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A Study on the Biodiversity of Devchand College Campus, Arjunnagar, Maharashtra, India

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Abstract

The present study documents the floristic and faunal diversity of the Devchand College campus, Arjunnagar, Tal. Kagal, Dist. Kolhapur, located in the Maharashtra–Karnataka border region of India. Field surveys were conducted over a one-year period from June 2024 to May 2025 across diverse habitats including gardens, open grounds, freshwater ponds, roadsides, and built-up areas, using standard methods such as line transects, point counts, and visual encounter surveys. A total of 148 plant species belonging to 63 families were recorded, with Fabaceae and Arecaceae emerging as the dominant families; habit analysis revealed the predominance of trees (60.81%), followed by herbs (21.62%), shrubs (15.54%), and climbers (2.03%), while 50 species showed notable ethnobotanical importance. Faunal assessment documented 160 animal species representing four major phyla Annelida (5 species), Mollusca (11 species), Arthropoda (66 species), and Chordata (78 species) with arthropods dominating the invertebrate fauna and chordates comprising amphibians, reptiles, birds, and mammals, among which avifauna exhibited the highest species richness. The observed biodiversity reflects habitat heterogeneity, food resource availability, and favorable microclimatic conditions, indicating that the Devchand College campus functions as an important semi-natural biodiversity refuge within a semi-urban landscape and highlighting the role of educational institutions in biodiversity conservation, environmental education, and sustainable ecosystem management; regular biodiversity monitoring and habitat enhancement through native species plantation are therefore recommended to strengthen long-term conservation efforts.

Keywords: Campus biodiversity; Floristic diversity; Faunal diversity; Ethnobotanical plants; Arthropoda; Avifauna; Semi-urban ecosystem; Western India

Introduction

Biodiversity encompasses the variety and variability of life on Earth, including genetic diversity within species, species diversity across taxa, and ecosystem diversity across landscapes. It underpins ecosystem stability, resilience, and productivity, and is strongly influenced by climatic, edaphic, and anthropogenic factors. Biodiversity provides essential ecosystem services such as food production, pollination, nutrient cycling, climate regulation, and medicinal resources, while also supporting cultural, recreational, educational, and scientific values. The interdependence among living organisms means that the loss of even a single species can disrupt trophic interactions and ecological processes, ultimately threatening ecosystem functioning and human well-being. Consequently, biodiversity conservation is critical for maintaining ecological balance and ensuring the long-term sustainability of natural systems.

Studies on plant diversity are fundamental for understanding the floristic composition, structure, and ecological significance of a region (Gogoi and Nath, 2021). Floristic investigations facilitate accurate species identification, documentation of distribution patterns, assessment of habitat preferences, and recognition of ethnobotanical and traditional knowledge associated with plant resources (Devi and Malhotra, 2021).



Plant diversity also plays a key role in ecosystem functioning by regulating primary productivity, soil stability, and microclimatic conditions, and serves as a vital educational resource for studies in ecology, environmental sciences, and plant–pathogen interactions (Dey et al., 2021). Additionally, diverse plant assemblages enhance aesthetic value, recreational potential, and contribute positively to human mental health.

Faunal diversity refers to the composition and distribution of animal species within a given area, encompassing their taxonomic status, habitat utilization, reproductive behavior, and ecological interactions. Systematic documentation of faunal diversity involves the identification and monitoring of species abundance, spatial distribution, and temporal occurrence. Such assessments have gained increasing importance in recent decades due to rapid habitat degradation, urban expansion, climate change, and accelerating rates of species extinction. Baseline data on faunal diversity are therefore essential for evaluating ecosystem health, guiding biodiversity conservation initiatives, and formulating effective wildlife management and protection strategies. Keeping all views in mind the objectives of present study was to examine the distribution and composition of plant species within the Devchand College campus and to assess and document the diversity of animal species present in the Devchand College campus.

Material and methods

Study Area

Devchand College is located about 2 km from Nipani city in the border region of Maharashtra and Karnataka, India. Administratively, it falls under Arjunnagar, Taluka Kagal, District Kolhapur, Maharashtra. The academic buildings are situated in Maharashtra, while the garden area extends into Karnataka. The campus covers approximately 45 acres at an altitude of 601 m above mean sea level, lying between 16.4053880° N latitude and 70.3610260° E longitude. The total campus area is 182,109.00 m², with a built-up area of 11,751.49 m².

The campus supports diverse habitats, including five natural freshwater ponds, two artificial ponds, and a natural stream along the southern boundary. A large Jawaharlal water tank lies to the west. The western side is influenced by small-scale industrial activity, the northern side is bordered by a major road, and the eastern side is surrounded by human settlements. The landscape includes academic buildings, sports grounds, botanical gardens, and open spaces with diverse vegetation such as trees, shrubs, climbers, herbs, grasses, and weeds.

The region experiences a subtropical monsoon climate with high humidity and moderate rainfall. The average annual temperature ranges from 19.8°C to 29.9°C, and the climate is broadly divided into summer, monsoon, and winter seasons.



