



STUDY OF FAUNAL DIVERSITY OF VILLAGE SAROJ BAREWAR, JAUNPUR, UTTARPRADESH, INDIA

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ABSTRACT - Fauna are an Important Biotic Component of Ecosystem and it also represent the Health of given Ecosystem. The Present Study on Faunal Diversity was done During 31st May 2020 to 23rd August 2020 in Village Saroj Barewar region, Jaunpur, Uttarpradesh which is a part of Eastern Plain Zone of Gangetic Plain. Total 164 species were recorded from our Research Area which belong to Different Phylum namely Platyhelminthes, Annelids, Arthropods, Molluscan, and Chordates . Records were mainly Based on Photographs, Videos, voice notes records and Molluscan shell Samples Which was Collected from our Research Area. The present Research Work is Based on Diversity of Faunal Species which was Recorded from Village Saroj Barewar near River Gomti. Since this Research Work is a kind of Preliminary Research Work . Their was no Previous Survey was Conducted before in our Research Area . Further detailed Research Work will be Carried out in future Related to Biodiversity.

Keywords - Faunal Diversity , Eastern Plain Zone , River Gomti , Saroj Barewar

INTRODUCTION:

Rivers always have played a crucial role in establishing any human civilization in world. Gomti River is sixth order groundwater - fed tributary of Ganga River and Lifeline of the Central Ganga - plain region [1]. It is not only as rich source of living but worship as a goddess . In mythology , it is believed that Gomti River is daughter of Sage Vashistha . During Solar eclipse Devotees believe that taking bath in Gomti is equivalent to the bath taken in the river in Kurukshetra. According to Bhagavata purana one of the Hinduism's major religious works , the Gomti is one of India's transcendental river [2].

Gomti River is mainly Originate from Gomat taal (formally known as Fulhaar jheel) near Madho tanda, Pilibhit, india . It extend 960 km through Uttarpradesh and

meet River Ganga near Saidpur, Kaithi, 27 km from Varnasi district . Many beautiful cities like Sitapur, Lucknow, Sultanpur, Jaunpur, Ghazipur etc are flourished on the bank of this Holy River. This River is Major Source of drinking water for more than 3.5 million people, but decline river flows and increase discharge of pollutants in recent year have led to decline in water quality . It's tributaries are also filled with domestic sewage and sludge from encroaching urban development taking place in Riverbed and privetely - owned land [3].

So in the period of lockdown our Research Work was Carried out in Monsoon Season. We had Surveyed our Research Area for Various Different Species of Animals which belong to Invertebrates & Vertebrates . Our Study Area is Village Saroj Barewar Which is Located in Eastern

Plain zone of State Uttarpradesh at District Jaunpur .

The Village Saroj Barewar recived River Gomti which support various species of Aquatic and Terristrial flora and fauna in Village Saroj Barewar . Aquatic flora mainly include Algae , watergrass , water hyacinth etc . Aquatic fauna mainly include fishes , oligocheates , gastropods , placypods , leeches , Aquatic Arthropods , Amphibian tadpole , fish fry etc . The River Gomti also support Terristrial flora , like various species of plants which belong to class - monocotyledonae and Dicotyledonae which grow near river basin and in Village Saroj Barewar which provides thick vegetation . Due to vegetation humid environment is created which supports various species of Terristrial fauna like Platyhelminthes , Arthropods , Annelids , Amphibians , Reptiles , Birds and Mammals .

The present research work is primarily focus on Faunal diversity of Village Saroj Barewar near River Gomti. The main objectives of this research work is to analyse the ecological status or richness in terms of Biota and to document biological entity present study is undertaken . Our research work is a kind of preliminary research work . Their was no previous survey was conducted before this in Village Saroj Barewar. Hence we undertook task of assessing faunal diversity of River Gomti near Village Saroj Barewar.

MATERIAL / METHOD

1.1 - Study location

Village Saroj Barewar [25°37'18.7"N 82°56'29.3"E] is located in kerakat tehsil

of jaunpur district in State - Uttarpradesh (India). It is situated 6 km away from subdistrict headquarter kerakat and 36 km away from district headquarter Jaunpur .

1.2 - Data collection

The Village Saroj Barewar was surveyed from 31 may 2020 to 23 August 2020. Various kinds of faunal species were observed during this time period. Birds are observed Randomly everyday from morning to evening . Molluscan shells were collected from different places of river bank and river Island in our research area . Other animals like Platyhelminthes , Arthropods , Annelids , Amphibians , reptiles and mammals were recorded randomly near Gomti river and other part of Village Saroj Barewar . Authors have prepared checklist of Animals which belong to different phyla . Records are mainly based on photographs , videos , voice notes records and molluscan shell samples which was collected from river Gomti , Village Saroj Barewar . Care was taken to avoid disturbance and harm to the organisms during survey .

RESULTS & DISCUSSION:

In Present Research Work 6 Invertebrate taxa (class) and 5 Vertebrate taxa (Class) were included and examined for diversity . In Vertebrates Birds showed Maximum richness followed by Mammals , Herpatofauna and fishes . While in Invertebrates Phylum Arthropods show maximum richness followed by Molluscans, Annelids and Platyhelminthes. Taxa specific results are discussed below in respective section .

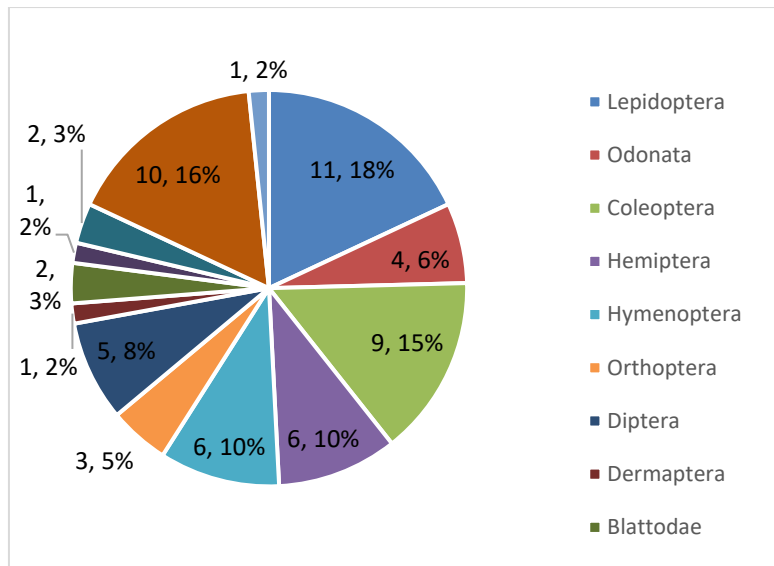


Fig - 1 Showing Order wise number and percentage of Arthropodal species Recorded from Village Saroj Barewar near River Gomti

