildlife (Protection) Act, 1972 Sch.-Schedule.

Species marked with (*) are reported for the first time from Kanha Tiger Reserve.

Representative areas of different habitats of the Kanha Tiger Reserve were selected for the survey. A total of about 90 localities or sites were covered in the two main areas (Core and Buffer zone) under the 5 Ranges (Kisli, Kanha, Mukki, Supkhar and Khatiya narangi). The surveys were conducted during May 2004 to December 2004 covering all above five ranges.

- 1. Kisli range: Digdola camp, Gadbadi Nala, Kisli Forest Rest House, Chuppe meadow, Kanha road, Indri meadow, Chamar ghati, Kisli tank, Salghat road, Sondhar, Khatiya gate, Near MPT Baghira loghut, Ghanghor nala anycut, Magar nala, Near day shelter.
- 2. Kanha range: Deshi nala, Chuhari nala., Mukki road, Circular road, Badrinath, Chhoti chuhari, Chinchi mata, Badi chuhari, Kodo dadar, Barasingha fencing, Bison street, Any cut, Ghoda pachhad.
- 3. Mukki range: Baiga nala, Banzar River, C. No. 48, Aurai meadow, Nava tola, Sondhar tank no. 2, Jhandi tank, Mukki village, Garhi road, Bishan pura, Mukki Forest Rest House, Gay dhar, Aurai, Aurai tank Malkhedi, Meel dabra meadow, Mukki Gate, Ghurela Road, Banzar bridge, Parsa tola, Bada tola, Sua dadar, Lal pulia, Ghurela any cut, Mutli sarai fire line, Sondhar, C. No. 22, 23, Teli tola meadow, Ghurela camp, Khud meadow, Baihar road, Pathak nala, Mukki tank, Shringar pur tank, Domar pulia, Lal pulia camp.
- 4. Supkhar range: Kurkuti camp, Kamko dadar, Supkhar Forest Rest House, Chilphi road, Chilpura tank, Agariya khero, Garhi road, Chhabari ghat, Lodha Barra, Chakarwah meadow, Near range office, Kapot bahra tank and Nagar Jhori.
 - 5. Khatiya Narangi range: Mocha, Chhapri kotwahi, Eco centre Khatiya, Nature trail.

SYSTEMATIC ACCOUNT

Class REPTILIA

Key to Orders of Class REPTILIA

Order TESTUDINES

Key to Families of Order TESTUDINES

Limbs more or less cylindrical, digits not webbed	Testudinidae
Limbs paddle-shaped but more or less flattened; digits webbed	Emydidae

Order TESTUDINES Family EMYDIDAE

1. Melanochelys trijuga tirjuga (Schweigger) (Black Turtle or Indian Snail-eating Turtle)

1814. Emys trijuga Schweigger, Prodr. Monog. Chel., : 41.

1998. Melanochelys trijuga trijuga, Sharma, Fauna of India, Reptilia, Testudines and Crocodilians, I: 82.

Observation localities: Kisli, Kanha Range (Deshi Nala, Mukki Road, Chuhari nala) & Mukki range

Habit and habitat: Mainly aquatic (ponds, lakes, wetlands) and completely vegetarian in habits.

Diagnostic characters: It is medium-sized, with a length of 23 cm. or slightly more. The head is small, greyish or olivaceous and the snout is shorter than the orbit. The carapace is moderately depressed, tricarinate, the lateral margins slightly reverted, the posterior margin feebly serrated in the young. Tail is very short. Limbs are flattened and with completely webbed digits.

Distribution: INDIA: Madhya Pradesh, Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Tamil Nadu and mainly the central portion of Indian peninsula.

Conservation status: Vulnerable.

Family TRIONYCHIDAE

2. Lissemys punctata punctata (Lacepede) (North Indian Flap-shell Turtle)

1788. Lissemys punctata punctata Lacepede, La Tortue chagrinee, Hist. Quad Ovip., 1: 171, pl. 11.

1931. Lissemys punctata punctata, Smith, Fauna Brit. India, Reptilia & Amphibia, 1:157.

1998. Lissemys punctata punctata, Sharma, Fauna of India, Reptilia, Testudines and Crocodilians, I, p. 125.

Observation localities: Kisli, Kanha & Mukki Range (Sondhar tank no. 2, Jhandi tank)

Habit and habitat: This species live in shallow, muddy, ditches, lakes and marshes. It is a carnivorous species mostly feeds on frogs, fishes, shrimps and snails.

Diagnostic characters: It is a small, flat turtle, generally less than 24 cm. in length. The head is moderately large; the snout is short and broad. Limbs are fully webbed, with only three claws on each foot. Tail is very short, olive-brown above. Carapace is grey-green, with numerous black-bordered yellow spots, irregularly arranged and with a light yellow marginal rim.

Distribution: Throughout India.

Elsewhere: Bangladesh, Myanmar, Nepal and Sri Lanka.

Conservation status: Lower risk-near threatened.

3. Trionyx gangeticus (Cuvier) (Indian Soft-shell Turtle)

- 1824. Trionyx gangeticus Cuvier, Oss. Foss., 5: 186, 203, 206, pls. 11, 12.
- 1931. Trionyx gangeticus, Smith, Fauna Brit. India, Reptilia & Amphibia, 1: 167.
- 1998. Trionyx gangeticus, Sharma, Fauna of India, Reptilia, Testudines and Crocodilians, I, p. 135.

Observation localities: Kisli, Kanha & Mukki Range.

Habit and habitat: The species is highly aquatic and omnivorous, feed on aquatic vegetation and animal like fish, molluscs, frogs and crustaceans. It is a very prominent scavenger turtle species.

Diagnostic characters: Disc olive-green above, sometimes vermiculated with yellowish. Head greenish, with a black longitudinal streak from between the eyes on to the nape and three oblique black streaks on either side diverging from it, below whitish. Four plastral callosities, in old individuals sometimes a fifth upon the entoplastron.

Distribution: Throughout India.

Elsewhere: Bangladesh, Nepal and Pakistan.

Conservation status: Vulnerable.

Order SQUAMATA

Key to families of Order SQUAMATA

1. Limbs present suborder Sauria 2
- Limbs absent suborder Serpentes 6
2. Tongue rather broad and short
- Tongue smooth, very long and retractile6
3. Tongue covered with villose papillae
- Tongue covered with imbricate, scale-like papillae
4. Tongue covered with villose papillae; eyes usually without movable eyelids; teeth are pleurodont
- Tongue smooth or covered with villose papillae; eyes with movable eyelids; teeth are acrodont
5. Tongue covered with imbricate, scale-like papillae, feebly nicked anteriorly; body covered with cycloid imbricate scales, with osteodermal plates on body
 Tongue covered with imbicate papillae, or transverse plicate, forked interiorly; dorsal scales much differentiated from those on the belly no osteodermal plates on body Lacertidae

6. Tongue bifid, retractile into a sheath at the base as in snakes; back covere scales; generally without osteodermal plates	ed with rounded Varanidae
7. No poison fangs in the front of the jaw	8
- Poison fangs in the front of the jaw	
8. Teeth only in the upper jaw, eyes vestigial, body worm like	Typhlopidae
- Teeth in both jaws, eyes exposed	9
9. Ventrals narrow, but quite distinct; more than 40 scales round the body	Boidae
- Ventrals nearly or quite as broad as the body; tail cylindrical, pointed	Colubridae
10. Maxillary bone with teeth behind the fangs, pupil round	Elapidae
- Maxillary bone very short, bearing fangs only; pupil vertical	

Suborder SAURIA Family GEKKONIDAE

4. Cyrtodactylus collegalensis (Beddome)

(South Indian Rock-Gecko)

- 1870. Gymnodactylus collegalenses Beddome, Madras Month. J, Med. Sci., ii: 173.
- 1995. Cyrtodactylus collegalensis, Sanyal & Sur, Fauna of Kanha Tiger Reserve, Madhya Pradesh, Zool. Surv. India: 51-62.
- 2002. Cyrtodactylus collegalensis, Sharma, Fauna of India, Reptilia, Sauria, II, p. 62.

