VOLUME - 11, ISSUE - 06, JUNE - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Zoology

BIRD DIVERSITY OF IN AND AROUND GOVERNMENT COLLEGE DAMAN CAMPUS, DAMAN AND DIU, INDIA

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ABSTRACT

Government College Daman campus, is having a very good biodiversity having a different type of flora and fauna. The different types of flowering and fruit plants present in the College campus provide grounds for feeding, breeding and nesting for birds. A study to find out the bird diversity at the Government College Daman Campus was carried out by direct observation between over a period of 7 months from October 2021 to April 2022. Status of birds as well as their habitat and feeding habits were Studied. A total of 32 birds species belonging to 9 orders and 21 families were recorded during the study covering an area of about 27acres (0.109 sq km). Out of the 32 bird species observed, 5 were rare visitor birds namely, Barn owl, Peregrine falcon, Scaly-breasted munia, Red whiskered bulbul, Laughing dove. The very common bird species were White-throated kingfisher, Large-billed crow, Purple sunbird, Male and female Asian koel, Oriental Magpie robin, Jungle babbler, Common myna, spotted dove, rock pigeon, House crow, Black drongo etc. The campus has wide variety of 100 year old Banyan tree, 50 year old Nilgiri trees and others trees, which may be one of the major contributing factors for the richness of bird species. This study is first of a kind attempt to prepare a checklist of birds at the Government College Daman campus and an attempt to recorded different bird species at Government College Daman campus. Nature should be conservation by becoming a World protector.

KEYWORDS : Bird diversity, Government College Daman, College campus, Around college, Daman, 100year old Banyan tree, Kingfisher, Jungle crow, Sunbird, World protector.

INTRODUCTION:-

Birds occupy a wide range of ecological positions (Sekercioglu, C.Hakki 2006). Birds are regarded as the important indicators of environmental health (Collar and Andrew, 1988). Although the study of urban birds has a fairly long history, urban ecosystems have largely been ignored throughout many decades of ecological research (Miller and Hobbs, 2002; Collins et al., 2000). Bird surveys provide useful information for basic and applied ecology, and are useful for identifying priority areas for conservation (Daniels et al., 1991; Peterson et al. 2000).Birds are some of the most prominent species of the Earth's biodiversity and being sensitive to environmental changes they act as key indicators for assessing the status of ecosystem health (Taper et al. 1995; Olechnowski 2009).

Assessing the bird diversity of a habitat over time and space is one of the key issues for avian community ecologists. Richness, abundance and community composition are often used by ecologists to understand the diversity of species in their natural occurrence (Magurran 1998). It play an important role in the ecosystem as a potential pollinator and bio-indicator of the quality of the ecosystems (Bensizerara et al., 2013; Egwumah et. al., 2017).

Birds are also indicating the sensitiveness of environmental contaminants than other vertebrates (Bianchini, & Morrissey, 2020). They are being the most important biotic component of any type of ecosystem and play a crucial role in the maintaining of the ecological balance (Tabur & Ayvaz 2010). Therefore, bird diversity is an indicator of species richness of natural ecosystem (Egwumah et. al., 2017).

The Indian subcontinent has a rich and diverse avifauna as more than 1200 bird's species and 900 subspecies have been described from this region (Ali & Ripley 1983). Ninety percent of the birds in the World had been discovered and described by 1850 (Fisher 1954). Many researchers have already documented the response that avian diversity shows to different vegetation composition structure (MacArthur & MacArthur 1961), and have also demonstrated that avian diversity increases with an enhanced level of vegetation (Wiens 1969). The distribution and occurrence of avifauna correlate well with the vegetations patterns of the area, which is of great significance (Jain et al. 2005). However, in the last few decades, human activities and infrastructure developmental projects are the primary factors liable for reduction of biodiversity and also resulted in reduced carrying capacity of the environment (Gaston et al., 2003).

MATERIALS AND METHODS:-

The Government College Daman campus is located at 20.25°N 72.50°E. The study was done in the Government College Daman campus which is confined within the area of 27acres (0.109 sq km). The College campus is situated near is approximately 1.41km the Daman-ganga river and Arabian Sea is approximately 2.13km, so birds get different ecosystems to fulfil their basic requirements.

The study was carried out a period of 7 months from October 2021 to April 2022. The bird species survey was conducted every day in early morning from 6.30 am to 8.30 am and 5.00 pm to 6.30 pm and on every Sunday from 7.30 am to 6.00 pm. The study used observation methods. Oheligo binocular (20×50) and OPPO A5-2020 mobile camera was used in field work. Identifying a bird is a challenging process. Observations were made to identify the birds such as movement, calling, songs, feathers color, leg color, mandible size, body size, feeding habit and flying style ect. Continuous observations of birds was recorded in college campus.

