IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

Avifaunal Biversity and Abundance in Mahakal Institute of Technology Campus, Ujjain (M.P.) India

Saroj Vikram Ratnakar
Department of Zoology
Government Girls P.G. College Ujjain M.P. India
svkarare@gmail.com

Abstract: *Avian fauna is incredibly important, playing crucial roles in maintaining ecological balance, supporting human activities, and contributing to cultural and aesthetic values. The study was conducted over a period of 12 months from July 2024 to June 2025. The bird species were recorded using point counts and line transects method where ever possible for studying avian diversity. A total of 59 species belonging to 34 families and 12 orders were recorded during the study period. Least concern were recorded 98% and 2% were endangered. A total of 9% species accounted for residential migratory. Diversity and dominance of avian species were seasonally calculated during the course of study which were H=3.468 & D=.9634, H=3.634 & D=.9679 and H=3.5436 & D=.9633 in monsoon, winter and summer respectively. This study provides baseline data for monitoring the avifauna in the institute campus and demonstrates the importance of campus in bird conservation.*

Keywords: Avifauna, diversity, Diversity, Dominance, Monsoon, winter summer

I. INTRODUCTION

Avian fauna in India is incredibly important, playing crucial roles in maintaining ecological balance, supporting human activities, and contributing to cultural and aesthetic values. Birds act as pollinators, seed dispersers, and scavengers, benefiting ecosystems and human activities like agriculture. Their presence also indicates the health of an environment, making them valuable bio-indicators. The diversity of birds play a significant role in determining the health of an ecosystem. Avifauna is one of the most critical ecological indicators to evaluate the quality of habitats. Water birds are considered as indicators of the quality of the wetland ecosystem and form the terminal links in many aquatic food chains, as a result, they reflect changes originating in several different ecosystem components (Lodhi et al., 2017)([1]). The Indian subcontinent is known for its diverse and rich bird species whose taxonomy, distribution, and general habitat characteristics are well-documented (Sethy et al., 2015; Kaleka et al., 2023)[2,3]. Birds play a vital role in keeping balance of nature. Richness, abundance and community composition of birds are often used by ecologists to understand the diversity of species in natural occurrence (Singh *et al.,* 2018)[4.] Due rapid expansion of urban development, it is important to understand the relationship between natural flora and fauna and urban habitats. Urban biodiversity has received very little attention from conservation biologists as compared to natural and protected ecosystems. Many cities in India contain vast biodiversity of flora and fauna but due to rapid urbanization there has been an alarming reduction in biodiversity (Dapke *et al.,* 2015)[5]. The present study is focused on preparing the checklist of birds, also to find out their occurrence, status as well as to create awareness for their conservation. In addition, the study aims at providing the basic information of the avifauna for further studies related to institute biodiversity. Many cities in India contain vast biodiversity of flora and fauna but due to rapid urbanization there has been an alarming reduction in biodiversity (Dapke *et al.,* 2015) 5. The best environmental change monitors are birds. The most popular method for examining the long-term effects of habitat fragmentation has been to look at changes in their population, behavioural habits, and reproductive capacity . Birds exhibit a wide range of distribution patterns, and "frequently opt to live in varied surroundings," according to one study Mukhopadhyay and Mazumdar (2017) [6,7]. The species composition in bird

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

assemblages is influenced by resource availability, topographical differences, environmental conditions, anthropogenic activities, including urbanisation of natural habitats, over vast geographic areas Hossain and Aditya (2014)[8, 7]. Institutional campuses often host a variety of bird species, offering opportunities for bird watching and ecological study. Common species include crows, parakeets, mynas, and barbets, with some campuses even documenting endangered or endemic species. Educational facilities can also play a role in bird conservation through initiatives like campus bird counts.

This campus is large green spot and rural area , where the birds can get cover. Hence the area should be wisely used without disturbing the activity of the birds and instead encouraging more number of species in study area.