Data Collection

The present study was conducted within the Devchand College campus, Arjunnagar, Taluka Kagal, District Kolhapur, Maharashtra, India. The soil of the study area is predominantly acidic in nature. Based on physiographic features and habitat characteristics, the campus was divided into four sub-zones through visual assessment and graphical interpretation. Field surveys were carried out over a period of one year, from June 2024 to May 2025.

Owing to habitat heterogeneity across the campus, vegetation surveys were conducted using point count and line transects methods. Observations were made during morning hours (10:00–11:00 a.m.) and evening hours (4:00–6:00 p.m.). Repeated and extensive field visits were undertaken to document plant diversity. All recorded plant species were categorized into herbs, shrubs, trees and climbers, and photographs of each species were taken for reference and documentation.

Plant specimens were collected from various habitats, including grasslands, pond margins, roadsides, and garden areas. Species identification was carried out using standard floras, monographs, online botanical databases, and

through consultation with professional taxonomists. Vernacular names were recorded wherever possible. Final confirmation of species identity was achieved by referring to regional floristic literature such as the *Flora of Maharashtra* and other relevant botanical references.

Faunal diversity was documented through direct visual observations and photography using a Canon EOS 100D camera equipped with a super-zoom lens. Most animals were identified and counted directly in the field with the help of standard field guides. Unidentified fauna were later identified using photographic records and relevant taxonomic literature. The collected faunal data were compiled in tabular form and analyzed separately to assess diversity and distribution patterns.

Table 1. List of Plants in Devchand College campus (Cryptogams and gymnosperms)

Sr. No.	Division	Botanical Name	Family	Type
1	Algae	<i>Nostoc</i> sp.	Nostocaceae	Herb
2	Algae	<i>Spirogyra</i> sp.	Zygnemataceae	Herb
3	Algae	<i>Oedogonium</i> sp.	Oedogoniaceae	Herb
4	Fungi	<i>Agaricus</i> sp.	Agaricaceae	Herb
5	Fungi	<i>Ganoderma applanatum</i>	Ganodermataceae	Herb
6	Bryophytes	<i>Riccia</i> sp.	Ricciaceae	Herb
7	Bryophytes	<i>Anthoceros</i> sp.	Anthocerotaceae	Herb
8	Bryophytes	<i>Marchantia</i> sp.	Marchantiaceae	Herb
9	Bryophytes	<i>Funaria hygrometrica</i>	Funariaceae	Herb
10	Pteridophytes	<i>Adiantum caudatum</i>	Pteridaceae	Herb
11	Pteridophytes	<i>Marsilea quadrifolia</i>	Marsileaceae	Herb
12	Pteridophytes	<i>Pteris vittata</i>	Pteridaceae	Herb
13	Gymnosperms	<i>Cycas revoluta</i>	Cycadaceae	Tree
14	Gymnosperms	<i>Thuja occidentalis</i>	Cupressaceae	Tree
15	Gymnosperms	<i>Zamia furfuracea</i>	Zamiaceae	Shrub
16	Gymnosperms	<i>Araucaria heterophylla</i> (Christmas Tree)	Araucariaceae	Tree

Table 2. List of Plants in Devchand College campus (Angiosperms)

Sr. No.	Common Name	Botanical Name	Family	Type
1.	Khair	<i>Acacia catechu</i>	Mimosaceae	Tree
2.	Shikekai	<i>Acacia concinna</i>	Mimosaceae	Shrub
3.	Chiku	<i>Acrus sapota</i>	Apocynaceae	Tree
4.	Gorakhchinch	<i>Adansonia digitata</i>	Malvaceae	Tree
5.	Adulsa	<i>Adhathoda vasica</i>	Acanthaceae	Shrub
6.	Bel	<i>Aegle marmelos</i>	Rutaceae	Tree
7.	goat weed,	<i>Ageratum conyzoides</i>	Asteraceae	Herb
8.	Shirish	<i>Albizia lebbek</i>	Fabaceae	Tree
9.	Blackboard tree	<i>Alstonia scholaris</i>	Apocynaceae	Tree
10.	Spiny Amarant	<i>Alternanthera spinosa</i>	Amarantaceae	Herb
11.	Dwarf copperleaf	<i>Alternanthera sessilis</i>	Amaranthaceae	Herb
12.	Katemath	<i>Amaranthus spinosus</i>	Amarantaceae	Herb
13.	Rohitaka	<i>Amruta rohitaka</i>	Meliaceae	Tree
14.	Sitaphal	<i>Annona squamosa</i>	Anonaceae	Tree
15.	Supari	<i>Areca catechu</i>	Arecaceae	Tree
16.	Hiravachapha	<i>Artabotrys hexapetalus</i>	Anonaceae	Tree
17.	Fanas	<i>Artocarpus heterophyllus</i>	Moraceae	Tree
18.	Shatavari	<i>Asparagus racemosus</i>	Asparagaceae	Herb
19.	Spiny palm	<i>Attalea amygdalina</i>	Arecaceae	Shrub
20.	Nim	<i>Azadirachta indica</i>	Meliaceae	Tree
21.	Bambu	<i>Bambusa vulgaris</i>	Poaceae	Tree
22.	White orchid tree	<i>Bauhinia acuminata</i>	Caesalpinhiaceae	Tree
23.	Palas	<i>Beutia monosperma</i>	Papilionaceae	Tree
24.	Bixa	<i>Bixa orellana</i>	Bixaceae	Tree
25.	Lettuce-Leaf Blumea	<i>Blumea lacera</i>	Asteraceae	Herb
26.	Punarnava	<i>Boerhavia diffusa</i>	Nyctaginaceae	Herb
27.	Boganvel	<i>Bougainvillea spectabilis</i>	Nyctaginaceae	Climber
28.	Shankasur	<i>Caesalpinia pulcherrima</i>	Fabaceae	Shrub
29.	Bottle brush	<i>Callistemon citrinus</i>	Myrtaceae	Tree