Recorde'd from literature (Agrawal, 1976. Sanyal & Sur, 1995).

Habit and habitat: The species is arboreal and insectivorous. It is available in forests at low elevations.

Diagnostic characters: This small gecko has got a remarkable similarity with C. nebulosus in scalation but this species is devoid of enlarged dorsal tubercles on the back. It's colour pattern is also different and two main colour forms are recognised. Beddome's speciosus form, dorsum is having four dark brown, black-margined cross bands. In collegalensis dorsum is light brown to grey, with a series of large, rounded black margined spots arranged in pairs.

Distribution: INDIA: Central India and Hilly districts of Southern India.

Elsewhere: Sri Lanka.

Conservation status: A forest species, which is becoming vulnerable on account of habitat destruction as the forests are being cut at a fast rate at low elevations.

5. Cyrtodactylus nebulosus (Beddome) (Clouded Ground Gecko)

- 1870. Gymnodactylus nebulosus Beddome, Madras Month. J, Med. Sci., ii: 174.
- 1995. Cyrtodactylus nebulosus, Sanyal & Sur, Fauna of Kanha Tiger Reserve, Madhya Pradesh, Zool. Surv. India: 51-62.
- 2002. Cyrtodactylus nebulosus, Sharma, Fauna of India, Reptilia, Sauria, II, p. 61.

Recorded from literature (Sanyal & Sur, 1995).

Habit and habitat: The species is terrestrial and insectivorous.

Diagnostic characters: This is a small gecko with a greyish dorsal colouration with dark brown, paired, transverse, black-edged spots throughout the body and tail. The head is moderately large and depressed, covered above with small rounded scales. Upper labials 10-12 and same is the number for the lower labials. Belly is with 35-40 rounded imbricate scales across the middle of the body. Standard length 43-52 mm.; tail length 32-42 mm.

Distribution: INDIA: Madhya Pradesh (Kisli and Mukki in Mandla dist.), Andhra Pradesh, Kerala and Tamil Nadu.

Conservation status: Rare.

6. Hemidactylus brooki Gray (Spotted House Gecko)

- 1845. Hemidactylus brookii Gray, Cat. Liz. Brit. Mus., : 153.
- 1976. Hemidactylus brooki, Agrawal, Newsl. zool. Surv. India, 2(6): 248.
- 2002. Hemidactylus brooki, Sharma, Fauna of India, Reptilia, Sauria, II, p. 107.

Observation localities: Kisli & Supkhar Range.

Habit and habitat: The species is insectivorous. It is available in trees, rocks, under stones and human dwellings.

Diagnostic characters: Head moderately large, snout obtusely pointed, 8 to 10 upper and 7 to 9 lower labials. Back with conical tubercles arranged in regular rows, colour brown or varying shades of grey with brown spots, whitish below. Femoral and preanal pores vary from 15 to 27.

Distribution: Throughout the Indian sub region.

Elsewhere: From Borneo and South China through much of Tropical Asia and the northern half of Africa.

Conservation status: Very common.

7. Hemidactylus flaviviridis Ruppell (Yellow-Bellied House Gecko)

1835. Hemidactylus flaviviridis Ruppell, Neue Wirb. Fauna. Abyss: p. 18, pl. 6, Fig. 2.

2002. Hemidactylus flaviviridis, Sharma, Fauna of India, Reptilia, Sauria, II, p. 115.

Observation localities: Kisli, Kanha, Mukki, Supkhar Range & Whole Ranges of Buffer Zone.

Habit and habitat: Insectivorous and generally nocturnal but can be seen during day time also. Inhabits in the buildings, most agile, pugnacious and a marked climber.

Diagnostic characters: This large and robust gecko is with a pale-grey or greenish-grey, brown or olive dorsum; back is with wavy, dark cross bands which are clearly visible during the day; belly is yellowish. Head is large with a broad snout; ear-opening is sub circular; head is covered with minute granules, which become more prominent and large on the snout. Upper labials 12-15 and lower labials 10-12, standard length 42-90 mm; tail length 38-90 mm.

Distribution: Throughout India, but widely in North India.

Elsewhere: Arabia, Pakistan, Iran and shores of the red Sea.

Conservation status: Very common.

8. Hemidactylus gracilis Blanford (Square spotted Gecko)

1870. Hemidactylus gracilis Blanford, J. Asiat. Soc. Beng., 39: 362.

1976. Hemidactylus gracilis, Agrawal, Newsl. zool. Surv. India, 2(6): 248.

1995. Hemidactylus gracilis, Sanyal & Sur, Fauna of Kanha Tiger Reserve, Madhya Pradesh, Zool. Surv. India: 51-62.

2002. Hemidactylus gracilis, Sharma, Fauna of India, Reptilia, Sauria, II, p. 111.

Recorded from literature (Agrawal, 1976. Sanyal & Sur, 1995)

Habit and habitat: Insectivorous and nocturnal.

Diagnostic characters: This small, slender gecko is of greyish dorsum with dark-brown square spots arranged in two longitudinal rows on either side of a thin dark vertebral line; another more prominent line along the side of the head and body; ventrum is white, generally with dark-brown longitudinal lines. Head is narrow and quite long. Upper labials 9-10 and lower labials are generally 7 or 8. Tail is longer than the head and body. Male with an angular series of six pre anal pores. Standard length 22-37 mm.; tail length 26-43 mm.

Distribution: INDIA: Madhya Pradesh, Andhra Pradesh, Chhattisgarh and Maharashtra.

Conservation status: Common.

9. Hemidactylus leschenaulti Dumeril and Bibron (Bark Gecko)

1836. Hemidactylus leschenaulti Dumeril & Bibron, Erp. Gen., 3: 364.

2002. Hemidactylus leschenaulti, Sharma, Fauna of India, Reptilia, Sauria, II, p. 114.

Observation localities: Mukki range (Mukki, Garhi road), Kisli range (Forest Rest House) and whole ranges of buffer Zone.

Habit and habitat: Insectivorous and arboreal, sylvetic, most favourable abodes are the large trees of banyan, tamarind, mango etc. During the day these lizards hide under the bark and in crevices of these trees.

Diagnostic characters: Body stout with a lateral fold; upper labial 10 to 12 and 8 to 10 lower labials. Dorsally head and body covered with fine granules intermixed with small tubercles irregularly scattered; scales on the underside small and imbricate. Digits rather long; 9 to 11 lamellae under fourth toe. Tail strongly depressed with enlarged tubercles above. Males with 10 to 17 femoral pores on each side. Grey above and silvery white below. Back with conspicuous wavy cross bars. A dark line from eye to ear on each side of the head.

Distribution: INDIA: Madhya Pradesh, Peninsular India; Rajasthan and West Bengal.

Elsewhere: Sri Lanka and Pakistan.

Conservation status: Abundant.

