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RESEARCH ARTICLE

A STUDY ON FLORA AND FAUNAL DIVERSITY OF THE KHALISANI MAHAVIDYALAYA CAMPUS IN CHANDANNAGAR, WEST BENGAL, INDIA

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ABSTRACT

Biodiversity refers to the heterogeneity among living organisms in a defined area that coexist to sustain ecosystem function and services, thereby preserving nature's equilibrium, fostering the foundation of sustainable development and human well-being. Studying an area's biodiversity is vital for assessing ecosystems' health, protecting species and securing the eco-friendly stewardship of environmental assets. The present study aims to explore the diversity of flora and fauna at Chandannagar, Khalisani Mahavidyalaya campus, Hooghly district, West Bengal, India, from January 2023 to October 2025. The study involved systematic observation and documentation of various plant and animal species found across different seasons by extensive field study and surveys. A total of 110 plant species is recorded, belonging to 54 families, categorized into flowering, ornamental, fruit, timber, medicinal and other plants. The medicinal plants are identified as a dominant group. The study also revealed a total of 57 species of non-chordates, including annelids, arthropods and molluscs, as well as 50 species of chordates, including amphibians, reptiles, birds and mammals. The birds are recognized as the dominant community among chordates, followed by mammals. The palm civet (IUCN Red List- 'Least Concern' ver. 3.1) inhabits this region, with its population trending downward. Among non-chordates, the phylum Arthropoda exhibited greater species richness, with a total of 53 species contributing 50% of overall faunal diversity. Even amid an urban environment, the college campus serves as an important green space, harboring a large floral diversity that makes it a significant habitat for a wide array of animal species, which play essential roles in maintaining ecological balance.

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INTRODUCTION

Biodiversity refers to the variety and variability of life forms in a particular region and is broadly classified into ecosystems, species and genetic diversity. Assessing biodiversity is of utmost importance for understanding ecological processes, ecosystem resilience and services such as providing food, water and climate regulation. Species also occupy differently in distinct ecosystems and ecological zones and the species composition has significant effect on ecosystem functioning and stability. The relationship between biodiversity and human health has become increasingly important in various global and regional policy development processes [1,2]. The Convention on Biological Diversity and the WHO have also emphasized on it to address human health and well-being [3]. From ancient times, plant-derived compounds have played a significant role in the history of medicine and the creation of pharmacopoeia to combat illnesses [4]. However, due to several reasons, i.e., the loss of habitats, ecosystems and foods, urbanization, pollution, invasive species, overexploitation of resource, climate change, etc., biodiversity is declining at an unprecedented rate [5,6] and deteriorating ecosystem processes that could negatively impact the resilience of ecosystems [7]. Thus, awareness and conservation are essential to the ecosystem's smooth functioning and sustainable development, starting from a smaller scale within the community. Khalisani Mahavidyalaya is an oldest college situated in Chandannagar, in the Hooghly district of the Indian state of West Bengal. This ancient city is located at edge of the Hooghly River, full of lush greenery. The city has been preserving vestiges of its French colonial past for nearly twenty-five decades and is listed as a heritage monument shared between the two countries of France and India [8]. There have been limited studies on biodiversity in this area. Hence, the present study was conducted to investigate the diversity of flora and fauna on the campus of Khalisani Mahavidyalaya in Chandannagar, West Bengal, to understand the campus biodiversity, promote proper planning for the sustainability of the natural environment and creating awareness among the younger generations.

MATERIALS AND METHODS

Study area: The Khalisani Mahavidyalaya (22.8674° N, 88.3440° E) was established in 1970 at Khalisani, Chandannagar, formerly known as Chandernagore and is located at the nexus of rural and urban dynamics, Hooghly district, West Bengal, India. The city is nestled on the western bank of Hooghly River. The Mahavidyalaya has a total campus area of 2.502 acres with a built-up area maintaining a green area of 1.80 acres filled with natural flora. Hooghly experiences a tropical savanna climate (Aw), annual mean temperature ~26.8 °C (range: 16-33 °C; peaks above 38 °C), rainfall >1,500 mm annually; peak during monsoon (Jun-Sep) [9].

