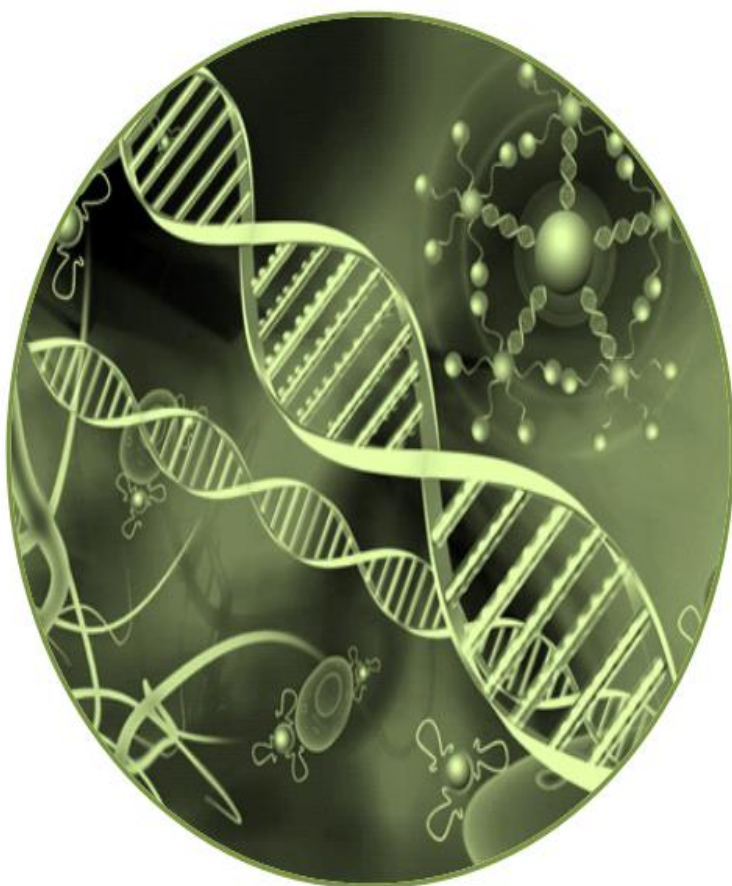


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**REPTILES FAUNA OF CHHATARPUR DISTRICT MADHYA PRADESH, INDIA**

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## Research Article



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## REPTILES FAUNA OF CHHATARPUR DISTRICT MADHYA PRADESH, INDIA

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## ABSTRACT

Reptiles are important component of the biodiversity and play an important role in food chain and food webs. They are extremely sensitive to habitat changes, which qualifies them as excellent bio-indicator. Human beings affect the survival of reptiles, not only by modifying their habitats, but by what are worst, killing them because of fear and aversion to them, or for false beliefs about the injuries that same species could cause to humans. Aim of the present study providing a comprehensive list of the reptilian species for their conservation in Chhatarpur District Madhya Pradesh, India.

**Keywords:** Reptile Fauna, Bioindicator, Chhatarpur

## 1. INTRODUCTION

Reptiles are especially adapted to hot and humid habitats. They are mainly found in the tropical regions of the world, between the tropic of Cancer and Capricorn, but also in some of the subtropical regions. In other terms they live in four of the six Biogeographic region of the world: Neotropical, Ethiopian, Oriental, and Australian. Within the Neotropical region is the Antillean sub-region

called the West Indies. The West Indian region is a cluster of island, geographically located between the Gulf of Mexico and the Caribbean Sea. 6550 Species of reptiles are found in the world. Asia is the world's continent, encompassing an area of 44,390,000 Km<sup>2</sup>, almost 30% of the world's land area. Asia covers such as enormous area and contains so many countries and island including India. India is situated in the south part of Asia.