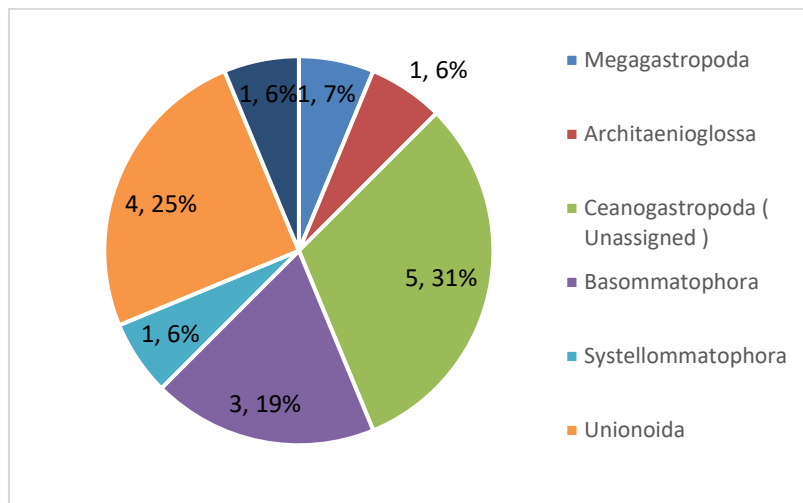


Fig - 2 Showing Order wise number and percentage of Molluscan species Recorded from River Gomti in Village Saroj Barewar

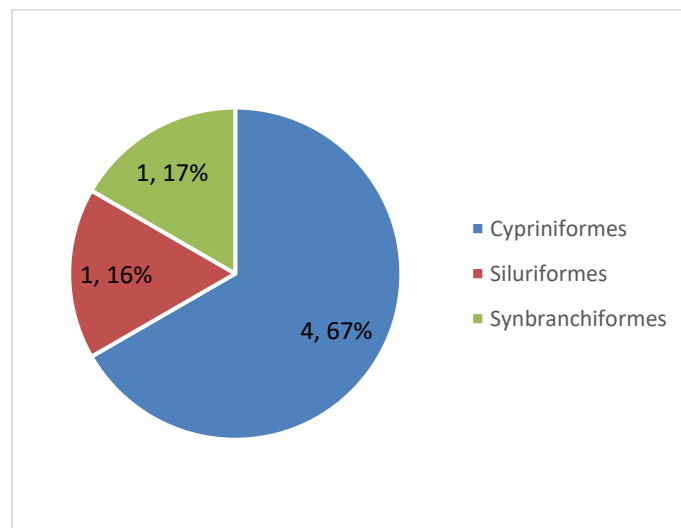


Fig - 3 showing Order wise number and percentage of fish species recorded from River Gomti , Village Saroj Barewar

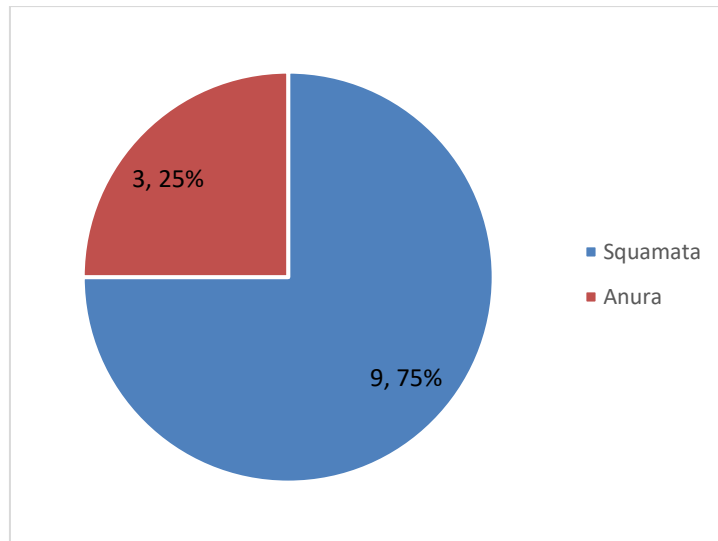


Fig - 4 Showing Order wise number and Percentage of Herpatofaunal Species of Village Saroj Barew

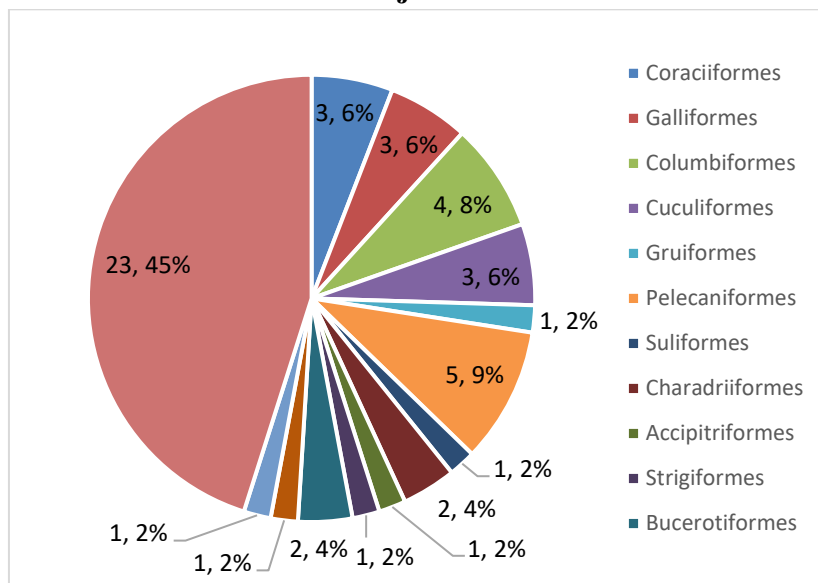


Fig - 5 represents number and percentage of Avifaunal Species across Orders

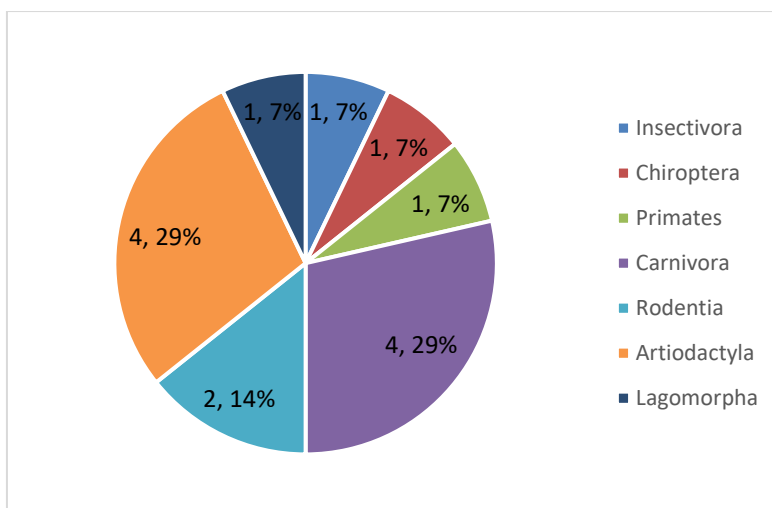


Fig - 6 Represents Order wise number and percentage of Mammalian species recorded from Village Saroj Barewar