Study area:-

Mahakal Institute of Technology (commonly known as MIT, Ujjain) is an institution under the Mahakal Group of Institutes, located near the village of Karchha, behind the air strip at Datana, about 20 km from Ujjain, Madhya Pradesh, India. Established in 2001, the institute offers courses in responsible professionals with a global outlook. Mahakal Institute of Technology (MIT, Ujjain) was inaugurated by the then Hon'ble Chief Minister of Madhya Pradesh, Mr. Digvijay Singh various engineering disciplines, with degrees affiliated to Rajiv Gandhi Proudyogiki Vishwavidyalaya (RGPV), Bhopal.The idea of establishing an institute in Ujjain was conceived by *Prasar Shikshan Evam Seva Sansthan* (PSSS), with the vision of transforming young talent into competent and socially, on 26 July 2001. The institute is a private organization and covers approximately 50 acres of rural landscape.

The MIT Group of Institutes campus is often described as a "lush green environment" and a "blossoming green landscape" free from pollution. The campus is spacious, surrounded by natural beauty, and located away from the noise and disturbances of city life. For the present study, areas within the MIT campus containing dense vegetation and open spaces were carefully selected, keeping in view habitat features and the presence of birds.

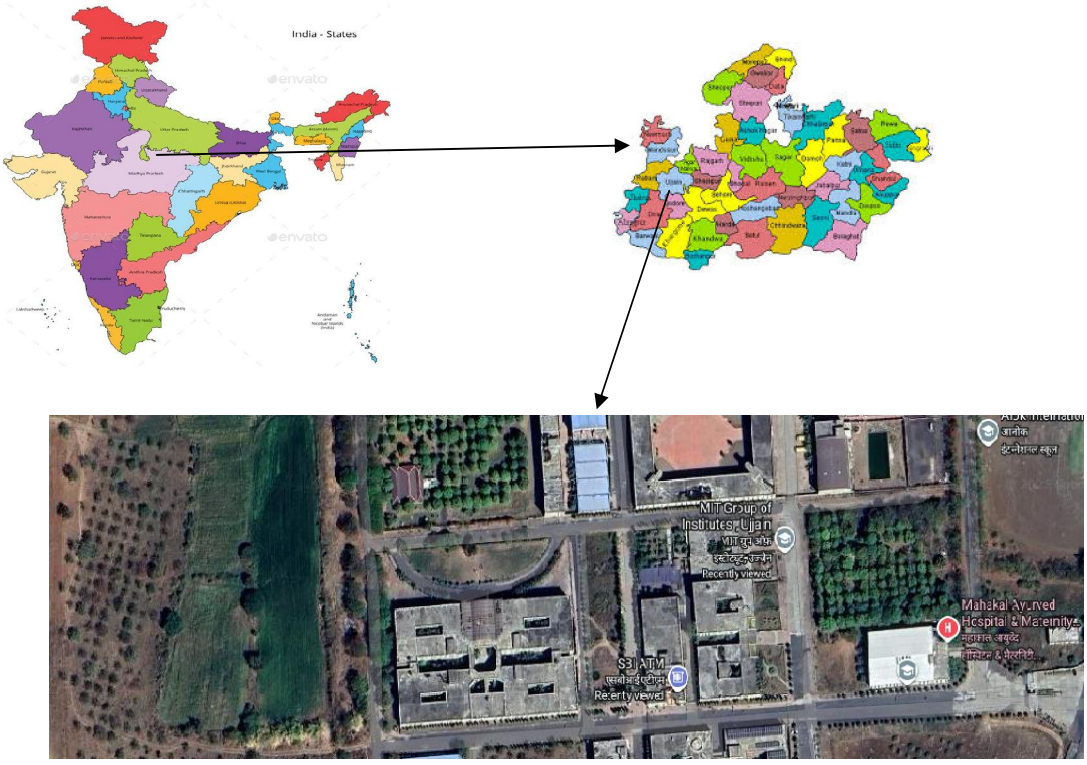

Fig 1: Study area of Mahakal Institute of Technology, Campus

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

II. MATERIAL AND METHODS

Instrument used

§ **Mobile phone**

§ **Camera:** Nikon D-60 (to take the picture of birds)

§ **Binocular:** Nikon 10-60 zoom (to see the far birds)

§ **Text book and Pen**

§ **Field Guide book** (Ali, 2006 and Girmmit *et al.,* 1990)

III. METHODOLOGY

Indentifying birds can be a challenging task, as they are active and energetic creatures. Quick eye spotting and focused observation are essential to capture as many details as possible in a short span of time. The following techniques were employed during bird watching-birds were identified by fixing the gaze directly on them and maintaining continuous observation, their monument patterns, feeding habits, and overall size were carefully noted and also special attention was given to unique sound and calls to aid in species identification.

