

## Study of Floral Diversity in Krishnagar Women's College Campus, Krishnagar, Nadia, West Bengal, India

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Received 5 August 2021, Accepted 6 September 2021, Published on 10 October 2021

### ABSTRACT

The purpose of present study was to find out and to document the overview and also detail account of the flora in Krishnagar Women's College campus (3.9 acre), Krishnagar, Nadia district, West Bengal, India. The survey around the Krishnagar Women's College campus was carried to identify the flora with their natural habit, habitat and distribution. Our study includes not only about the natural flora but also cultivated and gardening plants. We tried to find out how much floral diversity is present in the Krishnagar Women's College campus. Anthropogenic activities are also found, this activity is causes to depletion of the natural habit and habitat. This study reveals the presence of 156 floral species (cryptogamae and phanerogamae) in an around of college campus. It can be stated that the Krishnagar Women's College campus play the role of conservation of floral diversity.

**Keywords** Flora, Diversity, Anthropogenic, Krishnagar, College.

### INTRODUCTION

Floral diversity or diversity of the flora is one of the most important ecological factor and also ecological indicator to evaluate the particular area of environment (Anirban 2007). Diversification of flora shows the fertility and natural health of the region. Floral diversity can control the climatic condition of the region (Krishnamurthy 2003). Plants are essential for the survival of man and animals. Conservation of plants is very important and it is also important for conservation of floral diversity. India is the biodiversity rich country. Over 45000 plants species are found in India (IUCN). Different floral diversity found in Krishnagar Women's College campus. Our study to find out and identify the floral species in the college campus and the study conducted throughout the twelve months. Total 156 floral species are identified in the college campus. In the campus wild plants species with medicinal and economic importance plants species are also found. The floral is classified in to 10 groups, they are Algae, Bryophytes, Pteridophytes, Gymnosperms, Angiosperms and Angiosperms are also further divided in to Herb, Shrub, Climber, Tree, Parasitic plants and Seasonal flower's plants (Gardening plants). Thus the present study was conducted to prepare the checklist of flora found in the Krishnagar Women's College campus, Krishnagar, Nadia, West Bengal.

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**Table 1.** List of floral groups with number of species.

Sl. No.	Floral categories	No. of species	No. of table
A. Cryptogamae			
(i)	Algae	4	a
(ii)	Bryophytes	2	b
(iii)	Pteridophytes	12	c
B. Phanerogamae			
(i)	Gymnosperms	2	d
(ii)	Angiosperms		
1.	Herb	70	e
2.	Shrub	22	f
3.	Climber	7	g
4.	Tree	27	h
5.	Parasitic plants	2	i
6.	Seasonal flower's plants (Gardening plants)	8	j

## MATERIALS AND METHODS

### Study area

The study was carried out in the campus of Krishnagar Women's College (Krishnagar, Nadia, West Bengal). Krishnagar is located at 23.4° N & 88.5° E on the bank of river Jalangi in Nadia district, West Bengal. The area of Krishnagar municipality is around 16 square kilometers. It is situated on the southern bank of the Jalangi river and located at a distance of 100 km from Kolkata. The average elevation of 14 meters (64 ft). The Tropic of Cancer passes through the outskirts of Krishnagar. Krishnagar City is about 11 km away from tropic of Cancer. The latitude of the Tropic of Cancer is 23° 26' 5" N. The area around Krishnagar Women's College has been selected as

### A. Cryptogamae (i) Table a. Algae

Sl.No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Anabaena</i> sp.	Filamentous cyanobacteria	Nostocaceae	Thallus (Unbranched filamentous cyanobacteria)	Aquatic
2.	<i>Oscillatoria</i> sp.	Filamentous cyanobacteria	Oscillatoriaceae	Thallus (Unbranched filamentous cyanobacteria)	Aquatic
3.	<i>Spirogyra</i> sp.	Water silk	Zygnemataceae	Thallus (Unbranched filaments)	Aquatic
4.	<i>Vaucharia</i> sp.	Yellow-green algae	Vaucheriaceae	Thallus (Siphonaceous forms)	Aquatic