30.	Rui	<i>Calotropis gigantia</i>	Asclepidaceae	Shrub
31.	Fish Tail Palm	<i>Caryota urens</i>	Arecaceae	Tree
32.	Bahava	<i>Cassia fistula</i>	Caesalpiniaceae	Tree
33.	Blackbean	<i>Castanospermum austral</i>	Fabaceae	Herb
34.	Ulser	<i>Celosia argentea</i>	Verbenaceae	Herb
35.	Swollen finger grass	<i>Chloris barbata</i>	Poaceae	Herb
36.	Tamal Patri	<i>Cinnamomum tamala</i>	Lauraceae	Tree
37.	Coconut	<i>Cocos nucifera</i>	Palmae	Tree
38.	Bengal dayflower	<i>Commelina benghalensis</i>	Commelinaceae	Herb
39.	Guggul	<i>Commiphora wightii</i>	Burseraceae	Shrub
40.	Talipot Palm	<i>Corypha umbraculifera</i>	Arecaceae	Shrub
41.	Harati	<i>Cynadon dactylon</i>	Poaceae	Herb
42.	Shisav	<i>Dalbergia sisso</i>	Fabaceae	Tree
43.	Gulmohar	<i>Delonix regia</i>	Caesalpiniaceae	Tree
44.	Velvet apple	<i>Diospyrs discolor</i>	Ebenaceae	Tree
45.	Kadu mehendi	<i>Duranta repens</i>	Verbenaceae	Shrub
46.	Triangle Palm	<i>Dypsis decaryi</i>	Arecaceae	Shrub
47.	Bhringraj	<i>Eclipta alba</i>	Asteraceae	Herb
48.	Oil Palm	<i>Elaeis guineensis</i>	Arecaceae	Tree
49.	Amala	<i>Emblica officinalis</i>	Euphorbiaceae	Tree
50.	Lilac Tassel flower	<i>Emilia sanchifolia</i>	Asteraceae	Herb
51.	Eucalyptus	<i>Eucalyptus globules</i>	Myrtaceae	Tree
52.	Jambhul	<i>Eugenia jambolana</i>	Myrtaceae	Tree
53.	Vad	<i>Ficus benghalensis</i>	Moraceae	Tree
54.	Weeping fig	<i>Ficus benjamina</i>	Moraceae	Tree
55.	Umbar	<i>Ficus glomeruta</i>	Moraceae	Tree
56.	Pimpal	<i>Ficus religiosa</i>	Moraceae	Tree
57.	Whitefig	<i>Ficus virens</i>	Moraceae	Tree
58.	Indian plum	<i>Flacaurtia indica</i>	Salicaceae	Tree
59.	Kokam	<i>Garcinia indica</i>	Salicaceae	Tree
60.	Rat poison tree	<i>Gliricidia sepium</i>	Fabaceae	Tree
61.	White teak	<i>Gmelina arborea</i>	Fabaceae	Tree
62.	Silver Oak	<i>Greville rarobusta</i>	Proteaceae	Tree
63.	Waras	<i>Heterophagma quadricularis</i>	Bignoniaceae	Tree
64.	Jasvand	<i>Hibiscus Rosa sinensis</i>	Malvaceae	Shurb
65.	Black Varnish Tree	<i>Holigarna arnottiana</i>	Anacardiaceae	Tree
66.	Indian elm	<i>Holoptelea integrifolia</i>	Ulmaceae	Tree
67.	Bottle palm	<i>Hyophorbe lagenicaulis</i>	Arecaceae	Tree
68.	Ixora	<i>Ixora sp.</i>	Rubiaceae	Shrub
69.	Nilmohar	<i>Jacaranda mimosifolia</i>	Bignoniaceae	Tree
70.	MugliArand	<i>Jatropha curcus</i>	Sapindaceae	Shurb
71.	Jui	<i>Jasminum molle</i>	Euphorbiaceae	Climber
72.	Jarul	<i>Lagerstromia indica</i>	Oleaceae	Tree
73.	Mahandi	<i>Lawsonia inermis</i>	Lytharaceae	Shurb
74.	Rivertamarind	<i>Leucaena leucocephala</i>	Lythraceae	Tree
75.	surangi	<i>Mamia longifolia</i>	Caesalpiniaceae	Tree
76.	Mango	<i>Mangifera indica</i>	Anacardiaceae	Tree
77.	Anjan	<i>Memecylon umbellatum</i>	Melastomataceae	Tree
78.	Nagkeshar	<i>Mesua ferrei</i>	Calophyllaceae	Tree
79.	chafa	<i>Michelia champaca</i>	Magnoliaceae	Tree
80.	Akashnim	<i>Millingtonia hortensis</i>	Bignoniaceae	Tree
81.	Bakul	<i>Mimosops elengi</i>	Sapotaceae	Tree
82.	Noni	<i>Morinda citrifolia</i>	Rubiaceae	Shurb
83.	Cheri	<i>Muntingia calabura</i>	Muntingiaceae	Tree
84.	Nutmeg tree	<i>Myristica fragrans</i>	Myristicaceae	Tree
85.	Kadamb	<i>Neolamarckia cadamba</i>	Rubiaceae	Tree
86.	kaner	<i>Nerium indicum</i>	Apocynaceae	Shrub
87.	Narakya	<i>Nothapodytes nimmoniana</i>	Icacinaceae	Shurb
88.	Nulina palm	<i>Nulina recurvata</i>	Palmae	Shurb