10. Hemidactylus maculatus (Dumeril & Bibron) (Rock Gecko)

1836. Hemidactylus maculatus Dumeril & Bibron Erp. Gen., 3: P. 358.

1935. Hemidactylus maculatus, Dumeril & Bibron, Smith, Fauna Brit. Ind., 2: p. 85.

2002. Hemidactylus maculatus, Sharma, Fauna of India, Reptilia, Sauria, Vol. II. P. 103-104.

Observation localities: Kisli and Mukki range (Banzar River).

Habit and habitat: This is a carnivorous species. Inhabits crevices, caves and other such structures in the rocks.

Diagnostic characters: This giant gecko in which dorsum is brown with dark-brown spots, underlating transverse bars and streaks; belly is dirty-white. Young individuals are more brilliantly coloured and spotted with dark brown. Head is large and prominent, with a bulging on the tip of snout; eye is moderately large with a vertical pupil, and snout is having somewhat convex scales. Tail is longer than the head and body, slightly depressed, oval in section, verticillate. Standard length 83-122 mm; tail length 90-130 mm.

Distribution: INDIA: Madhya Pradesh, Gujarat, Kerala, Maharashtra and Tamil Nadu.

Conservation status: Common.

Family AGAMIDAE

11. Calotes versicolor (Daudin) (Garden Lizard)

- 1802. Agama versicolor Daudin, Hist. Nat. Rep., 3: 395.
- 1935. Calotes versicolor, Smith, Fauna Brit. India, Reptilia & Amphibia, 2: 189.
- 2002. Calotes versicolor, Sharma, Fauna of India, Reptilia, Sauria, II, p. 206.

Observation localities: Kisli range (Digdola camp, Gadbadi nala, Forest Rest House), Kanha range (Badrinath, Mukki road, Chhoti chuhari, Circular road), Mukki range (Bishan pura, Forest Rest House, Gay dhar, Near museum, Garhi road, Aurai C. No. 48, Aurai tank & meadow, Malkhedi, Meel dabra meadow, Mukki Gate), Supkhar range (Kurkuti camp, Kamko dadar), Khatiya Narangi range (Mocha, Chhapri kotwahi, Eco centre Khatiya)

Habit and habitat: Arboreal species, available where shrubs and trees are present; plentiful in vicinity of streams, riversides, gardens, desert oases. These lizards are mainly insectivorous and also feeds on vegetables matter like grass leaves twigs of delicate plants and seeds.

Diagnostic characters: Light brown or greyish above, uniform or with more or less distinct dark brown transverse spots or bars upon the back and sides; or variegated with dark brown; dark streaks radiating from the eye. Tail with light and dark annuli. Dirty whitish below, often streaked with dark brown or black. The throat may have a black transverse bar; nuchal and dorsal crest continuous.

Distribution: INDIA: Eastern Rajasthan, Madhya Pradesh, Northern Maharashtra and Western Uttar Pradesh.

Elsewhere: Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka.

Conservation status: Very common.

12. Psammophilus blanfordanus (Stoliczka) (Blanford's Rock Agama)

- 1871. Charasia blanfordanus Stoliczka, Asiat. Soc. Beng.: 194.
- 1935. Psammophilus blanfordanus, Smith, Fauna Brit. India, Reptilia & Amphibia, 2: 210.
- 1995. Psammophilus blanfordanus, Sanyal & Sur, Fauna of Kanha Tiger Reserve, Madhya Pradesh, Zool. Surv. India: 51-62.
- 2002. Psammophilus blanfordanus, Sharma, Fauna of India, Reptilia, Sauria, II, p. 224.

Recorded from literature (Sanyal & Sur, 1995)

Habit and habitat: The species is insectivorous and rock dwelling.

Diagnostic characters: This species closely resembles with Psammophilus dorsalis in general body shape and pholidostic characters except that it is olive-bronze or dark-brown in dorsal

colouration, spotted profusely with brown and usually with a series of large, boat shaped dark-brown spots with light brown or pale centres on the complete back and tail. In the adult male, these markings of back and tail merge out and giving the lizard somewhat brownish appearance. It also differs by having a deeper ante-humeral fold; dorsal body scales are comparatively larger, always keeled and imbricate, 80-100 scales round the middle of the body. Standard length 100 mm; tail length 200 mm.

Distribution: INDIA: Madhya Pradesh, Andhra Pradesh, Bihar, Orissa, Eastern and Western Ghats.

Conservation status: In abundance.

13. Sitana ponticeriana Cuvier (Fan Throated Lizard)

1844. Sitana ponticeriana Cuvier, Guerin Icon. Reg. Anima. Rep., : pl. 10, fig. 2.

1935. Sitana ponticeriana, Smith, Fauna Brit. India, Reptilia & Amphibia, 2: 144.

2002. Sitana ponticeriana, Sharma, Fauna of India, Reptilia, Sauria, II, p. 164.

Observation localities: Mukki range.

Habit and habitat: It inhabits all biotopes except the heavy rainfall forests and deserts. The preferred habitat is rocky terrain, scrubby jungles and sandy country.

Diagnostic characters: Light or dark brown above, with a series of dark brown, black-edged, rhomboidal spots along the middle of the back; a more or less distinct light line along each side of the spots and sometimes a light vertebral line dividing them. Flanks, top of head and upper surfaces of limbs with or without dark markings. Whitish below.

Distribution: Throughout India except at heavy rainfall areas.

Elsewhere: Nepal, Pakistan and Sri Lanka.

Conservation status: Common.

Family SCINCIDAE

14. *Riopa punctata* (Gmelin) (Dotted Garden Skink)

1799. Scincus punctatus Gmelin, Hist. Amph.,: 197.

1835. Riopa punctata Smith, Fauna Brit. Ind., 2: 318-319.

Observation localities: Mukki Range (Ghurela road, Aurai meadow, Mukki gate). Supkhar range (Kamko dadar).

Habit and habitat: It spends most of its life underground.

Diagnostic characters: A small and slender skink; snout obtuse; supra-nasals entire, in contact with one another behind the rostral; frontal longer than the fronto-parietals and interparietal together; a pair of nuchals, rarely absent. Legs vestigial. Lower eyelid with a transparent disc. Young with two prominent yellowish dorso-lateral streaks. The dark basal spots on the back are united with each other and from 6 longitudinal lines down the back. The pattern, however, breaks up with age. Tail scarlet red in young which also fades with age.

Distribution: Widely distributed throughout India.

Conservation status: Common.

15. Riopa albopunctata (Grey) (Brown Dwarf Skink)

- 1845. Riopa albopunctata Gray, Ann. Mag. Nat. Hist., 18: 430.
- 1935. Riopa albopunctata, Smith, Fauna Brit. India, Reptilia & Amphibia, 2: 316.
- 1995. Riopa albopunctata, Sanyal & Sur, Fauna of Kanha Tiger Reserve, Madhya Pradesh, 2001. Surv. India: 51-62.
- 2002. Riopa albopunctata, Sharma, Fauna of India, Reptilia, Sauria, II, p. 319.

Recorded from literature (Sanyal & Sur, 1995).

Habit and habitat: Insectivorous and terrestrial.

Diagnostic characters: Brown or reddish-brown above, each scale with a more or less distinct dark spot forming longitudinal series; sides of neck and anterior part of body dark brown or black, thickly spotted with white; yellowish-white below. Body scales are almost equal, dorsals may or may not be larger than the lateral scales; 26-28 scales round the middle of body; 63-72 scales are down the middle of back. The limbs are moderately large, digits are short, 12-15 lamellae under the fourth toe; tail swollen at the base standard length 60 mm.

Distribution: INDIA: Madhya Pradesh, Andhra Pradesh, Assam, Bengal, Bihar, Uttar Pradesh, and Kerala.