### (ii) Table b. Bryophytes

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Riccia</i> sp.	Liverworts	Ricciaceae	Thallus	Terrestrial
2.	<i>Semibarbula orientalis</i> (F. Weber) Wilk & Margad	Moss	Pottiaceae	Thallus	Terrestrial

### (iii) Table c. Pteridophytes (Ferns)

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Adiantum capillus-veneris</i> L.	Maidenhair fern	Pteridaceae	Herbs	Terrestrial
2.	<i>Adiantum caudatum</i> Klotzsch.	Maidenhair fern	Pteridaceae	Herbs	Terrestrial

(iii) Table c. Pteridophytes (Ferns).

Sl. No.	Science name	Common name	Family	Habit	Habitat
3.	<i>Adiantum lunulatum</i> Brum. f.	Maidenhair fern	Pteridaceae	Herbs	Terrestrial
4.	<i>Aglaomorpha</i> (Drynaria) <i>quercifolia</i> (L.) Hovenkamp and S. Linds.	Oakleaf fern	Polypodiaceae	Herbs	Epiphyte
5.	<i>Ampelopteris proliferata</i> (Retz.) Copel	Ampelopteris	Thelypteridaceae	Herbs	Terrestrial
6.	<i>Christella dentata</i> (Forssk.) Brownsey and Jermy	Christella	Thelypteridaceae	Herbs	Terrestrial
7.	<i>Lygodium flexuosum</i> (L.) Sw.	Vine-like fern and Japanese climbing fern	Lygodiaceae	Climber	Terrestrial
8.	<i>Marsilea quadrifolia</i> L.	Water clover	Marsileaceae	Herbs	Semi-aquatic
9.	<i>Microsorium punctatum</i> (L.) Copel.	Fishtail fern	Polypodiaceae	Herbs	Epiphyte
10.	<i>Pteris multifida</i> Poir.	Spider brake	Pteridaceae	Herbs	Terrestrial
11.	<i>Pteris vittata</i> L.	Chinese brake or Ladder braka	Pteridaceae	Herbs	Terrestrial
12.	<i>Pyrrosia lanceolata</i> (L.) Farw.	Pyrrosia	Polypodiaceae	Herbs	Epiphyte

## B. Phanerogamae

(i) Table d. Gymnosperms.

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Cycas</i> sp.	Cycas	Cycadaceae	Arboreal, unbranched, palm tree like	Terrestrial
2.	<i>Thuja occidentalis</i> L.	White cedar	Cupressaceae	Evergreen coniferous tree	Terrestrial

## (ii) Angiosperms

1. Table e. Herb

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Abutilon indicum</i> G. Don.	Indian mallow	Malvaceae	Herb	Terrestrial
2.	<i>Acalypha indica</i> L.	Indian copperleaf / Mukta jhuri	Euphorbiaceae	Herb	Terrestrial
3.	<i>Achyranthes spera</i> Linn.	Prickly chaff flower	Amaranthaceae	Herb	Terrestrial
4.	<i>Ageratum conyzoides</i> L.	Billygoat-weed	Asteraceae	Herb	Terrestrial
5.	<i>Alocasia macrorrhizos</i> (L.) G. Don	Giant alocasia	Araceae	Herb	Terrestrial
6.	<i>Alternanthera sessilis</i> (L.)	R. Br. ex DC, M	Matikaduri	Amaranthaceae	Herb Terrestrial
7.	<i>Amaranthus spinosus</i> L.	Spiny amaranth	Amaranthaceae	Herb	Terrestrial

