



DIVERSITY OF HERPETOFAUNA IN RAJGARH DISTRICT OF MADHYA PRADESH

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ABSTRACT The paper present a diversity of Herpetofauna in rajgarh district of Madhya Pradesh. The interaction between the herpetofauna & humans since ancient time is well known. Due to the urbanizing world these animals face a lot of problems to survive. The present study was carried out during 2020 to 2021. During the survey period the active survey was made in monsoon and summers (As the district situated at mp-rajasthan border there is variety of reptiles found in the district). A total of 21 species of reptiles and amphibians were detected belonging to 15 families and four orders were recorded, of which amphibians represented five species belonging to four families and reptiles represented sixteen species belonging to eleven families. In recent times there has been a major decrease in their populations. Habitat loss, loss of breeding ground and fear or false beliefs are likely the most serious threats to herpetofauna. Awareness program must be needed to make people aware of herpetofauna and their importance for balanced ecosystem.

SUMMARY: The present findings concluded that there is a rich population and lot of species of reptiles found in the district rajgarh in comparison to this amphibians are found less. a total of 21 species of herpetofauna are recorded of which amphibians represented 5 species and reptiles represented 16 species.

KEYWORDS : Herpetofauna, amphibians, reptiles, survey.

INTRODUCTION

Herpetofauna is a collective term used for amphibians & reptiles. Herpetology is the branch of zoology concerned with the study of amphibians and reptiles. Amphibians include frogs & toads (order anura), newts & salamanders (order caudata), caecilians (order Gymnophiona), whereas reptiles include crocodiles (order crocodylia) turtles & tortoise (order Testudines), snakes, chameleon & lizards (order squamata). Herpetofauna play an important role in food webs serve as both prey species & predator. Amphibians & reptiles are ectotherms they control their body temperature through external sources. Herpetofauna are declining all over worldwide & along with amphibians; these are considered among the most threatened vertebrate groups (Gibbons et al., 2000; Stuart et al., 1997). There is a rapid decline in abundance & distribution of reptiles & amphibians globally. The threats faced by herpetofauna species is due to the habitat loss climate change degradation, chemical contamination in water, pollution. Human beings affect the survival of reptiles not only by modifying their habitats but by what is worst, killing them because of fear & false beliefs about the injure that same species could cause to humans (Dubey and khare 2013). Studies on herpetofauna of urban areas have been made by several authors but there is no such study on small district like rajgarh (M.P.) Where there are vast variety of amphibians & reptiles are present. So the study was made to explore the diversity of herpetofauna of rajgarh district.

Study Area

Rajgarh district is a district of Madhya Pradesh. The district has an area of 6,154 km² & the population is 1,545,814 (2011 census) the district lies on the northern edge of malwa plateau. The district is bounded by Rajasthan state to the north. Narsingharh tehsil of rajgarh district has a wildlife sanctuary known as chidikho wildlife sanctuary. It is rich in flora and fauna. There is wide range of amphibians & reptiles present in chidikho wildlife sanctuary. State bird Dhudhraj mainly seen in this sanctuary.

Rajgarh has latitude of 24°0'28.38"N and longitude of 76°43'40.37"E or 24.007882 and 76.72788 respectively.



MATERIAL AND METHODS

The present study on diversity of herpetofauna in rajgarh district of Madhya Pradesh was conducted from august 2020 to July 2021. The survey was carried out in Day and night. Sometimes late night Surveys are also conducted to find Nocturnal species. Data is collected from both terrestrial and aquatic habitats of rajgarh district. The study was carried out by various methods like direct method observing them directly and indirect methods of questionnaire survey method is also applied, discussions was made with forest officers and guards of forest of rajgarh district and local peoples of villages and towns. Taxonomical nomenclature has been used from the IUCN Red List of Threatened Species (IUCN, 2020), the Reptile Database (Uetz, 2020) and the Amphibian Species of the World 6.0 (Frost, 2020), and conservation status has been assigned according to IUCN Red List (IUCN 2016) and the Indian Wildlife (Protection) Act (1972)