Observations were confirmed using the Avibase bird count (2013)[9]. Standard literature on Indian Birds by Ali (2002)[10] and Birds of regional museum of natural history were used for correct identification of birds.

The study was conducted from over a period of 12 months from July 2024 to June 2025. Walking around the campus allowed us the direct count approach of recording the bird species. The birds species survey was conducted at early morning between 7:00 and 9:00 AM and in the evening between 4:00 and 6:00 PM, on every Saturday and Sunday.

IV. RESULT AND DISCUSSION

Birds are widely recognized as bio-indicators and are frequently used to assess ecosystem quality (Ridley et al., 1984). During the study period, a total of 59 bird species were recorded from the MIT campus, representing 34 families and 12 orders. The species list along with their scientific names, IUCN conservation status, and migratory status is presented in Table 1**.**

According to IUCN categorization, all recorded species (100%, n = 59) were classified as Least Concern**.** With respect to residential status, 51 species (91%) were resident, while 5 species (9%) were resident migrants**.** A similar study by Pragasan and Madesh (2018)[11] documented 37 species belonging to 23 families in the Bharathiar University campus, Tamil Nadu, India.

Seasonal variation in species richness was evident **(**Table 2**).** The highest number of species (58) was recorded during the winter season**,** followed by 53 species in summer and 42 species in monsoon**.** Similarly, the number of individual birds recorded across seasons **(**Table 3**)** showed that winter had the maximum abundance (765 individuals), followed by summer (524 individuals) and monsoon (394 individuals). Analysis of occurrence patterns revealed that out of 59 species, 39 were common**,** 18 were rarely common**,** and 2 were uncommon**,** observed across all three seasons during the study period.

In this study, species such as the Indian Robin, Laughing Dove, Rock Dove, Black Drongo, Red-vented Bulbul, Purple-rumped Sunbird, Asian Green Bee-eater, Rose-ringed Parakeet, Indian Pond-Heron, Common Babbler, Grey Wagtail, Indian Grey Hornbill, Purple Sunbird, House Sparrow, Cattle Egret, Indian Roller**,** and the national bird, Indian Peafowl**,** were found to be the most common. Nesting activity and the presence of fledglings were also observed within the MIT campus.

Among bird families, Columbidae was the most dominant, represented by 5 species, followed by Sturnidae and Cuculidae with 4 species each. Families such as Muscicapidae, Motacillidae, and Corvidae were represented by 3 species each. Other families, including Hirundinidae, Leiothrichidae, Phasianidae, Nectariniidae, Megalaimidae, Rallidae, Charadriidae, Ardeidae, and Accipitridae**,** were represented by 2 species each. The remaining families Oriolidae, Estrildidae, Passeridae, Cisticolidae, Campephagidae, Dicruridae, Pycnonotidae, Laniidae, Monarchidae, Alcedinidae, Coraciidae, Meropidae, Bucerotidae, Upupidae, Recurvirostridae, Apodidae, Strigidae, and Psittaculidae—were represented by a single species each (Table 4). The family-wise percentage distribution of bird species is illustrated in Figure 2**.**

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 2, August 2025 Impact Factor: 7.67

The Shannon diversity index (H′) was highest during the winter season (H′ = 3.634), followed by summer (H′ = 3.543) and monsoon (H′ = 3.468). Species evenness peaked in winter (0.891), while the lowest value was recorded in monsoon (0.851). The Simpson's index (D) ranged from 0.963 to 0.968 across seasons, indicating high overall species diversity. In contrast, species richness was greater during monsoon and lowest in winter (Table 5).

Comparable observations have been reported from other Indian campuses and forest ecosystems. For instance, Chakdar et al. (2016)[12] documented avifaunal diversity at Assam University, Silchar; Jayson and Mathew (2000)[13] studied moist deciduous forests of Mukkali; and avian diversity of JIwaji campus Gwalior Narvey et al. (2021)[14] also highlighted similar seasonal variations in bird communities. Understanding species diversity, richness, and abundance is critical for implementing effective conservation strategies. As emphasized by Wiens (2001)15, long-term population studies of birds remain an important tool for monitoring ecological changes in both natural and human-modified ecosystems.

