
RESEARCH ARTICLE**ANGIOSPERMIC PLANT DIVERSITY OF VIKRAMSHILA GANGETIC DOLPHIN WILDLIFE SANCTUARY, BHAGALPUR, BIHAR, INDIA****Onkar Nath Maurya^{1*} and Tanay Shil²**

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Abstract: This study presents the first comprehensive survey of flowering plant diversity within the Vikramshila Gangetic Dolphin Wildlife Sanctuary, situated in Bhagalpur district, Bihar, India. The investigation documents 163 species of angiosperms representing 138 genera and 51 families, along with details on their habits and phenological periods.

Keywords: Vikramshila Gangetic Dolphin Wildlife Sanctuary, Floristic diversity, Angiosperms

INTRODUCTION

The Vikramshila Gangetic Dolphin Wildlife Sanctuary in Bhagalpur district was established in 1990 to protect the endangered Gangetic Dolphin (*Platanista gangetica gangetica* Roxb.), which is listed in the IUCN Red List (Das & Maurya, 2015). Early floristic records from Bhagalpur were documented by Haines (1921–1925) in ‘Botany of Bihar and Orissa’. The Dicot flora of the district was later explored by Verma (1981). Studies on algal diversity from nearby regions were conducted by several researchers, including Singh & Saha (1982a, 1982b), Saha & Pandit (1986, 1987), Saha & Wuzek (1989), Kumar & Saha (1993), Kargupta & Jha (2004). Additional floristic data of Bhagalpur were included in ‘Flora of Bihar-Analysis’ (Singh et al., 2001). Das & Maurya (2015), documented algal flora of Vikramsila Gangetic Dolphin Sanctuary (Bihar) for the first time with a record of sixty five taxa

including 13 taxa of Cyanophyceae of 11 genera, 24 taxa of Chlorophyceae of 15 genera, 21 taxa of Bacillariophyceae of 16 genera, 5 taxa of Euglenophyceae of 1 genus and one taxa each under Dinophyceae and Xanthophyceae. Maurya *et al.* (2015) reported *Bromelia pinguin* L. (Bromeliaceae) for first time in India from this sanctuary. However, no comprehensive study on angiosperm diversity has been reported from the sanctuary until now. Therefore, the present work explores and documents the flowering plant diversity of this protected area for the first time to assess its botanical wealth.

Study area

The study area is Vikramshila Gangetic Dolphin Wildlife Sanctuary located in Bhagalpur district of Bihar, India. It is a 60 km gangetic stretch from Sultanganj (25° 25′ N 86° 73′ E) and Kahalgaon (25° 28′ N 87° 22′ E).

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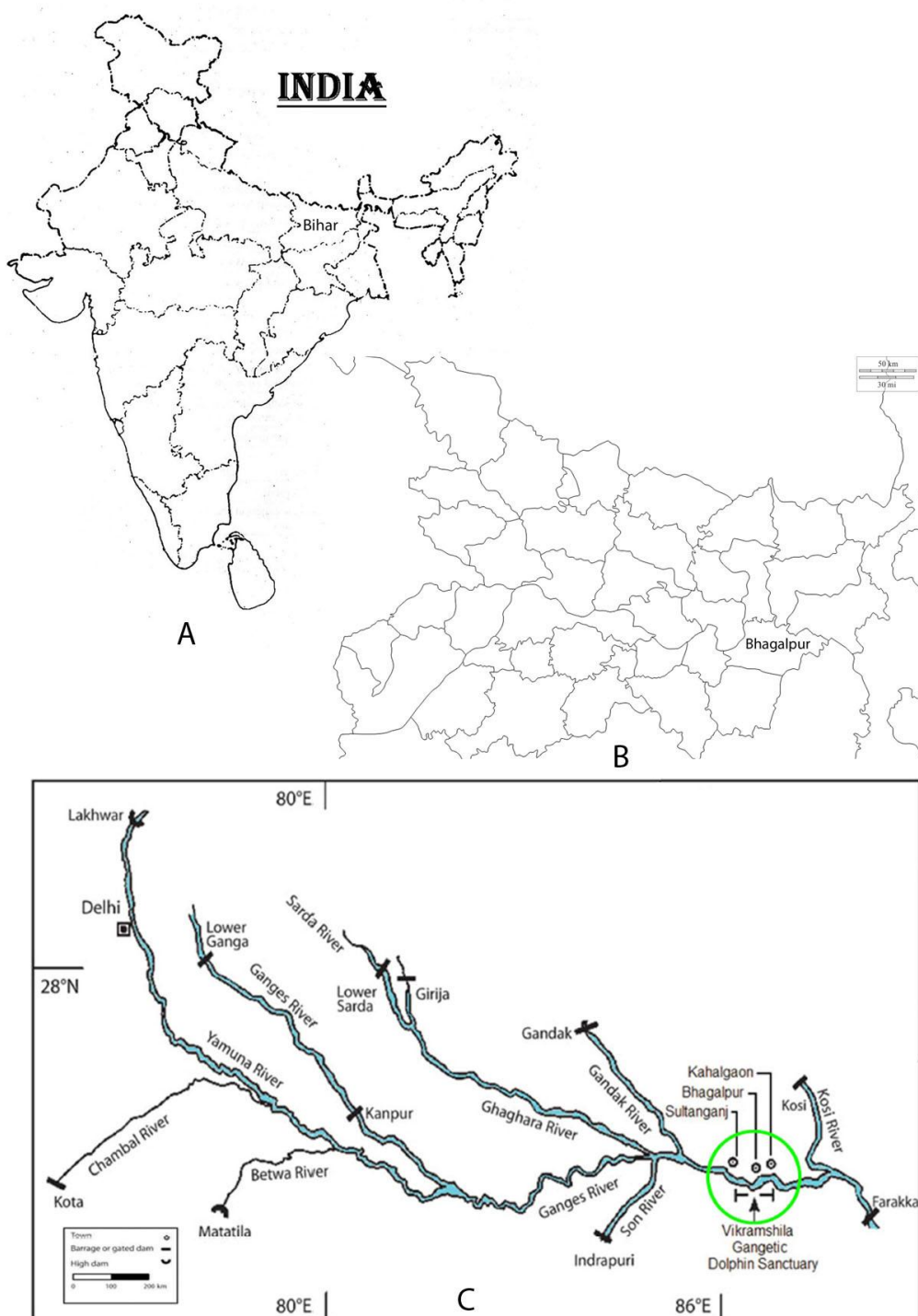