Conservation status: Common.

16. Mabuya carinata (Schneider)

(Common Keeled Grass Skink or Brahminy Skink)

- 1807. Scincus carinata Schneider, Hist. Amphib., 2:183.
- 1935. Mabuya carinata, Smith, Fauna Brit. India, Reptilia & Amphibia, 2: 266.
- 1991. Mabuya carinata, Sanyal, Fauna of Orissa, 4:61.
- 2002. Mabuya carinata, Sharma, Fauna of India, Reptilia, Sauria, II, p. 276.

Observation localities: Kisli Range (Chuppe meadow, Digdola camp, Forest Rest House, Kanha road, Indri meadow, Chamar ghati, Kisli tank, Salghat road). Mukki Range (Nava Tola, Mukki, Banzar bridge, Parsa tola, Bada tola, Garhi road, Sua dadar, Baiga nala, Aurai, Lal pulia, Gay dhar, Ghurela any cut, Forest Rest House, Mal khedi, Mutli sarai fire line, Near Mukki gate, Sondhar, Sardar barra, Sondhar bada tank, C. No. 22, 23, Teli tola meadow, Ghurela tank, Ghurela camp, Khud meadow), Supkhar Range (Forest Rest House, Chilphi road, Nagar jhori, Chilpura tank, Agariya khero, Garhi road, Kamko dadar). Khatiya Narangi range (Chhapari kotwahi, Nature trail)

Habit and habitat: Diurnal, terrestrial, insectivorous, occasionally feed on small vertebrates.

Diagnostic characters: Brown to olive or bronzy above, uniform or with dark brown or black spots, or longitudinal streaks along the lateral margins of the scales. Sides darker brown or chestnut, with or without light spots. A light dorso-lateral line starting from above the eye and continued to the base of the tail. Lower parts whitish or yellowish.

Distribution: Throughout India except North-west India and West Bengal.

Elsewhere: Nepal.

Conservation status: Very common.

17. Mabuya macularia (Blyth) (Bronze Grass Skink or Little Skink)

- 1839. Euprepes sehae (in part) Dumeril & Bibron, Erp. Gen., 5: 692.
- 1853. Euprepes macularia Blyth, J. Asiat. Soc. Beng., 22: 652.
- 1935. Mabuya macularia, Smith, Fauna Brit. Ind., 2: 264-266.
- 2002. Mabuya macularia, Sharma, Fauna of India, Reptilia, Sauria, II, p. 274.

Observation localities: Kanha range (Deshi Nala, Badrinath, Chhoti chuhari, Ghora pachhad, Chinchi mata, Badi chuhari, Kodo dadar, Mukki road, Chuhari nala, Barasingha fencing, Circular road, Bison street and Any cut). Mukki range (Nava tola, Mukki, Banzar bridge, Khud meadow, Ghurala camp, Baihar road, Parsa tola, Bada tola, Garhi road, Aurai anycut, Mukki village, Gay dhar, Forest Rest House, Pathak nala, Ghurala road, Aurai meadow, Aurai tank, Sardar barra, Sondhar & Sondhar tank No. 2, C. No. 48,23 22, Teli tola meadow, Meel dabra meadow, Nava tola, Mukki tank, Banzar river, Mutli sarai fire line and Ghurala meadow. Supkhar range (Chilphi Road, Forest Rest House, Chakarwah meadow, Chhaparawa camp, Nagar jhori, Chilpura tank, Near range office, Kapot bahra tank, Kurkuti camp, Chhabari ghat camp). Kisli range (Digdola camp, Kanha road, Forest Rest House, Chamar ghati, Indri camp, Indri meadow, Khatiya gate, Near MPT Baghira loghut and Salghat road). Khatiya Narangi range (Nature Trial).

Habit and habitat: Diurnal, terrestrial and insectivorous.

Diagnostic characters: Head small, snout short not depressed; eye small. Fronto-nasal not broader than long; ear opening oval, slightly smaller than eye, 6 to 7 upper and 7 lower labials, 28 to 30 rows of scales round the body. Dorsal scales with 5 to 7 low keels; lateral scales smooth, 12 to 17 lamellae under the fourth toe. Tail round. The colour pattern of this species varies. The general body colour is brown with or without spots.

Distribution: Throughout India.

Elsewhere: Myanmar, Pakistan, Thailand, North Vietnam, South Vietnam and Malaysia.

Conservation status: Very common.

Family LACERTIDAE

18. Cabrita leschenaulti (Milne-Edwards) (Leschenault's Snake-eye)

1829. Cabrita leschenaulti Milne-Edwards, Ann. Sci. Nat. Paris, xvi: 80.

1935. Cabrita leschenaulti, Smith, Fauna Brit. India, Reptilia & Amphibia, 2: 374.

2002. Cabrita leschenaulti, Sharma, Fauna of India, Reptilia, Sauria II: 376.

Observation localities: Kisli range

Habit and habitat: Insectivorous, burrowing and diurnal.

Diagnostic characters: Brownish or golden above; a light stripe edged above with black commences behind the supraciliary edge and passes along the side of the body and tail; a second borders the upper lip and passes along the flank, the interval between the two light stripes being black, or green spotted with black sometimes the lower light stripe may bordered with black below. Lower parts greenish-white, the tail and hind-limbs often reddish in life. Standard length 50 mm. tail length 100 mm.

Distribution: INDIA: Indian Peninsula, Andhra Pradesh, Bihar, Orissa, Madhya Pradesh and Tamil Nadu.

Elsewhere: Sri Lanka.

Conservation status: Not threatened.

Family VARANIDAE

19. Varanus bengalensis (Linnaeus) (Common Indian Monitor)

1758. Lacerta monitor Linnaeus, Syst. Nat. ed., 10: 201.

2002. Varanus bengalensis, Sharma, Fauna of India, Reptilia, Sauria, II: 402.

Observation localities: Kisli Range (Near MPT Log hut).

Habit and habitat: This diurnal monitor lizard is of the burrowing habits and prefers to live in burrows, hollow of trees, nalas, under stones and boulders in dense vegetation bordering marshes, ponds, canals and tanks. It feeds mainly on insects, small mammals, snakes, lizards and vegetable matter.

Diagnostic characters: It is a medium-sized, dark brown monitor, about 72-75 cm. in head and body length. The tail is very strong, long, compressed and measures about 100 cm. in length. The snout is convex terminally. The nostrils are oblique slits lying midway between the eye and the end of the muzzle. The tongue is very long, forked and protrusible.

Distribution: Throughout India.

Elsewhere: Myanmar, Sri Lanka, Pakistan, Nepal and Uzbekistan.

Conservation status: Endangered.

Suborder SERPENTES Family TYPHLOPIDAE

20. Ramphotyphlops braminus (Daudin) (Common Worm or Blind Snake)

1803. Eryx braminus Daudin, Hist. Nat. Rept., 7: 279.

1943. Typhlops braminus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3:46.

1991. Ramphotyphlops braminus, Sanyal, Fauna of Orissa, 4:64.

2003. Ramphotyphlops braminus, Sharma, Hand book of Indian Snakes, : 14.

Observation localities: Mukki range (Banzar River and Mukki village).

Habit and habitat: Worms feed on soft bodied larva and eggs of ants and termites. Lives beneath the soil, or stones or debris. They are also found under logs, moist leaves and humus in wet forests and even city gardens.

Diagnostic characters: Length about 170 mm.; colouration brown or blackish above, lighter below, snout, anal region and end of tail usually whitish. Snout rounded, strongly projecting; nostrils lateral; eye distinct, in the ocular shield or at its junction with the supra-ocular; 290-320 transverse rows of scales.