To sustain a viable bird population, appropriate conservation measures are essential. Several factors influence changes in bird populations, including the availability of food, nesting sites, and nesting materials, as well as the impact of introduced diseases, invasive plant species, predators, and competitors Ramesh & McGowan, (2009)[16].

S. No.	Common Name	Scientific Name	family	Order	IUCN status	MG. status
1.	Brahminy Starling	*Sturnia pagodarum*	Sturnidae	Passeriformes	LC	R
2.	Bank Myna	*Acridotheres ginginanus*			LC	R
3.	Common Myna	*Acridotheres tristis*			LC	R
4.	Asian Pied Starling	*Gracupica contra*			LC	R
5.	Barn Swallow	*Hirundo rustica*	Hirudinidae		LC	RM
6.	Red-rumped Swallow	*Cecropis daurica*			LC	RM
7.	Indian Robin	*Saxicoloides fulicatus*	Muscicapidae		LC	R
8.	Rufous-backed Redstart	*Phoenicurs erythronotus*			LC	R
9.	Oriental Magpie-robin	*Copsychus saularis*			LC	R
10.	Jungle Babbler	*Turdoides striata*	Leithrichidae		LC	R
11.	Common Babbler	*Argya caudata*			LC	R
12.	Grey Wagtail	*Motacilla cinerea*	Motacillidae		LC	RM
13.	White-browed Wagtail	*Motacilla maderaspatensis*			LC	R
14.	Tree Pipit	*Anthus trivialis*			LC	RM
15.	Rufous Treepie	*Dendrocitta vagabunda*	Corvidae		LC	R
16.	Large-billed Crow	*Corvus macrorhynchos*			LC	R
17.	House Crow	*Corvus splendens*			LC	R
18.	Eurasian Golden Oriole	*Oriolus oriolus*	Oriolidae		LC	R
19.	House Sparrow	*Passer domesticus*	Passeridae		LC	R
20.	Common Tailorbird	*Orthotomus sutorius*	Cisticolidae		LC	R
21.	Indian Cuckoo shrike	*Coracina macei*	Compephagidae		LC	R
22.	Purple Sunbird	*Cinnyris asiaticus*	Nectariniidae		LC	R
23.	Purple rumphed	*Leptocomd zeyonia*			LC	R

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

	sunbird					
24.	Black Drongo	*Dicrurus macrocercus*	Dicruidae		LC	R
25.	Red-vented Bulbul	*Pycnonotus cafer*	Pycnonotidae		LC	R
26.	Bay-backed Shrike	*Lanius vittatus*	Laniidae		LC	R
27.	Indian Paradise-flycatcher	*Terpsiphone paradise*	Monarchidae		LC	R
28.	Tickell flower packer	*Dicaecum erythrorhynchos*	Dicaeidae		LC	R
29.	Indian silver bill	*Euodicemala*	Estrididae		LC	R
30.	Yellow-footed Green-pigeon	*Treron phoenicopterus*	Columbidae	Columbiformes	LC	R
31.	Rock Dove	*Columba livia*			LC	R
32.	Laughing Dove	*Spilopelia senegalensis*			LC	R
33.	Red Turtle-dove	*Streptopelia tranquebarica*			LC	R
34.	Eastern Spotted Dove	*Spilopelia chinensis*			LC	R
35.	Greater Coucal	*Centropus sinensis*	Cuculidae		LC	R
36.	Indian Cuckoo	*Cuculus micropterus*			LC	R
37.	Common Hawk-cuckoo	*Hierococcyx varius*			LC	R
38.	Western Koel	*Eudynamys scolopaceus*			LC	R
39.	White-breasted Kingfisher	*Halcyon smyrnensis*	Alcedinidae			R
40.	Indian Roller	*Coracias benghalensis*	Coraciidae			R
41.	Asian Green Bee-eater	*Meropus orientalis*	Meropidae			R
42.	Indian Peafowl	*Pavo cristatus*	Phasianidae	Galliformes		R
43.	Grey Francolin	*Francolinus pondicerianus*				R
44.	Indian Grey Hornbill	*Ocyceros birostris*	Bucerotidae	Bucerotiformes		RM
45.	Common Hoopoe	*Upupa epops*	Upupidae			R
46.	Brown-headed Barbet	*Psilopogon zeylanicus*	RMegalaimidae	Piciformes		R
47.	Coppersmith Barbet	*Psilopogon haemacephalus*				R
48.	White-breasted Waterhen	*Amaurornis phoenicurus*	Rallidae	Gruiformes		R
49.	Common Moorhen	*Gallinula chloropus*				R
50.	Red-wattled Lapwing	*Vanellus indicus*	Charadriidae	charadriiformes		R

