

Faunal Diversity of Divegaon, Purandar Taluka, Pune District, M/S, India

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ABSTRACT

Animal survey was conducted in Divegaon located in Purandar Taluka, Pune District, M/S, India. Divegaon is surrounded by Haveli Taluka towards west, Pune Taluka towards west, Bhor Taluka towards South, Khandala Taluka towards South. The total geographical area of village is 274.98 hectares. Survey area is about 585 meters above sea level. A checklist of 51 animals was prepared by walking survey method. Out of these, 11 animals belong to 8 families of phylum Arthropoda and 40 animals belong to 30 families of phylum Chordata.

Keywords: Insect, Reptiles, Birds, Mammals, Divegaon, Biodiversity.

I. INTRODUCTION

Most of the biodiversity hotspot are located in Maharashtra, India. The common animals found in Maharashtra are tiger, bison, Gawa, Neelgai, wild deer, sambar, crocodile, uncommon migratory birds etc. To safeguard these areas and market them as tourism attractions, the state has made appropriate steps to establish numerous wildlife parks and sanctuaries. Biodiversity is necessary for all species on Earth, including humans, to function properly. We cannot have healthy ecosystems that give us with the air we breathe and the food we consume without a diverse range of animals, plants, and microorganisms.

Biodiversity is necessary for maintaining ecological processes such as water cycle stabilization, soil fertility maintenance and replenishment, pollination and cross-fertilization of crops and other vegetation, soil erosion protection. The preservation of biological diversity leads to the preservation of vital ecological diversity, which is necessary for food chain continuance.

II. OBJECTIVES OF THE STUDY

The main objective of present study was to observe animal diversity in study area and to study key indicators species found in study area.

HYPOTHESIS:

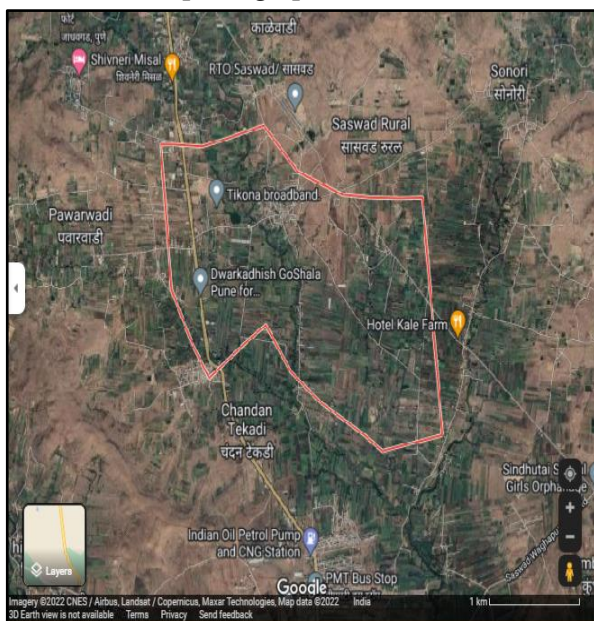
This area is located in eastern portion of Western Ghats with semi-arid area, loamy soil with seasonal grasslands and other ecosystems. Rich biodiversity was expected in study area. There is no detailed survey record found previously. There is urgent need of study.

III. MATERIALS AND METHODS:**Study area:**

The Divegaon village of Purandar Taluka is located in Pune district of Maharashtra state (18.38269N, 74.02264W). Dive village has a population of 3484 people, according to the 2011 census. Dive village is home to 768 families. The study area was in and around Dive Village, measured approximately about 1174 hectares. Selected survey site comprises different ecosystem such as grassland, agricultural and domestic area, temporary water bodies and water canal.

Data collection:

Animal presence data was collected by walking surveys. Survey was conducted in the months of December 2021 to March 2022. Walking survey was conducted along all pathways of village. Members of animal species were observed, photographed and identified with the help of standard scientific keys.



(i)



(ii)

Figure 1 (i): Map of Divegaon village of Purandar Taluka, District Pune and **(ii)** Actual site photographs (a) Grassland ecosystem, (b) Temporary water body, (c) Local water body, (d) Terrestrial ecosystem.

IV. RESULT AND DISCUSSION

Total 51 animal species were reported during the survey. Out of these, 11 animal species belonged to 8 families of phylum Arthropoda. These belonged to three classes such as Insecta, Arachnida and Melacostraca. Members

of class Insecta belonged to six families such as Apidae, Nymphalidae, Coccinellidae, Acrididae, Pieridae and Tridactylidae (Figure-2 iv and v). Semi-arid and grassland ecosystems consist of a variety of insects (Rasheed and Buhroo, 2020). Members of the Lycosidae family observed in the study area were *Pardosa milvina* spiders (Figure-2iii). Spider diversity is more in the wetland ecosystem (Karthikeyani et al. 2017 and Pandit 2020). Freshwater Asian crabs of the family Potamidae were observed in the local water body. These crabs are commonly used as a food source in villages of India (Samuel et al. 2016).

In the present study, we observe 40 animal specimens from phylum chordata. These animals belonged to 04 classes such as Pisces, Reptilia, Aves and Mammals along with 30 families of phylum chordata. The observed members of Rohu (*Labeo rohita*) and Maral fish species belong to Family Cyprinidae and Channida respectively. We observed that members of class Reptilia belong to three different families such as Gekkonidae, Chamaeleonidae, Viperidae. Study area is the natural habitat of mammals such as common bats, wild dogs, wild cats and domestic mammals. Agriculture is a primary activity in the rural area of India and has a rich diversity of mammals (Nameer PO, 2015; Sharma et. al. 2015 and Talmale et al. 2018).

