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RESEARCH ARTICLE

DIVERSITY OF AQUATIC HERPETOFAUNA OF RIVER CHANDLOI, KOTA, RAJASTHAN

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ABSTRACT

Herpetofauna includes the reptiles and amphibians of a particular region, habitat or geological period. This paper is a report of field study of aquatic amphibians and reptiles observed and recorded during January 2018 to December 2019. Chandloi River is a left bank tributary of Chambal River. It originates near Aalania village and meets the River Chambal near Mavasa village. The river flows nearly 90 km before entering Chambal River. The studies were carried out for a period of 2 years from January 2018 to December 2019. The present study revealed that class amphibia is represented by 5 species belonging to 4 genera of 2 families while class reptilia is represented by 4 species of 4 genera belonging to 3 families. The species richness is less in site 3, 4 while species richness was more in site 1 and 2. Abundance of animals of these two classes were more at site 2 in comparison to all other sites (1, 3, 4).

INTRODUCTION

Herpetofauna includes two groups of tetrapod vertebrates: Amphibians and Reptiles. Amphibians are ectothermic animals including frogs, salamanders and caecilians. Similarly reptiles are terrestrial ectotherms comprising of lizards, snakes, turtles and crocodiles. Herpetofauna plays a crucial role in ecosystem function. They are important predators of many insects and agricultural pests are therefore valuable for natural biological pest control (Kanauja, Kumar and Kumar, 2017) and intermediate role in food webs. Herpetofauna offers benefits to humanity in the study of the role of amphibians and reptiles in global ecology. Especially because amphibians are often very sensitive to environmental changes, offering a visible warning to humans that significant changes are taking place. They are well suited for rapid assessments as they are often easy to sample. Reptiles are also sensitive to changes in microhabitat. Presence of turtles and tortoises can also be a good indicator of hunting pressure. Some toxins and venom produced by reptiles are useful in human medicine. Currently some snake venom has been used to create anticoagulants that work to treat strokes and heart attacks. Their biology contribute to their value as a focal group for biotic surveys. Therefore present study aimed at studying herpetofauna of Chandloi River.

MATERIAL AND METHOD

Chandloi River is a left bank tributary of Chambal River. It originates near Aalania village and meets the river Chambal near Mavasa village.

The river flows nearly 90 km before entering Chambal river. The studies were carried out for a period of 2 years from January 2018 to December 2019. Active survey was done randomly for the species in each month along 4 selected potential habitats of herpetofauna. Visual encounters were employed for the species counting by walking in both day and early evening time. We used 3 to 4 times survey in each month during these two years of study. Species survey was made Woodlands, plantations, bushes very near present surrounding agricultural fields and in the river. For amphibians and nocturnal snakes surveys were made thoroughly in all the suitable habitats such like bushes near river, under rocks, logs and big stones and arboreal habitats with the help of flights in the early evening. Identification and photographed the species. Secondary data were also collected from the adjacent villages by taking interviews with the local people by photographs. Total 4 Points were surveyed. Notes were made for observation on habitats of each species, roadkills, anthropogenic activities in the area, threats to the herpetofauna, interaction between human and snakes etc.

RESULTS

The studied area site 2 has a good potentiality of herpetofauna diversity throughout the area. It is due to availability of diets and adaptation with habitats. Among 9 recorded species, 5 species were amphibians and 4 species were reptiles. 5 amphibian species belonging to 4 genera of 2 families while 4 reptilian species belonging to 4 genera of 4 families.

DISCUSSION

Herpetofauna species richness is less in site 3, 4 due to poor availability of diets and adaptation with habitats.