Fig: Map of Vikramsila Gangetic Dolphin Wildlife Sanctuary and collection sites

MATERIALS AND METHODS

Plant samples were collected for two years from March 2013 to September 2016. Freshly collected specimens were worked out and identified with the help of standard keys from relevant floras, monographs and were reconfirmed by matching them with the authentic specimens present in Central National Herbarium (CAL). Voucher specimens are deposited in Central National Herbarium (CAL). The

nomenclature of plants has been updated using Plants of the World Online (2025) and International Plant Name Index (2025).

RESULTS AND DISCUSSION

Table 1. Enumerates the flowering plant diversity identified in Vikramshila Gangetic Dolphin Wildlife Sanctuary.

Table 1. Checklist of Angiosperms of Vikramshila Gangetic Dolphin Wildlife Sanctuary, Bhagalpur, Bihar, India

Sl no.	Plant names	Family	Phenology	Habit	Specimen examined
1.	<i>Nymphaea nouchali</i> Burm.f.	Nymphaeaceae	Sept.–Nov.	Herb	ONM 62359, 67959
2.	<i>Polyalthia suberosa</i> (Roxb.) Thwaites	Annonaceae	Major part of the year	Tree	ONM 62387, 63964
3.	<i>Litsea suberosa</i> Yen C. Yang & P.H. Huang	Lauraceae	June – Oct.	Shrub	ONM 63916
4.	<i>Typhonium trilobatum</i> (L.) Schott	Araceae	April – Sept.	Herb	ONM 63935
5.	<i>Hydrilla verticillata</i> (L.f.) Royle	Hydrocharitaceae	April – Dec.	Herb	ONM 67902
6.	<i>Najas graminea</i> Delile		Aug. – Oct.	Herb	ONM 67965
7.	<i>Vallisneria spiralis</i> L.		Jan. - May	Herb	ONM 63999
8.	<i>Potamogeton crispus</i> L.	Potamogetonaceae	Nov. – Apr.	Herb	ONM 62400
9.	<i>Potamogeton nodosus</i> Poir.		Aug. – May	Herb	ONM 62345
10.	<i>Commelina benghalensis</i> L.	Commelinaceae	July – Nov.	Herb	ONM 62237
11.	<i>Cyanotis axillaris</i> (L.) D.Don ex Sweet		Aug. – Jan.	Herb	ONM 62223, 62239
12.	<i>Pontederia crassipes</i> Mart.	Pontederiaceae	May – Sept.	Herb	ONM 62210, 63924
13.	<i>Bromelia pinguin</i> L.	Bromeliaceae	Feb. - May	Herb	ONM 63949
14.	<i>Cyperus difformis</i> L.	Cyperaceae	Aug. – Dec.	Herb	ONM 62309, 63997
15.	<i>Cyperus iria</i> L.		Aug. – Jan.	Herb	ONM 62244, 67957
16.	<i>Cyperus michelianus</i> (L.) Delile		March – Dec.	Herb	ONM 62369, 67929
17.	<i>Cyperus rotundus</i> L.		July – Dec.	Herb	ONM 62228, 62281, 62293, 62372, 67949
18.	<i>Fimbristylis aestivalis</i> Vahl		Sept. – Nov.	Herb	ONM 62288, 62370
19.	<i>Fimbristylis littoralis</i> Gaudich.		Aug. – Oct.	Herb	ONM 62246
20.	<i>Schoenoplectiella lateriflora</i> (J.F.Gmel.) Lye		Aug. – Nov.	Herb	ONM 63995, 63996
21.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Throughout the year	Herb	ONM 62340
22.	<i>Dactyloctenium aegyptium</i> (L.) Willd.		Aug. – March	Herb	ONM 62280
23.	<i>Dactyloctenium aristatum</i> Link		July – Oct.	Herb	ONM 62374
24.	<i>Desmostachya bipinnata</i> (L.) Stapf		May – Nov.	Herb	ONM 63955
25.	<i>Dichanthium annulatum</i> (Forssk.) Stapf		Aug. – Nov.	Herb	ONM 62397
26.	<i>Digitaria ciliaris</i> (Retz.) Koeler		Aug. – Nov.	Herb	ONM 62241, 62262,
27.	<i>Echinochloa colona</i> (L.) Link		July – Dec.	Herb	ONM 62282, 63993, 67923,
28.	<i>Echinochloa stagnina</i> (Retz.) P.Beauv.		Aug. – Dec.	Herb	ONM 63994
29.	<i>Eleusine indica</i> (L.) Gaertn.		June – Nov.	Herb	ONM 62245
30.	<i>Panicum repens</i> L.		July – Dec.	Herb	ONM 62355, 63950
31.	<i>Paspalidium flavidum</i> (Retz.) A.Camus		June – Nov.	Herb	ONM 62263
32.	<i>Paspalum scrobiculatum</i> L.		July – Dec.	Herb	ONM 62243
33.	<i>Phalaris minor</i> Retz.		Feb. – March	Herb	ONM 62363
34.	<i>Phragmites karka</i> (Retz.) Trin. ex Steud.		July – Dec.	Herb	ONM 62211