ii) Angiosperms

1. Table e. Continued Herb.

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
8.	<i>Amaranthus viridis</i> L.	Slender amaranth	Amaranthaceae	Herb	Terrestrial
9.	<i>Andrographis paniculata</i> (Brum. f.) Nees.	Green chiretta \ kalmegh	Acanthaceae	Herb	Terrestrial
10.	<i>Anisomeles indica</i> (L.) O. Kuntze	Indian catmint	Labiataeae	Herb	Terrestrial
11.	<i>Argemone maxicana</i> Linn.	Mexican poppy	Papaveraceae	Herb	Terrestrial
12.	<i>Boerhavia repens</i> Linn.	Spiderlings	Nyctaginaceae	Herb	Terrestrial
13.	<i>Canscora diffusa</i> R. Br.	Spreading Canscora	Gentianaceae	Herb	Terrestrial
14.	<i>Centella asiatica</i> Urb.	Gotukola \ Indian pennywort \ Thankuni	Umbelliferae	Herb	Terrestrial
15.	<i>Chenopodium album</i> L.	Manure weed	Chenopodiaceae	Herb	Terrestrial
16.	<i>Chloris barbata</i> Sw.	Windmill grass	Gramineae	Herb	Terrestrial
17.	<i>Chrozophora rottleri</i> Klotz.	Chrozophora	Euphorbiaceae	Herb	Terrestrial
18.	<i>Cleome gynandra</i> L.	Shona cabbage	Capparidaceae	Herb	Terrestrial
19.	<i>Cleome rutilosperma</i> DC.	Fringed spider flower	Capparidaceae	Herb	Terrestrial
20.	<i>Cleome viscosa</i> L.	Asian spider flower	Capparidaceae	Herb	Terrestrial
21.	<i>Commelina nudiflora</i> L.	Dayflowers	Commelinaceae	Herb	Terrestrial
22.	<i>Croton bonplandianum</i> Baill.	Ban Tulsi	Euphorbiaceae	Herb	Terrestrial
23.	<i>Cyperus rotundus</i> Linn.	Coco-grass/ Java grass	Cyperaceae	Herb	Terrestrial
24.	<i>Cynodon dactylon</i> (L.) Pers., M	Durva grass	Poaceae	Herb	Terrestrial
25.	<i>Dentella repens</i> (L.) Forst.	Creeping Dentella	Rubiaceae	Herb	Terrestrial
26.	<i>Desmodium triflorum</i> (L.) DC.	Creeping tick trefoil	Fabaceae	Herb	Terrestrial
27.	<i>Digitaria</i> sp.	Hairy crabgrass	Poaceae	Herb	Terrestrial
28.	<i>Eclipta prostrata</i> (L.) L.	False daisy	Compositae	Herb	Terrestrial
29.	<i>Eleusine indica</i> Gaertn.	Indian goosegrass	Gramineae	Herb	Terrestrial
30.	<i>Euphorbia hirta</i> L.	Asthma plant	Euphorbiaceae	Herb	Terrestrial
31.	<i>Evolvulus alsinoides</i> (Linn) Linn.	Dwarf morning-glory	Convolvulaceae	Herb	Terrestrial
32.	<i>Evolvulus nummularia</i> (L.), L	Round leaf bindweed	Convolvulaceae	Herb	Terrestrial
33.	<i>Heliotropium indicum</i> L.	Indian heliotrope	Boraginaceae	Herb	Terrestrial
34.	<i>Hemigraphis hirta</i> L.	Hairy Hemigraphis	Acanthaceae	Herb	Terrestrial
35.	<i>Hibiscus vitifolius</i> L.	Grape leaved mallow	Malvaceae	Herb	Terrestrial
36.	<i>Justicia diffusa</i> Willd.	Justicia	Acanthaceae	Herb	Terrestrial
37.	<i>Leonurus sibiricus</i> L.	Honeyweed	Labiataeae	Herb	Terrestrial
38.	<i>Leucas linifolia</i> Spreng.	Setdron	Labiataeae	Herb	Terrestrial

