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An overview of floral and faunal diversity in and around Barrackpore Rastraguru Surendranath College Campuses, West Bengal, India

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ABSTRACT: The present survey based study involves the qualitative diversity of flora and fauna. The diversity assessment was carried out at two campuses of Barrackpore Rastraguru Surendranath College. This extensive study reveals the presence of 256 floral species and 165 faunal species in and around college campuses. The huge faunal diversity is mainly due to high level of floral diversity, which establishes the area as resource-rich habitat with promising reservoir of species. This is the very first effort in exploring the natural wealth of Barrackpore Rastraguru Surendranath College campuses.

Keywords: Flora; Fauna; Diversity; India.

1. INTRODUCTION

Diversity or more specifically species diversity is the variety of living organisms found in natural habitat or surrounding environment [1]. Floral and faunal diversity of an area portrays the health of the habitat and natural wealth of that region. It is also very important for conservation perspectives. Proper conservation initiative can only be taken when proper biodiversity database of an area is available. It is important to have an understanding of the bio-diversity of an area so that the local people and students can be aware of the richness of bio-diversity of the place they are living in and their responsibility to maintain that richness.

Barrackpore Rastraguru Surendranath College is situated in a sub-urban belt and at the bank of river Hooghly. The college consists of two campuses one kilometer apart with coordinates 22°45'47.8"N, 88°20'59.5"E and 22°45'51.8"N, 88°21'20.4"E, respectively (Figure 1). The two campuses are spread over 3.97 acres with lush green natural vegetation and well-maintained gardens. The Barrackpore area, within which the college is located, is very rich in biological diversity. The study area experiences a sub-tropical climate with hot and humid summer (April to June), humid monsoon (July to September) and moderately cool, dry winter (November to February). Annual average temperature of Barrackpore region is 26.4°C and about 1533 mm of precipitation occurs annually [2]. The study was conducted for twelve months of duration starting from July, 2017 to June, 2018. This study allows us to understand the faunal and floral diversity of the surrounding areas of the college premises and their inter-relationship. The present survey is probably the first

effort to prepare the checklists of the floral and faunal species in and around the college campuses of Barrackpore area.



Figure 1. Location of the two campuses or study sites. (Source: Google Maps).

2. MATERIALS AND METHODS

The methodology consists of mainly random sampling techniques [3]. Observing mammals depend critically on the size of the species and its natural history. Bird sampling was done on the basis of direct sighting, call determination and from the nests of some bird species. Reptiles were found mostly by looking in potential shelter sites like the under the surface of rocks, logs, tree hollows and leaf litter.

Active invertebrates like the insects require more active search. For larger winged insects like butterflies, dragonflies and damselflies, random samplings were carried and point sampling was also done. The easiest way to observe many of the invertebrates is simply looking for them in the suitable habitat or microhabitat.

3. RESULTS

3.1. Floral species observation and identification

Table 1. Checklist of floral groups with number of species.

	Floral categories	No. of species	Table number
1.	Tree	70	Table 2
2.	Aquatic plants	7	Table 3
3.	Grass	3	Table 4
4.	Herb	65	Table 5
5.	Shrub	60	Table 6
6.	Creeper	26	Table 7
7.	Palms	10	Table 8
8.	Parasitic plants	2	Table 9
9.	Fern	3	Table 10
10.	Season flowers	10	Table 11
	Total species:	256	

Table 2. Checklist of trees.

	Common Name	Scientific Name	Family
1.	African Tulip Tree	<i>Spathodia campanulata</i>	Bignoniaceae
2.	Allspice Tree	<i>Pimenta dioica</i>	Myrtaceae
3.	Amla	<i>Embllica officinalis</i>	Euphorbiaceae
4.	Ashoka Tree	<i>Saraca asoka</i>	Fabeceae
5.	Ashoka Tree	<i>Saraca asoka</i>	Fabeceae
6.	Bahera	<i>Terminalia bellirica</i>	Combretaceae
7.	Banyan Tree	<i>Ficus benghalensis</i>	Moraceae
8.	Bhawarmal, Bohar, Biharukh	<i>Hymenodictyon orixense</i>	Rubiaceae
9.	Buddha Coconut	<i>Pterygota alata</i>	Sterculiaceae
10.	Burma Teak	<i>Tectona grandis</i>	Verbenaceae
11.	Butterfly Tree	<i>Bauhinia purpurea</i>	Caesalpiniaceae
12.	Caledonia Pine/ Christmas Tree	<i>Araucaria cookii</i>	Arucariaceae
13.	Chhatiyan / Devil's Tree	<i>Alstonia scholaris</i>	Apocynaceae
14.	Cluster Fig	<i>Ficus glomerata</i>	Moraceae
15.	Copper Pod Tree	<i>Peltoforum pterocarpum</i>	Caesalpiniaceae
16.	Custard Apple	<i>Annona reticulata</i>	Annonaceae
17.	Drumstick Tree	<i>Moringa oleifera</i>	Moringaceae
18.	Dysoxylum sp.	<i>Dysoxylum costulatum</i> Miq.	Miliaceae
19.	Elephant Apple	<i>Dillenia indica</i>	Dilleniaceae
20.	Eucalyptus	<i>Eucalyptus</i> spp.	Myrtaceae
21.	False White Teak	<i>Trewia nudiflora</i>	Euphorbiaceae
22.	Ficus	<i>Ficus</i> sp.	Moraceae
23..	Fig Tree	<i>Ficus hispida</i>	Monaceae
24.	Flame tree	<i>Butea monosperma</i>	Faboideae
25.	Gardenia, Cape jasmine	<i>Gardenia jasminoides</i>	Rubiaceae
26.	Gliricidia	<i>Gliricidia sepium</i>	Fabaceae
27.	Gold Mohur / Flame Tree	<i>Delonix regia</i>	Caesalpiniaceae
28.	Golden Apple	<i>Aegle marmelos</i>	Rutaceae
29.	Golden Shower	<i>Acacia auriculiformis</i>	Fabaceae
30.	Golden Shower	<i>Cassia fistula</i>	Caesalpiniaceae
31.	Guava	<i>Psidium guajava</i>	Myrtaceae
32.	Gulab Jamun	<i>Syzygium jambos</i>	Myrtaceae
33.	Haritaki	<i>Terminalia chebula</i>	Combretaceae
34.	Indian Almond	<i>Terminalia catappa</i>	Combretaceae
35.	Indian Blackberry	<i>Syzygium cumini</i>	Myrtaceae
36.	Indian Blackberry (Small)	<i>Syzygium</i> sp.	Myrtaceae
37.	Indian Cork Tree, Tree Jasmine	<i>Millingtonia hortensis</i>	Bignoniaceae
38.	Indian Fir / Cementry Tree	<i>Polialthia longifolia</i>	Annonaceae
39.	Indian Jujube / Ber	<i>Ziziphus mauritiana</i>	Rhamnaceae
40.	Indian Lilac Tree	<i>Melia azedarach</i>	Meliaceae
41.	Indian Mehoginy	<i>Cedrela toona</i>	Meliaceae
42.	Indian Rubber Tree	<i>Ficus elastica</i>	Moraceae
43.	Indrajao	<i>Holarrhena pubescens</i>	Apocynaceae
44.	Jack Fruit	<i>Artocarpus heterophyllus</i>	Moraceae
45.	Kadam	<i>Anthocephalus chinensis</i>	Rubiaceae