89.	Parijatak	<i>Nyctanthes arbortristis</i>	oleaceae	Tree
90.	Tulas	<i>Ocimum Sanctum</i>	Lamiaceae	Herb
91.	Wood sorrel	<i>Oxalis corniculata</i>	Oxalidaceae	Herb
92.	Chenduphal	<i>Parkia biglandulosa</i>	Mimosaceae	Tree
93.	Congress grass	<i>Parthenium hysterophorus</i>	Asteraceae	Herb
94.	Copper pod tree	<i>Peltophorum petrocarpum</i>	Fabaceae	Tree
95.	Pygmy date Palm	<i>Phonix robdini</i>	Arecaceae	Tree
96.	Willatichinch	<i>Pithoceloombium dulce</i>	Fabaceae	Tree
97.	Ashok	<i>Polyalthia longifolia</i>	Annonaceae	Tree
98.	Karanj	<i>Pongomia piñata</i>	Fabaceae	Tree
99.	pursley	<i>Portulaca oleracea</i>	<i>Portulacaceae</i>	Herb
100.	Shami	<i>Prosopis spicigera</i>	Fabaceae	Tree
101.	Guava	<i>Psidium guajava</i>	Myrtaceae	Tree
102.	Raktchandan	<i>Pterocarpus santalinus</i>	Fabaceae	Tree
103.	Kanak Champa	<i>Pterospermum acerifolium</i>	Sterculiaceae	Tree
104.	Buddha Coconut	<i>Pterygota alata</i>	Sterculiaceae	Tree
105.	Dalimb	<i>Punica granatum</i>	Lytharaceae	Tree
106.	Indian snake root	<i>Rauwolfia serpentine</i>	Apocynaceae	Shrub
107.	Palmetto	<i>Sabal palmetto</i>	Arecaceae	Tree
108.	Dwarf Umbrella Tree	<i>Sahefflora arboricola</i>	Areliaceae	Shrub
109.	Saptrangi	<i>Salacia reticulate</i>	Celastraceae	Tree
110.	Chandan	<i>Santalum album</i>	Santalaceae	Tree
111.	Reetha	<i>Sapindus emarginatus</i>	Sapindaceae	Tree
112.	Sita ashok	<i>Saraca asoca</i>	Fabaceae	Tree
113.	Paradise Tree	<i>Sementora glauca</i>	Simaroubaceae	Tree
114.	Hadga	<i>Sesbania grandiflora</i>	Fabaceae	Tree
115.	Arrow leaf Sida	<i>Sida rhombifolia,</i>	Malvaceae	Herb
116.	Pichkari	<i>Spathodea companulata</i>	Bignoniaceae	Tree
117.	Mohogani	<i>Switenia mohogani</i>	Fabaceae	Tree
118.	Lodra	<i>Symplocos racemosa</i>	Symplocaceae	Tree
119.	Chinch	<i>Tamarandus indicus</i>	Mimosaceae	Tree
120.	Yellow trumpet bush	<i>Tecoma stans</i>	Bignoniaceae	Shrub
121.	Teak	<i>Tectona grandis</i>	Lamiaceae	Tree
122.	Arjun	<i>Terminalia arjuna</i>	Combretaceae	Tree
123.	Behada	<i>Terminalia belerica</i>	Combretaceae	Tree
124.	Badam	<i>Terminalia catappa</i>	Combretaceae	Tree
125.	Gulvel	<i>Tinospora cordifolia</i>	Menispermaceae	Climber
126.	Desert Horse Purslane	<i>Trianthema portulacastrum</i>	Aizoaceae	Herb
127.	Tikyacha pala	<i>Tridax procumbens</i>	Asteraceae	Herb
128.	Nirgudi	<i>Vitex negundo</i>	Lamiaceae	Tree
129.	Fan palm	<i>Washingtonia filifera</i>	Arecaceae	Tree
130.	Dhayati	<i>Woodfordia floribunda</i>	Lythraceae	Shrub
131.	Kate-Kumbhal	<i>Xantholis tomentosa</i>	Sapotaceae	Tree
132.	Chinese date	<i>Ziziphus jujube</i>	Rhamnaceae	Tree