Table no - 1 List of Arthropods recorded from Village Saroj Barewar near River Gomti

Sr.no		Order	Families	Common name	Scientific name	Population Status
1	Butterflies and moths	Lepidoptera	Nymphalidae	Plain tiger butterfly	Danus chrysippus (Linnaeus, 1758)	V.C
2			Nymphalidae	Peacock pansy butterfly	Junonia almana (Linnaeus, 1758)	V.C
3			Nymphalidae	Lemon pansy butterfly	Junonia lemonias (Linnaeus, 1758)	V.C
4			Nymphalidae	Blue pansy butterfly	Junonia orithya. (Linnaeus, 1758)	V.C
5			Nymphalidae	Blue moon butterfly	Hypolimnastis bolina (Linnaeus, 1758)	R
6			Papilionidae	Common jay butterfly	Graphium doson (Felder & Felder, 1864)	V.C
7			Papilionidae	Lime swallowt	Papilio demoleus	C

				ail butterfly	(Linnaeus , 1758)	
8			Pieridae	Indian Jezebel	Delias eucharis (Drury , 1773)	R
9			Pieridae	Common grass yellow butterfly	Eurema hecabe (Linnaeus , 1758)	V.C
10			Erebidae	Wasp moth	Amata huebneri (Boisduval , 1829)	C
11			Erebidae	Gypsy moth	- Unidentified -	R
12	Dragonfly	Odonata	Libellulidae	Ditch jewel	Brachythemis contaminata (Febricius , 1793)	V.C
13			Libellulidae	Chalky percher	Diplacodes trivialis (Rambur , 1842)	V.C
14			Libellulidae	Common picture wing	Rhyothemis variegata (Linnaeus 1763)	R
15			Coenagrionidae	Blue damselfly	Pseudagrion sp (Selys, 1876)	C
16	Beetle and grub worm	Coleoptera	Elateridae	Click beetle	- Unidentified -	C
17			Scarabaeidae	Dung beetle	- Unidentified -	V.C
18			Scarabaeidae	White grub worm	Phyllophaga sp (Harris, 1827)	V.C
19			Chrysomelidae	Parthenium beetle	Zygogramma bicolorata (Pallister , 1953)	C

20			Carabidae	Six spot ground beetle	Athia sexguttata (Fabricius , 1775)	V.C
21			Gyrinidae	Whirligig water beetle	Dineutus sp (Macleay, 1825)	V.C
22			Lampyridae	Fire fly	- Unidentified -	V.C
23			Meloidae	Blister beetle	Epicauta hirticornis. (Haag - Rutenberg 1880)	C
24			Meloidae	Metallic Blue Blister Beetle	Epicauta sp (Dejean ,1834)	C
25	Bugs	Hemiptera	-	Spit bug	Unidentified	C
26			Lygaeidae	Darthmaul bug	Spilostethus hospes (Fabricius ,1794)	C
27			Pseudococcidae	Mealy bug	- unidentified -	R
28			Belostomatidae	Giant water bug	Lethocerus indicus (Lep. and Serville, 1825)	C
29			Gerridae	Water strider	Gerris sp. (Febricius , 1794)	V.C
30			Nepidae	Water scorpion	Laccotrephes sp (Stal , 1866)	V.C
31	Wasps and ants	Hymenoptera	Vespidae	Arabian paper wasp	Polistes watti (Cameron ,1900)	V.C
32			Sphecidae	Mud dauber	Unidentified	V.C
33			Sphecidae	Sand wasp	Ammophila sp (W.Kirby ,1798)	C
34			Pompilidae	Spider wasp	- unidentified -	C

35			Formicidae	Garden black ant	- unidentified -	V.C
36			Formicidae	Red ant	- unidentified -	V.C
37	Crickets and grasshopper	Orthoptera	Gryllidae	crickets	Gryllodes sp (Saussure ,1874)	V.C
38			Gryllotalpidae	Mole cricket	Gryllotalpa sp (Latreille ,1802)	V.C
39			-	Grasshopper	- unidentified -	V.C
40	Flies other insect	Diptera	Muscidae	House fly	Musca domestic (Linnaeus ,1758)	V.C
41			Culicidae	Mosquito	- unidentified -	V.C
42			Calliphoridae	Green Bottlefly	Lucilia sericata (Meigen ,1826)	C
43			Calliphoridae	Golden Blowfly	Lucilia spp (Robineau - Desvoidy , 1830)	V.C
44			Sarcophagidae	Flesh fly	Sarcophaga sp (Meigen ,1826)	V.C
45		Dermaptera	-	Earwig insect	- unidentified -	C
46		Blattodea	Blattidae	Cockroach	Periplanata americana (Linnaeus , 1758)	V.C
47			Blattidae	Termites	- unidentified -	C
48		Scolopendromorpha	Scolopendridae	Centipede	Scolopendra sp (Linnaeus , 1758)	V.C

49	Scorpions	Scorpiones	Buthidae	Indian red scorpion	Hottentotta tamulus (Fabricius , 1798)	R
50			Scorpionidae	Indian black scorpion	Heterometrus bengalensis (C.L.koch , 1841)	R
51	Spiders	Araneae	Araneidae	Signature spider	Argiope sp (Audouin ,1826)	R
52			Sparassidae	Huntsman spider	Heteropoda sp (Latreille ,1804)	V.C
53			Sparassidae	Green crab spider	Olios milleti (Pocock ,1901)	R
54			Sparassidae	Huntsman spider	Olios lamarcki (Latreille 1806)	R
55			Pholcidae	Daddy long leg	Unidentified	V.C
56			Oxyopidae	Crossed or Burma lynx spider	Oxyopes biramnicus (Thorell , 1887)	C
57			Araneidae	Brown sailor spider	Neoscona sp (E.Simon , 1864)	V.C
58		Opiliones	Sclerosomatidae	Harvest man spider	Unidentified	V.C
59		Araneae	Lycosidae	Wolf spider	Unidentified	R
60		Araneae	Lycosidae	Wolf spider	Evippa banarensis (Tikader & Malhotra ,1980)	R
61		Araneae	Lycosidae	Thin legged wolf spider	Pardosa sp. (C.L koch , 1847)	V.C