	Common Name	Scientific Name	Family
46.	Lichi	<i>Litchi chinensis</i>	Sapindaceae
47.	Longan	<i>Euforia longan</i>	Sapindaceae
48.	Mango	<i>Mangifera indica</i>	Anacardiaceae
49.	Neem Tree	<i>Azadirachta indica</i>	Meliaceae
50.	Pomelo	<i>Citrus maxima</i>	Rutaceae
51.	Pongam Tree, Pongame Oil Tree	<i>Pongamia pinnata</i>	Fabaceae
52.	Pride of India	<i>Lagerstroemia speciosa</i>	Lythraceae
53.	Putranjiva / Lucky Bean Tree	<i>Putranjiva roxburghii</i>	Euphorbiaceae
54.	Queen of the night	<i>Nyctanthes arbortristis</i>	Oleaceae
55.	Rain Tree	<i>Samanea saman</i>	Mimosaceae
56.	Red Jasmine Tree	<i>Plumeria rubra</i>	Apocynaceae
57.	Red Silk Cotton Tree	<i>Bombax ceiba</i>	Malvaceae
58.	Sabeda	<i>Manikara sapota</i>	Sapotaceae
59.	Sand Paper Tree	<i>Streblus asper</i>	Moraceae
60.	She-Oak / Indian Christmas Tree	<i>Casuarina equisetifolia</i>	Casuarinaceae
61.	Small-leaved Mahogany	<i>Swietenia mahagoni</i>	Meliaceae
62.	Spanish cherry / Bakul	<i>Mimusops elengi</i>	Caesalpiniaceae
63.	Star Fruit	<i>Averrhoa carambola</i>	Averrhoaceae
64.	Subabul	<i>Leucena leucocephala</i>	Mimosaceae
65.	Tamarind	<i>Tamarindus indica</i>	Caesalpiniaceae
66.	Vilayati Babul	<i>Pithecolobium dulce</i>	Mimosaceae
67.	Water Apple	<i>Syzygium aqueum</i>	Myrtaceae
68.	West Indian Elm, Bay Cedar	<i>Guazuma ulmifolia</i>	Malvaceae
69.	White Fig	<i>Ficus infectoria</i>	Moraceae
70.	Wild Mango	<i>Spondias pinnata</i>	Anacardiaceae

Table 3. Checklist of aquatic plants.

	Common Name	Scientific Name	Family
1.	Alligator weed	<i>Alternanthera philoxeroides</i>	Amaranthaceae
2.	Duck lettuce	<i>Ottelia alismoides</i>	Hydrocharitaceae
3.	Tape grass	<i>Vallisneria spiralis</i>	Hydrocharitaceae
4.	Taro	<i>Colocasia esculenta</i>	Araceae
5.	Water hyacinth	<i>Eichhornia crassipes</i>	Pontederiaceae
6.	Water lily	<i>Nymphaea nouchali</i>	Nymphaeaceae
7.	Waterhyme	<i>Hydrilla verticillata</i>	Hydrocharitaceae

Table 4. Checklist of grasses.

	Common Name	Scientific Name	Family
1.	Bamboo	<i>Bambusa</i> sp.	Poaceae
2.	Common Carpetgrass	<i>Axonopus</i> sp.	Poaceae
3.	Durba	<i>Cynodon dactylon</i>	Graminae

Table 5. Checklist of herbs.