Checklist of the Faunal Diversity observed on Devchand college campus

Table 3. Checklist of Phylum Annelida

Sr. No.	Common Name	Class	Family	Zoological Name
1.	Earthworm	Clitellata	Megascolecidae	<i>Eudrilus eugeniae</i>
2.	Leech	Hirudinea	Hirudinidae	<i>Hirudo medicinalis</i>
3.	Earthworm	Clitellata	Lumbricidae	<i>Lumbricus terrestris</i>
4.	Red earthworm	Clitellata	Megascolecidae	<i>Perionyx excavatus</i>
5.	Earthworm	Clitellata	Megascolecidae	<i>Pheretima posthuma</i>

Table 4. Checklist of Phylum Mollusca (Class: Gastropoda)

Sr. No.	Common Name	Family	Zoological Name
1.	Garden snail	Ariophantidae	<i>Ariophanta</i> sp.
2.	Apple snail / Pond snail	Viviparidae	<i>Bellamya</i> sp.
3.	Snail	Helicidae	<i>Helix pomatia</i>
4.	Pond snail	Planorbidae	<i>Indoplanorbis exustus</i>
5.	Slug	Veronicellidae	<i>Laevicaulis alte</i>
6.	Tropical leatherleaf slug	Veronicellidae	<i>Laevicaulis haroldi</i>
7.	Freshwater snail	Lymnaeidae	<i>Lymnaea acuminata</i>
8.	Land snail	Ariophantidae	<i>Macrochlamys indica</i>
9.	Leatherback slug	Veronicellidae	<i>Semperula</i> spp.
10.	Quilted melania / Freshwater snail	Thiaridae	<i>Tarebia granifera</i>
11.	Freshwater snail	Thiaridae	<i>Tarebia</i> spp.

**Fig. 1:** Plant diversity observed on the Devchand College Campus

Table 5A: Checklist of Phylum Arthropoda (Class: Arachnida)

Sr. No.	Common Name	Family	Zoological Name
1.	Comb-footed spider	Theridiidae	<i>Achaearanea</i> sp.
2.	Crab spider (ant-mimic)	Thomisidae	<i>Amyciaea forticeps</i>
3.	Orb-weaver spider	Araneidae	<i>Araneus mitificus</i>
4.	Signature spider	Araneidae	<i>Argiope anasuja</i>
5.	Garden cross spider	Araneidae	<i>Argiope pulchella</i>
6.	Giant daddy long-legs spider	Pholcidae	<i>Artema atlanta</i>
7.	Yellow sac spider	Cheiracanthiidae	<i>Cheiracanthium</i> sp.
8.	Sac spider	Clubionidae	<i>Clubiona</i> sp.
9.	Tailed cellar spider	Pholcidae	<i>Crossopriza lyoni</i>
10.	Trash-line orb-weaver	Araneidae	<i>Cyclosa</i> sp.
11.	Tent web spider	Araneidae	<i>Cyrtophora citricola</i>
12.	Orb-weaver spider	Araneidae	<i>Eriovixia excelsa</i>
13.	Wolf spider	Lycosidae	<i>Evippa</i> sp.
14.	Ground spider	Gnaphosidae	<i>Gnaphosa</i> sp.
15.	Orb-weaver spider	Tetragnathidae	<i>Guizygiella shivui</i>
16.	Jumping spider	Salticidae	<i>Harmochirus brachiatus</i>
17.	Adanson's jumping spider	Salticidae	<i>Hasarius adansoni</i>
18.	Huntsman spider	Sparassidae	<i>Heteropoda</i> sp.
19.	Funnel-web wolf spider	Lycosidae	<i>Hippasa</i> sp.
20.	Grass orb-weaver	Araneidae	<i>Larinia</i> sp.
21.	Cellar spider	Pholcidae	<i>Leptopholcus</i> sp.
22.	Orchard orb-weaver	Tetragnathidae	<i>Leucauge decorata</i>
23.	Sheet-web spider	Linyphiidae	<i>Linyphia</i> sp.
24.	Wolf spider	Lycosidae	<i>Lycosa</i> sp.
25.	Ground spider	Zodariidae	<i>Mallinella</i> sp.
26.	One-line spider	Uloboridae	<i>Miagrammopes</i> sp.
27.	Ant-mimicking jumping spider	Salticidae	<i>Myrmarachne</i> sp.
28.	Red house spider	Theridiidae	<i>Nesticodes rufipes</i>
29.	Huntsman spider	Sparassidae	<i>Olios</i> sp.
30.	Striped lynx spider	Oxyopidae	<i>Oxyopes javanus</i>
31.	Jumping spider	Salticidae	<i>Phintella</i> sp.
32.	Pantropical jumping spider	Salticidae	<i>Plexippus paykulli</i>
33.	Crevice weaver spider	Filistatidae	<i>Pritha nana</i>
34.	False widow spider	Theridiidae	<i>Steatoda</i> sp.
35.	Social velvet spider	Eresidae	<i>Stegodyphus sarasinorum</i>
36.	Jumping spider	Salticidae	<i>Stenaelurillus</i> sp.
37.	Long-jawed orb-weaver	Tetragnathidae	<i>Tetragnatha mandibulata</i>
38.	Flower crab spider	Thomisidae	<i>Thomisus</i> sp.