Table no - : 2 List of Molluscan shell recorded from River Gomti near Village Saroj Barewar

S.R N. O	Class	Order	Families	Scientific name	Population status
1	Gastropods	Megagastropoda	Viviparidae	Bellamya bengalensis. (Lamark 1822)	V.C
2		Architaenioglossa	Ampullariidae	Pila globosa (swainson , 1822)	R
3		Ceanogastropoda (Unassigned)	Thiaridae	Thiara scabra (mueller 1774)	C
4			Thiaridae	Melanoides tuberculata (mueller 1774)	C
5			Thiaridae	Tarebia granifera (Lamark 1816)	V.C
6			Thiaridae	Tarebia lineata (gray 1828)	V.C
7			Pachychilidae	Brotia costula (Rafinesque, 1833)	R
8		Basommatophora	Planorbidae	Unidentified	R
9			Physidae	Unidentified	R
10			Lymnaeidae	Lymnaea sp (Lamarak ,1799)	R
11		Systellommatophora	Veronicellidae	Laevicaulis altae (ferrussac,1822)	C
12	Bivalvia	Unionoida	Unionidae	Lamellidens marginalis (Lamark ,1819)	V.C
13			Unionidae	Lamellidens consobrinus (Lea ,1859)	C
14			Unionidae	radiatula occata (Lea ,1860)	R

15			Unionidae	Parreysia favidens (Benson ,1862)	C
16		Venerida	Cyrenidae	Corbicula stritella (Deshayes, 1864)	V.C

[Key - V.C - Very common , C - Common , R - Rare]

Table no - 3 List of freshwater fish recorded from River Gomti near Village Saroj Barewar

SR . No	Order	Families	Scientific name	Local name	Population status
1	Cypriniformes	Cyprinidae	Punitus sp (Hamilton, 1822)	Sidhari	C
2		Cyprinidae	Punitus chola (Hamilton, 1822)	Sidhari	V.C
3		Cyprinidae	Ctenopharyngodon idella (Valenciennes, 1844)	Grass carp	C
4		Cyprinidae	Labeo sp (Cuvier ,1816)	Rohu	V.C
5	Siluriformes	Bagridae	Mystus tengara (Hamilton ,1822)	Tengra	C
6	Synbranchiformes	Mastacembelidae	Mastacembelus armatus (Lacepede , 1800)	Bam eel	V.C

[Key :- V.C - Very Common , C - Common]

Table no - 4 List of Herpatofauna recorded from Village Saroj Barewar near River Gomti

S r n o	Order	Families	Common name	Scientific name	IUC N status	V/N V	
1	Snakes	Squamata	Coloubridae	Common wolf snake	Lycodon aulius (Linnaeus,1758)	NA	NV
2			Coloubridae	Indian rat snake	Ptyas mucosa (Linnaeus,1758)	NA	NV
3			Coloubridae	Checkered keel back	Xenochrophis piscatorn (Schneider,1799)	NA	NV

4			Elapidae	Spectacle cobra	Naja naja (Linnaeus, 1758)	V	V
5			Typhlopidae	Brahminus worm snake	Ramphotyphlops braminus (Nussbaum, 1980)	NA	NV
6	Lizard	Squamata	Agamidae	Common garden lizard	Calotes versicolor (Daudin, 1802)	NA	NV
7			Gecknoidae	Northen house gecko	Hemidactylus flaviviridis (Ruppell, 1835)	NA	NV
8			Scincidae	Snake skink	Lygosoma punctata (Das, 1996)	NA	NV
9			Varanidae	Monitor lizard	Varanus bengalensis (Daudin, 1802)	LC	NV
10	Amphibians	Anura	Bufo	Common indian toad	Duttaphrynus melanostictus (Schneider, 1799)	LC	NV
11			Dicroglossidae	Indian bull frog	Hoplobatrachus tigerinus (Daudin, 1803)	LC	NV
12			Dicroglossidae	Skipper frog	Euphlyctis cyanophlyctis (Schneider, 1799)	LC	NV

[Key - LC - Least concern, V - vulnerable, NA - Not Accessed, V = venomous, NV - Non venomous]

Table no - 5 List of Avifauna recorded from Village Saroj Barewar near River Gomti

Sr no	Common name	Scientific name	Families	Order	Food preferences	Population status
1	White throated kingfisher	Halcyon smyrnensis (Linnaeus, 1758)	Alcedinidae	Coraciiformes	P	V.C
2	Pied Kingfisher	Ceryle rudis (Linnaeus, 1758)	Alcedinidae		P	C
3	Small Green bee eater	Merops orientalis. (Latham, 1801)	Meropidae		I	V.C
4	Indian peafowl	Pavo cristatus (Linnaeus, 1758)	Phasianidae	Galliformes	O	V.C
5	Grey Francolin	Francolinus pondiceranus (Gmelin, 1789)	Phasianidae		O	C