Distribution: Throughout India including Andaman & Nicobar Islands.

Elsewhere: Sri Lanka, Indo-China, and South-East Asia.

Conservation status: The most widespread species of the genus.

Family BOIDAE

21. Python molurus (Linnaeus) (Indian Rock Python)

- 1758. Coluber molurus Linn, Syst. Nat., 10th ed.: 225.
- 1943. Python molurus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 106.
- 2003. Python molurus, Sharma, Hand book Indian Snakes: 50.

Observation localities: Kisli Range (Ghanghor nala anycut).

Habit and habitat: These snakes inhabits in dense as well as in open forests with rocky outcrops near to marshes or streams. Python feed mainly on warm-blooded prey ranging in size from mice and birds to jackals, civets and even deer and wild boar.

Diagnostic characters: Body length ranges from 2.5-4.5 m. The head is distinct from the neck and has symmetrical shields. The eyes have vertical pupils. The scales on the body are smooth and are arranged in 60-75 rows. The tail is rather short. The colour of the body varies from pale grey to yellow above, and is yellow below. A dorsal series of large walnut coloured crown saddlers alternate with pinkish laterals.

Distribution: Throughout India, forests up to 2000 m above sea level.

Elsewhere: Nepal, Pakistan and Sri Lanka.

Conservation status: Protected under Schedule-I of Indian Wildlife Act. 1972.

Family COLUBRIDAE

22. Ahaetulla nasutus (Lacepede) (Common Vine Snake)

- 1789. Coluber nasutus Lacepede, Hist. Nat. Serp., 1: 100; 2: 277, pl. 4.
- 1943. Dryophis nasutus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 376.
- 2003. Ahaetulla nasuta, Sharma, Hand book Indian Snakes: 172.

Observation localities: Supkhar range (Chhabari ghat).

Habit and habitat: Diurnal and live in scrub jungle, dry deciduous, moist deciduous and evergreen forests.

Diagnostic characters: Verdant green above, the interstitial skin black and white, forming oblique lines, best marked on the anterior half of the body. Pale green below, a white or yellow line along the outer margin of the ventrals. Lips sometimes yellowish, throat white, sometimes bluish. Snout acuminate, terminating in a pointed dermal appendage, variable in length, shorter than the eye.

Distribution: Throughout India.

Elsewhere: Myanmar, Bangladesh, Nepal, Thailand and Sri Lanka.

Conservation status: Common.

23. Amphiesma stolata (Linnaeus) (Striped Keelback)

1758. Coluber stolatus Linnaeus, Syst. Nat., 10th ed.: 219.

1943. Natrix stolata, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 303.

1991. Amphiesma stolata, Sanyal, Fauna of Orissa, 4: 68.

2003. Amphiesma stolata, Sharma, Hand book Indian Snakes: 136.

Observation localities: Mukki range (Aurai tank, Aurai meadow, Aurai anycut, Banzar river, Bishan pura, Nava tola, C. No. 48, Forest Rest House, Meel dabra meadow, Pathak nala, Parsa tola, Bada tola, Shringar pur tank, Garhi tola, Garhi road, Near Mukki gate, Sardar barra, Sondhar, Meel dabra). Kisli range (Forest Rest House). Supkhar Range (Lodha Barra). Khatiya Narangi ranges (Eco Centre).

Habit and habitat: Paddy fields, ponds edges, thick grass and bushes are favoured places. They are diurnal and spend nights sleeping under rocks, holes or the branches of trees or bushes. Frogs are the main diet but also take toads, small lizards and rodents.

Diagnostic characters: Olive-greenish or brownish above with black spots or reticulated cross-bars intersected by two dorso-lateral yellow or buff stripes; on the hind part of the body the stripes are best marked and the black spots least evident, the green colour being almost uniform dark-olive. Lower parts whitish. Top of head olive, uniform or the shields edged with black, lips yellowish.

Distribution: Throughout India.

Elsewhere: Bangladesh, Bhutan, Nepal, Pakistan and Sri Lanka.

Conservation status: Common in the plains.

24. Atretium schistosum (Daudin) (Olivaceous Keelback Water Snake)

- 1803. Coluber schistosus Daudin, Hist. Nat. Rept., 7: 132.
- 1943. Atretium schistosum, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 319.
- 2003. Atretium schistosum, Sharma, Hand book Indian Snakes: 146.

Observation localities: Kisli range (Salghat road, C. No. 48). Mukki Range (Baiga nala, Banzar River, C. No. 48, Mukki village).

Habit and habitat: Semi-aquatic and vicinity of fresh water bodies.

Diagnostic characters: Olive-brown or greenish above, uniform or with two series of small black spots along the back. A more or less distinct dark lateral streak sometimes present. Upper lip, outer row of scales and lower surface yellow. Scales in 19:19:17 rows, more or less distinctly keeled, the keels strongest on the posterior part of the body and tail.

Distribution: INDIA: Madhya Pradesh, Orissa and Peninsular India.

Elsewhere: Bangladesh, Nepal, and Sri Lanka.

Conservation status: Very common.

25. Argyrogena fasciolatus (Shaw) (Banded Racer)

- 1802. Coluber faciolatus Shaw, Gen. Zool. iii: 528.
- 1943. Coluber faciolatus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 170.
- 1995. Argyrogena faciolatus, Sanyal & Sur, Fauna of Kanha Tiger Reserve, Madhya Pradesh, Zool. Surv. India: 51-62.
- 2003. Argyrogena faciolatus, Sharma, Hand book Indian Snakes: 82.

Recorded from literature (Agrawal 1976, Sanyal & Sur, 1995).

Habit and habitat: The alert, fast snake favours high grass or bushes. They occupy rodent burrows, rock piles and heavy bushes. They are diurnal and feed on frogs, insects, mice and rats.

Diagnostic characters: Light or dark olive-brown above, beautifully ornamented with narrow cross-bars on the anterior half of the body; these are formed by a pattern of white, and dark brown or black, the colours being more or less equally distributed upon the scales; posterior part of body with indistinct dark cross-bars or spots, these markings gradually disappearing towards the tail, which is uniform brown in colour; head above marbled with light and dark olive, and two white spots, one on each side of the interparietal suture. Lower part whitish or yellowish. Total length: male 1015 mm, tail 250 mm; female 1000 mm, tail 210 mm.

Distribution: INDIA: Madhya Pradesh, Uttar Pradesh, Gujrat, West Bengal and throughout Peninsular India.

Elsewhere: Bangladesh, Pakistan and Sri Lanka.

Conservation status: Common.

26. Dendrelaphis tristis (Daudin) (Common Indian Bronze-back)

- 1758. Coluber tristis Daudin, Rept Hist. Nat., 6: 430.
- 1943. Ahaetulla tristis, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 248.
- 2003. Dendrelaphis tristis, Sharma, Hand book Indian Snakes: 113.

Observation localities: Kisli range (Indri camp and Salghat road). Mukki range (Aurai meadow, Aurai tank, C. No. 48, Khud meadow, Meel dabra meadow, Sondhar, Ghurela Camp and Baihar road). Supkhar range (Garhi road).

Habit and habitat: Arboreal occupying low bushes, thorn, thorn trees such as Scacia, toddy palms and Palmyra. They are diurnal and very active even during the hottest part of a summer day. They are usually found in the open and rarely hide. Mainly feed on frogs and lizards.