35.	<i>Saccharum spontaneum</i> L.		Aug. – Nov.	Herb	ONM 62212, 62296
36.	<i>Setaria verticillata</i> (L.) P.Beauv.		Sept. – Oct.	Herb	ONM 62242, 62307
37.	<i>Sorghum bicolor</i> (L.) Moench		Aug. – Oct.	Herb	ONM 62270
38.	<i>Sorghum halepense</i> (L.) Pers.		Oct. – Dec.	Herb	ONM 62226, 62247, 67921
39.	<i>Argemone mexicana</i> L.	Papavaraceae	Dec. - May	Herb	ONM 63919, 67919
40.	<i>Fumaria vaillantii</i> Loisel.		Nov. - March	Herb	ONM 67934
41.	<i>Cocculus hirsutus</i> (L.) W.Theob.	Menispermaceae	Nov. - April	Climber	ONM 63985
42.	<i>Tiliacora acuminata</i> (Lam.) Miers		April - June	Climber	ONM 63941, 67070
43.	<i>Tinospora sinensis</i> (Lour.) Merr.		Feb. - June	Climber	ONM 63912
44.	<i>Ranunculus sceleratus</i> L.	Ranunculaceae	Nov. - March	Herb	ONM 62308, 62353
45.	<i>Cayratia trifolia</i> (L.) Domin	Vitaceae	April – Dec.	Climber	ONM 62216, 63913, 67953
46.	<i>Canavalia gladiata</i> (Jacq.) DC.	Fabaceae	Sept. – Dec.	Climber	ONM 67913
47.	<i>Grona triflora</i> (L.) H.Ohashi & K.Ohashi		Throughout the year	Herb	ONM 62264
48.	<i>Guilandina bonduc</i> L.		July – April	Shrub	ONM 67932
49.	<i>Pleurolobus gangeticus</i> (L.) J.St.-Hil. ex H.Ohashi & K.Ohashi		June – Jan.	Herb	ONM 67976, 67981
50.	<i>Senna sophera</i> (L.) Roxb.		Aug. – Dec.	Herb	ONM 67908
51.	<i>Sesbania sesban</i> (L.) Merr.		Throughout the year	Herb	ONM 62208, 67927
52.	<i>Cannabis sativa</i> L.	Cannabaceae	Feb. - April	Herb	ONM 62318
53.	<i>Trema orientale</i> (L.) Blume		Throughout the year	Tree	ONM 63917, 63978
54.	<i>Artocarpus lacucha</i> Buch.-Ham.	Moraceae	March – Aug.	Tree	ONM 63947
55.	<i>Ficus hispida</i> L.f.		Throughout the year	Tree	ONM 62389, 63922
56.	<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	March – Dec.	Climber	ONM 62248, 63908, 63986, 67977
57.	<i>Oxalis corniculata</i> L.	Oxalidaceae	Throughout the year	Herb	ONM 62305
58.	<i>Passiflora foetida</i> L.	Passifloriaceae	Major part of the year	Climber	ONM 63911
59.	<i>Breynia vitis-idaea</i> (Burm.f.) C.E.C.Fisch.	Euphorbiaceae	Aug. – Nov.	Shrub	ONM 62217
60.	<i>Croton bonplandianum</i> Baill.		All the year round	Herb	ONM 67943
61.	<i>Euphorbia hirta</i> L.		All the year round	Herb	ONM 62235, 62300, 67962
62.	<i>Euphorbia hypericifolia</i> L.		Major part of the year	Herb	ONM 63965
63.	<i>Mallotus repandus</i> (Willd.) Müll.Arg.		Dec. – Apr.	Tree	ONM 63975
64.	<i>Phyllanthus reticulatus</i> Poir.		Throughout the year	Shrub	ONM 67966
65.	<i>Phyllanthus virgatus</i> G.Forst.		July - March	Herb	ONM 62375, 63906, 67904, 67965
66.	<i>Ricinus communis</i> L.		Major part of the year	Shrub	ONM 62388