	Common Name	Scientific Name	Family
1.	Achyranthes	<i>Achyranthes aspera</i>	Amaranthaceae
2.	Ageratum	<i>Ageratum conyzoides</i>	Asteraceae
3.	Alocasia	<i>Alocasia indica</i>	Arecaaceae
4.	Aloe Vera	<i>Aloe barbadensis</i>	Liliaceae
5.	Alternanthera	<i>Alternanthera philoxeroides</i>	Amaranthaceae
6.	Alternanthera	<i>Alternanthera paronychioides</i>	Amaranthaceae
7.	Alternanthera	<i>Alternanthera sessilis</i>	Amaranthaceae
8.	Amaranthus	<i>Amaranthus viridis</i>	Amaranthaceae
9.	Amaranthus	<i>Aerva javanica</i>	Amaranthaceae
10.	American Mint	<i>Anisomeles indica</i>	Lamiaceae
11.	Asian Spiderflower	<i>Cleome viscosa</i>	Cleomaceae
12.	Bachelor Button Flower	<i>Gomphrena globosa</i>	Amaranthaceae
13.	Ban Dhone / Mitha Pata	<i>Scoparia dulcis</i>	Scrophulariaceae
14.	Banana Tree	<i>Musa sp.</i>	Musaceae
15.	Bengal Arum	<i>Typhonium trilobatum</i>	Areceae
16.	Bhringaraj	<i>Wedelia trilobata</i>	Asteraceae
17.	Bhuin Okra	<i>Phyla nodiflora</i>	Verbenaceae
18.	Black Nightshade	<i>Solanum nigrum</i>	Solanaceae
19.	Bluebell	<i>Ruellia prostrata</i>	Acanthaceae
20.	Boatily, Moses-in-the-cradle	<i>Tradescantia spathacea</i>	Commelinaceae
21.	Bon Tepari	<i>Physalis minima</i>	Solanaceae
22.	Bon Tulshi	<i>Croton bonplandianum</i>	Euphorbiaceae
23.	Calendula, Common Marigold	<i>Calendula officinalis</i>	Asteraceae
24.	Chrysanthemums	<i>Chrysanthemum sp.</i>	Asteraceae
25.	Coat Buttons / Tridax Daisy	<i>Tridax procumbens</i>	Asteraceae
26.	Coleus	<i>Coleus sp.</i>	Lamiaceae
27.	Commelina	<i>Commelina benghalensis</i>	Commelinaceae
28.	Dahlia	<i>Dahlia sp.</i>	Asteraceae
29.	Diamond Flower, corymbose hedyotis	<i>Hedyotis corymbosa</i>	Rubiaceae
30.	Famine Weed	<i>Parthenium hysterophorus</i>	Asteraceae
31.	Gerbera	<i>Gerbera jamesonii</i>	Asteraceae
32.	Graceful Pouzalz's Bush	<i>Pouzalzia indica</i>	Urticaceae
33.	Heartleaf Fanpetals	<i>Sida humilis</i>	Malvaceae
34.	Holy Basil, Tulasi	<i>Ocimum sanctum</i>	Lamiaceae
35.	Impatiens, Touch-me-not	<i>Impatiens sp.</i>	Balsaminaceae
36.	Indian Cress	<i>Nasturtium indicum</i>	Brassicaceae
37.	Indian Water Navelwort	<i>Centella asiatica</i>	Apiaceae
38.	Kalmegh, Green chirayta	<i>Andrographis paniculata</i>	Acanthaceae
39.	Keshut	<i>Eclipta alba</i>	Asteraceae
40.	khirika	<i>Euphorbia hirta</i>	Euphorbiaceae
41.	Krishna Tulsi / Kalo Tulasi	<i>Ocimum tenuiflorum</i>	Lamiaceae
42.	Kukurshoka / Kukursunga	<i>Blumea laciniata</i>	Asteraceae
43.	Kulekhara	<i>Hygrophila schulli</i>	Acanthaceae
44.	Lobster claw, Hanging heliconia	<i>Strelitzia reginae</i>	Musaceae
45.	Marigold Flower	<i>Tagetes sp.</i>	Asteraceae

	Common Name	Scientific Name	Family
46.	Mountain Knotgrass	<i>Aerva lanata</i>	Amaranthaceae
47.	Nettle Leaved Lindenbergia	<i>Lindenbergia indica</i>	Scrophulariaceae
48.	Pothika Gaddi	<i>Eragrostis tenella</i>	Poaceae
49.	Punarnova	<i>Boerhavia diffusa</i>	Nyctaginaceae
50.	Purple Cleome	<i>Cleome rutidosperma</i>	Cleomaceae
51.	Ram Tulshi	<i>Ocimum gratissimum</i>	Lamiaceae
52.	Ruellia	<i>Ruellia tuberosa</i>	Acanthaceae
53.	Ruellia	<i>Ruellia suffruticosa</i>	Acanthaceae
54.	Sahadebi	<i>Vernonia cinerea</i>	Asteraceae
55.	Sida	<i>Sida</i> sp.	Malvaceae
56.	Snake Tongue, Devill's Tongue	<i>Sansevieria</i> sp.	Asparagaceae
57.	Sonchus, Field Sowthistle	<i>Sonchus arvensis</i>	Asteraceae
58.	Stonebreaker, Seed-under-leaf	<i>Phyllanthus niruri</i>	Phyllanthaceae
59.	Synedrella	<i>Synedrella nodiflora</i>	Asteraceae
60.	Three-flower Beggarweed	<i>Desmodium triflorum</i>	Fabaceae
61.	Titaliya	<i>Sonchus oleraceus</i>	Asteraceae
62.	Tulsi	<i>Ocimum</i> sp.	Lamiaceae
63.	Turmeric	<i>Curcuma longa</i>	Zingiberaceae
64.	Wild Tobacco	<i>Nicotiana plumbaginifolia</i>	Solanaceae
65.	Yellow Woodsorrel	<i>Oxalis corniculata</i>	Oxalidaceae

Table 6. Checklist of shrubs.