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 2, August 2025 Impact Factor: 7.67

51.	Yellow-wattled lapwing	*Vanellus malabaricus*				R
52.	Black-winged Stilt	*Himantopus himantopus*	Recurvirostridae			R
53.	Cattle Egret	*Bubulcus ibis*	Ardeidae	Palecaniformes		R
54.	Indian Pond-heron	Ardeola grayii				R
55.	Little Swift	*Apus affinis*	Apodidae	Caprimulgiformes		R
56.	Spotted Owlet	*Athene brama*	Strigidae	Strigiformes		R
57.	Rose-ringed Parakeet	*Psittacula krameri*	Psittaculidae	Psittaciformes		R
58.	Shikra	*Accipiter badius*	Accipitridae	Accipitriformes		R
59.	Egyptian vulture	*Neophron percnopterus*				M

Table 1: Systematic list and status of Birds in Mahakal Institute of Technology (MIT)Campus.

S.No.	Species name	Monsoon **Season**	Winter **Season**	Summer Season
1.	Brahminy Starling	✓	✓	✓
2.	Bank Myna	✓	✓	✓
3.	Common Myna	✓	✓	✓
4.	Asian Pied Starling	-	✓	✓
5.	Barn Swallow	✓	-	✓
6.	Red-rumped Swallow	✓	✓	-
7.	Indian Robin	✓	✓	✓
8.	Rufous-backed Redstart	-	✓	-
9.	Oriental Magpie-robin	✓	✓	✓
10.	Jungle Babbler	✓	✓	✓
11.	Common Babbler	✓	✓	✓
12.	Grey Wagtail	✓	✓	✓
13.	White-browed Wagtail	✓	✓	✓
14.	Tree Pipit	✓	✓	✓
15.	Rufous Treepie	✓	✓	✓
16.	Large-billed Crow	✓	✓	✓
17.	House Crow	✓	✓	✓
18.	Eurasian Golden Oriole	-	✓	✓
19.	House Sparrow	✓	✓	✓
20.	Common Tailorbird	-	✓	✓
21.	Indian Cuckoo shrike	✓	✓	✓
22.	Purple Sunbird	✓	✓	✓
23.	Purple rumped sunbird	✓	✓	✓
24.	Black Drongo	✓	✓	✓
25.	Red-vented Bulbul	✓	✓	✓
26.	Bay-backed Shrike	-	✓	✓
27.	Indian Paradise-flycatcher	-	✓	✓

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 2, August 2025 Impact Factor: 7.67

28.	Tickell flower packer	-	✓	✓
29.	Indian silver bill	-	✓	✓
30.	Yellow-footed Green-pigeon	✓	✓	-
31.	Rock Dove	✓	✓	✓
32.	Laughing Dove	✓	✓	✓
33.	Red Turtle-dove	✓	✓	✓
34.	Eastern Spotted Dove	✓	✓	✓
35.	Greater Coucal	✓	✓	✓
36.	Indian Cuckoo	✓	✓	✓
37.	Common Hawk-cuckoo	-	✓	✓
38.	Western Koel	-	✓	-
39.	White-breasted Kingfisher	✓	✓	✓
40.	Indian Roller	✓	✓	✓
41.	Asian Green Bee-eater	✓	✓	✓
42.	Indian Peafowl	✓	✓	✓
43.	Grey Francolin	✓	✓	✓
44.	Indian Grey Hornbill	✓	✓	✓
45.	Common Hoopoe	-	✓	✓
46.	Brown-headed Barbet	✓	✓	-
47.	Coppersmith Barbet	-	✓	✓
48.	White-breasted Waterhen	✓	✓	✓
49.	Common Moorhen	-	✓	✓
50.	Red-wattled Lapwing	✓	✓	✓
51.	Yellow-wattled lapwing	✓	✓	✓
52.	Black-winged Stilt	-	✓	✓
53.	Cattle Egret	✓	✓	✓
54.	Indian Pond-heron	✓	✓	✓
55.	Little Swift	✓	✓	✓
56.	Spotted Owlet	-	✓	✓
57.	Rose-ringed Parakeet	✓	✓	✓
58.	Shikra	-	✓	✓
59.	Egyptian vulture	-	✓	-
		42	58	53