6	Red junglefowl	Gallus gallus (Linnaeus ,1758)	Phasianidae		O	C
7	Rock dove	Columba livia (Gemelin ,1789)	Columbidae	Columbiformes	F , G	V.C
8	Euresian collared dove	Streptopelia decaocta (Frivaldszky , 1838)	Columbidae		G	V.C
9	Spotted dove	Streptopelia chinesis (Scopoli , 1768)	Columbidae		F, G	Oc
10	Laughing dove	Streptopelia senegalensis (Linnaeus , 1766)	Columbidae		F , G	Oc
11	Greater coucal	Centropus sinesis. (Stephens ,1815)	Cuculidae	Cuculiformes	F	C
12	Asian koel	Eudynamus scolopaceus (Linnaeus , 1758)	Cuculidae		F	C
13	Jacobin cuckoo	Clamator jacobinus (Boddaert , 1783)	Cuculidae			Ra
14	White breasted waterhen	Amaurornis phoenicurus (pennant , 1769)	Rallidae	Gruiformes	O	C
15	Indian pond heron	Ardeola grayii (Sykes ,1833)	Ardeidae	Pelecaniformes	P	V.C
16	Cattle egret	Bubulcus ibis (Linnaeus , 1758)	Ardeidae		P	V.C
17	Little egret	Egretta garzetta (Linnaeus , 1766)	Ardeidae		P	V.C
18	Black head ibis	Threskiornis melanocephala (Latham , 1790)	Threskiornithidae		P	Ra
19	Glossy ibis	Plegadis falcinellus (Linnaeus , 1766)	Threskiornithidae		P	Ra
20	Little cormorant	Microcarbo niger (Vieillot ,1817)	Phalacrocoracidae	Suliformes	P	C
21	Red wattled lapwing	Vanellus indicus. (Boddaert ,1783)	Charadriidae	Charadriiformes	I	V.C
22	River lapwing	Vanellus duvaucelii. (Lesson ,1826)	Charadriidae		I	R
23	Black kite	Milvus migrans (Boddaert ,1783)	Accipitridae	Accipitriformes	C	C
24	Spotted owlet	Athene brama. (Temminck ,1821)	Strigidae	Strigiformes	I , C	Ra
25	Indian grey hornbill	Ocyrceros birostris. (Scopoli ,1786)	Bucerotidae	Bucerotiformes	I , C , F	C
26	Common hoopoe	Upupa epops (Linnaeus ,1758)	Upupidae		I	Ra
27	Coppersmith Barbet	Psilopogon haemacephalus (P.L.S Muller ,1776)	Megalaimidae	Piciformes	F	C
28	Rose ringed parakeet	Psittacula krameri (Scopoli ,1769)	Psittaculidae	Psittaciformes	F	C
29	Black drongo	Dicurus macrocercus (Vieillot ,1817)	Dicuridae	Passeriforms	O	V.C
30	Rufos treepie	Dendrocitta vagabunda (Latham ,1790)	Corvidae		O	C
31	Jungle crow	Corvus macrorhynchos (Wagler , 1827)	Corvidae		O	V.C

32	House crow	Corvus splendens (Vieillot ,1817)	Corvidae		O	V.C
33	Purple sunbird	Nectarinia asiaticus. (Latham , 1790)	Nectariniidae		F,G,I	Ra
34	Baya weaver	Ploceus philippinus (Linnaeus ,1766)	Ploceidae		G	V.C
35	Streaked weaver	Ploceus manyar. (Horsfield ,1821)	Ploceidae		G	V.C
36	Scaly breasted munia	Lonchura punctulata (Linnaeus , 1758)	Estrildidae		G	C
37	House sparrow	Passer domesticus (Linnaeus , 1758)	Passeridae		G, I	V.C
38	White browed wagtail	Motacilla maderaspatensis (Gmelin , 1789)	Motacillidae		G	Oc
39	Plain prinia	Prinia inornata (Sykes ,1832)	Cisticolidae		I	C
40	Ashy prinia	Prinia socialis (Sykes ,1832)	Cisticolidae		I	C
41	Red whiskerd bulbul	Pycnonotus jocosus (Linnaeus , 1758)	Pycnonotidae		F	V.C
42	Red vented bulbul	Pycnonotus cafer. (Linnaeus , 1766)	Pycnonotidae		F	C
43	Jungle Babbler	Turdoides striata (Dumont , 1823)	Leiothericidae		I	I
44	Bank myna	Acridotheres ginginianus (Latham , 1790)	Sturnidae		O	C
45	Common myna	Acridotheres tristis (Linnaeus , 1766)	Sturnidae		O	C
46	Brahminy starling	Sturnia pagodarum (Gmelin ,1789)	Sturnidae		O	Ra
47	Asian pied starling	Gracupica contra. (Linnaeus , 1758)	Sturnidae		O	V.C
48	Oriental magpie robin	Copsychus saularis (Linnaeus , 1758)	Muscicapidae		I	V.C
49	Brown rock chat	Oenanthe fusca (Blyth ,1851)	Muscicapidae		I	C
50	Oriental white eye	Zosterops palpebrosus (Temminck , 1824)	Zosteropidae		I	Oc
51	Indian golden oriole	Oriolus kundoo (Sykes ,1832)	Oriolidae		O	Ra

Key - C - common , V.C - very common , Ra - Rare , Oc - occasionally , P - piscivorous , I - insectivorous , F - Frugivorous , G - Granivorous , O - omnivorous , C - carnivorous

Table no - 6 List of Mammals recorded from Village Saroj Barewar near River Gomti

Sr no	Common name	Scientific name	Families	Order	Food preferences
1	House shrew	Suncus murinus (Linnaeus , 1766)	Soricidae	Insectivora	I
2	Microbat	Unidentified	-	Chiroptera	I
3	Rhesus macaque	Macaca mulata (Zimmermann ,1780)	Cercopithecidae	Primates	O

4	Asiatic jackal	<i>Canis aureus</i> (Linnaeus , 1758)	Canidae	Carnivora	C
5	Indian jungle cat	<i>Felis chaus</i> (Schreber , 1777)	Felidae		C
6	Desi dog [pariah dog]	<i>Cannis lupus familiaris</i> (Linnaeus, 1758)	Canidae		O
7	Indian Grey Mongoose	<i>Herpestes edwardsi</i> (E . Geoffroy Saint - Hilaire , 1888)	Herpestidae		O
8	Northern palm squirrel	<i>Funambulus pennantii</i> (Wroughton , 1905)	Sciuridae	Rodentia	O
9	House Mouse	<i>Mus musculus</i> (Linnaeus, 1758)	Muridae		O
10	Water buffalo	<i>Bubalus bubalis</i> (Linnaeus , 1758)	Bovidae	Artiodactyla	H
11	Nilgai [Blue Bull]	<i>Boselaphus tragocamelus</i> (Pallas , 1766)	Bovidae		H
12	Cow	<i>Bos taurus indicus</i> (Linnaeus , 1758)	Bovidae		H
13	Goat	<i>Capra aegagrus hircus</i> (Linnaeus, 1758)	Bovidae		H
14	Rabbit	Unidentified	Leporidae	Lagomorpha	H

[Key - I - insectivorous , O - Omnivorous , C - Carnivorous , H - Herbivores]

PLATYHELMINTHES :- [Class - Rhabditophora , Genus - Bipalium]

During Survey Author's locate dozo - ventral flat free living hammerhead worm (*Bipalium* sp) near Gomti river in Villege Saroj Barewar on 22nd June 2020 during starting of monsoon Season in uttarpradesh . This was the first record from district jaunpur. There is no any previous record of this species were found in district jaunpur .