	Common Name	Scientific Name	Family
1.	Agave sp.	<i>Agave</i> sp.	Asparagaceae
2.	Ban jamir	<i>Glycosmis pentaphyla</i>	Ruraceae
3.	Bleeding Heart	<i>Clerodendrum thomsoniae</i>	Lamiaceae
4.	Castor Oil Plant	<i>Ricinus communis</i>	Euphorbiaceae
5.	China Rose	<i>Hibiscus rosa-sinensis</i>	Malvaceae
6.	Chitrak, Plumbago, White leadwort	<i>Plumbago zeylanica</i>	Plumbaginaceae
7.	Citrus	<i>Citrus acida</i>	Rutaceae
8.	Citrus/ Citron	<i>Citrus medica</i>	Rutaceae
9.	Clerodendrum	<i>Clerodendrum viscosum</i>	Verbenaceae
10.	Common Wireweed	<i>Sida acuta</i>	Malvaceae
11.	Croton	<i>Codiaeum</i> sp. var.	Euphorbiaceae
12.	Devil's cotton	<i>Abroma augustum</i>	Sterculiaceae
13.	Devil's Trumpets	<i>Datura</i> sp.	Solanaceae
14.	Dracaena	<i>Pleomele reflexa 'Variegata'</i>	Asparagaceae
15.	Duranta	<i>Duranta repens</i>	Verbenaceae
16.	Fever tea/Lemon Bush	<i>Lippia javanica</i>	Verbenaceae
17.	Fever tea/Lemon Bush	<i>Lippia javanica</i>	Verbenaceae
18.	Garden Cosmos	<i>Cosmos bipinnatus</i>	Asteraceae
19.	Giant Milkweed	<i>Calotropis gigantea</i>	Asclepiadaceae
20.	Green Chili	<i>Capsicum</i> sp.	Solanaceae
21.	Ground Fig	<i>Ficus heterophylla</i>	Moraceae
22.	Heliconia	<i>Strelitzia</i> sp.	Musaceae
23.	Indian heliotrope	<i>Heliotropium indicum</i>	Boraginaceae

	Common Name	Scientific Name	Family
24.	Ixora	<i>Ixora</i> sp.	Rubiaceae
25.	Jasmine	<i>Jusminum pubescens</i>	Oleaceae
26.	Karipata	<i>Murraya koenigii</i>	Rutaceae
27.	Kasunda / Baner	<i>Cassia sophera</i>	Fabaceae
28.	Lagerstroemia	<i>Lagerstroemia indica</i>	Lythraceae
29.	Lantana	<i>Lantana camara</i>	Verbenaceae
30.	Lime	<i>Citrus acida</i>	Rutaceae
31.	Milk Flower (Double)	<i>Tabernaemontana coronaria</i>	Apocynaceae
32.	Milk Flower (Dwarf)	<i>Tabernaemontana divaricata</i>	Apocynaceae
33.	Milk Flower (Plain)	<i>Tabernaemontana divaricata</i>	Apocynaceae
34.	Milli	<i>Euphorbia milli</i>	Ericaceae
35.	Muktojhuri	<i>Acalypha indica</i>	Euphorbiaceae
36.	Musaenda	<i>Mussaenda</i> sp.	Rubiaceae
37.	Oleander	<i>Nerium oleander</i>	Apocynaceae
38.	Orange Jasmine	<i>Murraya paniculata</i>	Rutaceae
39.	Philippine Violet	<i>Barleria strigosa</i>	Acanthaceae
40.	Plumed Cockscomb, Woolflower	<i>Celosia argentea</i>	Amaranthaceae
41.	Poinsettia	<i>Euphorbia pulcherrima</i>	Euphorbiaceae
42.	Poinsettia	<i>Euphorbia pulcherima</i>	Euphorbiaceae
43.	Powder Puff	<i>Calliandra</i> sp.	Fabaceae
44.	Ravenia Pink / Lemonia	<i>Ravenia spectabilis</i>	Rutaceae
45.	Roast Potato Plant	<i>Phyllanthus reticulatus</i> Poir.	Euphorbiaceae
46.	Rose	<i>Rosa</i> sp. var.	Rosaceae
47.	Rosy Periwinkle	<i>Catharanthus roseus</i>	Apocynaceae
48.	Salparni	<i>Desmodium gangeticum</i>	Fabaceae
49.	Scarlet Sage	<i>Salvia splendens</i>	Lamiaceae
50.	Shooting Star, Star Flower	<i>Pseuderanthemum</i> sp.	Acanthaceae
51.	Siam Weed, Bitter bush	<i>Eupatorium odoratum</i>	Asteraceae
52.	Slipper Plant	<i>Pedilanthus tithymaloides</i>	Euphorbiaceae
53.	Spicy Jatropha	<i>Jatropha panduraefolia</i>	Euphorbiaceae
54.	Stinking Cassia, foetid cassia	<i>Cassia tora</i>	Fabaceae
55.	Tecoma	<i>Tecoma gaudichaudi</i>	Bignoniaceae
56.	Thuja	<i>Thuja orientalis</i>	Cupressaceae
57.	Wild Eggplant	<i>Solanum torvum</i>	Solanaceae
58.	Wild Pmumeria, Bridal Bouquet	<i>Plumeria pudica</i>	Apocynaceae
59.	Yellow Cosmos	<i>Cosmos sulphureus</i>	Asteraceae
60.	Yellow oleander	<i>Cascabela thevetia</i>	Apocynaceae

Table 7. Checklist of creepers.