Table 2: Seasonally abundant species of bird recorded in Mahakal Institute of Technology(MIT), Campus

S.No.	Species name	Monsoon	Winter **Season**	Summer Season
1.	Brahminy Starling	22	15	8
2.	Bank Myna	11	17	25
3.	Common Myna	22	40	31
4.	Asian Pied Starling	0	17	21
5.	Barn Swallow	5	0	3
6.	Red-rumped Swallow	4	7	0
7.	Indian Robin	25	35	31

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

8.	Rufous-backed Redstart	0	5	0
9.	Oriental Magpie-robin	9	16	12
10.	Jungle Babbler	11	29	22
11.	Common Babbler	22	40	38
12.	Grey Wagtail	10	15	8
13.	White-browed Wagtail	8	6	3
14.	Tree Pipit	2	4	3
15.	Rufous Treepie	2	5	3
16.	Large-billed Crow	2	3	2
17.	House Crow	16	26	11
18.	Eurasian Golden Oriole	0	2	4
19.	House Sparrow	21	25	19
20.	Common Tailorbird	0	5	3
21.	Indian Cuckoo shrike	2	6	4
22.	Purple Sunbird	8	21	10
23.	Purple rumped sunbird	6	22	6
24.	Black Drongo	19	31	24
25.	Red-vented Bulbul	20	34	31
26.	Bay-backed Shrike	0	3	2
27.	Indian Paradise-flycatcher	0	2	1
28.	Tickell flower packer	0	22	10
29.	Indian silver bill	-	32	11
30.	Yellow-footed Green-pigeon	10	29	0
31.	Rock Dove	9	28	20
32.	Laughing Dove	9	19	12
33.	Red Turtle-dove	5	12	9
34.	Eastern Spotted Dove	2	1	3
35.	Greater Coucal	3	4	2
36.	Indian Cuckoo	1	1	1
37.	Common Hawk-cuckoo	0	2	1
38.	Western Koel	0	2	0
39.	White-breasted Kingfisher	4	2	3
40.	Indian Roller	6	4	7
41.	Asian Green Bee-eater	10	25	21
42.	Indian Peafowl	14	10	8
43.	Grey Francolin	4	9	10
44.	Indian Grey Hornbill	4	6	4
45.	Common Hoopoe	0	1	2
46.	Brown-headed Barbet	2	1	0
47.	Coppersmith Barbet	0	1	2
48.	White-breasted Waterhen	1	2	1
49.	Common Moorhen	0	2	1
50.	Red-wattled Lapwing	16	23	11
51.	Yellow-wattled lapwing	3	7	4
52.	Black-winged Stilt	0	4	1
53.	Cattle Egret	14	8	3

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

54.	Indian Pond-heron	4	5	3
55.	Little Swift	12	31	21
56.	Spotted Owlet	0	1	3
57.	Rose-ringed Parakeet	14	38	23
58.	Shikra	0	2	4
59.	Egyptian vulture	0	1	0
		394	765	524

Table 3: Seasonally recorded number of individual species in Mahakal Institute of Technology(MIT), Campus