67.	<i>Combretum indicum</i> (L.) DeFilipps	Combretaceae	Major part of the year	Climber	ONM 67922
68.	<i>Ammannia baccifera</i> L.	Lythraceae	July – Feb.	Herb	ONM 62310, 67928
69.	<i>Ludwigia perennis</i> L.	Onagraceae	Aug. – Dec.	Herb	ONM 62304
70.	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	May – Nov.	Climber	ONM 62291, 63910
71.	<i>Glycosmis pentaphylla</i> (Retz.) DC.	Rutaceae	Throughout the year	Herb	ONM 62276, 62358
72.	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Aug. - March	Herb	ONM 62257, 62283, 62338, 63974, 67973
73.	<i>Malvastrum coromandelianum</i> (L.) Garcke		Major part of the year	Herb	ONM 62395, 67979
74.	<i>Melochia corchorifolia</i> L.		Aug. – Nov.	Herb	ONM 62225
75.	<i>Pentapetes phoenicea</i> L.		Aug. – Dec.	Herb	ONM 63991
76.	<i>Sida cordata</i> (Burm.f.) Borss.Waalk.		All the year round	Herb	ONM 62320
77.	<i>Urena lobata</i> L.		Aug. - March	Herb	ONM 62261, 62279, 67974
78.	<i>Capparis zeylanica</i> L.	Capparaceae	Oct. - April	Shrub	ONM 63946
79.	<i>Cleome viscosa</i> L.		Almost throughout the year	Herb	ONM 62254, 67969
80.	<i>Crateva religiosa</i> G.Forst.		March - July	Tree	ONM 63940, 67968
81.	<i>Loranthus longiflorus</i> Desr.	Loranthaceae	Nov. - April	Shrub	ONM 67918
82.	<i>Persicaria hydropiper</i> (L.) Delarbre	Polygonaceae	Throughout the year	Herb	ONM 63989
83.	<i>Polygonum plebeium</i> R.Br.		Major part of the year	Herb	ONM 62303, 62335
84.	<i>Rumex maritimus</i> L.		Nov. - March	Herb	ONM 62329
85.	<i>Polycarpon prostratum</i> (Forssk.) Asch. & Schweinf.	Caryophyllaceae	Feb. - May	Herb	ONM 68845
86.	<i>Achyranthes aspera</i> L.	Amaranthaceae	All the year round	Herb	ONM 62272
87.	<i>Alternanthera philoxeroides</i> (Mart.) Griseb.		March – May	Herb	ONM 62203, 62294, 62378,
88.	<i>Alternanthera sessilis</i> (L.) R.Br. ex DC.		Throughout the year	Herb	ONM 62206, 62220, 62267
89.	<i>Amaranthus spinosus</i> L.		Throughout the year	Herb	ONM 62231
90.	<i>Amaranthus viridis</i> L.		All the year round	Herb	ONM 62230, 62277
91.	<i>Celosia argentea</i> L.		Aug. – Feb.	Herb	ONM 63990
92.	<i>Cyathula prostrata</i> (L.) Blume		Aug. – Dec.	Herb	ONM 67972
93.	<i>Deeringia amaranthoides</i> (Lam.) Merr.		Sept. – Jan.	Shrub	ONM 67916
94.	<i>Digera muricata</i> (L.) Mart.		Throughout the year	Herb	ONM 62274, 63936, 67914, 67960
95.	<i>Dysphania ambrosioides</i> (L.) Mosyakin & Clemants		April – Aug.	Herb	ONM 63920
96.	<i>Pupalia lappacea</i> (L.) Juss.		Aug. - March	Herb	ONM 67909
97.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Aug. – March	Herb	ONM 62259
98.	<i>Boerhavia repens</i> L.		Aug. – Jan.	Herb	ONM 67967

99.	<i>Glinus oppositifolius</i> (L.) Aug.DC.	Molluginaceae	Almost throughout the year	Herb	ONM 62364, 63943, 63954
100.	<i>Anagallis arvensis</i> L.	Primulaceae	Dec. - March	Herb	ONM 62298, 62324
101.	<i>Dentella repens</i> (L.) J.R.Forst. & G.Forst.	Rubiaceae	Throughout the year	Herb	ONM 62368, 63376, 63925
102.	<i>Neolamarckia cadamba</i> (Roxb.) Bosser		May – Dec.	Tree	ONM 63933
103.	<i>Centaurium pulchellum</i> (Sw.) Druce	Gentianaceae	Aug. – Sept.	Herb	ONM 62346, 62347
104.	<i>Calotropis gigantea</i> (L.) Dryand.	Apocynaceae	Most part of the year	Shrub	ONM 62249
105.	<i>Calotropis procera</i> (Aiton) Dryand.		Feb. - July	Shrub	ONM 63963
106.	<i>Oxystelma esculentum</i> (L. f.) Sm.		Sept. – Nov.	Climber	ONM 62207, 67946,
107.	<i>Pergularia daemia</i> (Forssk.) Chiov.		April – Oct.	Climber	ONM 62256, 63976, 67956
108.	<i>Rauwolfia serpentina</i> (L.) Benth. ex Kurz		April – Sept.	Herb	ONM 63937, 67971
109.	<i>Telosma pallida</i> (Roxb.) W. G. Craib		May – Jan.	Climber	ONM 63938
110.	<i>Cordia myxa</i> L.	Boraginaceae	August – Nov.	Tree	ONM 63945
111.	<i>Heliotropium indicum</i> L.		Major part of the year	Herb	ONM 63915, 67944, 62332, 62289
112.	<i>Cuscuta reflexa</i> Roxb.	Convolvulaceae	Oct. - March	Herb	ONM 62306
113.	<i>Evolvulus nummularius</i> (L.) L.		July – Feb.	Herb	ONM 62222, 62354, 63926, 67978
114.	<i>Ipomoea aquatica</i> Forssk.		Throughout the year	Herb	ONM 62202, 62292, 62391, 63987, 67951
115.	<i>Ipomoea carnea</i> Jacq.		Throughout the year	Shrub	ONM 62201, 67948
116.	<i>Merremia emarginata</i> (Burm. f.) Hallier f.		Sept. – Dec.	Herb	ONM 62218, 67901, 67963
117.	<i>Merremia hederacea</i> (Burm. f.) Hallier f.		Oct. – Dec.	Herb	ONM 62209
118.	<i>Operculina turpethum</i> (L.) Silva Manso		Dec. - March	Climber	ONM 62285, 67911
119.	<i>Datura metel</i> L.	Solanaceae	All the year round	Shrub	ONM 63914, 63973, 67958,
120.	<i>Datura stramonium</i> L.		Aug. – Dec.	Shrub	ONM 62250
121.	<i>Nicotiana plumbaginifolia</i> Viv.		Throughout the year	Herb	ONM 62319, 63909, 67945
122.	<i>Physalis minima</i> L.		Aug. – Dec.	Herb	ONM 67925
123.	<i>Solanum nigrum</i> L.		Throughout the year	Herb	ONM 62266
124.	<i>Solanum verbascifolium</i> L.		Major part of the year	Herb	ONM 67917
125.	<i>Solanum violaceum</i> Ortega		All the year round	Shrub	ONM 62316
126.	<i>Solanum virginianum</i> L.		Major part of the year	Herb	ONM 63928, 63952
127.	<i>Jasminum sambac</i> (L.) Aiton	Oleaceae	April - July	Herb	ONM 63932, 63959
128.	<i>Mecardonia procumbens</i> (Mill.) Small	Plantaginaceae	All the year round	Herb	ONM 63365