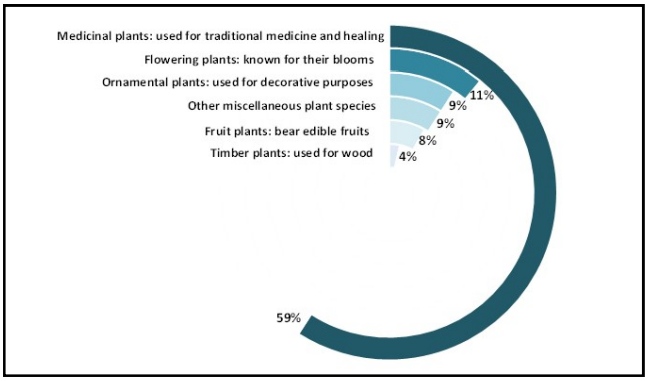

Figure 2. Diagram illustrating the plant diversity found in Khalisani Mahavidyalaya campus during the study period (2023-2025)

Methods: Field surveys consisting of direct observation, random sampling of plants and organisms are conducted to assess and document the diversity of various flora and fauna at species level on the college campus. The intensive field works were conducted periodically on a monthly basis from January 2023 to October 2025. Several other methods, such as interview with nearby communities, bird calls, literatures review and books [10,11,12,13], websites (India Biodiversity Portal, IUCN Red List), etc., are employed for species identification and study.

Verbenaceae (6 species), Apocynaceae, Poaceae, Compositae and Euphorbiaceae (each with 5 species) (Fig 3).

Faunal diversity: The present study resulted enumeration of 107 species of fauna in the college campus under 31 orders belonging to 73 families. Three invertebrate phyla, namely Annelida, Arthropoda, and Mollusca were documented, with Arthropods exhibiting greater species diversity (53 species) followed by Molluscs (3 species) and Annelids (1 species) (Table 4. A, B, C). The diversity of insect fauna (46 species belonging to 9 orders and 26 families, such as ants, honeybees, butterflies, grasshoppers, wasps, dragonflies, beetles, bugs, etc.) is highest among Arthropods (Table 4.B.i), accounting for 43% of the overall diversity of fauna (Fig 5).

During survey period, 3 species of Amphibians, 10 species of Reptiles, 24 species of birds and 13 species of mammals were observed in the vertebrate phylum (Table 4.D, E, F, G). The avifauna revealed significant diversity, comprising 24 genera spanning 9 orders and 18 families, which contributed approximately 22% to the total faunal diversity (Fig 5). The order exhibiting maximum richness among avifauna is Passeriformes (12 species) followed by Coraciiformes (3 species), Columbiformes and Piciformes (2 species of each), Strigiformes, Pelecaniformes, Cuculiformes, Accipitriformes and Psittaciformes (1 species of each) (Table 4.F.). Among the observed species, some are Near Threatened (NT), such as Bengal monitor lizard and Indian flying fox, and Vulnerable (Vu) species, including the Fishing cat.