India, the seventh largest land mass in the world, possesses a variety of ecosystem these include mountains, plateaus, rivers, wetland, lakes, mangroves, forest and coastal ecosystem. 428 species of reptiles present in India. Madhya Pradesh is often called the heart of India; it's a state in central India. Madhya Pradesh is endowed with rich and diverse forest resources as well as its flora and fauna. Lying between latitude  $22^{\circ} 04'$  North and longitude  $72^{\circ} 54'$  and  $82^{\circ} 49'$  East, It is a reservoir of biodiversity. The geographical area of the state is 308,245  $\text{Km}^2$  constitutes 95,221  $\text{Km}^2$  of forest area. Legally this area has been classified into reserved forest, protected forest, and unclassified forest, which constitute 61.7%, 37.4% and 0.9% of the forest area respectively. Madhya Pradesh is a pioneer state in the national movement for conservation of flora and fauna. Reptilian fauna of central India have been reported by various scientists<sup>[1,2,3,4,5]</sup>. Reptiles from Bastar, Chhattisgarh<sup>[6]</sup> and from Narmada Valley<sup>[7]</sup> have been reported. Species of reptiles were reported<sup>[8]</sup> from Madhya Pradesh and Chhattisgarh. Slender coral snake from Dhar district<sup>[9]</sup>, species of vipers<sup>[10]</sup> and snakes from Malwa region<sup>[11]</sup> were reported. Distribution of crocodilians and freshwater turtles in the Chambal River were reported<sup>[12]</sup>. Several scientists have also reported reptilian diversity in the conserved area<sup>[13,14,15,16,17,18]</sup>. Various scientists have been worked on the fauna of various part of India<sup>[19,20,21,22,23,24]</sup>. Human beings affect the survival of reptiles, not only by modifying their

habitats, but by what is worst, killing them because of fear and false beliefs about the injure that same species could cause to humans. Habitat destruction and modification is one of the most common serious anthropogenic threats to biodiversity<sup>[25,26]</sup>. In recent years, scientists have focused on the preventive measure of biodiversity conservation against environmental impacts mediated by human beings. Aim of the present study providing a comprehensive list of the reptilian species of Chhatarpur District Madhya Pradesh, India.

## 2. MATERIALS AND METHODS

Human beings affect the survival of reptiles, not only by modifying their habitats, but by what is worst, killing them because of fear and false beliefs about the injure that same species could cause to humans. Aim of the present study providing a comprehensive list of the reptilian species of Chhatarpur District Madhya Pradesh.

### 2.1 Study Area

Chhatarpur geographically located with longitudes and latitudes of  $24^{\circ} 06'$  and  $25^{\circ} 20'$  on North  $78^{\circ} 59'$  and  $80^{\circ} 26'$  on East respectively with approximate 182 meter above means sea level experiencing a annual rainfall of 1000-1200 mm. Average climatic temperature in winter season (October to January)  $10-27^{\circ}\text{C}$ , summer season (February to June)  $29-48^{\circ}\text{C}$  and mansoon season (June to September)  $19-30^{\circ}\text{C}$ . The total area of the Chhatarpur district is about 8,687  $\text{Km}^2$ . Chhatarpur district is bounded by Uttar Pradesh state of the North and the Madhya Pradesh district

of Panna to the East, Damoh to the South Sagar to the Southwest, and Tikamgarh to the West. The district is divided into eleven tahseel viz. Badamalahra, Bakswaha, Chandala, Gaurihar, Ghuwara, Chhatarpur, Laundi, Maharajpur, Nowgong, Rajnagar and Vijawar.

## 2.2 Map

Showing Geographic location of Chhatarpur District Madhya Pradesh, India (Figure 1).

## 2.3 Animal Observations

Field study was conducted for one year from March 2012 to February 2013 with the aim of providing comprehensive list of the reptilian species. Reptiles were captured using hooked aluminum sticks and immediately put into cloth bags<sup>[27]</sup>. Some reptiles were collected from rural and tribal person who kept illegal and use this animal for showing in the Indian festival of Nagpanchami for earn money. The information collected was verified by reference book. The help from villagers and foresters were taken for locating purpose. The caught reptiles were brought to the laboratory where it's identified with the help of<sup>[28]</sup>. When the reptiles of any species protected under schedule 1 of the India wildlife protection Act 1972 is captured, a proper "Panchnama" is done and then it is released in the supervision of forest officers. Otherwise it's immediately translocation to the nearby reserve forest area of Chhatapur. Venomous snakes were not brought to the laboratory. Reptiles found in and around Chhatarpur district were photographed. The scientific names of reptiles are according to<sup>[28,29]</sup>.