129.	<i>Scoparia dulcis</i> L.		All the year round	Herb	ONM 62367, 63939, 67980
130.	<i>Lindernia crustacea</i> (L.) F.Muell.	Linderniaceae	July - March	Herb	ONM 62224, 62295
131.	<i>Lindernia hyssopoides</i> (L.) Haines		Nov. - April	Herb	ONM 67931
132.	<i>Vandellia crustacea</i> (L.) Benth.		July – Dec.	Herb	ONM 67964
133.	<i>Verbascum chinense</i> (L.) Santapau		Jan. - May	Herb	ONM 62330, 63944
134.	<i>Hygrophila polysperma</i> (Roxb.) T.Anderson	Acanthaceae	Nov. - March	Herb	ONM 62339, 63971
135.	<i>Peristrophe bicalyculata</i> (Retz.) Nees		Oct. - April	Herb	ONM 63981
136.	<i>Ruellia prostrata</i> Poir.		July – Dec.	Herb	ONM 62238, 62342, 63921
137.	<i>Rungia pectinata</i> (L.) Nees		Throughout the year	Herb	ONM 67915
138.	<i>Rungia repens</i> (L.) Nees		Oct. – Feb.	Herb	ONM 63910
139.	<i>Utricularia aurea</i> Lour.	Lentibulariaceae	Oct. – Jan.	Herb	ONM 62356, 63972
140.	<i>Lantana camara</i> L.	Verbenaceae	Throughout the year	Shrub	ONM 63982, 67961
141.	<i>Lippia alba</i> (Mill.) N.E.Br. ex Britton & P.Wilson		Throughout the year	Shrub	ONM 62348, 67950
142.	<i>Phyla nodiflora</i> (L.) Greene		All the year round	Herb	ONM 62224, 62314
143.	<i>Vitex negundo</i> L.		All the year round	Shrub	ONM 63918, 67955
144.	<i>Anisomeles indica</i> (L.) Kuntze	Lamiaceae	Major part of the year	Herb	ONM 62255, 62286
145.	<i>Clerodendrum inerme</i> (L.) Gaertn.		Nov. - March	Shrub	ONM 63930
146.	<i>Clerodendrum infortunatum</i> L.		Jan. - May	Shrub	ONM 62331
147.	<i>Leucas aspera</i> (Willd.) Link		All the year round	Herb	ONM 62251
148.	<i>Leucas cephalotes</i> (Roth) Spreng.		July – Dec.	Herb	ONM 62302
149.	<i>Nepeta hindostana</i> (B.Heyne ex Roth) Haines		Oct. – March	Herb	ONM 62343, 63984
150.	<i>Salvia plebeia</i> R.Br.		Dec. – June	Herb	ONM 62357
151.	<i>Nymphoides indica</i> (L.) Kuntze	Menyanthaceae	March – Nov.	Herb	ONM 62349, 67903
152.	<i>Ageratum conyzoides</i> (L.) L.	Asteraceae	Throughout the year	Herb	ONM 62301
153.	<i>Caesulia axillaris</i> Roxb.		Aug. – Feb.	Herb	ONM 67930
154.	<i>Chromolaena odorata</i> (L.) R.M.King & H.Rob.		Nov. - March	Herb	ONM 63983
155.	<i>Cirsium arvense</i> (L.) Scop.		Jan. - April	Herb	ONM 62323
156.	<i>Cyanthillium cinereum</i> (L.) H.Rob.		All the year round	Herb	ONM 62278
157.	<i>Eclipta prostrata</i> (L.) L.		Throughout the year	Herb	ONM 62229, 62265, 62287, 62325, 63905, 67952
158.	<i>Grangea maderaspatana</i> (L.) Poir.		Dec. - June	Herb	ONM 62299, 62334, 63904
159.	<i>Pseudognaphalium luteoalbum</i> (L.) Hilliard & B.L.Burt		Feb. - April	Herb	ONM 62312, 62350
160.	<i>Spilanthes calva</i> DC.		Aug. – Feb.	Herb	ONM 62271, 62337

161.	<i>Synedrella nodiflora</i> (L.) Gaertn.		Sept. – Jan.	Herb	ONM 62275, 67975
162.	<i>Tridax procumbens</i> (L.) L.		All the year round	Herb	ONM 62253
163 .	<i>Xanthium strumarium</i> L.		Sept. - May	Herb	ONM 62290

A total of 163 species of angiosperms belonging to 138 genera of 51 families are recorded. Dicotyledones comprise 43 families, 110 genera and 128 species and monocotyledons comprise 8

families, 28 genera and 35 species respectively. Dicotyledonous and monocotyledonous comprises 79 % and 21 % of the total species respectively.