## ii) Angiosperms

1. Table e. Continued Herb.

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
39.	<i>Lindenbergia indica</i> L.	Indian Lindenbergia	Scrophulariaceae	Herb	Terrestrial
40.	<i>Malachra capitata</i> Linn.	Malachra \ Brazil jut	Malvaceae	Herb	Terrestrial
41.	<i>Mazus pumilus</i> (Brum. f.) Stennis	Japanese mazus	Scrophulariaceae	Herb	Terrestrial
42.	<i>Musa</i> sp.	Banana tree	Musaceae	Tree like erect herb	Terrestrial
43.	<i>Nasturtium indicum</i> (L) DC.	Bon sariyoh	Brassicaceae	Herb	Terrestrial
44.	<i>Nicotiana plumbaginifolia</i> Viv.	Bon tamak	Solanaceae	Herb	Terrestrial
45.	<i>Ocimum basilicum</i> L.	Ram tulsi	Lamiaceae	Herb	Terrestrial
46.	<i>Ocimum tenuiflorum</i> L.	Krishna tulsi	Lamiaceae	Herb	Terrestrial
47.	<i>Oldenlandia corymbosa</i> L.	Diamond flower	Rubiaceae	Herb	Terrestrial
48.	<i>Oxalis corniculata</i> (DC.) Raeusch, M Oxalidaceae	Creeping wood sorrel Herb	Terrestrial		
49.	<i>Parthenium hysterophorus</i> L.	Carrot grass / Famine weed	Asteraceae	Herb	Terrestrial
50.	<i>Pilea microphylla</i> (L) Liebm.	Rockweed	Urticaceae	Herb	Terrestrial
51.	<i>Peristrophe bicalyculata</i> Nees	Nasabhanga	Acanthaceae	Herb	Terrestrial
52.	<i>Peperomia pellucid</i> (L.) H.B.K.	Shiny bush / Slate pencil plant	Piperaceae	Herb	Terrestrial
53.	<i>Phyllanthus fraternus</i> Webster.	Bhuiamla	Euphorbiaceae	Herb	Terrestrial
54.	<i>Physalis minima</i> L.	Ground cherry	Solanaceae	Herb	Terrestrial
55.	<i>Phyla nodiflora</i> (L.)				
56.	<i>Portulaca quadrifida</i> Linn.	Chicken weed	Portulacaceae	Herb	Terrestrial
57.	<i>Rivinia humilis</i> L.	Blood berry	Phytolaccaceae	Herb	Terrestrial
58.	<i>Ruellia tuberosa</i> Linn.	Waterkanon	Acanthaceae	Herb	Terrestrial
59.	<i>Rumex maritimus</i> L.	Golden dock	Polygonaceae	Herb	Terrestrial
60.	<i>Rungia pectinata</i> Nees.	Comb Rungia	Acanthaceae	Herb	Terrestrial
61.	<i>Scirpus articulatus</i> L.	Club-rush	Cyperaceae	Herb	Marsh
62.	<i>Scoparia dulcis</i> Linn.	Sweet broom weed	Scrophulariaceae	Herb	Terrestrial
63.	<i>Sida acuta</i> Burm. F.	Common wireweed	Malvaceae	Herb	Terrestrial
64.	<i>Sida cordifolia</i> (Burm F.) Borssum	Berela / Heart-leaf sida	Malvaceae	Herb	Terrestrial
65.	<i>Solanum nigrum</i> Linn.	Black-berry	Solanaceae	Herb	Terrestrial
66.	<i>Synedrella nodiflora</i> Gaertn.	Cinderella weed	Asteraceae	Herb	Terrestrial
67.	<i>Tridax procumbens</i> L.	Kanaiya / Kanaphuli	Compositae	Herb	Terrestrial
68.	<i>Vandellia multiflora</i> G. Don.	Vandellia	Scrophulariaceae	Herb	Terrestrial
69.	<i>Vanda tessellate</i> (Roxb.) Hook. Ex G. Don	Vanda orchid	Orchidaceae	Herb	Epiphytic
70.	<i>Vernonia cinerea</i> L.	Ironweed	Asteraceae	Herb	Terrestrial