	Common Name	Scientific Name	Family
1.	Allamanda	<i>Allamanda</i> sp.	Apocynaceae
2.	Aparajita	<i>Clitoria ternatea</i>	Fabaceae
3.	Bengal Trumpet Vine, Blue Trumpet Vine	<i>Thunbergia grandiflora</i>	Acanthaceae
4.	Birdfoot Grape-Vine	<i>Cayratia pedata</i>	Vitaceae
5.	Birdfoot Grape-Vine	<i>Cayratia</i> sp.	Vitaceae
6.	Bougainvillea	<i>Bougainvillea</i> sp.	Nyctaginaceae

	Common Name	Scientific Name	Family
7.	Cayratia	<i>Cayratia trifolia</i>	Vitaceae
8.	Chinese creeper	<i>Micania micrantha</i>	Asteraceae
9.	Climbing Mallotus	<i>Mallotus repandus</i>	Euphorbiaceae
10.	Coral Creeper / Antigonum	<i>Antigonon leptopus</i>	Polygonaceae
11.	Corkystem Passionflower	<i>Passiflora suberosa</i>	Passifloraceae
12.	Gulanchalata	<i>Tinospora cordifolia</i>	Menispermaceae
13.	Hemigraphis	<i>Hemigraphis hirta</i>	Acanthaceae
14.	Indian Stinging Nettle	<i>Tragia involucrata</i>	Euphorbiaceae
15.	Ipomoea	<i>Ipomoea aquatica</i>	Convolvulaceae
16.	Justicia	<i>Justicia simplex</i>	Acanthaceae
17.	Money Plant, Ivy Arum	<i>Epipremnum aureum</i>	Areceae
18.	Passion Flower	<i>Passiflora suberosa</i>	Passifloraceae
19.	Philodendron	<i>Philodendron sp.</i>	Areceae
20.	Rangoon Creeper	<i>Combretum indicum</i>	Combretaceae
21.	Roundleaf Bindweed	<i>Evolvulus nummularius</i>	Convolvulaceae
22.	Small White Morning Glory	<i>Ipomoea obscura</i>	Convolvulaceae
23.	Snake Vine	<i>Stephania japonica</i>	Menispermaceae
24.	Telakuchu	<i>Coccinia grandis</i>	Cucurbitaceae
25.	Tiliacora	<i>Tiliacora racemosa</i>	Menispermaceae
26.	Titakunja	<i>Wattakaka volubillis</i>	Asclepiadaceae

Table 8. Checklist of palms.

	Common Name	Scientific Name	Family
1.	Areca	<i>Areca catechu</i>	Areceaceae
2.	Areca Palm	<i>Dyopsis lutescens</i>	Arecaaceae
3.	Bottle Palm, Champagne Palm	<i>Hyophorbe lagenicaulis</i>	Areceaceae
4.	Chinese Fan Palm	<i>Livistona chinensis</i>	Areceaceae
5.	Coconut	<i>Cocos nucifera</i>	Arecaaceae
6.	Fish-tail Palm	<i>Caryota urens</i>	Areceaceae
7.	Indian Datepalm	<i>Phoenix sylvestris</i>	Areceaceae
8.	Palmyra Palm	<i>Borassus flabellifer</i>	Palmae
9.	Palmyra Palm	<i>Borassus flabellifer</i>	Areceaceae
10.	Traveller's Palm	<i>Ravenala madagascariensis</i>	Musaceae

Table 9. Checklist of parasitic plants.

	Common Name	Scientific Name	Family
1.	Honey Suckled Mistletoe	<i>Dendrophthoe falcata</i>	Loranthaceae
2.	Vanda	<i>Viscum orientale</i>	Loranthaceae

Table 10. Checklist of ferns.

	Common Name	Scientific Name	Family
1.	Bird-nest Fern	<i>Asplenium sp.</i>	Aspleniaceae
2.	Fishtail Fern	<i>Microsorium punctatum</i>	Polypodiaceae
3.	Oakleaf Fern	<i>Drynaria quercifolia</i>	Polypodiaceae

Table 11. Checklist of seasonal flowers.

	Common Name	Scientific Name	Family
1.	Amaryllis	<i>Hippeastrum</i> sp.	Amaryllidaceae
2.	Dog flower, Snapdragon	<i>Antirrhinum majus</i>	Scrophulariaceae
3.	Flaming Katy, Florist kalanchoe	<i>Kalanchoe blossfeldiana</i>	Crassulaceae
4.	Garden stock, Common stock	<i>Matthiola incana</i>	Brassicaceae
5.	Gazania	<i>Gazania</i> sp.	Asteraceae
6.	Gladiolus	<i>Gladiolus</i> sp.	Iridaceae
7.	Maiden Pink	<i>Dianthus deltoides</i>	Caryophyllaceae
8.	Pansy, Garden Pansy	<i>Viola tricolor</i> var.	Violaceae
9.	Petunia	<i>Petunia hybrida</i>	Solanaceae
10.	Verbena	<i>Verbena</i> sp.	Verbenaceae

3.2. Faunal species observation and identification

Table 12. Checklist of faunal groups with number of species.

	Faunal categories	No. of species	Table number
1.	Mammal	7	Table 13
2.	Bird	53	Table 14
3.	Reptile	8	Table 15
4.	Amphibian	3	Table 16
5.	Butterfly	68	Table 17
6.	Odonate	26	Table 18
	Total species:	165	

Table 13. Checklist of mammals.

