

Research Article

VASCULAR FLORISTIC WEALTH OF BANARAS HINDU UNIVERSITY MAIN CAMPUS, INDIA

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ABSTRACT

A study was conducted to update the vascular floristic wealth of Banaras Hindu University main campus spreading over 1,300 acres of land area. A total of 765 vascular plant species were collected of which 739 species were represented by Angiosperms, 18 by Gymnosperms and only 8 by the Pteridophytes. The Angiospermic groups of plants which dominate the campus flora were represented by 477 genera distributed among 111 families. Asteraceae, Fabaceae and Poaceae were the dominant families of the campus flora. The flora of foreign origin dominates over the flora of Indian origin. The flora of herbaceous habit and perennial duration dominates the vascular floristic wealth of the Banaras Hindu University main campus.

Key Words: *Banaras Hindu University, Exotic Flora, Native Flora, Vascular Flora*

INTRODUCTION

The great seat of learning Banaras Hindu University is the largest teaching and residential university of Asia born in 1916, during the Indian freedom movement as a National University with donation from both the rich and the poor. It was founded by great freedom fighter and social reformer Mahamana Pandit Madan Mohan Malaviya (1861-1946). The foundation stone of the Banaras Hindu University was laid by Lord Hardinge on February 4, 1916 the then Viceroy and Governor General of British ruled India. The Banaras Hindu University came into existence through an Act on April 1, 1916. The university has three constituent schools and faculty of Education located in Kamachha campus 4 km from the main campus spreading over 50 acres of land area on which the university was originally established. This vast university presently has two campuses, 4 institutes, 16 faculties, 140 departments 4 advanced centers and 4 interdisciplinary schools. The newly established fourth institute of the university named Institute of Environment and Sustainable Development (IESD) has emerged in the leadership of internationally renowned Ecologist Professor J. S. Singh. An eminent young Ecologist Professor Akhilesh S. Raghubanshi has the honour to become the first Director of this newly established institute of the university. Spreading over 1,300 acres of land area the university campus is surrounded by a wall all around it.

The newly established second campus of the Banaras Hindu University named Rajiv Gandhi South Campus, Barkachha is situated at Barkachha Kalan (Mirzapur district of Uttar Pradesh) which is about 80 km from Varanasi City. The second campus covers an area of about 2,700 acres which was originally an Agricultural Extension Farm of the university.

More than nine decades old main university campus provides dense flora. Several studies have been conducted on the flora of the main university campus (Singh, 2010, 2011a, b, c, 2012). The main objective of the present investigation was to update the vascular floristic wealth of the Banaras Hindu University main campus.

MATERIALS AND METHODS

Study Site

Banaras Hindu University main campus (Figure 1) is located about 5 km south of the Varanasi City (Varanasi district of Uttar Pradesh) on the western bank of sacred river Ganges (25°18' N latitude and 83°1' E longitude) on leveled topography at an elevation of 76 cm (Singh *et al.*, 1971). The Varanasi

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LEGEND

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0 100 200 300 400 500 Meters

1:50,000

1978

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Figure 1: Study site

An extensive field survey was initiated from July 2011 onward to collect the various vascular plant species growing on the Banaras Hindu University main campus. During survey, visits were made to every nook and corner of the university campus including the residential compounds to search the vascular plant species. The survey and collection process was completed by the June 2013. The collected specimens were identified through various sources (Hooker, 1875-1897; Duthie, 1903-1922; Bor, 1960; Kirtikar and Basu, 1975). The APG (2009) classification was followed for arranging the taxa to families. The vascular plant species were listed into three groups i.e. Angiosperms (plants with covered seeds), Gymnosperms (plants with naked seeds) and Pteridophytes (Non-seed producing vascular plants). Based on the habits the plant species were categorized into six types i.e. herbs, shrubs, undershrubs, trees, woody climbers and woody grasses. Furthermore, based on the duration of life the vascular plants were categorized into three types i.e. annuals, biennials and perennials.

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RESULTS AND DISCUSSION

A total of 765 vascular plant species were reported from the Banaras Hindu University main campus, of which 739 were represented by Angiosperms (Table 1), 18 by Gymnosperms (Table 2) and only 8 by the Pteridophytes (Table 3).