Table 5B: Checklist of Phylum Arthropoda (Class : Insecta)

Sr. No.	Common Name	Family	Zoological Name
1.	Asian tiger mosquito	Culicidae	<i>Aedes albopictus</i>
2.	Honey bee	Apidae	<i>Apis cerana indica</i>
3.	Stick insect	Phasmatidae	<i>Carausius morosus</i>
4.	Common emigrant	Pieridae	<i>Catopsilia pomona</i>
5.	Gram blue	Lycaenidae	<i>Chilades pandava</i>
6.	Ladybird beetle	Coccinellidae	<i>Coccinella septempunctata</i>
7.	Termite	Rhinotermitidae	<i>Coptotermes formosanus</i>
8.	Plain tiger	Nymphalidae	<i>Danaus chrysippus</i>
9.	Common tiger	Nymphalidae	<i>Danaus genutia</i>
10.	Common jezebel	Pieridae	<i>Delias eucharis</i>
11.	Banana skipper	Hesperiidae	<i>Erionota thrax</i>
12.	Common crow	Nymphalidae	<i>Euploea core</i>

13.	Common grass yellow	Pieridae	<i>Eurema hecabe</i>
14.	Black soldier fly	Stratiomyidae	<i>Hermetia illucens</i>
15.	Damselfly	Coenagrionidae	<i>Ischnura senegalensis</i>
16.	Peacock pansy	Nymphalidae	<i>Junonia almana</i>
17.	Lemon pansy	Nymphalidae	<i>Junonia lemonias</i>
18.	Blue pansy	Nymphalidae	<i>Junonia orithya</i>
19.	Pea blue	Lycaenidae	<i>Lampides boeticus</i>
20.	Praying mantis	Mantidae	<i>Mantis religiosa</i>
21.	Housefly	Muscidae	<i>Musca domestica</i>
22.	Rhinoceros beetle	Scarabaeidae	<i>Oryctes rhinoceros</i>
23.	Grasshopper	Acrididae	<i>Oxya hyla hyla</i>
24.	Common rose	Papilionidae	<i>Pachliopta aristolochiae</i>
25.	Dragonfly	Libellulidae	<i>Pantala flavescens</i>
26.	Lime butterfly	Papilionidae	<i>Papilio demoleus</i>
27.	Common mormon	Papilionidae	<i>Papilio polytes</i>
28.	Cockroach	Blattidae	<i>Periplaneta americana</i>

Table 6A: Checklist of Phylum Chordata (Class: Amphibia)

Sr. No.	Common Name	Family	Zoological Name
1	Common Indian toad	Bufonidae	<i>Duttaphrynus melanostictus</i>
2	Common Indian frog	Dicroglossidae	<i>Euphlyctis cyanophlyctis</i>
3	Indian bullfrog	Dicroglossidae	<i>Hoplobatrachus tigerinus</i>

Table 6B: Checklist of Phylum Chordata (Class: Reptilia)

Sr. No.	Common Name	Family	Zoological Name
1	Common krait	Elapidae	<i>Bungarus caeruleus</i>
2	Garden lizard	Agamidae	<i>Calotes versicolor</i>
3	Indian chameleon	Chamaeleonidae	<i>Chamaeleo zeylanicus</i>
4	Garden skink	Scincidae	<i>Eutropis carinata</i>
5	Wall gecko	Gekkonidae	<i>Hemidactylus flaviviridis</i>
6	House gecko	Gekkonidae	<i>Hemidactylus frenatus</i>
7	Indian cobra	Elapidae	<i>Naja naja</i>
8	Indian rat snake	Colubridae	<i>Ptyas mucosa</i>

Table 6C: Checklist of Phylum Chordata (Class: Aves)