Author's had accidentally found this hammerhead worm during exploration near River Gomti and their anterior part is look like hammer head shark . Their body is narrow in neck region and wide at middle and posterior end part of the body. skin is

moist and Shiny because of mucous, which is secreted by skin . mucous is also help in smooth locomotion performed by hammerhead worm . During locomotion They leave behind white silvery mucous trail . The colour of this species is vary from dark red brown to light soil brown . Like other land planarian species this species doesn't have any longitudinal strip. In mature individuals of this *Bipalium* land Planaria neck and head plate are heavily dark pigmented on dorsal side of body , which is absent in small immature individual of same species . On ventral side brown colour are present on lateral side of body and in midventral part of body has whitish crepey sole are there which is also

called ambulacral surface help in locomtion .

Hammerhead worm their size is vary , according to our observations their size is range from 1 cm to 5 cm in length . This worm are lived in moist soil environment living with in the habitat of their prey [4]. They are hide themselves under grass and woodend logs and rocks because they are photonegative . Terristrial planerian are successful top predator of invertebrates such as snails , slugs , earthworm , isopods , insect larvae , spring tails . They are rarely predated upon by other organism . In absense of food they show cannabilistic behaviour [5].

Local people are called it leech and two headed snake . They are not aware about this kind of organism . After 22nd June i found this land planeria near my house and other location in villege saroj barewar . They were mostly seen after rain . Author's have recorded the behaviour of this land planeria . At present this Bipalium species are unknown for us . Further research work will carried on this unknown Bipalium species after all situations getting normal .

ANNELIDS [Class - Clitellata]

Two species of Oligocheates and one species of Hirudinea were recorded from here. They were Earthworm (family - Lumbricidae) , Tubifex worm (family Naididae) and Leech (subclass - Hirudinea). Tubifex worm were commonly seen near river bank and other two species were recorded near River Gomti and other part of Village Saroj Barewar .

ARTHROPODS

Random oppertunistic sightings has been done in our Study area . Around 61 species of Arthropods were record which belong to 13 different order and 41 families (Table no - 1).

Class -: Insecta

Butterflies and moths -: Eleven species of order - Lepidoptera were recorded from our Study area which belong to four different families (Table no - 2). It mainly consist butterflies and moths . They were Plain Tiger Butterfly *Danus chrysippus* (*Linneaus, 1758*), Peacock Pansy Butterfly *Junonia almana* (*Linneaus, 1758*), Lemon Pansy Butterfly *Junonia lemonias* (*Linneaus, 1758*), Blue Pansy Butterfly *Junonia orithya* (*Linneaus, 1758*), Blue moon Butterfly *Hypolimnas bolina* (*Linneaus, 1758*), Common jay Butterfly *Graphium doson* (*Felder & Felder, 1864*), Lime Swallowtail Butterfly *Papilio demoleus* (*Linneaus, 1758*), Indian Jezebel *Delias eucharis* (*Drury, 1773*), Common grass yellow Butterfly *Eurema hecabe* (*Linneaus, 1758*), Wasp moth *Amata huebneri* (*Boisduval, 1829*), Gypsy moth (Unidentified). Family Nymphalidae is dominated by 5 species followed by Papilionidae (2), Pieridae (2), and Erebidae (2).

Damesefly and dragonflies -: Four species of order - odonata were recorded from our research area. The known species is Ditch jewel *Brachythomis contaminata* (*Febricius, 1793*), Ground skimmer *Diplocodes trivialis* (*Rambur, 1842*) and Common Picture Wing *Rhyothemis Variegata* (*Linneaus, 1763*), Blue Damsselfly *pseudagrion sp* (*Selys, 1876*).

Beetles and grub worm -: Total Nine species of order - coleoptera were recorded from our study area which belong to seven different families . Only Three Animals were identified on species level , They were parthenium beetle *Zygogramma bicolorata* (*Pallister, 1953*), six spot ground beetle *Athia sexguttata* (*Fabricius, 1775*) and Orange head Blister Beetle *Epicauta hirticornis* (*Haag - Rutenberg 1880*) and three Animals were identified on the Genus

level Metallic Blue Blister beetle *Epicauta sp* (*Dejean, 1834*), Whirligig water beetle *Dineutus sp* (*Macleay, 1825*) and White grub worm *Phyllophaga sp* (*Harris, 1827*). Rest of the animals were identified on families level . Only whirligig water beetle *Dineutus sp* (*Macleay, 1825*) are Semi - Aquatic species .

Bugs -: Six Species of Order - Hemiptera recorded here , which belongs to 6 different families . Three species namely Giant water bug *Lethocerus indicus* (*Lep.and Serville, 1825*), water strider *Gerris sp* (*Febricius, 1794*) and water scorpion *Laccotrephes sp* (*Stal, 1866*) are Semi - Aquatic in nature . Remaining three hemipteran species Spit bug (Unidentified), Darthmaul bug *Spilostethus hospes* (*Febricius, 1794*) and Mealy bug (Unidentified) are live in grass and tree in their respective habitat in our study area.

Wasp and ants -: six species of order - Hymenoptera were also recorded which belong to 4 different families / super family. They were Arabian paper wasp *Polistes watti* (*Cameron, 1900*), Mud dauber (Unidentified), Sand wasp *Ammophila sp* (*W. Kirby, 1798*), Spider wasp (Unidentified), Garden Black ant (Unidentified), Red ant (Unidentified).

Crickets and grasshopper -: Three Species of Order Orthoptera Which were Commonly seen here . They were Crickets *Grylloides sp* (*Saussure, 1874*), Mole Cricket *Gryllotalpa sp* (*Latreille, 1802*), Grasshopper (Unidentified).

Flies and other insect -: Rest of the 9 species of class - Insecta were also recorded which belong to Four different order namely Diptera , Dermaptera, Blattodea and Scolopendromorpha were recorded from our research area . They were House fly *Musca domestic* (*Linnaeus, 1758*), Mosquito (Unidentified), Green Bottlefly

Lucilia sericata (*Meigen, 1826*), Golden Blowfly *Lucilia sp* (*Robineau - Desvoidy, 1830*), Fleshfly *Sarcophaga sp* (*Meigen, 1826*), Earwig insect (Unidentified), Cockroach *Periplanata americana* (*Linnaeus, 1758*), Termites (Unidentified), Centipede *Scolopendra sp* (*Linnaeus, 1758*).