	Common Name	Scientific Name	Family
1.	Asian Palm Civet	<i>Paradoxurus hermaphroditus</i>	Viverridae
2.	Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	Vespertilionidae
3.	Five-striped Palm Squirrel	<i>Funambulus pennantii</i>	Sciuridae
4.	Fruit Bat	<i>Pteropus</i> sp.	Pteropodidae
5.	Gray Langur	<i>Semnopithecus</i> sp.	Cercopithecidae
6.	Indian Flying Fox	<i>Pteropus giganteus</i>	Pteropodidae
7.	Indian Grey Mongoose	<i>Herpestes edwardsi</i>	Herpestidae

Table 14. Checklist of birds.

	Common Name	Scientific Name	Family
1.	Alexandrine Parakeet	<i>Psittacula eupatria</i>	Psittacidae
2.	Asian Koel	<i>Eudynamis scolopaceus</i>	Cuculidae
3.	Asian Openbill	<i>Anastomus oscitans</i>	Ciconiidae
4.	Asian Palm Swift	<i>Cypsiurus balasiensis</i>	Apodidae
5.	Asian Pied Starling	<i>Gracupica contra</i>	Sturnidae
6.	Black Drongo	<i>Dicrurus macrocercus</i>	Dicruridae
7.	Black Kite	<i>Milvus migrans</i>	Accipitridae
8.	Black-hooded Oriole	<i>Oriolus xanthornus</i>	Oriolidae
9.	Black-naped Monarch	<i>Hypothymis azurea</i>	Monarchidae

	Common Name	Scientific Name	Family
10.	Black-naped Oriole	<i>Oriolus chinensis</i>	Oriolidae
11.	Blue-throated Barbet	<i>Megalaima asiatica</i>	Ramphastidae
12.	Cattle Egret	<i>Bubulcus ibis</i>	Ardeidae
13.	Common Hawk Cuckoo	<i>Hierococcyx varius</i>	Cuculidae
14.	Common Hoopoe	<i>Upupa epops</i>	Upupidae
15.	Common Iora	<i>Aegithina tiphia</i>	Aegithinidae
16.	Common Kingfisher	<i>Alcedo atthis</i>	Alcedinidae
17.	Common Myna	<i>Acridotheres tristis</i>	Sturnidae
18.	Common Pigeon	<i>Columba livia</i>	Columbidae
19.	Common Sandpiper	<i>Actitis hypoleucos</i>	Scolopacidae
20.	Common Tailorbird	<i>Orthotomus sutorius</i>	Cisticolidae
21.	Coppersmith Barbet	<i>Megalaima haemacephala</i>	Ramphastidae
22.	Eastern Jungle Crow	<i>Corvus leuillantii</i>	Corvidae
23.	Eurasian Collared Dove	<i>Streptopelia decaocto</i>	Columbidae
24.	Fulvous-breasted Woodpecker	<i>Dendrocopos macei</i>	Picidae
25.	Greater Coucal	<i>Centropus sinensis</i>	Cuculidae
26.	Green Bee-Eater	<i>Merops orientalis</i>	Meropidae
27.	House Crow	<i>Corvus splendens</i>	Corvidae
28.	House Sparrow	<i>Passer domesticus</i>	Passeridae
29.	Indian Cormorant	<i>Phalacrocorax fuscicollis</i>	Phalacrocoracidae
30.	Indian Pond Heron	<i>Ardeola grayii</i>	Ardeidae
31.	Jungle Babbler	<i>Turdoides striatus</i>	Timaliidae
32.	Jungle Myna	<i>Acridotheres fuscus</i>	Sturnidae
33.	Lesser Goldenback	<i>Dinopium benghalense</i>	Picidae
34.	Lineated Barbet	<i>Megalaima lineata</i>	Ramphastidae
35.	Marsh Sandpiper	<i>Tringa stagnatilis</i>	Scolopacidae
36.	Oriental Magpie Robin	<i>Copsychus saularis</i>	Muscicapidae
37.	Pale-billed Flowerpecker	<i>Dicaeum erythrorhynchus</i>	Dicaeidae
38.	Purple Heron	<i>Ardea purpurea</i>	Ardeidae
39.	Purple Sunbird	<i>Nectarinia asiatica</i>	Nectariniidae
40.	Purple-rumped Sunbird	<i>Nectarinia zeylonica</i>	Nectariniidae
41.	Red-vented Bulbul	<i>Pycnonotus cafer</i>	Pycnonotidae
42.	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	Pycnonotidae
43.	Rose-ringed Parakeet	<i>Psittacula krameri</i>	Psittacidae
44.	Rufous Treepie	<i>Dendrocitta vagabunda</i>	Corvidae
45.	Shikra	<i>Accipiter badius</i>	Accipitridae
46.	Spotted Dove	<i>Stigmatopelia chinensis</i>	Columbidae
47.	Spotted Owlet	<i>Athene brama</i>	Strigidae
48.	Stork-billed kingfisher	<i>Pelargopsis capensis</i>	Alcedinidae
49.	Taiga Flycatcher	<i>Ficedula albicilla</i>	Muscicapidae
50.	White Wagtail	<i>Motacilla alba</i>	Motacillidae
51.	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	Rallidae
52.	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	Alcedinidae
53.	Yellow-footed Green Pigeon	<i>Treron phoenicoptera</i>	Columbidae

Table 15. Checklist of reptile.