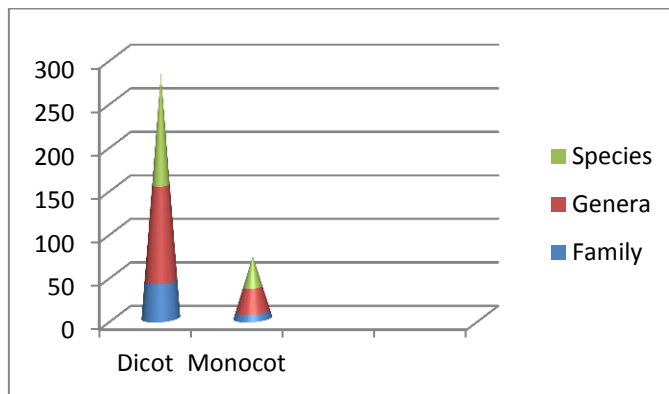


Fig: Dicot and Monocot Species with respect to Family, Genera and Species

Floristic study reveals that Poaceae, the most dominant family is represented by 16 genera and 18 species followed by Asteraceae (12 genera and 12 species) and Amaranthaceae (9 genera and 11 species). The three dominant families of Vikramshila Gangetic Dolphin Wildlife Sanctuary comprise 41

species. Out of 51 families, 26 families are represented by a single genus with a single species. The plants are grouped into 4 categories (Herb, Shrub, Climber, and Tree) based on their habit. Herb, shrub, climber, and tree comprises 75%, 12%, 8%, and 5% and of total number of species respectively.