**2. Table f.** Shrub

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Adhatoda vasica</i> Ness.	Basak	Acanthaceae	Shrub	Terrestrial
2.	<i>Calotropis procera</i> (Aiton), W.T. Aiton, M	Rubber Bush	Asclepiadaceae	Shrub	Terrestrial
3.	<i>Cassia sophera</i> L. M	Kolkasunda	Fabaceae	Shrub	Terrestrial
4.	<i>Cestrum diurnum</i> L.	Din Ka Raja / Day jasmine	Solanaceae	Shrub	Terrestrial
5.	<i>Chromolaena odorata</i> (L.) R. M. King & H. Rob.	Siam weed	Asteraceae	Shrub	Terrestrial
6.	<i>Clerodendrum indicum</i> (L.) Kuntze	Tube flower	Verbenaceae	Shrub	Terrestrial
7.	<i>Clerodendrum viscosum</i> Vent	Glorytree	Verbenaceae	Shrub	Terrestrial
8.	<i>Codiaeum variegatum</i> (L.) A. Juss.	Croton / Fire croton	Euphorbiaceae	Shrub	Terrestrial
9.	<i>Crotalaria juncea</i> Linn.	Indian hemp	Papilionaceae	Shrub	Terrestrial
10.	<i>Datura</i> sp.	Thornapples	Solanaceae	Shrub	Terrestrial
11.	<i>Duranta repens</i> L.	Sky flower	Verbenaceae	Shrub	Terrestrial
12.	<i>Ipomea fistulosa</i> Mart. ex. Choisy.	Ipomea	Convolvulaceae	Shrub	Terrestrial
13.	<i>Jatropha gossypifolia</i> Linn.	Bellyache Bush	Euphorbiaceae	Shrub	Terrestrial
14.	<i>Lantana camara</i> L.	Lantana	Verbenaceae	Shrub	Terrestrial
15.	<i>Lippia alba</i> (Mill.) Br. Ex. Britt & Wilson	Bushy Lippia	Verbenaceae	Shrub	Terrestrial
16.	<i>Nerium indicum</i> Mill.	Karabi	Apocynaceae	Shrub	Terrestrial
17.	<i>Plumbago zeylanica</i> L.	Chitrak	Plumbaginaceae	Shrub	Terrestrial
18.	<i>Rauvolfia tetraphylla</i> L.	Wild Snake Root	Apocynaceae	Shrub	Terrestrial
19.	<i>Ricinus communis</i> L.	Castor oil plants	Euphorbiaceae	Shrub	Terrestrial
20.	<i>Urena lobata</i> L.	Caesarweed	Malvaceae	Shrub	Terrestrial
21.	<i>Solanum xanthocarpum</i> Schrad.	Yellow-berried nightshade	Solanaceae	Shrub	Terrestrial
22.	<i>Solanum torvum</i> Swartz	Turkey berry	Solanaceae	Shrub	Terrestrial

**3. Table g.** Climber

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Coccinia grandis</i> (L.) Voigt.	Ivy gourd / Telakucha	Cucurbitaceae	Climber	Terrestrial
2.	<i>Luffa cylindrical</i> M. Roem.	Egyption cucumber	Cucurbitaceae	Climber	Terrestrial
3.	<i>Mikania micrantha</i> Kunth.	Climbing hempweed	Asteraceae	Climber	Terrestrial
4.	<i>Mikania scandens</i> Willd.	Climbing hempweed	Compositae	Climber	Terrestrial
5.	<i>Momordica charantia</i> L.	Bitter gourd / Karala	Cucurbitaceae	Climber	Terrestrial
6.	<i>Passiflora foetida</i> Linn.	Love in a mist / Jhumka lota	Passifloraceae	Climber	Terrestrial
7.	<i>Trichosanthes tricuspidata</i> Lour.	Red ball snake gourd / Makal	Cucurbitaceae	Climber	Terrestrial