S.No.	Family	Recorded Species
1.	Sturnidae	4
2.	Hirudinidae	2
3.	Muscicapidae	03
4.	Leithrichidae	02
5.	Motacillidae	03
6.	Corvidae	03
7.	Oriolidae	01
8.	Passeridae	01
9.	Cisticolidae	01
10.	Compephagidae	01
11.	Nectariniidae	02
12.	Dicruidae	01
13.	Pycnonotidae	01
14.	Laniidae	01
15.	Monarchidae	01
16.	Dicaeidae	01
17.	Estrididae	01
18.	Columbidae	05
19.	Cuculidae	04
20.	Alcedinidae	01
21.	Coraciidae	01
22.	Meropidae	01
23.	Phasianidae	02
24.	Bucerotidae	01
25.	Upupidae	01
26.	Megalaimidae	02
27.	Rallidae	02
28.	Charadriidae	02
29.	Recurvirostridae	01
30.	Ardeidae	02
31.	Apodidae	01
32.	Strigidae	01
33.	Psittaculidae	01
34.	Accipitridae	02

Table 4: Family wise distribution of bird species in Mahakal Institute of Technology (MIT), Campus

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

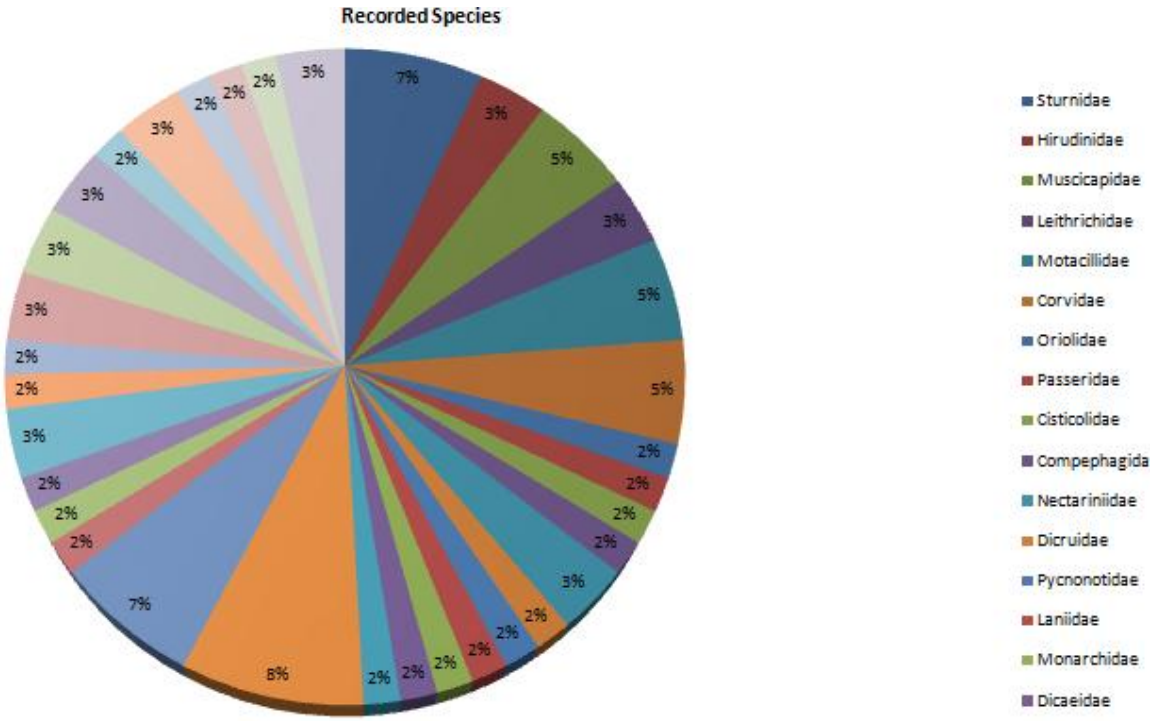

Fig 2: Family wise % distribution of bird species

V. CONCLUSION

The rich diversity of birds in the MIT campus can be attributed to its habitat structure and geographical location. The area appears to serve as a corridor for avian movement, highlighting the need to protect the existing habitat structure, which provides vital food niches for bird species. Generally, urbanization reduces species diversity, with only a few species becoming more abundant while many others decline. However, the MIT campus is not yet highly homogenized and continues to support a rich diversity of birds. This study underscores the ecological importance of open and green spaces within the campus for maintaining ecological balance and conserving avian diversity. It also represents the first attempt to prepare a comprehensive checklist of birds at the MIT campus, documenting a representative sample of its avian diversity.