Figure 2: *Centella asiatica*: an annual native herb growing on Banaras Hindu University main campus

Thus the study reveals that the vascular floristic wealth of the Banaras Hindu University main campus is dominated by the Angiospermic group of plants. Of the total reported Angiospermic species, 576 plant species were represented by dicotyledonous species while 163 plant species were represented by monocotyledonous species. Thus among Angiosperms the dicotyledonous plant species dominate over the monocotyledonous species. Angiospermic flora of the Banaras Hindu University main campus was represented by 477 genera distributed among 111 families (Table 4) of which 91 were represented by dicotyledonous families and 20 by the monocotyledonous families. Gymnospermic flora was represented by 8 genera distributed among 5 families (Table 4). Furthermore, the Pteridophytic flora was represented by 6 genera distributed among 6 families (Table 4).

Table 1: Angiospermic flora of Banaras Hindu University main campus

S.No.	Family/Plant species	Habit	Origin status	Duration
DICOTYLEDONS				
Acanthaceae				
1.	<i>Adhatoda zeylanica</i> L.	Shrub	Native	Perennial
2.	<i>Andrographis paniculata</i> Nees	Herb	Native	Annual
3.	<i>Barleria prionitis</i> L.	Herb	Native	Annual
4.	<i>Blepharis boerhaviaefolia</i> Pers.	Herb	Native	Annual
5.	<i>Ecboium viride</i> (Flors.) Alston	Herb	Native	Annual
6.	<i>Hygrophila auriculata</i> Schumach.	Herb	Native	Annual
7.	<i>Justicia adhatoda</i> L.	Shrub	Native	Perennial
8.	<i>Justicia gendarussa</i> Burm.	Shrub	Exotic	Perennial
9.	<i>Justicia diffusa</i> Willd.	Herb	Exotic	Perennial

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10.	<i>Justicia simplex</i> D. Don	Herb	Exotic	Perennial
11.	<i>Peristrophe bicalyculata</i> Nees	Herb	Native	Annual
12.	<i>Ruellia tuberosa</i> L.	Herb	Exotic	Biennial
13.	<i>Ruellia prostrata</i> Poir.	Herb	Exotic	Annual
14.	<i>Rungia parviflora</i> (L.) Nees	Herb	Native	Annual
15.	<i>Rungia repens</i> Nees	Herb	Native	Annual
16.	<i>Strobilanthes isophyllus</i> T. Anders	Shrub	Exotic	Perennial
Aizoaceae				
1.	<i>Mollugo hirta</i> Thunb.	Herb	Native	Annual
2.	<i>Trianthema portulacastrum</i> L.	Herb	Native	Annual
Amaranthaceae				
1.	<i>Achyranthes aspera</i> L.	Herb	Native	Perennial
2.	<i>Aerva lanata</i> (L.) Juss. ex Schult	Herb	Native	Perennial
3.	<i>Alternanthera sessilis</i> R. Br.	Herb	Exotic	Perennial
4.	<i>Amaranthus blitum</i> L.	Herb	Native	Annual
5.	<i>Amaranthus polygamosus</i> L.	Herb	Native	Perennial
6.	<i>Amaranthus spinosus</i> L.	Herb	Exotic	Annual
7.	<i>Amaranthus tenuifolius</i> Willd.	Herb	Exotic	Annual
8.	<i>Amaranthus tricolor</i> L.	Herb	Exotic	Perennial
9.	<i>Amaranthus viridis</i> L.	Herb	Native	Perennial
10.	<i>Celosia argentea</i> L.	Herb	Native	Annual
11.	<i>Chenopodium album</i> L.	Herb	Exotic	Annual
12.	<i>Deeringia amaranthoides</i> (Lam.) Merri.	Woody climber	Native	Perennial
13.	<i>Digera arvensis</i> Forsk.	Herb	Native	Annual
14.	<i>Gomphrena globosa</i> L.	Herb	Exotic	Annual
15.	<i>Iresine herbstii</i> Hook. ex Lindl.	Herb	Exotic	Perennial
16.	<i>Iresine lindenii</i> Van Houttee	Herb	Exotic	Perennial
Anacardiaceae				
1.	<i>Anacardium occidentale</i> L.	Tree	Exotic	Perennial
2.	<i>Buchanania latifolia</i> Roxb.	Tree	Native	Perennial
3.	<i>Mangifera indica</i> L.	Tree	Native	Perennial
4.	<i>Spondias pinnata</i> (Koen.) Kurz	Tree	Native	Perennial
Annonaceae				
1.	<i>Annona squamosa</i> L.	Tree	Exotic	Perennial
2.	<i>Artabotrys odoratissimus</i> R. Br.	Woody climber	Native	Perennial
3.	<i>Polyalthia longifolia</i> Sonn.	Tree	Native	Perennial
Apiaceae				
1.	<i>Anethum graveolens</i> DC.	Herb	Exotic	Annual
2.	<i>Apium graveolens</i> L.	Herb	Exotic	Biennial
3.	<i>Centella asiatica</i> (L.) Urban	Herb	Native	Annual
4.	<i>Coriandrum sativum</i> L.	Herb	Exotic	Annual
5.	<i>Daucus carota</i> L.	Herb	Exotic	Annual
6.	<i>Foeniculum vulgare</i> Mill.	Herb	Exotic	Perennial
7.	<i>Hydrocotyle javanica</i> Thunb.	Herb	Native	Annual
8.	<i>Hydrocotyle sibthorpioides</i> Lam.	Herb	Native	Annual