Sr. No.	Common Name	Family	Zoological Name
1	Common myna	Sturnidae	<i>Acridotheres tristis</i>
2	Common kingfisher	Alcedinidae	<i>Alcedo atthis</i>
3	Brown crane	Rallidae	<i>Amuornis akool</i>
4	White-breasted waterhen	Rallidae	<i>Amuornis phoenicurus</i>
5	Spot-billed duck	Anatidae	<i>Anas poecilorhyncha</i>
6	Paddyfield pipit	Motacillidae	<i>Anthus rufulus</i>
7	House swift	Apodidae	<i>Apus affinis</i>
8	Indian pond heron	Ardeidae	<i>Ardeola grayii</i>
9	Spotted owl	Strigidae	<i>Athene brama</i>
10	Cattle egret	Ardeidae	<i>Bubulcus ibis</i>
11	Greater coucal	Cuculidae	<i>Centropus sinensis</i>
12	Pied kingfisher	Alcedinidae	<i>Ceryle rudis</i>
13	Blue rock pigeon	Columbidae	<i>Columba livia</i>
14	Oriental magpie robin	Muscicapidae	<i>Copsychus saularis</i>
15	Jungle crow	Corvidae	<i>Corvus macrorhynchos</i>
16	House crow	Corvidae	<i>Corvus splendens</i>
17	Black drongo	Dicruridae	<i>Dicrurus macrocercus</i>
18	Black-shouldered kite	Accipitridae	<i>Elanus caeruleus</i>

19	Ashy-crowned sparrow-lark	Alaudidae	<i>Eremopterix grisea</i>
20	Asian koel	Cuculidae	<i>Eudynamys scolopaceus</i>
21	Malabar crested lark	Alaudidae	<i>Galerida malabarica</i>
22	White-breasted kingfisher	Alcedinidae	<i>Halcyon smyrnensis</i>
23	Brahminy kite	Accipitridae	<i>Haliastur indus</i>
24	Red-rumped swallow	Hirundinidae	<i>Hirundo daurica</i>
25	Common swallow	Hirundinidae	<i>Hirundo rustica</i>
26	Wire-tailed swallow	Hirundinidae	<i>Hirundo smithii</i>
27	Long-tailed shrike	Laniidae	<i>Lanius schach</i>
28	Bay-backed shrike	Laniidae	<i>Lanius vittatus</i>
29	Purple-rumped sunbird	Nectariniidae	<i>Leptocoma zeylonica</i>
30	Spotted munia	Estrildidae	<i>Lonchura punctulata</i>
31	Small bee-eater	Meropidae	<i>Merops orientalis</i>
32	Little cormorant	Phalacrocoracidae	<i>Microcarbo niger</i>
33	Black kite	Accipitridae	<i>Milvus migrans</i>
34	White wagtail	Motacillidae	<i>Motacilla alba</i>
35	Large pied wagtail	Motacillidae	<i>Motacilla maderaspatensis</i>
36	Indian grey hornbill	Bucerotidae	<i>Ocyrocus birostris</i>
37	Great tit	Paridae	<i>Parus major</i>
38	House sparrow	Passeridae	<i>Passer domesticus</i>
39	Indian peafowl	Phasianidae	<i>Pavo cristatus</i>
40	Jungle bush quail	Phasianidae	<i>Perdica asiatica</i>
41	Small minivet	Campephagidae	<i>Pericrocotus cinnamomeus</i>
42	Glossy ibis	Threskiornithidae	<i>Plegadis falcinellus</i>
43	Baya weaver	Ploceidae	<i>Ploceus philippinus</i>
44	Coppersmith barbet	Megalaimidae	<i>Psilopogon haemacephalus</i>
45	Rose-ringed parakeet	Psittaculidae	<i>Psittacula krameri</i>
46	Red-vented bulbul	Pycnonotidae	<i>Pycnonotus cafer</i>
47	Red-whiskered bulbul	Pycnonotidae	<i>Pycnonotus jocosus</i>
48	Indian robin	Muscicapidae	<i>Saxicoloides fulicata</i>
49	Laughing dove	Columbidae	<i>Spilopelia senegalensis</i>
50	Brahminy starling	Sturnidae	<i>Sturnia pagodarum</i>
51	Large grey babbler	Leiothrichidae	<i>Turdoides malcolmi</i>
52	Common hoopoe	Upupidae	<i>Upupa epops</i>
53	Red-wattled lapwing	Charadriidae	<i>Vanellus indicus</i>
54	Yellow-wattled lapwing	Charadriidae	<i>Vanellus malabaricus</i>
55	Oriental white-eye	Zosteropidae	<i>Zosterops palpebrosus</i>

Table 6D: Checklist of Phylum Chordata (Class: Mammalia)