Class - : Arachnida

Instead of insects, Arachnids species were also recorded from our Study area. Arachnida recorded included 13 species of the orders Scorpiones (2), Araneae (10) and Opiliones (1). They were Indian red Scorpion *Hottentotta tamulus* (*Fabricius, 1798*), Indian Black Scorpion *Heterometrus bengalensis* (*C.L Koch, 1841*), Signature spider *Argiope sp* (*Audouin, 1826*), Huntsman spider *Heteropoda sp* (*Latreille, 1804*), Green crab spider *Olios milleti* (*Pocock, 1901*), Huntsman spider *Olios lamarcki* (*Latreille, 1806*), Daddy long leg spider (Unidentified), Crossed or Burma lynx spider *Oxypes biramnicus* (*Thorell, 1887*), Brown sailor spider *Neoscona sp* (*E.simon, 1864*), Harvest man spider (Unidentified), wolf spider Unidentified, wolf spider *Evippa banarensis* (*Tikader & Malhotra, 1980*), Thin legged Wolf spider *Pardosa sp* (*C.L Koch, 1847*).

MOLLUSCA

Molluscs recorded include 16 species of the Class - Gastropoda (11) and Bivalvia (5) (Table no - 2). They were *Bellamya bengalensis* (*Lamarck, 1822*), *Pila globosa* (*Swainson, 1822*), *Thiara scabra* (*Mueller, 1774*), *Melanoides tuberculata* (*Mueller, 1774*), *Tarebia granifera* (*Lamarck, 1816*), *Tarebia lineata* (*gray, 1828*), *Brotia costula* (*Rafinesque, 1833*), (family - *Planorbidae*), (family - *Physidae*), *Lymnaea sp* (*Lamarck, 1799*), *Laevicaulis altae* (*ferrussac, 1822*),

Lamellidens marginalis (Lamarak, 1819), *Lamellidens consobrinus* (Lea, 1859), *Radiatula Occuta* (Lea, 1860) *Parreysia favidens* (Benson 1862) , *Corbicula stritella* (Deshayes, 1864) was recorded as Common Mollusc and were Abundant During Study period .

FISH

Fish Biodiversity of River Gomti is considered to be high . Total 56 Species of Fishes were Recorded from River Gomti At Lucknow region , Which belong to 41 Genera , 9 Order and 21 families . But due to Anthropogenic causes such as over - population , commercial exploitation , uses of chemical pesticide and Fertilizers and introduction of exotic species were found to main reason for the threat to Fish fauna in River Gomti [6].

Random survey was conducted near river gomti in our research area for assessing the diversity of fishes . So According to Our Observations During this Monsoon Season from River Gomti near Village Saroj Barewar 6 species of fishes were recorded which belong to 3 different order and 3 different families (Table - 3) . Family - cyprinidae is dominated by 4 number of species while rest of the families consist only one species each .

HERPATOFAUNA

Herpatofauna mainly include traditional reptile orders and modern amphibian . This organism are poikilotherms , oviparous (some gives birth to young one) and carnivorous . Total 93 species of herpatofauna are recorded from state uttarpradesh . In which 70 species are reptile belong to 3 order and 15 different families and remaining 23 species are amphibian belong to order anura and 5 different families [7].

From our Study Area 12 species of herpatofauna were recorded (Table no - 4). Herpatofauna recorded include Snakes (5 Species), Lizards (4 Species) and Frogs (3 Species). Which is almost 13% of over all herpatofauna species found in state uttarpradesh . Snakes species recorded were Common wolf snake *Lycodon aulius* (Linneaus ,1758), Indian rat snake *Ptyas mucosa* (Linneaus, 1758), Checkered keel back *Xenochrophis piscatorn* (Schneider, 1799), Spectacled cobra *Naja naja* (Linneaus, 1758), Brahminus worm snake *Ramphotyphlopus braminus* (Nussbaum, 1980). Except Spectacled cobra *Naja naja* (Linneaus, 1758) all other snakes are Non - Venomous which was recorded from our Study Area. This all snakes were mainly recorded from Human residential (like near House and farmfield) and near river gomti .Other then Snakes , four Species of Lizards were identified from our Research Area . The Lizard Species recorded were Common garden Lizard *Calotes versicolor* (Daudin, 1802), Northern house gecko *Hemidactylus flaviviridis* (Ruppell, 1835), Snake skink *Lygosoma punctata* (Das, 1996) and Monitor Lizard *Varanus bengalensis* (Daudin, 1802).

Apart from Reptiles, Amphibian species (Frogs) were Also recorded from our Study area . 3 Species of Frogs which were commonly seen near River Gomti and other part of Village Saroj Barewar. They were Common Indian toad *Duttaphrynus melanostictus* (Schneider, 1799), Indian bull frog *Hoplobatarachus tigerinus* (Daudin, 1803) and Skipper frog *Euphlyctis cyanophlyctis* (Schneider, 1799).

AVIFAUNA

Birds are important component of ecosystem . They occupy important

positions in food chain . Many bird species are known to inhabit the Jaunpur and its surrounding area . In Jaunpur around 326 species of bird were found in which 20 species are globally threatened [8].

But there is lack of thorough survey on Village Saroj Barewar . This area is home of various bird species . Birds are attracted toward this Village Saroj Barewar because this Village receive river Gomti which is rich in molluscs and fish diversity which support fish eating native and migratory birds . In village Saroj Barewar farmland and fruit bearing tree are there which provide food and shelter to the birds .

Survey of bird in the area of village Saroj Barewar were studying during monsoon period from 31 May 2020 to 23 August 2020 . during this time period we recorded 51 species of birds belonging to 14 different order and 30 different families from village Saroj Barewar . Among total number of birds 23 species are belong to order passeriforms , 05 species belong to order pelecaniformes , 4 species belong to order columbiformes , 3 species belong to order cuculiformes , Galliformes and coraciiformes each , 2 species belong to order Bucerotiformes and charadriiformes and 1 species belong to order Gruiformes , suliformes , Accipitriformes , strigiformes , piciformes, Pisttaciiformes . In this study location during this time period order passeriforms were dominant in terms of number of species (Table - 5). According to feeding habitat of birds which is found in village Saroj Barewar insectivores birds are dominant followed by frugivorous , grainivorous , omnivorous , pisivorous , carnivorous . Insectivorous birds is dominated in this village Saroj Barewar because arthropods (insect) annelids are rich in number in this area . Mostly this insects are damage the

crops . They show harmful effect on vegetables and crops which is grown by farmer . Birds are checked and control the population of Annelids and Arthropods , maintain and balance the food chain .