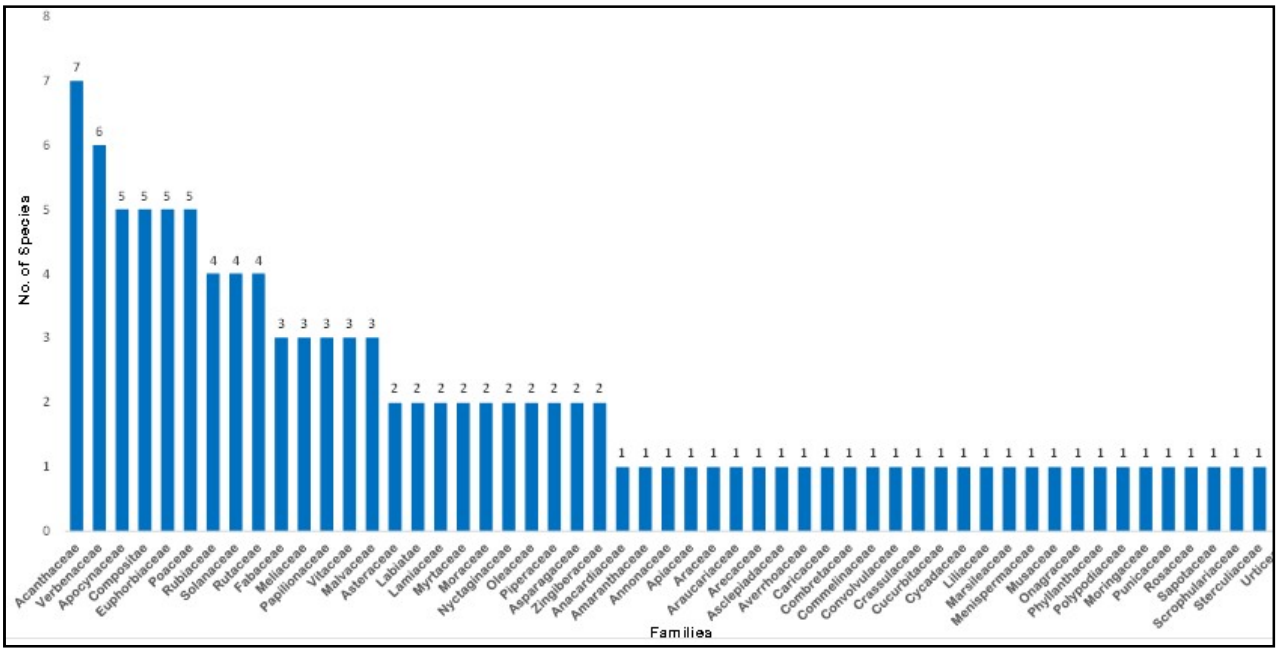

Figure 3. Family-based plant distribution with number of species, Khalisani Mahavidyalaya campus, Chandannagar

RESULTS

The present study revealed a rich diversity of flora and fauna, encompassing 217 species from different genera, conducted on the Khalisani Mahavidyalaya campus in Chandannagar, Hooghly district, West Bengal.

Floral diversity: There are 110 different plant species distributed across 54 families categorized as flowering, ornamental, fruit, timber, medicinal and other types within the college precincts (Table 1 & Fig 2). The medicinal flora is cultivated and nurtured in the college's backyard garden named 'Sanjibani' and used in treating various diseases (Table 1F). The Acanthaceae family shows highest species richness (7 species) among surveyed flora in campus, followed by

DISCUSSION

The college campus is rich in faunal diversity due to its ample greenery, which is occupied by patches of trees, grasslands, gardens, shrublands and a medicinal garden. Urban trees have a significant impact on the potential to reduce urban air pollution and improve air quality [14]. The anthropogenic influences that could severely impact the diverse habitats of the campus and harm its biodiversity are nonexistent. Cyclone Amphan (2020) caused considerable damage to many large trees on the campus. Medicinal plant resources play a vibrant role in creating awareness among students about the concept of Indian traditional medicine, educating them about their use in primary healthcare, and conserving and promoting the proliferation of these plants in surrounding environment. Insects are crucial in

Table 1: An overview of flora recorded in Khalisani Mahavidyalaya campus, Chandannagar (2023-2025). 1.A. Flowering plants., 1.B. Ornamental plants., 1.C. Fruit plants., 1.D. Timber plants., 1.E. Other Herb, Shrub and Fern., 1.F. Medicinal plants