## 3. RESULTS AND DISCUSSION

One of the most common ways to report on reptilian diversity is the number of species in a country, region or locality. Twenty four species were recorded during the study which belongs to thirteen families of three orders. Species of order Chelonia are widely distributed in variovs tahseel of chhatarpur district. In squamata order, Lizards and Snakes are equally found in the Chhatarpur district area. Order Crocodilia with two species found in conserved area in the Rajnagar tahseel of Chhatarpur district. Results are summarized in table 1. Turtles are quite different from other reptiles, with their body embedded in a dorsal carapace and a ventral plastron, and their jaws without teeth. In the present study two species reported in the family emydidae. One species of the family testudinidae and one species from family trionychidae reported. Lizard and snakes make up a very morphologically diverse group called "Scaly" because their entire bodies are covered by scales. All of these species elongated bodies with large tails more than a half of them have four limbs with five fingers and five toes (most of the lizards) and the other ones have evolutionary reduced or lost their limbs (some lizards and snakes). Regarding the lizards three species belong to the family agamidae; two species to family gekkonidae; one species of family scincidae. The snakes are two species in the family boidae; one species of pythonidae; two species in the family colubridae; four species in the family elapidae, one species in the family

typhlopidae and two species in the family viperidae are recorded in the present study area. Crocodiles have their dorsum protected with many bony plates roofed by skin, very strong jaws with teeth, and a vigorous tail. One family of crocodylidae with two species present in Ken Ghariyal Sanctuary. Increasing the human population, loss of natural habitats for the live of reptiles and negative worldwide impacts of reptiles are the main cause of threaten the extinction of reptiles. Twenty four species of reptiles found in the current study area. Some previous studies have looked at the reptilian fauna of central India have been reported<sup>[1,2,3]</sup> and showed distribution of thirty three species of reptiles. Three species of reptiles were reported from Madhya Pradesh<sup>[4,5]</sup>. Eight species of reptiles from Madhya Pradesh and Chhattisgarh noted<sup>[8]</sup>. Nineteen species of reptile from Bastar, Chhattisgarh<sup>[6]</sup>. Twenty one species of reptiles from Narmada Valley<sup>[7]</sup>. Furthermore, it has been reported that the reptilian fauna composed of 139 in the state of West Bengal. The reptilian fauna of the state is equally noteworthy. The report on findings of endangered reticulate python in Buxa Tiger Reserve and four species of marine turtles (Viz. Olive, Ridley, Hawksbill and Green Turtle) in the coastal zone and Batagur terrapin in the Sunderban Tiger Reserve deserve special mention. In the present study two species *Kachuga dhongoka* and *Kachuga kachuga* reported in the family emydidae in Ken River of Chhatarpur. One species *Testudo elongata* of the

family testudinidae and one species *Trionyx gangeticus* from family trionychidae reported in the current study area. Lizards, three species *Calotes versicolor*, *Varanus bengalensis* and *Varanus flavescens* belong to the family agamidae; two species *Hemidactylus brookii* and *Hemidactylus flaviviridis* to the family gekkonidae; one species *Mabuya carinata* to the family scincidae. Lizards occupy all terrestrial zones in Chhatarpur from the deserts to evergreen forest. All monitor lizards are endangered by the trade in reptile skin. All are now listed in Schedule I, (completely protected species) of the Wildlife Preservation Act of 1972<sup>[28]</sup>. The snakes are two species *Natrix piscator* and *Eryx johni* in the family boidae; one species *Python molorus* of family pythonidae; two species *Zamenis mucosus* and *Ophiophagus hannah* in the family colubridae; four species *Naja naja naja*, *Naja naja oxiana*, *Naja naja kaouthia* and *Bungarus caeruleus* in the family elapidae; one species *Typhlops braminus* in the family typhlopidae and two species *Vipera russelli* and *Hypnale hypnale* in the family viperidae are found in the present study. Two species of vipers from district Jabalpur Madhya Pradesh reported<sup>[10]</sup>. Thirty species of snakes reported from Malwa region<sup>[11]</sup>. In the current study twelve species of snakes found initially. Distribution of two species of crocodilians and seven species of freshwater turtles recorded in the Chambal River<sup>[12]</sup>. In the present study one family of crocodiles crocodylidae with two species *Crocodylus*