MAMMALS

14 species of Mammals were recorded (except Human) from our study area which belong to 7 different order and 10 different families (Table no - 6) . They were House shrew *Suncus murinus* (*Linnaeus, 1766*), Microbat (Unidentified), Rhesus macaque *Macaca mulata* (*Zimmermann, 1780*), Asiatic jackal *Canis auris* (*Linnaeus, 1758*), Indian Jungle cat *Felis chaus* (*Schreber, 1777*), Desi dog *Canis lupus familiaris* (*Linnaeus, 1758*), Indian Grey Mongoose *Herpestes edwardsi* (*E. Geoffroy Saint - Hilaire , 1888*), Northern palm squirrel *Funambulus pennantii* (*Wroughton, 1905*), House mouse *Mus musculus* (*Linnaeus, 1758*), Water Buffalo *Bubalus bubalis* (*Linnaeus, 1758*), Blue bull (Nilgai) *Boselaphus tragocamelus* (*Pallas, 1766*), Cow *Bos taurus indicus* (*Linnaeus, 1758*) Goat *Capra aegagrus hircus* (*Linnaeus, 1758*), Rabbit (Unidentified) was recorded near River Gomti, Human residents and other part of Village Saroj Barewar .

CONCLUSION

As we know Number and Types of Species determine the Health of given Ecosystem .The present study revealed that River Gomti Support rich faunal diversity near Village Saroj Barewar . Total 164 species of Animals were recorded from our Research Area which belong to 50 different order and 107 different families .The high faunal diversity in our research area is due to thick Vegetation and humid environment

which was maintained due to River Gomti and Monsoon season during this study time period. It can be assumed that High floral diversity sustain high faunal diversity.

But due to lack of knowledge, Anthropogenic Activities like industrial effluent discharge and Religious rituals can have adverse effect on Biodiversity of Our Research Area . As per earlier record from literature related to water parameters state that River Gomti was highly polluted and the water quality is not now in safe limit for Human, flora and fauna . Large amount of human, Agricultural and industrial pollutants are discharged in this river as it is flow through Highly populated region. This all things put negative impact on Biodiversity especially faunal diversity . Other threats include excessive fishing , unplanned construction near Gomti river , floating of dead human and animal body on surface of River Gomti , Bathing and washing cloths near Gomti and woodcutting affect Biodiversity in our research area .

The present Research work Highlight faunal diversity with in small patch area of River Gomti near Village Saroj Barewar. The observation by us can be explored further for its detailed study related to Biodiversity and certain ecological aspect in future .

RECOMMENDATIONS

Since local people have limited knowledge and some misconceptions about the faunal species of our research area. For local people All snakes and Monitor Lizard (Goh) are venomous. They think Monitor Lizard which is commonly known in Local language as Vishkhopda (There juvenile are known as Vishkhopda) are more Venomous then snakes . Most of the people of Village Saroj Barewar are not aware

about the Wildlife protection act . They don't care what will happen if this species will wipe out from nature . Due to lack of knowledge and fear they harm such kind of animals . The locals residing with in this area need to educate about rich faunal diversity (especially snakes and Monitor Lizard) which is recorded from our research area .

Due to unplanned constructions and woodcutting near River Gomti Habitats of organisms getting Lost. To overcome with this kind of problem Government should declare No Construction zone near River Gomti.

Over the years Gomti has become the most polluted river in state Uttarpradesh . On 12th June 2020 Mass death of fishes were recorded from River Gomti near Village Saroj Barewar. Thousands of fishes were floating on the river and accumulated near River bank. Similar news of Mass death of fish are found to other part of city too . The Fall in DO (Dissolve oxygen) level could be Associated with loss of Aquatic Animals . Local people said that this is not first time we see mass death of fishes . To overcome such kind of problems, Strictly Monitor all kinds of industries near River Gomti and moving unfit industries from near River Gomti to other place .

Proper continuous Scientific studies related to Biodiversity should be taken in this region . Such kind of work will help to Assess functional diversity of our study area

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References

1. Ambalaparambil V. Sudhikumar et al. Preliminary studies on the Spider fauna in Mannavan Shola forest, Kerala, india (Araneae). EUROPEAN ARACHNOLOGY 2005 (Deltshv, C. & Stoev, P., eds). Acta zoologica bulgarica, Suppl.No. 1 : pp. 319 - 327 . [9]
2. Amita Kanujia , Akhilesh Kumar and Adesh Kumar : Herpatofauna of a UttarPradesh . Biological Forum - An International Journal 9(1): 118 - 130 (2017) . [7]
3. Anjani K.Tangri, Dhirendra kumar, Dhruv Sen Singh , et al. The Gomti River Lifeline of Central Ganga plain . Springer Nature Singapore Pte Ltd . 2018 . The Indian River (pp. 135 - 160) . [1]
4. Arunkumar . Pollution studies on Gomti river and it's gloomy state in Jaunpur, Uttarpradesh, India. Open Access e - Journal . Earth science india. Popular issue, 12 (II), April, 2019, 1-28. [11]
5. Ball IR slugs R (1990) Turbellaria : Tricladida : Terricola. In : Dindal DL (ED) Soil Biology Guide , John Wiley . New York , 137-153 . [4]
6. Bhaktivedanta VedaBase : Srimad Bhagavatam 5.19.17-18. 4th January 2010 . [2]
7. Boll PK, Leal - Zanchet AM (2018) Lazy to prey and eager to run : behaviour of Neotropical land planarian (Platyhelminthes : Geoplanidae) in the presence of its prey and predators . Biological Journal of the Linnean Society 125: 392 - 400 . Available from - : <https://doi.org/10.1093/biolinnean/bly114> . [5]
8. Checklist of the birds of the Jaunpur. Avibase the world bird database . Lepage, D. 2021. Retrieved from. <https://avibase.bsc-eoc.org/checklist.jsp?region=INggupju> [13/08/2021] . [8]
9. Dr.Venkatesh Dutta . Restoration of the River Gomti : How can regulatory interventions from the government contribute toward a cleaner river Ganga . 10 sept 2015 . Available from :- <https://globalwaterforum.org/2015/9/10> . [3]
10. Farah Bano & Mohammad Serajuddin : Biodiversity Threat Status and Conservation Priority of Ichthy - Fauna of River at Lucknow Region , india . Biodiversity journal 2016, 7(4): 913 - 922 . [6]
11. Hafizurrahman, Abrar Ahmad, Mohdmabood khan et al. Evaluation of Physicochemical Characteristics of Gomti river water At Uttarpradesh, India . Int.J.Adv.Res. 4(12). 1408 - 1414 . Available from - : <https://dx.doi.org/1021474/IJARO1/2538> .

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