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9.	<i>Trachyspermum ammi</i> (L.) Sprague	Herb	Exotic	Annual
Apocynaceae				
1.	<i>Adenium obesum</i> (Forsk.) Roem. & Schult	Shrub	Exotic	Perennial
2.	<i>Allamanda cathartica</i> L.	Woody climber	Exotic	Perennial
3.	<i>Allamanda neriifolia</i> Hook.	Woody climber	Exotic	Perennial
4.	<i>Alstonia scholaris</i> R. Br.	Tree	Native	Perennial
5.	<i>Carissa carandas</i> L.	Shrub	Exotic	Perennial
6.	<i>Catharanthus roseus</i> G. Don	Herb	Exotic	Perennial
7.	<i>Ervatamia coronaria</i> (Jacq.) Stapf	Shrub	Native	Perennial
8.	<i>Hemidesmus indicus</i> (L.) R. Br.	Shrub	Native	Perennial
9.	<i>Holarrhena pubescens</i> Benth.	Tree	Native	Perennial
10.	<i>Nerium indicum</i> L.	Shrub	Native	Perennial
11.	<i>Nerium oleander</i> L.	Shrub	Exotic	Perennial
12.	<i>Plumeria acuminata</i> Ait.	Shrub	Exotic	Perennial
13.	<i>Plumeria alba</i> L.	Shrub	Exotic	Perennial
14.	<i>Plumeria rubra</i> L.	Tree	Exotic	Perennial
15.	<i>Rauvolfia serpentina</i> Benth.	Shrub	Native	Perennial
16.	<i>Thevetia peruviana</i> Schum.	Shrub	Exotic	Perennial
17.	<i>Trachelospermum jasminoides</i> (Lindl.) Lem.	Woody climber	Exotic	Perennial
18.	<i>Vallisneria spiralis</i> (L.) Kuntze	Woody climber	Native	Perennial
Araliaceae				
1.	<i>Aralia digitata</i> Roxb.	Shrub	Native	Perennial
2.	<i>Aralia elata</i> (Miq.) Seem	Shrub	Exotic	Perennial
3.	<i>Polycias balfouriana</i>	Shrub	Exotic	Perennial
Aristolochiaceae				
1.	<i>Aristolochia indica</i> L.	Herb	Native	Perennial
Asclepiadaceae				
1.	<i>Calotropis gigantea</i> (L.) R. Br. ex. Ait.	Shrub	Native	Perennial
2.	<i>Calotropis procera</i> (Ait.) R. Br.	Herb	Native	Perennial
Asteraceae				
1.	<i>Acmella oleracea</i> (L.) R. K. Janson	Herb	Exotic	Annual
2.	<i>Adenostemma viscosum</i> Forst.	Herb	Exotic	Annual
3.	<i>Ageratum conyzoides</i> L.	Herb	Exotic	Annual
4.	<i>Artemisia annua</i> L.	Herb	Exotic	Annual
5.	<i>Artemisia scoparia</i> Waldst. & Kit.	Herb	Exotic	Annual
6.	<i>Aster amellus</i> L.	Herb	Exotic	Annual
7.	<i>Aster grandiflorus</i> L.	Herb	Exotic	Annual
8.	<i>Bidens pilosa</i> L.	Herb	Exotic	Annual
9.	<i>Blumea aromatica</i> DC.	Herb	Native	Perennial
10.	<i>Blumea eriantha</i> DC.	Herb	Native	Perennial
11.	<i>Blumea indica</i> L.	Herb	Native	Annual
12.	<i>Blumea lacera</i> DC.	Herb	Native	Annual
13.	<i>Blumea laciniata</i> DC.	Herb	Native	Perennial
14.	<i>Blumea oxyodonta</i> DC.	Herb	Native	Annual