	Family	Scientific name
1.A. List of Flowering plants:		
1.	Apocynaceae	*Nerium olender, Tabernaemontana divaricata*
2.	Rosaceae	*Rosa damascena*
3.	Rubiaceae	*Ixora coccinea, Gardenia jasminoides*
4.	Verbenaceae	*Lantana camara*
5.	Oleaceae	*Nyctanthes arbor-tristis, Jasminum sambac*
6.	Asteraceae	*Tagetes erecta, Chrysanthemum indicum*
7.	Malvaceae	*Hibiscus* sp.
8.	Nyctaginaceae	*Bougainvillea* sp.
1.B. List of Ornamental plants:		
1.	Euphorbiaceae	*Codiaeum variegatum*
2.	Araucariaceae	*Araucaria columnaris*
3.	Verbenaceae	*Duranta erecta*
4.	Asparagaceae	*Dracaena marginata*
5.	Commelinaceae	*Tradescantia spathacea*
6.	Poaceae	*Phalaris arundinacea*
7.	Araceae	*Aglaonema* sp.
8.	Arecaceae	*Chrysalidocarpus lutescens*
9.	Cycadaceae	*Cycas rumphii*
10.	Rutaceae	*Euodia hortensis*
1.C. List of Fruit plants:		
1.	Averrhoaceae	*Averrhoa carambula*
2.	Sapotaceae	*Manilkara zapota*
3.	Anacardiaceae	*Mangifera indica*
4.	Moraceae	*Artocarpus heterophyllus*
5.	Myrtaceae	*Psidium guajava, Syzygium cumini*
6.	Rutaceae	*Citrus limetta*
7.	Musaceae	*Musa X paradisiaca*
8.	Caricaceae	*Carica papaya*
1.D. List of Timber plants:		
1.	Verbenaceae	*Tectona grandis*
2.	Meliaceae	*Dysoxylum procerum, Swietenia mahagoni*
3.	Annonaceae	*Polyalthia longifolia*
1.E. List of another Herb, Shrub and Fern:		
1.	Amaranthaceae	*Alternanthera philoxeroides*
2.	Verbenaceae	*Phyla nodiflora, Stachytarpheta jamaicensis*
3.	Urticeae	*Pilea microphylla*
4.	Rubiaceae	*Oldenlandia corynbosa*
5.	Compositae	*Vernonia cinerea*
6.	Poaceae	*Cynodon dactylon, Stenotaphrum dimidiatum*
7.	Onagraceae	*Ludwigia octovalvis*
8.	Polypodiaceae	*Drynaria quercifolia*
1.F. List of Medicinal plants:		
1.	Scrophulariaceae	*Bacopa monnieri*
2.	Solanaceae	*Withania somnifera, Datura innoxia, Solanum torvum, Solanum nigrum*
3.	Acanthaceae	*Barleria lupulina, Andrographis paniculata, Barleria prionitis, Justicia adhatoda, Phlogacanthus thyrsiformis, Justicia gendarussa, Hygrophila schulli*
4.	Labiatae	*Ocimum kilimandscharicum, Ocimum tenuiflorum*
5.	Rubiaceae	*Paederia foetida*
6.	Punicaceae	*Punica granatum*
7.	Papilionaceae	*Sesbania grandiflora, Cajanus cajan, Desmodium gangeticum*
8.	Compositae	*Synendrella nodiflora, Centipeda minima, Eclipta prostrata, Mikania scandens*
9.	Piperaceae	*Piper longum, Piper betle*
10.	Combretaceae	*Terminalia arjuna*
11.	Euphorbiaceae	*Acalypha indica, Euphorbia hirta, Phyllanthus fraternus, Croton bonplandianus*
12.	Liliaceae	*Aloe barbadensis*
13.	Malvaceae	*Hibiscus tiliaceus, Sida acuta*
14.	Asparagaceae	*Asparagus racemosus*
15.	Meliaceae	*Azadirachta indica*
16.	Nyctaginaceae	*Boerhavia diffusa*
17.	Crassulaceae	*Bryophyllum pinnatum*
18.	Apocynaceae	*Catharanthus roseus, Calotropis gigantea, Rauvolfia tetraphylla*
19.	Vitaceae	*Cayratia pedate, Cayratia trifolia, Cissus quadrangularis*
20.	Lamiaceae	*Clerodendrum indicum, Ocimum gratissimum*
21.	Verbenaceae	*Clerodendrum viscosum*
22.	Fabaceae	*Clitoria ternatea, Crotalaria retusa, Mimosa rubicaulis*
23.	Poaceae	*Cymbopogon citratus, Saccharum officinarum*
24.	Asclepiadaceae	*Hemidesmus indicus*
25.	Rutaceae	*Berjera koenigii, Aegle marmelos*
26.	Moringaceae	*Moringa oleifera*
27.	Moraceae	*Ficus racemosa*
28.	Sterculiaceae	*Pterygota alata*
29.	Apiaceae	*Centella asiatica*
30.	Marsileaceae	*Marsilea minuta*
31.	Cucurbitaceae	*Coccinia grandis*
32.	Convolvulaceae	*Ipomoea aquatica*
33.	Zingiberaceae	*Elettaria cardamomum, Curcuma longa*
34.	Menispermaceae	*Tinospora cordifolia*
35.	Phyllanthaceae	*Phyllanthus emblica*

Table 4: List of fauna found in Khalisani Mahavidyalaya campus, Chandannagar (2023-2025). 4.A. Annelid, 4.B. Arthropods, 4.B.i. Insects, 4.C. Molluscs, 4.D. Amphibians, 4.E. Reptiles, 4.F. Birds, 4.G. Mammals