RESULTS

During the study period, a total of 21 species of herpetofauna belonging to 15 families and four orders were recorded, of which amphibians represented five species belonging to four families All recorded amphibians were anurans, and reptiles represented sixteen species belonging to eleven families (table 1). The abundance analysis showed that among 21 species of herpetofauna 11 were common 3 were uncommon and 7 were rarely recorded in the study area. Among amphibians, the family Dicroglossidae recorded maximum two species (Indian Bullfrog *Hoplobatrachus tigerinus* and Skittering Frog *Euphlyctis cyanophlyctis*). Bufonidae (Asian Common Toad *Duttaphrynus melanostictus*), Microhylidae (Ornamented Pygmy Frog *Microhyla ornate*), and Rhacophoridae (Common Tree Frog *Polypedates maculatus*) recorded one species each.

Among reptiles family colubridae recorded maximum three number of species (Common Indian Cat Snake *Boiga trigonata*, Black-Headed Snake *Sibynophis subpunctatus*, Checkered Keelback Water Snake *Xenochrophis piscator*), family Gekkonidae Gray (Hemidactylus *gleadowi* and *Hemidactylus flaviviridis*), Boidae (*Eryx johnii* and *Eryx conicus*), Trionychidae (*Lissemys punctata* and *Nilssonina gangetica*) recorded two species each and Agamidae (*Calotes versicolor*) Scincidae (*Eutropis carinata*) Varanidae (*Varanus bengalensis*) Elapidae (*Naja naja*) Viperidae (*Daboia russelii*) Geomydidae (*Melanochelys trijuga*) Crocodylidae (*Crocodylus palustris*) recorded one species each.

Table 1. List Of Herpetofauna Recorded In Rajgarh District

	family	order	common name	scientific name	conservation status (IUCN)	habitat	abundance status

class ambhians	Bufo idae	Anura	Asian bull frog	Duttaphryn us melanostic us (Schneider 1799)	LC	Marshland	C
	Dicrogl ossidae	Anura	Indian Bull frog	Hoplobatra chus tigrinus (daudin 1802)	LC	Marshland	C
	Dicrogl ossidae	Anura	Skittering frog	Euphlyctis cyanophlyc tis (Schneider 1799)	LC	Marshland	C
	Microh ylidae	Anura	Ornament ed pygmy frog	Microhyla ornate (Dymeril &Bibron 1841)	LC	Marshland	U
	Rhacop horidae	Anura	Common tree frog	Polypedate s maculatus (Gray 1830)	LC	Woodland	U
CLAS S: REPT ILES	Agamid ae	Squam ata	Indian Garden Lizard (girgit)	Calotes versicolor (Daudin 1812)	Not liste d	Woodland	C
	Gekkon idae Gray	Squam ata	chipkali	Hemidactyl us gleadowi (murray 1884)	Not liste d	Woodland	C
	Gekkon idae Gray	Squam ata	Domestic lizard	Hemidactyl us flaviviridis (Ruppell 1835)	Not liste d	Woodland	C
	Scincid ae	Squam ata	Common Keeled Skink	Eutropis carinata (Schneider 1801)	LC	Grassland	R
	Varanid ae	Squam ata	Indian monitor lizard (goira)	Varanus bengalensis (Daudin, 1802)	LC	Grassland	U
	Boidae	Squam ata	Red Sand Boa	Eryx johnii (Russell,18 01)	Not List ed	Woodland	R
	Boidae	Squam ata	Common Sand Boa	Eryx conicus (Schneider, 1801)	Not List ed	Grassland	C
	Colubri dae	Squam ata	Common Indian Cat Snake	Boiga trigonata (Bechstein, 1802)	LC	Grassland/ woodland	R
	Colubri dae	Squam ata	Black- Headed Snake	Sibynophis subpunctat us (Dumeril & Bibron, 1854)	Not List ed	Grassland	R
	Colubri dae	Squam ata	Checkered Keelback Water Snake	Xenochrop his piscator (Schneider, 1799)	Not List ed	Grassland/ wetland	C
	Elapida e	Squam ata	Spectacle d Cobra	Naja naja (Linnaeus, 1758)	Not List ed	Woodland	C