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15.	<i>Caesulia axillaris</i> Roxb.	Herb	Native	Annual
16.	<i>Calendula officinalis</i> L.	Herb	Exotic	Annual
17.	<i>Carthamus tinctorius</i> L.	Herb	Exotic	Annual
18.	<i>Centipeda minima</i> (L.) A. Br. & Asch.	Herb	Native	Annual
19.	<i>Centaurea moschata</i> L.	Herb	Exotic	Annual
20.	<i>Chrysanthemum carinatum</i> L.	Herb	Exotic	Annual
21.	<i>Chrysanthemum cinerariaefolium</i> Vis.	Herb	Exotic	Annual
22.	<i>Chrysanthemum coronarium</i> L.	Herb	Exotic	Annual
23.	<i>Chrysanthemum morifolium</i> Ramat	Herb	Exotic	Annual
24.	<i>Cichorium intybus</i> L.	Herb	Exotic	Annual
25.	<i>Cnicus arvensis</i> Hoffm.	Herb	Exotic	Annual
26.	<i>Dahlia pinnata</i> Cav.	Herb	Exotic	Annual
27.	<i>Echinops echinatus</i> Roxb.	Herb	Native	Annual
28.	<i>Eclipta alba</i> Hask.	Herb	Native	Annual
29.	<i>Elephantopus scaber</i> L.	Herb	Native	Annual
30.	<i>Gaillardia pulchella</i> Foug.	Herb	Exotic	Annual
31.	<i>Galinsoga parviflora</i> Cav.	Herb	Exotic	Annual
32.	<i>Gnaphalium indicum</i> L.	Herb	Exotic	Annual
33.	<i>Gnaphalium purpureum</i> L.	Herb	Exotic	Annual
34.	<i>Guizotia abyssinica</i> Cass.	Herb	Exotic	Annual
35.	<i>Helianthus annuus</i> L.	Herb	Exotic	Annual
36.	<i>Lactuca sativa</i> L.	Herb	Exotic	Annual
37.	<i>Launaea asplenifolia</i> Hook.	Herb	Native	Annual
38.	<i>Launaea nudicaulis</i> Hook.	Herb	Native	Annual
39.	<i>Parthenium hysterophorus</i> L.	Herb	Exotic	Perennial
40.	<i>Pluchea lanceolata</i> C.B. Clarke	Herb	Exotic	Annual
41.	<i>Pulicaria foliolosa</i> DC.	Herb	Native	Annual
42.	<i>Sonchus arvensis</i> L.	Herb	Exotic	Annual
43.	<i>Sonchus oleraceus</i> L.	Herb	Exotic	Annual
44.	<i>Sphaeranthus indicus</i> L.	Herb	Exotic	Annual
45.	<i>Tagetes erecta</i> L.	Herb	Exotic	Annual
46.	<i>Tagetes patula</i> L.	Herb	Exotic	Annual
47.	<i>Taraxacum officinale</i> Webb.	Herb	Exotic	Annual
48.	<i>Tridax procumbens</i> L.	Herb	Exotic	Annual
49.	<i>Vernonia anthelmintica</i> (L.) Willd.	Herb	Native	Perennial
50.	<i>Vernonia cinerea</i> (L.) Less.	Herb	Native	Perennial
51.	<i>Volutarella divaricata</i> Benth.	Herb	Exotic	Annual
52.	<i>Xanthium strumarium</i> L.	Herb	Native	Annual
53.	<i>Zinnia elegans</i> Jacq.	Herb	Exotic	Annual
54.	<i>Zinnia linearis</i> Benth.	Herb	Exotic	Annual
Balsaminaceae				
1.	<i>Impatiens balsamina</i> L.	Herb	Native	Annual
Bignoniaceae				
1.	<i>Campsis grandiflora</i> (Thunb.) K. Schum.	Woody climber	Exotic	Perennial