palustris and *Gavialis gangeticus* is found in the Ken Ghariyal Sanctuary (Protected Area since 1985) are managed for conservation of Mugger and Gharial. The Ken Ghariyal Sanctuary is much smaller at 45 km of protected river with very limited sand banks. The impact of illegal wild life trade and habitat destruction is also noted in the context of reptile fauna, specially crocodiles, lizards, snakes, turtles and tortoise. Illegal trade of reptile skin in Madhya Pradesh reported<sup>[30]</sup>. Two species of crocodiles, python and king cobra are now endangered<sup>[31]</sup>. However present investigation indicates the presences of both these crocodile's species in the Ken Ghariyal Sanctuary in Madhya Pradesh. Captive breeding program of crocodile have made significant contribution towards restoration of natural population. Several scientists have also reported reptilian diversity in the conserved area. In the present study main species of reptiles include Indian king cobra, common krait, russell's viper, and monitor lizard seen in the Raneh Fall area. Eight species of reptiles from Kanha National Park<sup>[13]</sup> and twenty two species of reptiles from Kanha Tiger Reserve<sup>[14]</sup> reported. Indian government and state government have been implementing many plans for wild life conservation. The current efforts of the State Government are directed to *in-situ* and *ex-situ*. *In situ* conservation area; National park and sanctuaries, project tiger areas, *ex-situ* conservation area; wildlife wing, objectives, strategy for wild life conservation; establishment of a protected area network, management

planning, ameliorative and compensatory management, eco-development, voluntary village relocation activity etc. in spite of Biodiversity declining day-by-day. Following practices are getting serious decline of reptilian diversity.

1. Poaching and snake skin trades.
2. Loss of habitats By Human beings.
3. Illegal trade in reptile skin.
4. Natural calamities.

#### 4. CONCLUSION

Reptiles are under same negative worldwide impacts, as many other organisms, which include the human activities. Loss of the suitable habitats for the lives of reptiles is the important factors that threaten the extinction of reptiles. Nevertheless, the studies of reptilian behaviour have not been studied. It may be important in understanding the harmful effect of human beings. In recommendations knowledge of the reptiles and the factors that threaten them is very important so that all possible actions to prevent the loss of reptiles that are so important to the ecological webs.