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Table 1. Aquatic herpitofauna of River Chandloi, Kota , Rajasthan

CLASS	FAMILY	GENUS	SPECIES
1. Amphibia	Microhylidae	<i>Microhyla</i>	<i>arnata</i>
		<i>Microhyla</i>	<i>rubra</i>
	Dicroglossidae	<i>Hoplobatrachus</i>	<i>tigerina</i>
		<i>Euphlyctis</i>	<i>cyanophlyctis</i>
		<i>Fejervarya</i>	<i>limnocharis</i>
2. Reptilia	Triovychidae	<i>Lissemys</i>	<i>punctata</i>
	Colubridae	<i>Oligodon</i>	<i>taeniolatus</i>
		<i>Xenochrophis</i>	<i>piscator</i>
	Gavialidae	<i>Gavialis</i>	<i>gangeticus</i>

It is clearly visible in table-1 that in amphibia family Microhylidae has one genus microhyla which belonging two species *Microhyla arnata* and *Microhyla rubra*, while in family Dicroglossidae has three genus hoplobatrachus, euphlyctis and fejervarya. Each genera has one species *Hoplobatrachus tigerina* (old name *Rana tigerina*), *Euphlyctis cyanophlyctis* (old name *Rana cyanophlyctis*), and *Fejervarya limnocharis* (old name-*Rana limnocharis*).

Class reptilia has three families Triovychidae, Colubridae and Gavialidae belonging to one, two and one species *Lissemys punctata*, *Oligodon taeniolatus*, *Xenochrophis piscator* and *Gavialis gangeticus*. The study is in continuation and there are few more specimens yet to be identified. This reporting is first of its kind from the River Chandloi. Results presented here are comparable to earlier similar studies done in running waters (Muhammad Rais *et al.*, 2012; Sanjeev Kumar and H. S. Banyal, 2016; A. Das *et al.*, 2012; Amita Kanaujia *et al.*, 2017; T. Frank *et al.* 2018; S. N. Stuart *et al.* 2004)

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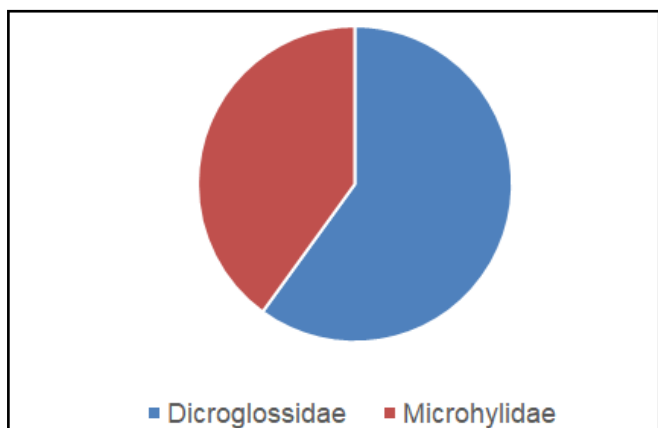


Fig. 1. Familywise % composition of Amphibia in Chandloi River, Kota Rajasthan

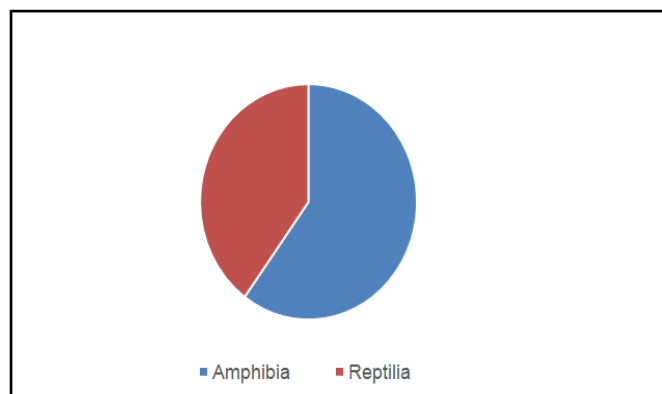


Fig. 2. Class wise % composition of Herpitofauna in Chandloi River, Kota , Rajasthan

Species richness was more insite 1 and 2 because of good availability of diets and adaptation with habitats. During the study period (January 2018 to December 2019) 5 amphibians and 4 reptilians species were taxonomically identified and listed table number 1.