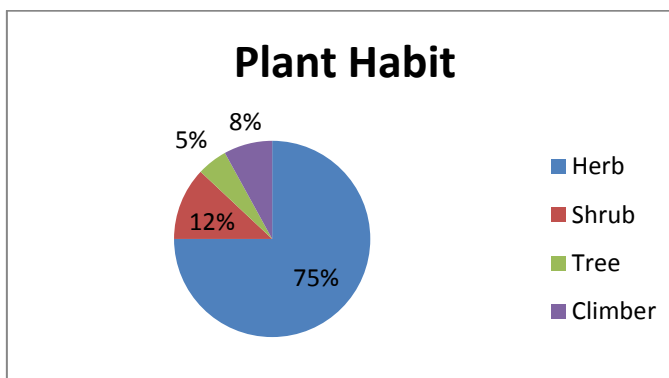


Fig: Habit of the Plant Species

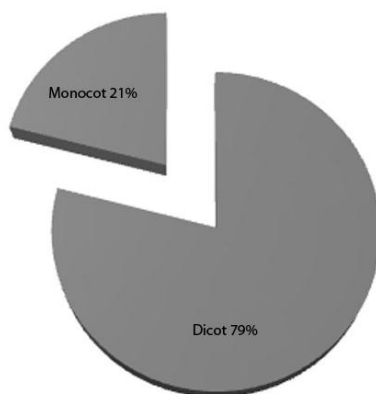


Fig: Distribution of dicot and monocot species

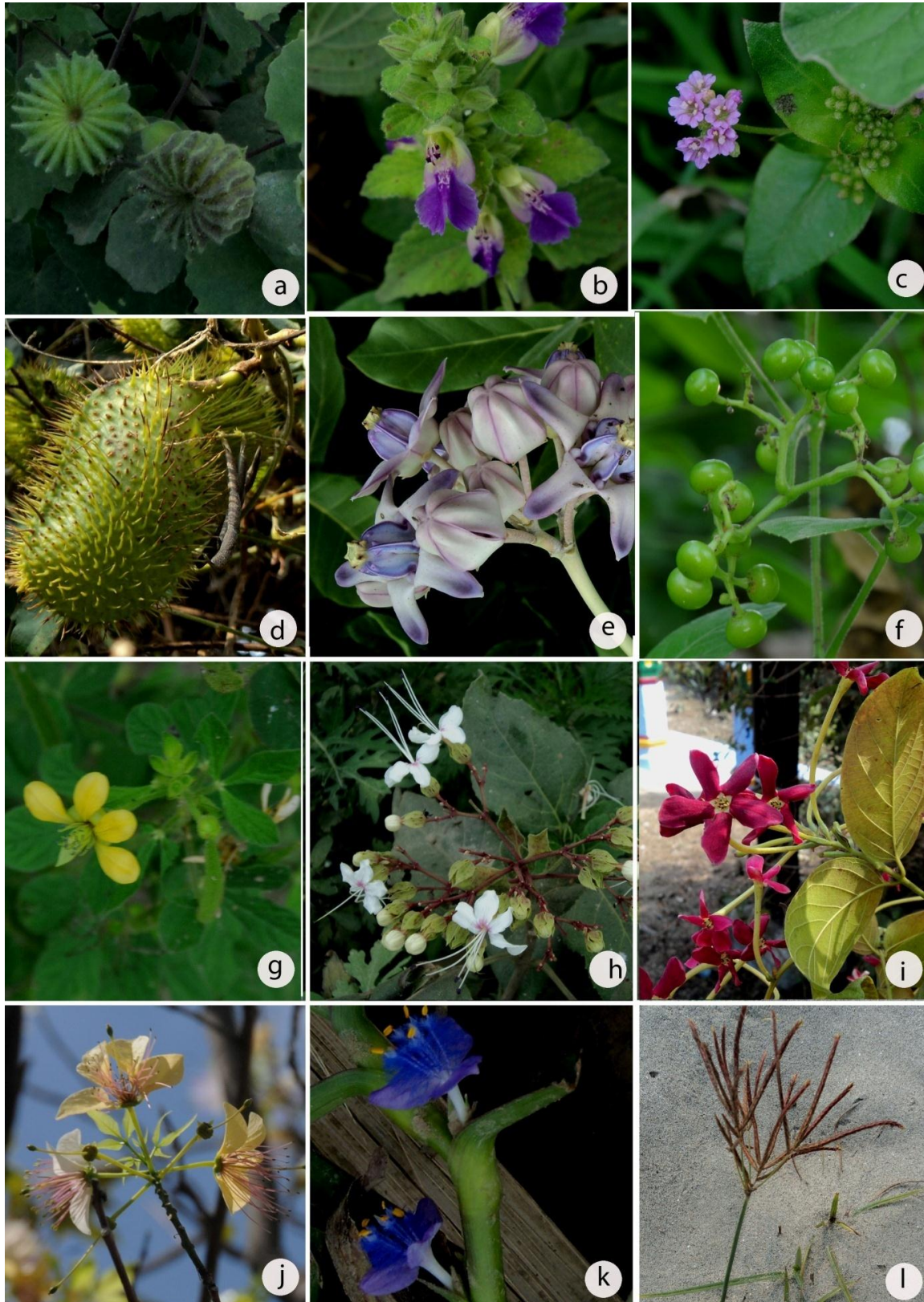


Plate 1: a. *Abutilon indicum* (L.) Sweet; b. *Anisomeles indica* (L.) Kuntze; c. *Boerhavia diffusa* L.; d. *Caesalpinia bonduc* (L.) Roxb.; e. *Calotropis gigantea* (L.) Dryand.; f. *Cayratia trifolia* (L.) Domin; g. *Cleome viscosa* L.; h. *Clerodendrum infortunatum* L.; i. *Combretum indicum* (L.) DeFilipps j. *Crateva religiosa* G.Forst.; k. *Cyanotis axillaris* (L.) D.Don ex Sweet; l. *Cyperus rotundus* L.