Diagnostic characters: Bronze-brown or purplish-brown above, light greyish, greenish or yellowish below. A more or less distinct buff flank stripe along the outer two scale rows, edged or spotted with black, an indistinct black temporal stripe extending to the neck, where it may break up into vertical bars, vertebral scales on neck, where it may break up into vertical bars. Upper lip yellow.

Distribution: Throughout India.

Elsewhere: Bangladesh, Nepal, Pakistan and Sri Lanka.

Conservation status: Uncommon.

27. Elaphe helena (Daudin) (Common Trinket Snake)

1803. Coluber helena Daudin, Hist. Nat. Rept., 6: 277.

1943. Elaphe helena, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 149.

1991. Elaphe helena, Sanyal, Fauna of Orissa, 4: 67.

2003. Elaphe helena, Sharma, Hand book Indian Snakes: 69.

Observation localities: Kisli range (Khatiya road).

Habit and habitat: During the hot weather, Trinket snakes live deep in termite mounds, rock piles and crevices. In the cool season they emerge and are found in leafy trees and bushes. They are active during night and day. The adult is mainly a rodent eater, killing its prey by constriction. Occasionally, birds and their eggs are also eaten.

Diagnostic characters: Light or dark brown above; with dark brown or black cross-bars containing white ocelli, these are most conspicuous anteriorly and on the sides more than on the back, this pattern gradually disappears on the hinder part of the body, which is brown above with a broad dark stripe on each side; a black vertical streak below the eye and an oblique one behind it, lower parts yellowish.

Distribution: Throughout India.

Elsewhere: Bangladesh, Nepal, Pakistan and Sri Lanka.

Conservation status: Common between 500 m. and 2000 m. Rare in the plains.

28. Elaphe radiata (Schlegel) (Copperheaded Trinket Snake)

1837. Coluber radiatus Schlegel, Phys. Serp. ii: 135.

1943. Elaphe radiata, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 146.

2003. Elaphe radiata, Sharma, Hand book Indian Snakes: 68.

Observation localities: Kanha range.

Habit and habitat: Prefers open country near jungles and fields, gardens near villages. They are diurnal an active, intrepid snake. Apparently feeds exclusively on mammals, particularly rodents.

Diagnostic characters: Snout twice as long as the eye; Body colouration above greyish-brown, fawn or yellowish-brown, sometimes with a reddish or greenish tinge in life, with four black stripes a short distance behind the neck; the upper pair, on either side of the vertebral line, are broad, the outer pair on scale rows 3 are much narrower and are usually broken into a series of elongated spots on the anterior part of the body.

Distribution: INDIA: Chhattisgarh, Madhya Pradesh, Uttarakhand, West Bengal, Orissa and Eastern Himalayas.

Elsewhere: Southern China, and through the whole of the Indo-Chinese sub region to the Malay Archipelago. Bangladesh, Nepal, Pakistan and Sri Lanka.

Conservation status: Not uncommon.

29. Lycodon aulicus (Linnaeus) (Common Wolf Snake)

1754. Coluber aulicus Linnaeus, Mus. Adolph. Frieder, 1: 29.

1943. Lycodon aulicus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 263.

1991. Lycodon aulicus, Sanyal, Fauna of Orissa, 4: 69.

2003. Lycodon aulicus, Sharma, Hand book Indian Snakes: 123.

Observation localities: Kisli range (Indri meadow, Forest Rest House)

Habit and habitat: The snake most often seen near human habitations. They are nocturnal and feed on skins, geckos, lizards and frogs.

Diagnostic characters: Snout more or less spatulate and projecting beyond the lower jaw. Body colouration brown or greyish-brown above, with 12-19 white cross-bars which expand laterally or bifurcate, enclosing triangular patches; the bars may be pure white or heavily speckled with brown, they are sometimes reduced to short vertebral spots. Upper lip white or spotted with brown.

Distribution: Throughout India.

Elsewhere: Bangladesh, Nepal, Pakistan, Sri Lanka and Myanmar.

Conservation status: One of the commonest snakes of the Indian plains.

30. Macropisthodon plumbicolor (Cantor) (Green Keelback)

- 1839. Tropidonotus plumbicolor Cantor, Proc. Zool. Soc., : 54.
- 1943. Macropisthodon plumbicolor, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 314.
- 2003. Macropisthodon plumbicolor, Sharma, Hand book Indian Snakes: 144.

Observation localities: Supkhar range (Garhi Chilphi road)

Habit and habitat: Found in green as well as open deciduous forests, mainly in hilly region. They are durinal.

Diagnostic characters: Head rather broad and short, nostril between two nasals. Body colour grass-green above, a black stripe from the eye to the angle of the mouth and more or less regular transverse black spots or cross-bars on the back and tail. Belly whitish-yellow or plumbeons, rarely with darkish spots.

Distribution: INDIA: Chhattisgarh, Karnataka, Kerala, Madhya Pradesh, North Maharashtra, Uttar Pradesh, Rajasthan and Tamil Nadu.

Elsewhere: Pakistan and Sri Lanka.

Conservation status: It is somewhat rare found only in the forests and hills.

31. Ptyas mucosus (Linnaeus) (Rat Snake)

- 1758. Coluber mucosus Linnaeus, Mus. Ad. Frid., 1:37.
- 1943. Ptyas mucosus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 159.
- 2003. Ptyas mucosus, Sharma, Hand book Indian Snakes: 75.

Observation localities: Kisli range (Khatiya gate, Magar nala). Mukki range (Domar pulia, Forest Rest House, Garhi road, Gay dhar, Nava tola fire line, Near Mukki gate, Sardar barra, Sondhar, Sondhar bada tank, Bishanpura). Supkhar range (Kamko dadar). Khatiya Narangi range (Eco-centre).

Habit and habitat: Diurnal in habits but in populated areas may not be commonly seen out during the day. Mainly eat rodents and occasionally feeds on frogs, lizards, birds and even small snakes.

Diagnostic characters: Body olive-green, brown, yellowish or greyish above, with irregular but strongly marked black crossbars on the posterior half of the body. Yellowish-white below, the posterior ventrals and sub caudal edged with black. Maxillary teeth 20-25. Scales in 16 or 17 rows at mid-body; V. 190-213, C. 100-146, A. 2.

Distribution: INDIA: Throughout India including Andaman and Nicobar Islands.

Elsewhere: Bangladesh, Nepal, Pakistan and Southeast Asia.

Conservation status: A common snake in all parts of the country.

32. Sibynophis sagittarius (Cantor) (Cantor's black-headed snake)

- 1839. Calamaria sagittaria Cantor, P. Z. S.: 49.
- 1943. Sibynophis sagittarius, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 280.
- 1995. Sibynophis sagittarius, Sanyal & Sur, Fauna of Kanha Tiger Reserve, Madhya Pradesh, Zool. Surv. India: 51-62.
- 2003. Sibynophis sagittarius, Sharma, Hand book Indian Snakes: 131.

Recorded from literature (Sanyal & Sur, 1995)

Diagnostic characters: Light brown above, with a vertebral series of black dots; greyish-brown on the sides, the colour occupying four scale-rows, and bordered above with black; head and nape dark brown or black, with a large elongate oval patch of yellow on each side at the back of the head; snout variegated with yellow; a yellow border to the nuchals patch behind; lips yellow, spotted with black. Lower parts yellow, with a black dot on the outer edge of each ventral shield. Total length: 305 mm, tail 250 mm.

Distribution: Madhya Pradesh, North-eastern India, Ganges basin, West Bengal and Western Himalayas.

Elsewhere: Bangladesh.

Conservation status: Not Common.