	Class	Family	Local name	Scientific name
Phylum: Arthropoda	Insecta	Apidae	<i>Honey bee</i>	<i>Apis florea</i>
				<i>Apis dorsata</i>
		Acrididae	Long-nosed Grasshopper	<i>Acrida</i>
				Rufous grasshopper
		Coccinellidae	Fungus-eating Ladybird	<i>Illeis galbula</i>
		Nymphalidae	Common crow butterfly	<i>Euploea core</i>
		Pieridae	Common yellow butterfly	<i>Eurema</i>
				Common Jezebel butterfly
	Tridactylidae	Crickets	<i>Ellipse minuta</i>	
	Arachnid	Lycosidae	Spider	<i>Pardosa milvina</i>
Malacostraca	Potamidae	Asian freshwater Crab	<i>Nanhaipotamon</i>	
Phylum: Vertebrata	Fish	Cyprinidae	Rohu	<i>Labeo rohita</i>
		Channidae	Snake headed fish	<i>Channa</i>
	Reptile	Gekkonidae	Wall lizard	<i>Hemidactylus</i>
		Chamaeleonidae	Chameleon	<i>Chameleon</i>
		Viperidae	Russell Viper	<i>Daboia russelii</i>
	Mammal	Sciuridae	Three-striped palm squirrel	<i>Funambulus palmarum</i>
		Pteropodidae	Bat: Flying fox	<i>Pteropus</i>
Bovidae		Jersey cattle	<i>Holstein Friesian</i>	

Table 1: Animals from phylum Arthropoda and Vertebrata (Class: Fish, Reptile and Mammal)

Bird survey in study area was conducted and we observed 32 different species of birds belong to 26 families (Table-2). Increase in population and pollution in study area affect on biodiversity of Aves. Birds are useful indicator of environmental changes (Jaiswal P 2017; Pandey et al. 2008 and Praveen et al. 2016).

Phylum: Vertebrata	Class: Aves	Family	Local Name	Scientific Name
			Black eared kite	<i>Milvus lineatus</i>
Accipitridae	Hen harrier	<i>Circus cyaneus</i>		
Aicedinidae	White throated Kingfisher	<i>Halcyon smyrnensis</i>		
Anatidae	Goose	--		
Apodidae	Swift	<i>Apus</i>		
Ardeidae	Indian pond heron	<i>Ardeola grayii</i>		
	Intermediate Egret	<i>Egretta intermedia</i>		
Casuariidae	Emu	<i>Dromaius</i>		
Charadriidae	Red wattled lapwing	<i>Vanellus indicus</i>		
Columbidae	Dove	<i>Streptopelia</i>		
Corvidae	Indian common crow	<i>Corvus splendens</i>		
Cuculidae	Asian koel	<i>Eudynamys scolopaceus</i>		
	Greater coucal	<i>Centropus sinensis</i>		
Dicruridae	Black drongo	<i>Dicrurus macrocercus</i>		
	Ashy Drongo	<i>Dicrurus leucophaeus</i>		
Estrildidae	Scaly breasted munia	<i>Lonchura punctulata</i>		
Laniidae	Great grey shrike	<i>Lanius</i>		
Meropidae	Little green bee eater	<i>Merops orientalis</i>		
Muscicapidae	Oriental Magpie Robin	<i>Copsychus saularis</i>		
	Indian black Robin	<i>Saxicoloides fulicata</i>		
Nectariniidae	Purple sunbird	<i>Cinnyris asiaticus</i>		
Paridae	Great tit	<i>Parus major</i>		
Passeridae	House sparrow	<i>Passer domesticus</i>		
Phalacrocoracidae	Indian shag (Cormorant)	<i>Phalacrocorax</i>		
Ploceidae	Baya weaver	<i>Ploceus philippinus</i>		
Psittacidae	Parakeet	<i>Psittacula</i>		
Pycnotidae	Red vented Bulbul	<i>Pycnonotus cafer</i>		
Rhipiduridae	White spotted fantail	<i>Rhipidura albogularis</i>		
Scolopacidae	Sandpiper	<i>Tringa</i>		
Sturnidae	Brahmni starling	<i>Temenuchus pagodarum</i>		
	Common myna	<i>Acridotheres tristis</i>		
Timaliidae	Large grey babler	<i>Turdoides malcolmi</i>		

Table 2: Birds from phylum: Vertebrata (Class: Aves)



Figure 2: Animal of Divegaon (i) *Nanhaipotamon* (Asian freshwater crab), (ii) Termites, (iii) *Pardosa milvina* (Spider), (iv) *Ellipse minuta* (Cricket), (v) *Illeis galbula* (Fungus-eating Ladybird), (vi) *Acrida* (Long-nosed Grasshopper), (vii) *Daboia russelii* (Russell Viper), (viii) *Dromaius* (Emu)

V. CONCLUSION

We found rich animal diversity in study area and require frequent animal survey due to seasonal variation in study area

VI. CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest.

VII. ACKNOWLEDGMENTS

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