Fig 1. Government College Daman campus trees

Fig 2. 100 year old Banyan tree

The College campus consists of more than 227 trees (Fig 1) which can also provide wide range of habitats for the birds. Trees density increases in monsoon period. Large numbers of Asopalav trees, Earleaf acacia trees, Rain trees, Pipal tree, Tamarind trees, 50 year old Nilgiri trees and only one 100 year old Banyan (Fig 2) in college campus. The dominant tree species in the campus were Nilgiri.

RESULTS AND DISCUSSION:-

A total of 32 birds species belonging to 9 orders and 21 families were recorded in this study (Table 1). The most frequently found birds are: White-throated kingfisher, Large-billed crow, Purple sunbird, Male and female Asian koel, Oriental Magpie robin, Jungle babbler, Common myna, Spotted dove, Rock pigeon, House crow, Black drongo and Bulbul etc.

The College campus are also recorded 5 were rare visitor birds which were rarely sighted during the study period such as Barn owl, Peregrine falcon, Scaly-breasted munia, Red whiskered bulbul, Laughing dove. Also, there were breeding migratory birds such as Scaly-breasted munia. Red whiskered bulbul, Purple-rumped sunbird and Purple sunbird that were nesting in june and sitting over it were.

Table 1. Checklist of Birds of Government College Daman, Daman

Order	Family	Name of bird	Scientific name	Abundance	Migrant status
Columbiformes	Columbidae	Rock pigeon	Columba livia	Very common	R
		Spotted dove	Spilopelia chinensis	Common	R
		Laughing dove	Spilopelia senegalensis	Rare	V
Coraciiformes	Alcedinidae	White-throated kingfisher	Halcyon smyrnensis	Common	R
		Common kingfisher	Alcedo atthis	Common	V
Cuculiformes	Cuculidae	Greater coucal	Centropus sinensis	Very common	R
		Asian koel	Eudynamys scolopaceus	Very common	R
		Female asian koel	Eudynamys scolopaceus	Very common	R
Falconiformes	Falconidae	Peregrine falcon	Falco peregrines	Rare	V
Galliformes	Phasianidae	Indian peafowl	Pavo cristatus	Very common	R
Passeriformes	Aegithinidae	Common iora	Aegithina tiphia	Common	R
	Cisticolidae	Common tailorbird	Orthotomus sutorius	Very common	R
	Corvidae	House crow	Corvus splendens	Very common	R
		Large-billd crow	Corvus macrorhynchos	Very common	R
	Dicaeidae	Thick-billed flowerpecker	Dicaeum agile	Common	V
	Dicruridae	Black drongo	Dicrurus macrocercus	Very common	R
	Estrildidae	Scaly-breasted munia	Lonchura punctulata	Rare	BM
	Leiothrichidae	Jungle babbler	Turdoides striata	Common	R
	Muscicapidae	Oriental magpie-robin	Copsychus saularis	Very common	R
		Indian robin	Saxicoloides fulicatus	Very common	R
		Taiga flycatcher	Ficedula albicilla	Common	V
	Nectariniidae	Purple sunbird	Cinnyris asiaticus	Very common	R
		Purple-rumped sunbird	Leptocoma zeylonica	Very common	R
	Passeridae	House sparrow	Passer domesticus	Common	R
	Phylloscopidae	Greenish warbler	Phylloscopus trochiloides	Common	V
	Pycnonotidae	Red-vented bulbul	Pycnonotus cafer	Very common	R
		Red-whiskered bulbul	Pycnonotus jocosus	Rare	V
	Sturnidae	Common myna	Acridotheres tristis	Very common	R
		Bank myna	Acridotheres ginginianus	Common	V
pelecaniformes	Ardeidae	Indian opnd heron	Ardeola grayii	Very common	V
Piciformes	Megalaimidae	Coppersmith barbet	Megalaima haemacephala	Common	V
Strigiformes	Tytonidae	Barn owl	Tyto alba	Rare	V

Status:- R-Resident; V-Visitor; BM-Breeding Migrant.

Nature should be conservation by becoming a World protector. should conservator not only one species but all species in the world such as birds, animals, insects, reptiles, trees and plants ect by mission of world protection.

CONCLUSION:-

This study is first of a kind attempt to prepare a checklist of birds at the Government College Daman campus and an attempt to recorded different bird species at Government College Daman campus. Government College Daman campus is the best diversity sites for birds. Awareness should be created among the locals and students for these birds as well as other wildlife. this study helps to notice a positive relationship between healthy ecosystem with recorded

species of birds. In the future, new zoology students will be helping to further study bird diversity. This study may lead to the sketching of well-defined conservation strategy and recommends protection of the trees.

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