	Common Name	Scientific Name	Family
1.	Bengal Monitor Lizard	<i>Varanus bengalensis</i>	Varanidae
2.	Buff Striped Keelback	<i>Amphiesma stolatum</i>	Colubridae
3.	Checkered Keelback	<i>Xenochrophis piscator</i>	Colubridae
4.	Common House Gecko	<i>Hemidactylus frenatus</i>	Gekkonidae
5.	Oriental Garden Lizard	<i>Calotes versicolor</i>	Agamidae
6.	Rat Snake	<i>Zamenis longissimus</i>	Colubridae
7.	Russell's Viper	<i>Daboia russelii</i>	Viperidae
8.	Skink	<i>Lampropholis sp.</i>	Scincidae

Table 16. Checklist of amphibians.

	Common Name	Scientific Name	Family
1.	Asian Bullfrog	<i>Hoplobatrachus tigerinus</i>	Dicroglossidae
2.	Indian Toad	<i>Duttaphrynus melanostictus</i>	Bufoidea
3.	Skittering Frog	<i>Euphlyctis cyanophlyctis</i>	Dicroglossidae

Table 17. Checklist of butterflies.

	Common Name	Scientific Name	Family
1.	Angled Castor	<i>Ariadne ariadne</i>	Nymphalidae
2.	Blue Mormon	<i>Papilio polymnestor</i>	Papilionidae
3.	Blue Tiger	<i>Tirumala limniace</i>	Nymphalidae
4.	Brown Awl	<i>Badamia exclamationis</i>	Hesperiidae
5.	Chestnut Palm Bob	<i>Iambrix salsala</i>	Hesperiidae
6.	Chestnut-streaked Sailer	<i>Neptis jumbah</i>	Nymphalidae
7.	Commander	<i>Moduza procris</i>	Nymphalidae
8.	Common Banded Awl	<i>Hasora chromus</i>	Hesperiidae
9.	Common Baron	<i>Euthalia aconthea</i>	Nymphalidae
10.	Common Bushbrown	<i>Mycalasis perseus</i>	Nymphalidae
11.	Common Castor	<i>Ariadne merione</i>	Nymphalidae
12.	Common Cerulean	<i>Jamides celeno</i>	Lycaenidae
13.	Common Crow	<i>Euploea core</i>	Nymphalidae
14.	Common Evening Brown	<i>Melanitis leda</i>	Nymphalidae
15.	Common Five-ring	<i>Ypthima baldus</i>	Nymphalidae
16.	Common Four-ring	<i>Ypthima huebneri</i>	Nymphalidae
17.	Common Grass Yellow	<i>Eurema hecabe</i>	Pieridae
18.	Common Guava Blue	<i>Virachola isocrates</i>	Lycaenidae
19.	Common Gull	<i>Cepora nerissa</i>	Pieridae
20.	Common Jay	<i>Graphium doson</i>	Papilionidae
21.	Common Jezebel	<i>Delias eucharis</i>	Pieridae
22.	Common Leopard	<i>Phalanta phalantha</i>	Nymphalidae
23.	Common Lineblue	<i>Prosotas nora</i>	Lycaenidae
24.	Common Mime	<i>Papilo clytia</i>	Papilionidae
25.	Common Mormon	<i>Papilo polytes</i>	Papilionidae
26.	Common Palmfly	<i>Elymnias hypermnestra</i>	Nymphalidae
27.	Common Pierrot	<i>Castalius rosimon</i>	Lycaenidae
28.	Common Quaker	<i>Neopithecops zalmora</i>	Lycaenidae

	Common Name	Scientific Name	Family
29.	Common Rose	<i>Pachliopta aristolochiae</i>	Papilionidae
30.	Common Silverline	<i>Spindasis vulcanus</i>	Lycaenidae
31.	Danaid Eggfly	<i>Hypolimnas misippus</i>	Nymphalidae
32.	Dark Grass Blue	<i>Zizeeria karsandra</i>	Lycaenidae
33.	Eastern Striped Albatross	<i>Appias olferna</i>	Pieridae
34.	Falcete Oakblue	<i>Mahathala ameria</i>	Lycaenidae
35.	Forget-me-not	<i>Catochrysops strabo</i>	Lycaenidae
36.	Goudy Baron	<i>Euthalia lubentina</i>	Nymphalidae
37.	Gram Blue	<i>Euchrysops cnejus</i>	Lycaenidae
38.	Great Eggfly	<i>Hypolimnas bolina</i>	Nymphalidae
39.	Grey Pansy	<i>Junonia atlites</i>	Nymphalidae
40.	Indian Sunbeam	<i>Curetis thetis</i>	Lycaenidae
41.	Indian Wanderer	<i>Pareronia hippia</i>	Pieridae
42.	Lemon Emmigrant	<i>Catopsilia pomona</i>	Pieridae
43.	Lemon Pansy	<i>Junonia lemonias</i>	Nymphalidae
44.	Lesser Grass Blue	<i>Zizina otis</i>	Lycaenidae
45.	Lime Blue	<i>Chilades lajus</i>	Lycaenidae
46.	Lime Butterfly	<i>Papilio demolius</i>	Papilionidae
47.	Monkey Puzzle	<i>Rathinda amor</i>	Lycaenidae
48.	Mottled Emmigrant	<i>Catopsilia pyranthe</i>	Pieridae
49.	Oriental Palm Bob	<i>Suastus gremius</i>	Hesperiidae
50.	Pale Grass blue	<i>Pseudozizeeria maha</i>	Lycaenidae
51.	Pale Palm Dart	<i>Telicota colon</i>	Hesperiidae
52.	Pea Blue	<i>Lampides boeticus</i>	Lycaenidae
53.	Peacock Pansy	<i>Junonia almana</i>	Nymphalidae
54.	Plain Tiger	<i>Danaus cheysippus</i>	Nymphalidae
55.	Plains Cupid	<i>Chilades pandava</i>	Lycaenidae
56.	Psyche	<i>Leptosia nina</i>	Pieridae
57.	Slate Flash	<i>Rapala manea</i>	Lycaenidae
58.	Small Banded Swift	<i>Pelopidas mathias</i>	Hesperiidae
59.	Small Grass Yellow	<i>Eurema brigitta</i>	Pieridae
60.	Spotted Pierrot	<i>Tarucus callinara</i>	Lycaenidae
61.	Striped Tiger	<i>Danaus genutia</i>	Nymphalidae
62.	Swift	-	Hesperiidae
63.	Tailed Jay	<i>Graphium agamemnon</i>	Papilionidae
64.	Tailless Lineblue	<i>Prosotas dubiosa</i>	Lycaenidae
65.	Tawny Coster	<i>Acraea violae</i>	Nymphalidae
66.	Tiny Grass Blue	<i>Zizula hylax</i>	Lycaenidae
67.	Western Striped Albatross	<i>Appias libythea</i>	Pieridae
68.	Zebra Blue	<i>Leptotes plinius</i>	Lycaenidae