**4. Table h.** Tree.

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Aegle marmelos</i> (L.) Correa	Bel	Rutaceae	Tree	Terrestrial
2.	<i>Artocarpus heterophyllus</i> Lam.	Jackfruit / Kathal	Moraceae	Tree	Terrestrial
3.	<i>Azadirachta indica</i> A. Juss.	Neem	Meliaceae	Tree	Terrestrial
4.	<i>Carica papaya</i> L.	Papaya	Caricaceae	Tree	Terrestrial
5.	<i>Casuarina equisetifolia</i> L.	Whistling pine	Casuarinaceae	Tree	Terrestrial
6.	<i>Chrysalidocarpus lutescens</i> H. Wendl.	Madagascar palm	Areaceae	Tree	Terrestrial
7.	<i>Cinnamomum tamala</i> (Buch. Ham) T.Nees & C.H.Eberm.	Tezpat, Tezapatta, Malabar leaf etc.	Lauraceae	Tree	Terrestrial
8.	<i>Citrus maxima</i> Merr.	Pomelo / Batabi lebu	Rutaceae	Tree	Terrestrial
9.	<i>Cocos nucifera</i> L.	Coconut tree	Areaceae	Tree	Terrestrial
10.	<i>Ficus religiosa</i> L.	Peepal / Holy fig tree	Moraceae	Tree	Terrestrial
11.	<i>Mangifera indica</i> L.	Mango tree	Anacardiaceae	Tree	Terrestrial
12.	<i>Magnolia champaca</i> (L.) Baill. Ex Pierre	Champa	Magnoliaceae	Tree	Terrestrial
13.	<i>Moringa oleifera</i> Lam.	Drumstick tree	Moringaceae	Tree	Terrestrial
14.	<i>Murraya koenigii</i> (L.) Sprengel	Curry leaf	Rutaceae	Tree	Terrestrial
15.	<i>Murraya paniculata</i> (L.) Jack	Kamini	Rutaceae	Tree	Terrestrial
16.	<i>Neolamarckia cadamba</i> (Roxb.) Bosser	Kadam	Rubiaceae	Tree	Terrestrial
17.	<i>Nyctanthes arbor-tristis</i> L.	Parijat, Hengra bubar, Night-flower, Jasmine, Shiuli etc.	Oleaceae	Tree	Terrestrial
18.	<i>Phoenix dactylifera</i> L.	Date palm	Areaceae	Tree	Terrestrial
19.	<i>Phyllanthus emblica</i> L.	Amla	Phyllanthaceae	Tree	Terrestrial
20.	<i>Polyalthia longifolia</i> (Sonner) Thw.	Devdaru	Annonaceae	Tree	Terrestrial
21.	<i>Punica granatum</i> L.	Pomegranate / Anar	Lythraceae	Tree	Terrestrial
22.	<i>Spondias pinnata</i> (L.f.) Kurz	Wild mango / Amra	Anacardiaceae	Tree	Terrestrial
23.	<i>Swietenia macrophylla</i> King.	Big-leaf Mahogany	Meliaceae	Tree	Terrestrial
24.	<i>Tamarindus indica</i> L.M	Tamarind / Imli	Fabaceae	Tree	Terrestrial
25.	<i>Tectona grandis</i> L.f.	Teak	Lamiaceae	Tree	Terrestrial
26.	<i>Trema orientalis</i> (L.) Blume	Indian charcoal tree	Ulmaceae	Tree	Terrestrial
27.	<i>Ziziphusjuzuba</i> Mill.	Jujube	Rhamnaceae	Tree	Terrestrial