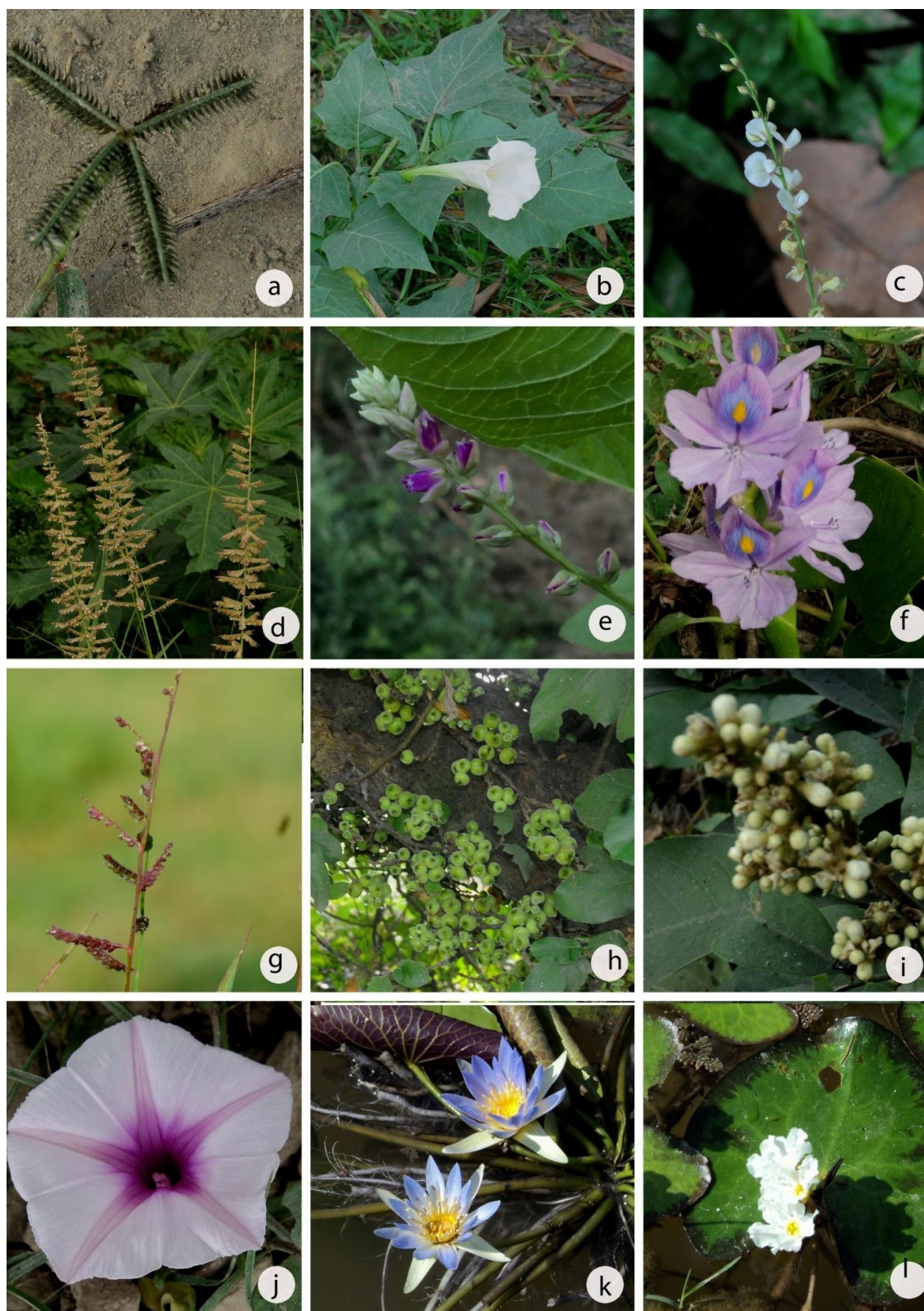


Plate 2: a. *Dactyloctenium aegyptium* (L.) Willd.; b. *Datura metel* L.; c. *Desmodium gangeticum* (L.) DC.; d. *Desmostachya bipinnata* (L.) Stapf; e. *Diger a muricata* (L.) Mart.; f. *Eichhornia crassipes* (Mart.) Solms; g. *Echinochloa colona* (L.) Link; h. *Ficus hispida* L.f.; i. *Glycosmis pentaphylla* (Retz.) DC.; j. *Ipomoea aquatica* Forssk.; k. *Nymphaea nouchali* Burm.f.; l. *Nymphoides indica* (L.) Kuntze

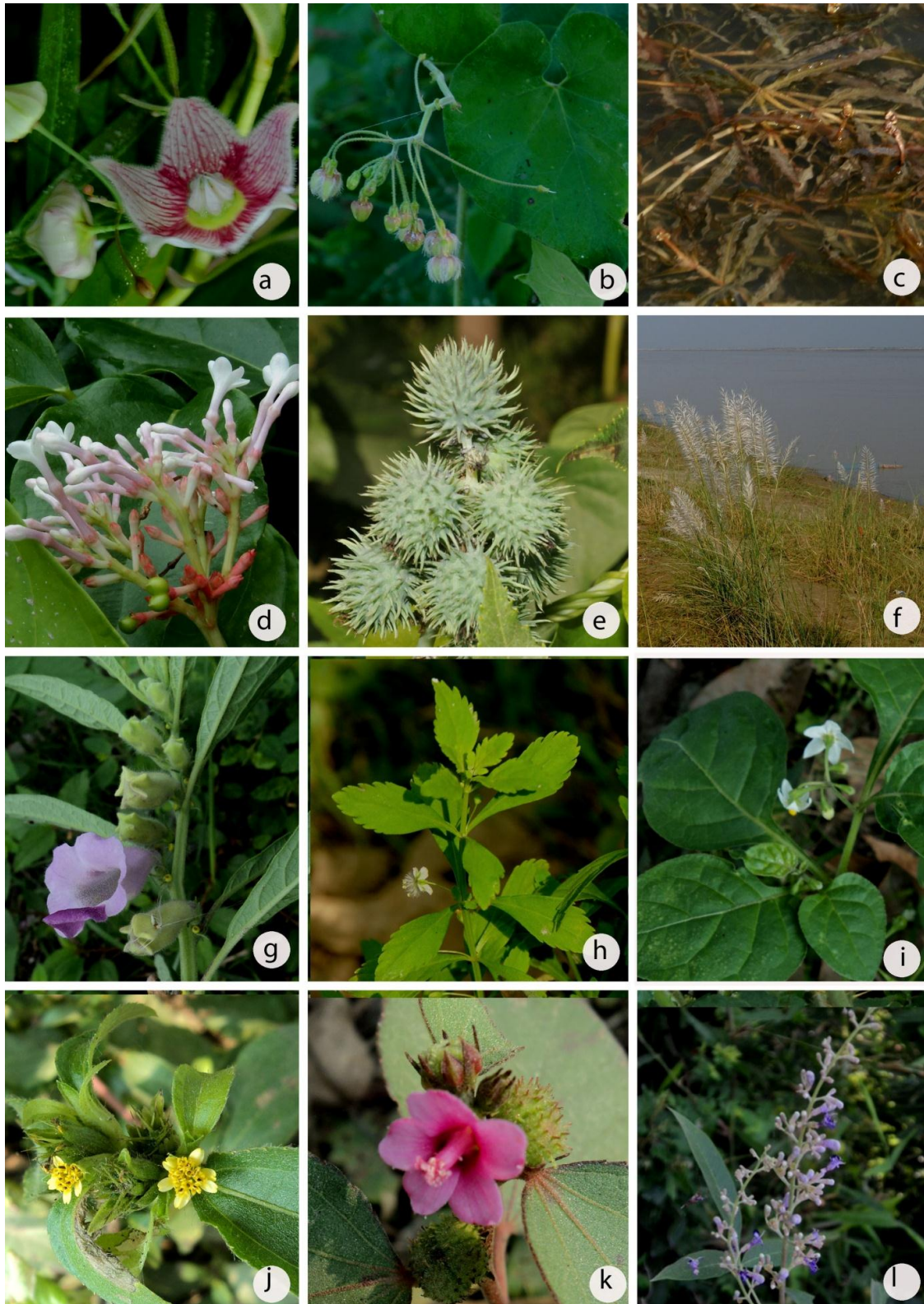


Plate 3: a. *Oxystelma esculentum* (L. f.) Sm.; b. *Pergularia daemia* (Forssk.) Chiov.; c. *Potamogeton crispus* L.; d. *Rauwolfia serpentina* (L.) Benth. ex Kurz; e. *Ricinus communis* L.; f. *Saccharum spontaneum* L.; g. *Sesamum indicum* L.; h. *Scoparia dulcis* L.; i. *Solanum nigrum* L.; j. *Synedrella nodiflora* (L.) Gaertn.; k. *Urena lobata* L.; l. *Vitex negundo* L.

CONCLUSION

The present study highlights the angiospermic plant diversity of Vikramshila Gangetic Dolphin Wildlife

Sanctuary, Bhagalpur, Bihar which is extensively documented. Occurrence of 163 species indicate a well represented angiosperms diversity.

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