	Order	Family	Common name	Scientific name
4.A. List of Annelid:				
1.	Opisthopora	Megascolecidae	Earthworm	*Pheretima posthuma*
4.B. List of Arthropods:				
1.	Polydesmida	Paradoxosomatidae	Garden millipede	*Oxidus gracilis*
2.	Polydesmida	Paradoxosomatidae	Long-flange millipede	*Orthomorpha coarctata*
3.	Spirobolida	Trigoniulidae	Rusty millipede	*Trigoniulus corallinus*
4.	Entomobryomorpha	Entomobryidae	Slender springtail	*Lepidocyrtus* sp.
5.	Entomobryomorpha	Isotomidae	Springtail	*Isotoma* sp.
6.	Entomobryomorpha	Paronellidae	Springtail	*Cyphoderus* sp.
7.	Araneae	Salticidae	Gray wall jumper	*Menemerus bivittatus*
4.B.i. List of Insects:				
1.	Hymenoptera	Apidae	Honey bee	*Apis indica*
2.	Hymenoptera	Vespidae	Wasp	*Eumenes* sp.
3.	Hymenoptera	Vespidae	Yellow paper wasp	*Polistes olivaceus*
4.	Hymenoptera	Vespidae	Paper wasp	*Polistes stigma*
5.	Hymenoptera	Vespidae	Lesser banded hornet	*Vespa affinis*
6.	Hymenoptera	Sphecidae	Mud dauber wasp	*Sceliphron caementarium*
7.	Hymenoptera	Halictidae	Sweat bee	*Nomia* sp.
8.	Hymenoptera	Formicidae	Ground-nesting ant	*Camponotus compressus*
9.	Hymenoptera	Formicidae	Saint valentine ant	*Crematogaster* sp.
10.	Hymenoptera	Formicidae	Flower ant	*Monomorium floricola*
11.	Hymenoptera	Formicidae	Fire ant	*Solenopsis geminata*
12.	Hymenoptera	Formicidae	Black garden ant	*Lasius niger*
13.	Lepidoptera	Pieridae	Caper white	*Belenois aurota*
14.	Lepidoptera	Pieridae	Common grass yellow	*Eurema hecabe*
15.	Lepidoptera	Pieridae	Indian cabbage white	*Pieris canidia*
16.	Lepidoptera	Pieridae	Common gull	*Cepora nerissa*
17.	Lepidoptera	Nymphalidae	Blue tiger	*Tirumala limniace*
18.	Lepidoptera	Nymphalidae	Common four-ring	*Ypthima huebneri*
19.	Lepidoptera	Nymphalidae	Common crow	*Euploea core*
20.	Lepidoptera	Nymphalidae	African monarch	*Danaus chrysippus*
21.	Lepidoptera	Nymphalidae	Peacock pansy	*Junonia almana*
22.	Lepidoptera	Lycaenidae	Common lineblue	*Prosotas nora*
23.	Lepidoptera	Lycaenidae	Quaker	*Neopithecops zalmora*
24.	Lepidoptera	Papilionidae	Common mime	*Papilo clytia*
25.	Lepidoptera	Papilionidae	Lime butterfly	*Papilio demoleus*
26.	Diptera	Culicidae	House mosquito	*Culex quinquefasciatus*
27.	Odonata	Libellulidae	Granite ghost	*Bradinopyga geminata*
28.	Odonata	Libellulidae	Green marsh hawk	*Orthetrum sabina*
29.	Odonata	Libellulidae	Ground skimmer	*Diplacodes trivialis*
30.	Odonata	Libellulidae	Globe skimmer	*Pantala flavescens*
31.	Odonata	Libellulidae	Scarlet skimmer	*Crocothemis servilia*
32.	Odonata	Coenagrionidae	Marsh dart	*Ceriagrion cerinorubellum*
33.	Odonata	Aeshnidae	Rusty darner	*Anaciaeschna jaspidea*
34.	Orthoptera	Acrididae	Grasshopper	*Oxya* sp.
35.	Orthoptera	Pyrgomorphidae	Grasshopper	*Atractomorpha* sp.
36.	Orthoptera	Gryllotalpidae	Mole cricket	*Gryllotalpa*
37.	Orthoptera	Tetrigidae	Ground-hoppers	*Euparatettix* sp.
38.	Blattodea	Blattidae	Cockroach	*Periplaneta americana*
39.	Coleoptera	Tenebrionidae	Mupli beetle	*Luprops tristis*
40.	Coleoptera	Coccinellidae	Lady beetle	*Harmonia axyridis*
41.	Hemiptera	Alydidae	Earhead bug	*Leptocorisa acuta*
42.	Hemiptera	Pentatomidae	Cereal bug	*Eysarcoris ventralis*
43.	Hemiptera	Reduviidae	Assassin bug	*Rhynocoris* sp.
44.	Hemiptera	Scutelleridae	Shield-backed bugs	*Chrysocoris purpureus*
45.	Hemiptera	Pyrrhocoridae	Red cotton stainer	*Dysdercus cingulatus*
46.	Zygentoma	Lepismatidae	Silverfish	*Lepisma* sp.
4.C. List of Molluscs:				
1.	Stylommatophora	Achatinidae	Giant African snail	*Achatina fulica*
2.	Stylommatophora	Helicidae	Garden snail	*Cornu aspersum*
3.	Stylommatophora	Oxychilidae	Garlic snail	*Oxychilus alliarius*
4.D. List of Amphibians:				
1.	Anura	Bufonidae	Indian toad	*Duttaphrynus melanostictus*
2.	Anura	Dicroglossidae	Asian bullfrog	*Hoplobatrachus tigerinus*
3.	Anura	Dicroglossidae	Skipper frog	*Euphlyctis cyanophlyctis*