**5. Table i.** Parasitic plants.

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Cuscuta</i> sp.	Dodder / Swarna lata	Convolvulaceae	Climber like	Parasitic Plants
2.	<i>Dendrophthoe falcate</i> L.f.) Ettingsh	Honey Suckled Mistletoe	Loranthaceae	Shrub like	Grow on plant body

**6. Table j.** Seasonal flower's plants (Gardening plants).

Sl. No.	Scientific name	Common name	Family	Habit	Habitat
1.	<i>Chrysanthemum indicum</i> L.	Indian Chrysanthemum / Chandramallika	Asteraceae	Shrub	Terrestrial
2.	<i>Tagetes erecta</i> L.	Marigold	Asteraceae	Shrub	Terrestrial
3.	<i>Hibiscus mutabilis</i> L.	Chinese rose / Sthalpadma	Malvaceae	Shrub	Terrestrial
4.	<i>Rosa</i> sp.	Rose / Gulab	Rosaceae	Shrub	Terrestrial
5.	<i>Dahlia</i> sp.	Dahlia	Asteraceae	Herb	Terrestrial
6.	<i>Petunia</i> sp.	Petunia	Solanaceae	Herb	Terrestrial
7.	<i>Lilium</i> sp.	Lily	Liliaceae	Herb	Terrestrial
8.	<i>Zephyranthes rosea</i> Lindl.	Rosy Rain Lily	Amaryllidaceae	Herb	Terrestrial

urban site and 124 km distance from Kolkata. The total area of college campus is 3.9 acres and the total constructed area is 2128.9 square meter. Floral diversity is very rich in this area. College campus also situated on the southern bank of Jalangi River. The college campus has well buildings, two small flower gardens, vast open space and large ground with many floral species. Study area belongs to sub-tropical climate. Summer, from April to June, the weather remains hot and temperatures range from a minimum of 26°C (79°F) to a maximum of 35°C (95°F). Monsoon season prevails, beginning from June to mid-September. Also, retrieving monsoon from mid-October to till mid-November. The weather is quite pleasant, the summer and winter are moderate. The level of moisture increases during summers.

## METHODS

Identification of floral species is based on observation and sampling for several times during twelve months (Kemimkar 2000, Subhashini *et al.* 2019). The plants species are observed and record their photographs from several locations of the college campus. Sometimes we collect the plants material for identification. Identification of Algae and microscopic plant parts are done by compound microscope. Habit and habitat of floral members are also observed. Find out the common name of all identified floral species (Southerland 2006). The identification of plant species was carried out using standard literature (Kemimkar 2000, Prain 1903,

Sharp *et al.* 2010) and flora (Beukema and van Noorwijk 2004).

## RESULTS AND DISCUSSION

### Observation and identification of floral species

The study shows the much floral diversity in the college campus. The list of flora and it's types indicates a significant diversity and also richness of plants in that campus. 156 plants species are identified with their habit, habitat and find out their common names by this survey (Anirban 2007, Sutherland 2006). In this survey flora is divided in to mainly two groups, one is Cryptogamae and another is Phanerogamae. Overall flora has been classified in to 10 groups. Among them 4 species of Algae belonging to 4 families (Table a), 2 species of Bryophytes belonging to 2 families (Table b), 12 species of Pteridophytes belonging to 5 families (Table c) are found. In gymnosperm 2 species are found belonging to 2 families (Table d). Among angiosperms we identified 70 herb species belonging to 33 families (Table e), 22 shrub species belonging to 11 families (Table f), 7 climber species belonging to 3 families (Table g), 27 tree species belonging to 19 families (Table h), 2 parasitic plant species belonging to 2 families (Table i) [14], 8 Seasonal flower's plants (Gardening plants) species belonging to 6 families (Table j) (Beukema and VanNoorwijk 2004, Kemimkar 2000, Prain 1903). In this groups, herb is the most diverse group with 70 species belonging to 33 families. According to the number of species herb