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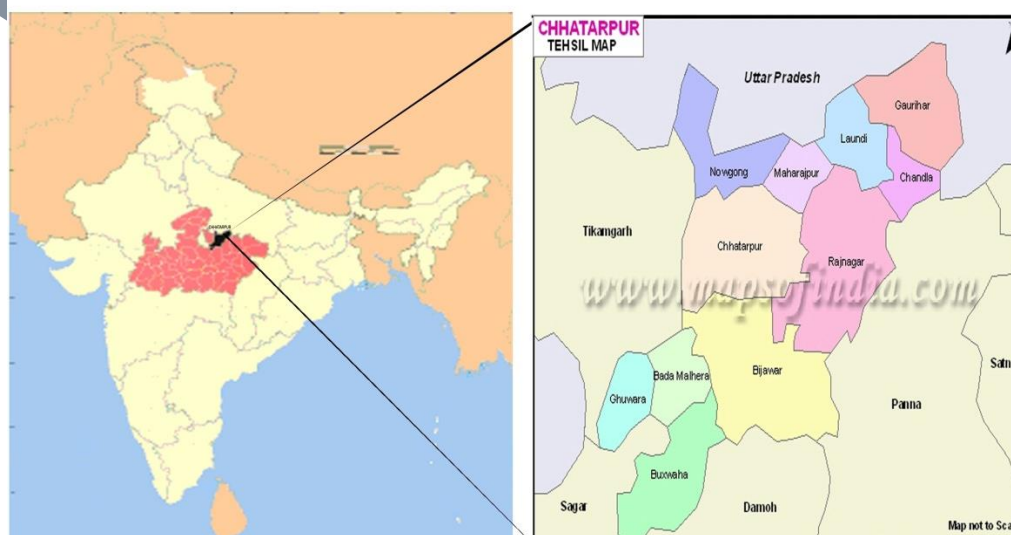
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**Figure 1: showing Geographic location of Chhatarpur District Madhya Pradesh, India.**

**Table 1: List of Reptiles species recorded during the study in Chhatarpur District.**

S.No.	Order	Family	Genus	Species	Common Name	IUCN Status
01	Chelonia	Emydidae	Kachuga	dhongoka	Kachuva	VU
02			Kachuga	kachuga	Kachuva	VU
03		Testudinidae	Testudo	elongata	Kachuva	VU
04		Trionychidae	Trionyx	gangeticus	Kachuva	VU
05	Squamata	Agamidae	Calotes	versicolor	Girgit	LR-nt
06			Varanus	bengalensis	Goh	VU
07			Varanus	flavescens	Gray	LR-lc
08		Gekkonidae	Hemidactylus	brookii	Chhipkauli	LR-lc
09			Hemidactylus	flaviviridis	Domestic chhipkauli	LR-lc
10		Scincidae	Mabuya	carinata	Saanp kee mosi	LR-nt
11		Biodae	Natrix	piscator	Do muha	LR-nt
12			Eryx	johni	Do muha	LR-lc
13		Pythonidae	Python	molorus	Azgar	LR-nt
14		Colubridae	Zamenis	mucosus	Dhaman	LR-nt
15			Ophiophagus	hannah	King cobra (Nagin)	
16		Elapidae	Naja	naja naja	Binocellata cobra (Nag)	
17			Naja	naja oxiana	Black cobra	EN
18			Naja	naja kaouthia	Monocellata cobra	
19			Bungarus	caeruleus	Common Indian Krait	LR-nt
20		Typhlopidae	Typhlops	braminus	Blind snake	LR-nt
21		Viperidae	Vipera	russelli	Russell's viper	LR-nt
22			Hypnale	hypnale	Pit viper (hump nosed)	LR-nt
23	Crocodylia	Crocodylidae	Crocodylus	palustris	Muggar	VU
24			Gavialis	gangeticus	Ghariyal	EN

IUCN Status Codes: Endangered (EN), Lower Risk-least (LR-lc), Lower Risk-near threatened (LR-nt), Vulnerable (VU).

**Figure 2: Showing Reptile species of Chhatarpur District Madhya Pradesh India.****01 Kachuga dhongoka****02 Kachuga kachuga**



*03 Testudo elongate*



*04 Trionyx gangeticus*



*05 Calotes versicolor*



*06 Varanus bengalensis*



*07 Varanus flavescens*



*08 Hemidactylus brookii*



*09 Hemidactylus flaviviridis*



*13 Python molorus*



*10 Mabuya carinata*



*11 Natrix piscator*



*12 Eryx johnei*



*14 Zamenis mucous*



*15 Ophiophagus Hannah*



*16 Naja naja naja*



*17 Naja naja oxiana*



*18 Naja naja kaouthia*



19 *Bungarus caeruleus*



20 *Typhlops braminus*



21 *Vipera russelli*



22 *Hypnale hypnale*



23 *Crocodilus palustris*



24 *Gavialis gangeticus*