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4.E. List of Reptiles:				
1.	Squamata	Varanidae	Bengal monitor lizard	*Varanus bengalensis*
2.	Squamata	Colubridae	Buff-striped keelback	*Amphiesma stolatum*
3.	Squamata	Colubridae	Chequered keelback	*Fowlea piscator*
4.	Squamata	Colubridae	Indian rat snake	*Ptyas mucosa*
5.	Squamata	Colubridae	Bronzeback tree snake	*Dendrelaphis tristis*
6.	Squamata	Gekkonidae	Common house gecko	*Hemidactylus frenatus*
7.	Squamata	Agamidae	Oriental garden lizard	*Calotes versicolor*
8.	Squamata	Viperidae	Russell's viper	*Daboia russelii*
9.	Squamata	Scincidae	Keeled Indian mabuya	*Eutropis carinata*
10.	Squamata	Elapidae	Common krait	*Bungarus caeruleus*
4.F. List of Birds:				
1.	Passeriformes	Nectariniidae	Purple-rumped sunbird	*Leptocoma zeylonica*
2.	Passeriformes	Pycnonotidae	Red-vented bulbul	*Pycnonotus cafer*
3.	Passeriformes	Sturnidae	Jungle myna	*Acridotheres fuscus*
4.	Passeriformes	Corvidae	House crow	*Corvus splendens*
5.	Passeriformes	Passeridae	House sparrow	*Passer domesticus*
6.	Passeriformes	Sturnidae	Common myna	*Acridotheres tristis*
7.	Passeriformes	Motacillidae	White wagtail	*Motacilla alba*
8.	Passeriformes	Muscicapidae	Oriental magpie robin	*Copsychus saularis*
9.	Passeriformes	Dicaeidae	Tickell's flowerpecker	*Dicaeum erythrorhynchos*
10.	Passeriformes	Aegithinidae	Common iora	*Aegithina tiphia*
11.	Passeriformes	Corvidae	Rufous treepie	*Dendrocitta vagabunda*
12.	Passeriformes	Leiothrichidae	Jungle babbler	*Argya striata*
13.	Strigiformes	Strigida	Spotted owlet	*Athene brama*
14.	Coraciiformes	Alcedinidae	Kingfisher	*Halcyon smyrnensis*
15.	Coraciiformes	Alcedinidae	Stork-billed kingfisher	*Pelargopsis capensis*
16.	Coraciiformes	Alcedinidae	Common kingfisher	*Alcedo atthis*
17.	Pelecaniformes	Ardeidae	Medium egret	*Ardea intermedia*
18.	Piciformes	Picidae	Lesser goldenback	*Dinopium benghalense*
19.	Piciformes	Picidae	Woodpecker	*Dendrocopos macei*
20.	Columbiformes	Columbidae	Rock dove	*Columba livia*
21.	Columbiformes	Columbidae	Eastern spotted dove	*Spilopelia chinensis*
22.	Cuculiformes	Cuculidae	Asian koel	*Eudynamys scolopaceus*
23.	Accipitriformes	Accipitridae	Shikra	*Accipiter badius*
24.	Psittaciformes	Psittacidae	Rose-ringed parakeet	*Psittacula krameri*
4.G. List of Mammals:				
1.	Carnivora	Herpestidae	Indian grey mongoose	*Herpestes edwardsii*
2.	Carnivora	Viverridae	Palm civet	*Paradoxurus hermaphroditus*
3.	Carnivora	Canidae	Bengal fox	*Vulpes bengalensis*
4.	Carnivora	Felidae	Fishing cat	*Prionailurus viverrinus*
5.	Carnivora	Canidae	Dog	*Canis lupus familiaris*
6.	Carnivora	Felidae	Cat	*Felis catus*
7.	Chiroptera	Pteropodidae	Indian flying fox	*Pteropus giganteus*
8.	Rodentia	Sciuridae	Squirrel	*Funambulus pennantii*
9.	Rodentia	Muridae	Rat	*Rattus rattus*
10.	Eulipotyphla	Soricidae	House shrew	*Suncus murinus*
11.	Primates	Cercopithecidae	Langur	*Semnopithecus entellus*
12.	Primates	Cercopithecidae	Rhesus macaque	*Macaca mulatta*
13.	Primates	Hominidae	Human beings	*Homo sapiens sapiens*