Species Diversity	Monsoon Season	Winter Season	Sumer Season
Shannon_H	3.468	3.634	3.543
Evenness_e^H/S	0.851	0.891	0.869
Simpson_1-D	0.963	0.968	0.962
Species Richness	9.705	8.7334	9.264

Table 5: Bird species Diversity index in MIT campus

REFERENCES

[1]. RK, Gurjwar RK, Rawat SN, Dutta R, Rao RJ. Studies on present status of aquatic birds in and around Tighra Lodhi Reservoir, Gwalior District of Madhya Pradesh, India. Asian J Sci Technol 2017; 08(09):5431-5434.

[2]. Sethy J, Samal D, Sethi S, Baral B, Jena S, Payra A, Das GN, Boruah B, Sahu HK. Species Diversity and Abundance of Birds in and around North Orissa University, Takatpur, Baripada, Mayurbhanj, Odisha. Int J Innov Res Sci Eng Technol 2015; 4(2):300-308. doi: 10.15680/IJIRSET.2015.0402064.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 2, August 2025
Impact Factor: 7.67

[3]. Kaleka AS, Kumar C, Thind SK. Species richness and diversity of avian fauna at village ponds in district Ludhiana of Punjab, India. Species 2023; 24: e50s1546. doi: 10.54905/disssi/v24i73/e50s1546.

[4]. Singh R, Jaiswal A, Singh J, Singh N, Bhaskar SK. Study of Bird Diversity in Gorakhpur University Campus. J. Biodivers Endanger Species. 2018; 6:02. doi:10.4172/2332-2543.S2-002.

[5]. Dapke S, Didolkar S, Koushik S. Studies on diversity and abundance of avifauna in and around Laxminarayan Institute of Technology, Nagpur. Journal of Entomology and Zoology Studies. 2015; 3(5):141-146.

[6]. Mukhopadhyay S, Mazumdar S. Avifaunal Diversity of Bibhutibhushan Wildlife Sanctuary, West Bengal, India.World Scientific News. 2017; 71: 150-167.

[7]. Mukhopadhyay S, Mazumdar S. Habitat-wise composition and foraging guilds of avian community in a suburban landscape of lower Gangetic plains, West Bengal, India. Biologia. 2019; 74: 1001-1010. https://doi.org/10.2478/s11756-019-00226-x.

[8]. Hossain A, Aditya G. Avian Diversity in Agricultural Landscape: Records from Burdwan, West Bengal, India.Proceedings of Zoological Society. 2014; 69(1): 38-51. https://doi.org/10.1007/s12595-014-0118-3.

[9]. Bensizerara DH, Chenchouni AS, Bachir M. Ecological status interactions for assessing bird diversity in relation to a heterogenous landscape structure. *Avian Biology Research.* 2013: 6(1):67-77.

[10]. Ali S. The Book of Indian Birds. 13th ed. India: Oxford University Press, 2002.

[11]. Pragasan LA, Madesh M. Species diversity and abundance of birds on Bharathiar University Campus, Tamil Nadu, India. Journal of Threatened Taxa. 2018; 10(6):11725-11731.

[12]. Chakdar B, Choudhury P, Singha H. Avifaunal diversity in Assam University Capmus, Silchar. India. Journal of Threatened Taxa. 2016; 8(1):8369-8378.

[13]. Jayson EA, Mathew DN. Diversity and species-abundance distributon of birds in the tropical forests of Silent Valley, Kerala. Journal of the Bombay Natural History Society. 2000; 97(3):390-399.

[14]. Narvey S, Lodhi RK, Gurjwar RK, Samadhiya H, Rao RJ, Avifaunal diversity and abundance in Jiwaji University campus, Gwalior (M.P.) India International Journal of Zoology Studies ISSN: 2455-7269; Volume 6; Issue 1; 2021; Page No. 01-07

[15]. Wiens JJ. Widespread loss of sexually selected traits: how the Peacock lost its spots. Trends in Ecology & Evolution. 2001; 16:517-520

[16]. Ramesh K, McGowan P. On the current status of Indian Peafowl Pavo cristatus (Aves: Galliformes: Phasianidae): keeping the common species common. *Journal of Threatened Taxa.* 2009; 1(2):106-108.

[17]. IUCN (International Union for Conservation of Nature). 2021. https://www.iucnredlist.org/ Accessed on 27 March 2021.