33. Xenochrophis piscator (Schneider) (Checkered Keelback)

- 1799. Hydrus piscator Schneider, Hist. Amph., 1: 247.
- 1943. Natrix piscator, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 293.
- 2003. Xenochrophis piscator, Sharma, Hand book Indian Snakes: 138.

Observation localities: Mukki Range (Bishan pura, Domar pulia, Ghurala anycut, Nava tola, Nava tola fire lne, Shringarpur tank)

Habit and habitat: Lakes, ponds, wells, rivers, streams and flooded rice-fields. They are active in day and night. Young water snakes feed on tadpoles and water insects. As they grow larger, they take fish, frogs and occasionally rodents and birds.

Diagnostic characters: Body olivaceous or yellowish above, whitish or yellowish below. Maxillary teeth 22-28, gradually enlarged posteriorly, nostrils directed slightly upwards. Scales in 19 rows, more or less distinctly keeled, except the outer one or two rows, which are smooth.

Distribution: Throughout India excluding Andaman and Nicobar Islands.

Elsewhere: Bangladesh, Bhutan, Nepal, Pakistan and Sri Lanka.

Conservation status: Common.

Family ELAPIDAE

34. Bungarus caeruleus (Schneider) (Common Indian Krait)

- 1801. Pseudoboa caerulea Schneider, Hist. Amph., 2: 284.
- 1943. Bungarus caeruleus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 413.
- 2003. Bungarus caeruleus, Sharma, Hand book Indian Snakes: 188.

Observation localities: Kisli range (Forest Rest Hosue, Khatiya). Khatiya Narangi range (Ecocentre).

Habit and habitat: It inhabits fields, low scrub jungles and are common in the vicinity of human habitation. Feed on mainly snakes, lizards and rodents. They are generally nucturnal.

Diagnostic characters: Length usually less than 2 metres. Black or bluish-black above with narrow white crossbars, which are least distinct on the anterior part of the body, or entirely absent. The eyes are small and very dark which makes the pupil almost invisible.

Distribution: INDIA: Throughout India including the Andaman and Nicobar Islands; upto 1700 m above sea level.

Elsewhere: Bangladesh, Pakistan and Sri Lanka.

Conservation status: Common.

35. *Naja naja naja* (Linnaeus) (Spectaled Cobra or Binocellate Cobra)

- 1758. Coluber naja Linnaeus, Syst. Nat., 10th ed.: 221.
- 1943. Naja naja, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 427.
- 2003. Naja naja naja, Sharma, Hand book Indian Snakes: 196.

Observation localities: Kisli Range (Near day shelter, Khatiya, Magar nala). Kanha range (Chhoti chuhari, Ghoda pachhad). Mukki range (Baiga nala, Banzar River, C. No. 48, Ghurala road, Aurai meadow, Malkhedi, Nava tola). Supkhar range (Garhi road, Chilphi road).

Habit and habitat: They are found in all types of Country: Plains, open fields and even in the regions heavily populated by man. Frequently found near or in water and is a strong swimmer. Evening hours are preferred for moving about and hunting. Feed on insects, lizards, frogs, toads, small snakes, rodents and birds.

Diagnostic characters: Colour variable, generally brownish to blackish. Head not very distinct from the neck, dilated into a hood, the anterior ribs elongate. A spectacle mark on the hood or mark absent. Eyes moderate, pupil round. Scales smooth, in 19-25 rows, no occipital shields.

Distribution: Throughout India.

Elsewhere: Africa, Malaysia, and Southern Asia.

Conservation status: Not very common.

36. *Naja naja oxiana* (Linnaeus) (Black Cobra)

1943. Naja naja oxiana, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 428.

2003. Naja naja oxiana, Sharma, Hand book Indian Snakes: 197.

Observation localities: Kisli, Kanha & Mukki range

Habit and habitat: Found almost anywhere in heavy jungle, open cultivated land; in populated areas. Snakes feed on insects, lizards, frogs, toads, small snakes, rodents and birds.

Diagnostic characters: Young-light greyish or brownish above, uniform or with dark reticulations chiefly to the interstitial skin; or with dark transverse or chevron-shaped cross-bars. The bars on the hood are blacker than those on the body and extend across the under surface; belly whitish. Adult-brownish to blackish, usually without any other distinct markings, lighter below than above.

Distribution: INDIA: Gujarat, Rajasthan, Maharashtra, Madhya Pradesh, Punjab, Himachal Pradesh and Kashmir.

Elsewhere: Pakistan, Afghanistan and Central Asia.

Conservation status: Not very common.

Family VIPERIDAE

37. Echis carinatus (Schneider) (Saw-scaled Viper)

1801. Pseudoboa carinata Schneider, Hist. Amphib., 2:2.

1943. Echis carinatus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 487.

2000. Echis carinatus, Sharma, Fauna of Gujarat, 1: 294.

2003. Echis carinatus, Sharma, Hand book Indian Snakes: 223.

Observation localities: Mukki range (Nava tola, Sondhar tank No 2, Sondhar).

Habit and habitat: Dry, sandy or rocky terrain of the plains. Not found in heavily forested areas and usually not in higher hills. They are nocturnal and feed on mice, lizards, frogs, scorpions and other arthropods.

Diagnostic characters: Pale brown or greyish or sandy above with a vertebral series of pale dark edged spots which are connected on each side with a light inverted-U or inverted-V shaped mark enclosing a dark area, these spots are usually more or less connected with one another and form an undulating light line along the side of the body. A cruciform mark on top of the head, behind the eyes. Whitish below, uniform or spotted with brown.

Distribution: Throughout India, mostly on the plains.

Conservation status: Common.

38. Trimeresurus gramineus (Shaw) (Green or Bamboo Pit Viper)

1802. Coluber gramineus Shaw, Gen. Zool., iii: 420.

1943. Trimeresurus gramineus, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 515.

2003. Trimeresurus gramineus, Sharma, Hand book Indian Snakes: 234.

Observation localities: Mukki range (Lal pulia camp and Forest Rest House)

Habit and habitat: It is usually seen during the rains. Frequents low vegetation, showing a marked preference for bamboo in localities where it occurs. They feed on small mammals, but take other small vertebrates also – rats, mice, shrews, small birds and lizards.

Diagnostic characters: Green or yellowish-green above, uniform or with occasional small dark brown spots produced by an extension of the colour of the interstitial skin on to the base of the scales; whitish or greenish below. The green of the dorsum may extend on to the outer edges of the ventrals and the pale colour of the ventrals on to the outer dorsal scales, the resulting pattern being a broken and uneven line along the flanks; upper lip whitish a dark temporal streak present or absent. Total length of male 630 mm, tail 115 mm; female 800 mm., tail 135 mm.

Distribution: INDIA: Madhya Pradesh, Maharashtra, Eastern and Western Ghats.

Conservation status: Not uncommon.

39. Vipera russelli (Shaw) (Russell's viper)

1797. Coluber russelli Shaw, Nat. Misc., 8, pl. 291.

1943. Vipera russelli, Smith, Fauna Brit. India, Reptilia & Amphibia, 3: 483.

2000. Vipera russelli, Sharma, Fauna of Gujarat, 1: 294.

2003. Vipera russelli, Sharma, Hand book Indian Snakes: 220.

Observation localities: Kanha and Mukki range.

Habit and habitat: Dry and semi-arid tracts and open country. They are nocturnal and feed on snakes, lizards, mice, rodent and other arthropods.

Diagnostic characters: Body length generally 3-4 feet but can reach 6 feet. Scales in 27-33 rows, supranasal strongly crescentic. Snout obtuse, with distinct canthus, nostrils very large. Light brown above, with 3 longitudinal series of large rounded or oval spots, which are usually brown in the centre, have a black margin and are edged again with white.