Sr. No.	Common Name	Family	Zoological Name
1	Bandicoot rat	Muridae	<i>Bandicota bengalensis</i>
2	Free-ranging dog	Canidae	<i>Canis familiaris</i>
3	Free-ranging cat	Felidae	<i>Felis catus</i>
4	Three-striped palm squirrel	Sciuridae	<i>Funambulus palmarum</i>
5	Human	Hominidae	<i>Homo sapiens</i>
6	Indian hare	Leporidae	<i>Lepus nigricollis</i>
7	Rhesus macaque	Cercopithecidae	<i>Macaca mulatta</i>
8	House mouse	Muridae	<i>Mus musculus</i>
9	Indian palm civet	Viverridae	<i>Paradoxurus hermaphroditus</i>
10	Indian pipistrelle bat	Vespertilionidae	<i>Pipistrellus tenuis</i>
11	Fruit bat (Flying fox)	Pteropodidae	<i>Pteropus giganteus</i>
12	Asian house shrew	Soricidae	<i>Suncus murinus</i>

Result and Discussions

The present study documented 148 plant species belonging to 63 families within the Devchand College campus. Fabaceae and Arecaceae were the most dominant families (12 species each), followed by Moraceae (7), Asteraceae (6), Bignoniaceae and Caesalpiniaceae (5 each). Several other families were represented by three to four species.



Fig. 2. Fauna observed on Devchand College Campus

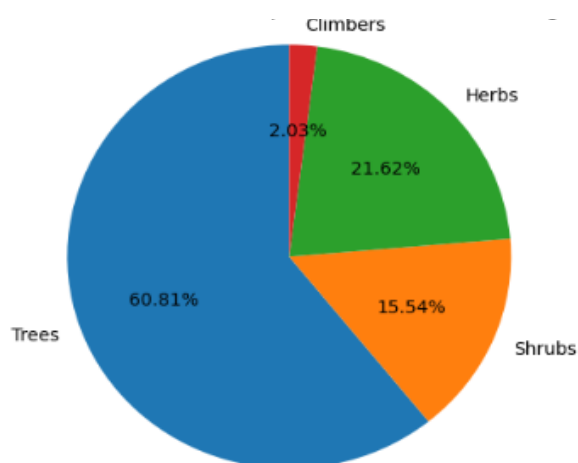


Fig. 3. Type-wise Distribution of Plant Species on Devchand College Campus

Type-wise analysis revealed a clear dominance of trees (90 species; 60.81%), followed by shrubs (23; 15.54%), herbs (32; 21.62%), and climbers (3; 2.03%), indicating a tree-dominated campus landscape. Notably, 50 plant species exhibited ethnobotanical importance, reflecting the medicinal and traditional value of the campus flora.

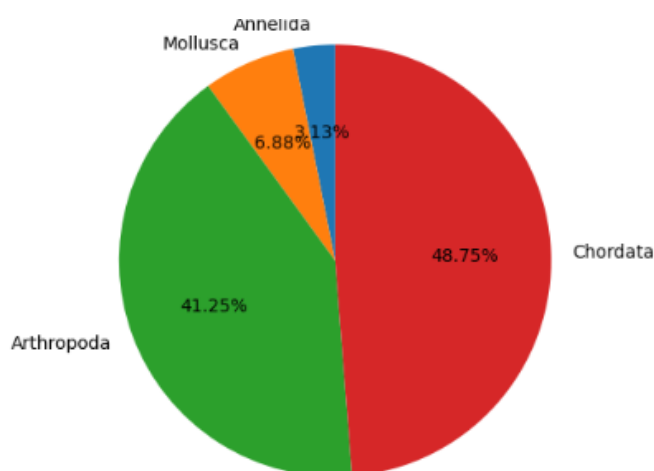


Fig 4: Phylum wise Species count of the Faunal Diversity observed on Devchand college campus

The faunal survey recorded 160 species belonging to four major phyla. Chordata showed the highest species richness (78 species; 48.75%), largely due to diverse avifauna, along with reptiles, amphibians, and mammals. Arthropoda formed the most diverse invertebrate group (66 species; 41.25%), dominated by insects and arachnids, indicating habitat heterogeneity and vegetation richness. Mollusca (11 species; 6.88%) and Annelida (5 species; 3.13%) reflected the presence of moist soil and favorable microhabitats essential for nutrient cycling. The occurrence of both wild and commensal mammals highlights adaptation to a semi-urban environment, while human presence underscores anthropogenic influence on campus biodiversity.

Conclusion

The Devchand College campus supports rich floristic and faunal diversity, with 148 plant species and 160 animal species recorded during the study. The dominance of tree species and the prevalence of Fabaceae and Arecaceae reflect both natural vegetation and managed plantations typical of institutional campuses. The presence of ethnobotanically important plants emphasizes the role of educational institutions in conserving traditional knowledge. The high representation of Arthropoda and Chordata indicates a stable and ecologically balanced ecosystem despite semi-urban pressures. Overall, the campus functions as an important biodiversity refuge. Sustainable management practices, including periodic biodiversity monitoring, native species plantation, microhabitat conservation, and awareness programs, are recommended to enhance and conserve campus biodiversity.

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