	Viperid ae	Squa mata	Russell's Viper	Daboia russelii (Shaw & Nodder, 1797)	LC	Grassland	C
	Trionyc hidae	Testud ines	Indian Flap-shell Turtle	Lissemys punctata (Bonnaterr e, 1789)	LC	Wetland	R
	Trionyc hidae	Testud ines	Indian softshell turtle	Nilssonia gangetica (Cuvier, 1825)	VU	Wetland	R
	Geomy didae	Testud ines	Indian black turtle	Melanoch elys trijuga (Schweigge r, 1812)	LC	Wetland	C
	Crocody lidae	Crocody lilia	Mugger	Crocodylu s palustris (Lesson, 1831)	VU	Wetland	R



FIG 1. Duttaphrynus melanostictus



FIG 2. Hoplobatrachus tigrinus

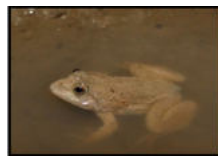


FIG 3 Euphlyctis cyanophlyctis



FIG 4 Calotes versicolor



FIG 5 Hemidactylus flaviviridis

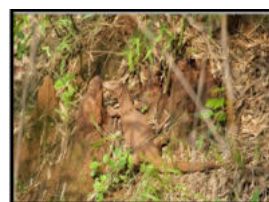


FIG 6 Varanus bengalensis

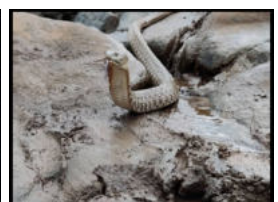


FIG 7 Xenochrophis piscator



FIG 8 Naja naja



FIG 9 Lissemys punctate

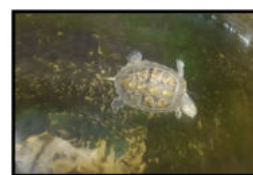


FIG 10 Nilssonia gangetica

Major Threats To Herpetofauna

1. Lack of breeding grounds: as residential areas increases in recent times roads are concreted and small temporary water pools are almost absent in rajgarh and the rivers or lakes are polluted because of human activities Thus, amphibians probably failed to find suitable places to breed and this is the main reason for the decline in amphibian sightings in the study area.

2. Hunting of reptiles for their skin: there is illegal hunting of reptiles for their skin it is usually used to make expensive shoes and handbags. Reptile lather come from snakes, lizards, crocodiles and alligators.

3. Fear & False beliefs: this is the worst thing that human kill most of the species of reptiles because of fear that they bite them or false beliefs and superstition.

4. Habitat Destruction: where there were earlier natural areas and agriculture fields it has now becomes buildings and concreted construction takes place this the prime reason for habitat destruction of herpetofauna in the district.

CONCLUSION

The study provides information on the diversity of herpetofaunal species in rajgarh district of Madhya Pradesh. The present study observed 21 species of herpetofauna belonging to 15 families and four orders, of which amphibians represented five species belonging to four families and reptiles represented sixteen species belonging to eleven families. Amphibians and reptiles are good ecological indicators, and in recent times there has been a major decrease in their populations. Habitat loss, loss of breeding ground and fear or false beliefs are likely the most serious threats to herpetofauna, while roads, pesticides, infectious diseases, and climate change are some other threats. Awareness programs are needed to make people aware of herpetofauna and their importance for a balanced ecosystem. Snake bite is another issue so snake bite management must be taken up more seriously among local communities. Illegal hunting and poaching of turtles and reptiles in the area by local communities needs to be taken up seriously by the Forest Department for the conservation of these highly threatened reptiles.

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