Distribution: Throughout India up to 3000 m. above sea level.

Elsewhere: Myanmar, Indo-China, Pakistan and Sri Lanka.

Conservation status: Not very common.

DISCUSSION

The reptilian fauna of KTR is represented by 39 species/subspecies belonging to 30 genera under 12 families. The major orders of reptiles represented in the fauna of KTR are:

- 1. Testudines (Tortoises and turtles)
- 2. Squamata (Lizards, geckos, and snakes)

Number of reptiles observed in Kanha Tiger Reserve has been plotted in fig.1 (months-wisc), which shows that the largest number of reptiles (231) observed in the month of June. Number of species observed in Kanha Tiger Reserve has been plotted in fig. 2, which reveales that the maximum number of species (17 species) are reported during the month of October.

Three species of Testudines inhabit the wetland area of the reserve. These are the Indian Flapshell Turtle (*Lissemys punctata*), Indian Softshell Turtle (*Trionyx gangeticus*) and the Peninsular Black-Shell Turtle (*Melanochelys trijuga*).

Among the lizards, the three species commonly found are the Garden Lizard (*Calotes versicolor*), Fan-throated Lizard (*Sitana ponticeriana*) and Blanford's Rock Agama (*Psammophilus blanfordanus*).

The family Scincidae are represented by four species. The Common or Brahminy Skink (*Mabuya carinata*), Bronze Glass Skink or Little Skink (*Mabuya macularia*) are very common, whereas Dotted Garden Skink (*Riopa punctata*), and Brown Dwarf Skink (*Riopa albopunctata*) are less common than above species.

The Gekkonids are represented by seven species. The Yellow-Bellied House Gecko (Hemidactylus flaviviridis), Spotted House Gecko (Hemidactylus brooki) and Square spotted Gecko (Hemidactylus gracilis) are common but the Bark Gecko (Hemidactylus leschenaulti), Rock Gecko (Hemidactylus maculates) are less common and South Indian Rock-Gecko (Cyrtodactylus

collegalensis) and Clouded Ground Gecko (Cyrtodactylus nebulosus) are rare species. Among the Varanidae, only one species, the Bengal Monitor (Varanus bengalensis) is commonly found in the forest. It has a very long, forked and protrusible tongue.

Two families of poisonous snakes and three families of non-poisonous snakes represent the Serpentes. The Elapidae include the Common Cobra (Naja naja naja), Black Cobra (Naja naja oxiana) and the Common Krait (Bungarus caeruleus). The Cobra is the most familiar poisonous snake in India and much admired for its magnificent hood. It can move very swiftly. The Common Krait is mainly terrestrial and nocturnal in habit. It is deadly poisonous like the Cobra. Both the Cobra and Krait possess neurotoxic venom, which causes death by respiratory failure.

The family Viperidae are represented by three species: The Green or Bamboo Pit Viper (Trimeresurus gramineus), Russell's viper (Vipera russelli) and the Saw-scaled Viper (Echis carinatus). In the vipers, the head is broad and the snout is obtuse, thus making the head appear distinct from the trunk. The Russell's viper is a long, thickset snake easily distinguished by the three longitudinal rows of oval blotches on its trunk. The Saw-scaled Viper is much smaller in size. The vipers possess haemotoxic venom that causes death by haematuria. The Russell's viper can be more dangerous than the Cobra as it is a sluggish creature and when disturbed, instead of moving away quietly, it can attack unprovoked.

The Typhlopidae are small worm-like snakes and represented by one species, the Common Worm Snake (*Ramphotyphlops braminus*).

The Boidae are represented by one form, the India Rock Python (*Python molurus*). The Python is second largest among Indian snakes. It is both terrestrial and arboreal in habit and has a peculiar method of catching prey. It hangs from the branch of a tree in pursuit of an unwary prey. When an animal comes within attacking range, it flings its body upon the prey and coils round it.

The family Colubridae include most of the non-poisonous snake species found in nature. The Rat Snake (*Ptyas mucosus*) is a long and swiftly moving snake, which readily devours rodents. Other commonly found snakes are the Wolf Snake (*Lycodon aulicus*), Vine Snake (*Ahaetulla nasuta*), Striped Keelback (*Amphiesma stolata*), Olivaceous Keelback (*Atretium schistosum*), Banded Racer (*Argyrogena fasciolatus*), Checkered Keelback (*Xenochrophis piscator*), Green Keelback (*Macropisthodon plumbicolor*), Common Indian Trinket Snake (*Elaphe helena*), Copperheaded Trinket Snake (*Elaphe radiata*) Bronzebacked Snake (*Dendrelaphis tristis*), and Contor's black headed Snake (*Sibynophis sagittarius*).

SUMMARY

The paper presents the information on reptilian fauna of Kanha Tiger Reserve, Madhya Pradesh. Total 39 species/subspecies of reptiles belonging to 30 genera under 12 families are reported from

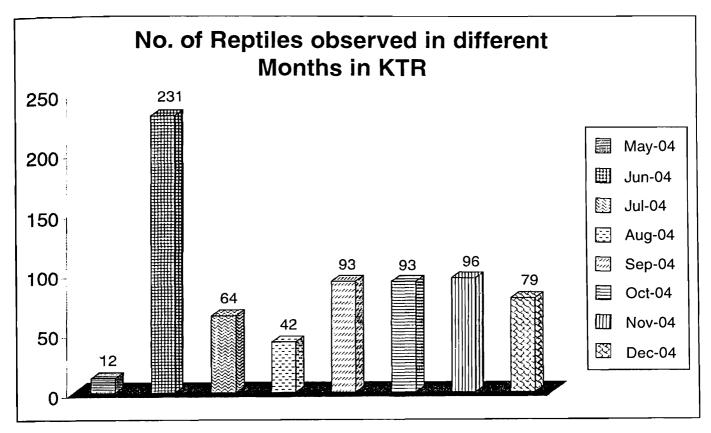


Fig. 1

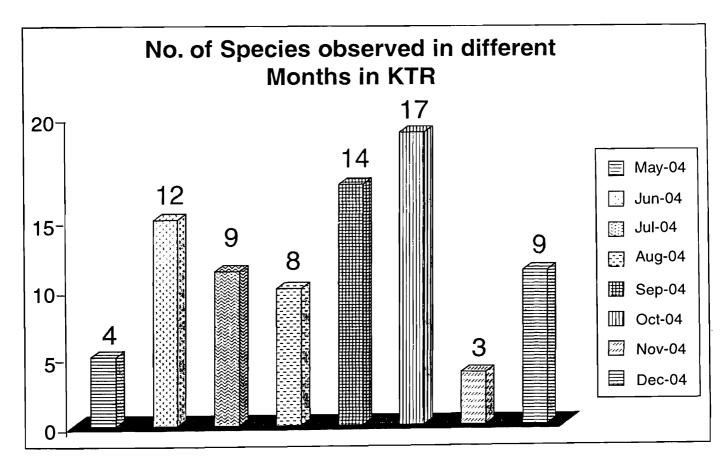


Fig. 2

the KTR. Of which, about 80% species have been currently observed by survey team of Zoological Survey of India, Jabalpur from May 2004 to December 2004, whereas the rest of the reptiles species have been compiled on the basis of published information. Out of 39 species, 17 species are reported for the first time from KTR. The systematic list of reptiles observed in various localities during different months and their density along with their status in the tiger reserve have also been incorporated.

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