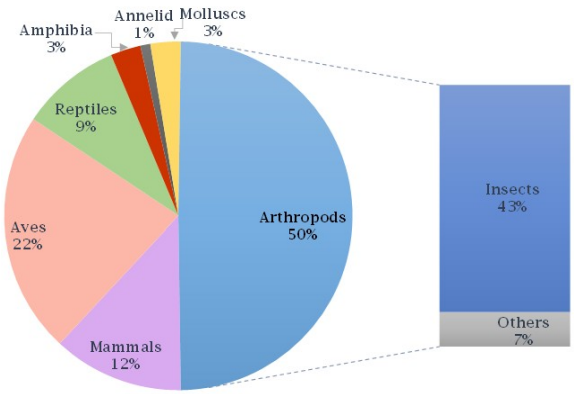

Figure 5. Distribution of faunal diversity at Khalisani Mahavidyalaya campus, Chandannagar

regulating a plethora of ecological processes like seed dispersal, pollination, food webs, trophic interactions, nutrient recycling, etc. [15]. Hence, the rich insect biodiversity observed in campus green spaces indicates a healthy ecosystem. Additionally, it provides a platform for future research in exploring plant-insect interactions in urban landscapes. The present study reported a diverse array of avifauna, which is significant because birds act as bioindicators [16], potentially responding to changes in their surroundings. As members of ecosystems, birds play essential roles, including as predators, pollinators, pest controllers, scavengers, seed dispersers, ecosystem engineers, etc. [17]. The varied natural flora predominating in campus area may provide food sources, nesting and breeding sites for birds. Tews et al. [18] demonstrated that greater plant diversity might lead to increased habitat complexity, thereby offering more niches for animals to coexist.

Furthermore, plant species richness has been linked to reducing stress, improving mental health by affecting various mediators, i.e., environmental factors, outdoor activities and social cohesion [19]. In light of growing globalization, green space planning in educational grounds is crucial for holistic growth because it facilitates biodiversity conservation, provides habitats for animal species and offers students the opportunity to connect with nature, thereby contributing to a more integrated, well-rounded development. If vegetation pattern of the college is preserved and further enriched, to enhance green space quality and prevent habitat fragmentation, it could become a beautiful avifauna conservation site and research.

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Key points

- Studying campus biodiversity is hardly characterized, but it is of utmost importance in understanding ecosystem services. The survey documented 110 plant species representing 54 taxonomic families, with mixed vegetation having the highest species richness within the Acanthaceae family.
- Faunal diversity comprising 107 species (31 orders belonging to 73 families) is recorded, with diverse insect fauna accounting for 43% and the avifauna revealed significant diversity (22%) with maximum richness shown in the order Passeriformes.
- Green space planning in educational institutions facilitates biodiversity conservation, and may act as a tool for holistic growth within our globalized modern landscape.

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