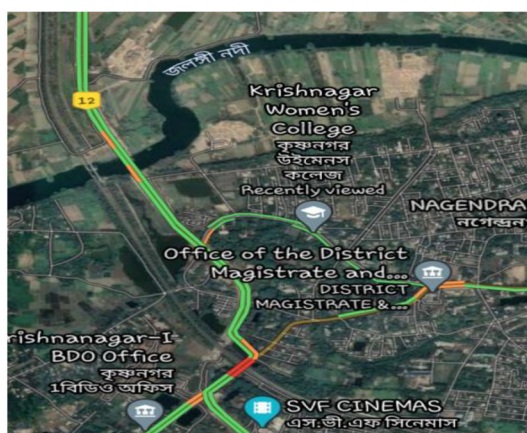


Fig. 1. Location of the study area (Source : Google Maps).



Fig. 2. Building of Krishnagar Women's College.

is the dominant among 10 groups. The present study reveals the floral diversity and existence of different plants species within the campus.

## CONCLUSION

The present studies and observations are show that Krishnagar Women's College campus shows a variety of plant species. Among them medicinal and economic importance plants species are very helpful for human beings. Herbaceous medicinal plants, *Centella asiatica* Urb. (commonly known as Thankuni), *Rauvolfia tetraphylla* L. (commonly known as Wild Snake Root or Sarpagandha) and *Eclipta prostrata* (L.) L. (commonly known as False daisy or Bhringaraj) are naturally grown profusely in the college campus. Tree species of medicinal plants, *Azadirachta indica* A. Juss (commonly known as Neem) is also present. They have several medicinal importance like, gives relief from hypertension and gastrointestinal diseases (Thankuni), controls hypertension (Sarpagandha), used as hair oils and hepatotoxicity drug (Bhringaraj) and used as antioxidant, anti-inflammatory, antidiabetic, antibacterial, antifungal and antiviral agent (Neem). Not only medicinal important plants but also valuable timber yielding plants like *Swietenia macrophylla* King. (commonly known as Big-leaf Mahogany) and *Tectona grandis* Lf (commonly known as Teak) are also present, which have very much economic

values. With the flowering plants Bryophytes (2 species) and Pteridophytes (12 species) are also present which are indicates the vast floral diversity in the area of college campus. Presence of Bryophytes and Pteridophytes species are also indicate the healthy and pollution free environment in and around of the college campus area. Parasitic plants like *Cuscuta* sp. (commonly known as Swarna lata) and *Dendrophthoe falcata* (Lf) Ettingsh (commonly known as Honey Suckled Mistletoe) are nutritionally parasitic (part of heterophytes) plants. In the parasitic plants *Cuscuta* sp. is total parasitic species and *Dendrophthoe falcata* (Lf) Ettingsh is hemiparasitic species. This is indicates that nutritionally host-parasite relationship in the environment. *Parthenium hysterophorus* L. (commonly known as Carrot grass / Famine weed) is the invasive plant species that is found in the college campus. The pollen grains, airborne dried plant parts and roots of *Parthenium* causes various allergies like asthma, bronchitis and contact dermatitis in human beings. Flowering times of all plants are vary depend on the season. In this floral diversity and also in our environment tree species are main source of oxygen ( $O_2$ ). But floral species of the campus premises occasionally suffer from several threats such as alteration of habitat, human disturbance like plants and grass cutting, fire and anthropogenic activities which may change the existing floral diversity. Thus the present study of floral diversity is not conclusive and further exploration will be continued for update the floral data.

## ACKNOWLEDGEMENT

The authors are grateful to the Governing Body of Krishnagar Women's College, Krishnagar, Nadia for providing facilities to carry out the survey in the college campus and Research Monitoring Committee of Barrackpore Rastraguru Surendranath College for instrumental support at Environmental Chemistry Laboratory.

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