Table 18. Checklist of odonates.

	Common Name	Scientific Name	Family
1.	Black Marsh Dart	<i>Onychargia atrocyana</i>	Platycnemididae
2.	Black Marsh Trotter	<i>Tramea limbata</i>	Libellulidae
3.	Common Picturewing	<i>Rhyothemis variegata</i>	Libellulidae
4.	Coral Tailed Cloud-wing	<i>Tholymis tillarga</i>	Libellulidae
5.	Coromandel Marsh Dart	<i>Ceriagrion coromandelianum</i>	Coenagrionidae
6.	Crimson-tailed Marsh Hawk	<i>Orthetrum pruinosum</i>	Libellulidae
7.	Ditch Jewel	<i>Brachythemis contaminata</i>	Libellulidae
8.	Estuarine Skimmer	<i>Macrodiplax cora</i>	Libellulidae
9.	Fulvous Forest Skimmer	<i>Neurothemis fulvia</i>	Libellulidae
10.	Granite Ghost	<i>Bradinopyga geminata</i>	Libellulidae
11.	Green Darner	<i>Anax junius</i>	Aeshnidae
12.	Green Marsh Hawk	<i>Orthetrum sabina</i>	Libellulidae
13.	Ground Skimmer	<i>Diplacodes trivialis</i>	Libellulidae
14.	Little Blue Marsh Hawk	<i>Brachydiplax sobrina</i>	Libellulidae
15.	Orange Tailed Marsh Dart	<i>Ceriagrion cerinorubellum</i>	Coenagrionidae
16.	Pied Paddy Skimmer	<i>Neurothemis tullia</i>	Libellulidae
17.	Pygmy Dartlet	<i>Agriocnemis pygmaea</i>	Coenagrionidae
18.	Ruddy Marsh Skimmer	<i>Crocothemis servilia</i>	Libellulidae
19.	Rufous Marsh Glider	<i>Rhudothemis rufa</i>	Libellulidae
20.	Saffron Faced Blue Dart	<i>Pseudagrion rubriceps</i>	Coenagrionidae
21.	Scarlet Marsh Hawk	<i>Aethriamanta brevipennis</i>	Libellulidae
22.	Senegal Golden Dartlet	<i>Ischnura senegalensis</i>	Coenagrionidae
23.	Three lined Dart	<i>Pseudagrion decorum</i>	Coenagrionidae
24.	Tiny Hooded Dartlet	<i>Agriocnemis kalinga</i>	Coenagrionidae
25.	Wondering Glider	<i>Pantala flavescens</i>	Libellulidae
26.	Yellow-tailed Ashy Skimmer	<i>Potamarcha congener</i>	Libellulidae

4. DISCUSSION

The list of flora indicates a significant diversity of plants which indicates the overall richness of the place. Overall flora has been classified in 11 groups. The most diverse group is the tree consisting of 70 species, whereas there is only 1 species of bamboo showing the least diversity. A total of 256 floral species have been identified [4-7].

The list of fauna indicates that the college campus is significantly rich in faunal diversity. A total of 165 faunal species have been identified [8-27]. 53 species of birds and a significant number of bird nests at many places have been observed. Mammals' diversity is superior. Avian diversity is wonderful. 68 species of butterflies have been documented, which indicates a healthy ecosystem as a whole. Odonate population indicates that the health of the water bodies and the riverine ecosystem is quite good. The amphibian population also supports this fact. Reptilian population is also quite significant and presence of Bengal monitor lizard indicates that the reptilian population is naturally controlled at the study site.

The findings of the present study reveal the biodiversity of the area, which possesses habitats with rich natural resources. The study confirms the existence of diversity plant species within the campuses and proper maintenance of the garden. The huge faunal diversity is mainly due to ecological dependency of animal species on the plants.

5. CONCLUSION

From the above studies and observations, it can be concluded that two college campuses house a variety of plant species, some of them are important host plants for butterflies to lay eggs. This is the very first effort in exploring the natural wealth of Barrackpore Rastraguru Surendranath College campuses. However, the present study of floral and faunal diversity is not conclusive. Future exploration in this direction will be continued to update this checklist.

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