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2.	<i>Campsis radicans</i> Seem.	Woody climber	Exotic	Perennial
3.	<i>Crescentia cujete</i> L.	Tree	Exotic	Perennial
4.	<i>Dolichandra unguis-cati</i> (L.) Miers	Woody climber	Exotic	Perennial
5.	<i>Jacaranda mimosaeifolia</i> D. Don	Tree	Exotic	Perennial
6.	<i>Kigelia africana</i> (Lam.) Benth.	Tree	Exotic	Perennial
7.	<i>Mansoa alliacea</i> Gentry.	Woody climber	Exotic	Perennial
8.	<i>Millingtonia hortensis</i> L.	Tree	Exotic	Perennial
9.	<i>Pyrostegia venusta</i> Miers	Shrub	Exotic	Perennial
10.	<i>Tabebuia spectabilis</i> Nicholas	Tree	Exotic	Perennial
11.	<i>Tecoma capensis</i> (Thunb.) Lindl.	Woody climber	Exotic	Perennial
12.	<i>Tecoma stans</i> (L.) H. B. & K.	Shrub	Exotic	Perennial
Boraginaceae				
1.	<i>Cordia dichotoma</i> G.Forst	Tree	Native	Perennial
2.	<i>Heliotropium indicum</i> L.	Herb	Exotic	Annual
3.	<i>Heliotropium strigosum</i> Willd.	Herb	Exotic	Annual
4.	<i>Trichodesma indicum</i> R. Br.	Herb	Exotic	Annual
Brassicaceae				
1.	<i>Brassica alba</i> Boiss.	Herb	Exotic	Annual
2.	<i>Brassica campestris</i> L.	Herb	Exotic	Annual
3.	<i>Brassica juncea</i> (L.) Czern. & Coss.	Herb	Exotic	Annual
4.	<i>Brassica napus</i> L.	Herb	Exotic	Annual
5.	<i>Brassica nigra</i> (L.) Koch.	Herb	Exotic	Annual
6.	<i>Brassica oleracea</i> L. var. <i>gongyloides</i> L.	Herb	Exotic	Biennial
7.	<i>Brassica oleracea</i> L. var. <i>capitata</i> L.	Herb	Exotic	Biennial
8.	<i>Brassica oleracea</i> L. var. <i>gemmifera</i> Zenker	Herb	Exotic	Biennial
9.	<i>Brassica oleracea</i> L. var. <i>botrytis</i> L.	Herb	Exotic	Biennial
10.	<i>Brassica rapa</i> L.	Herb	Exotic	Biennial
11.	<i>Iberis amara</i> L.	Herb	Exotic	Annual
12.	<i>Raphanus sativus</i> L.	Herb	Exotic	Annual
13.	<i>Sisymbrium irio</i> L.	Herb	Exotic	Annual
Cactaceae				
1.	<i>Cereus hildmannianus</i> K. Schum.	Herb	Exotic	Perennial
2.	<i>Cereus repandus</i> Haw.	Herb	Exotic	Perennial
3.	<i>Cephalocereus apicicephalum</i> E. Y. Dawson	Herb	Exotic	Perennial
4.	<i>Cephalocereus quadricentralis</i> E. Y. Dawson	Herb	Exotic	Perennial
5.	<i>Echinocereus engelmannii</i> (Parry ex Engelm.) Lem.	Herb	Exotic	Perennial
6.	<i>Echinocereus reichenbachii</i> (Teischeck ex Walp.) Hagge f.	Herb	Exotic	Perennial
7.	<i>Echinocereus triglochidiatus</i> Engelm.	Herb	Exotic	Perennial

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8.	<i>Mammillaria bombycina</i> Quehl	Herb	Exotic	Perennial
9.	<i>Mammillaria spinosissima</i> (Kuntze) Lem.	Herb	Exotic	Perennial
10.	<i>Opuntia microdasys</i> (Lehm.) Pfeiff	Herb	Exotic	Perennial
11.	<i>Opuntia stricta</i> Haw.	Herb	Exotic	Perennial
Cannabaceae				
1.	<i>Cannabis sativa</i> L.	Herb	Exotic	Annual
2.	<i>Trema orientalis</i> Blume	Tree	Native	Perennial
Capparaceae				
1.	<i>Capparis decidua</i> (Forsk.) Edgew.	Shrub	Native	Perennial
2.	<i>Capparis spinosa</i> L.	Shrub	Native	Perennial
3.	<i>Gynandropsis pentaphylla</i> L.	Herb	Native	Annual
4.	<i>Maerua arenaria</i> Hk. f & Th.	Woody climber	Native	Perennial
Caricaceae				
1.	<i>Carica papaya</i> L.	Herb	Exotic	Perennial
Caryophyllaceae				
1.	<i>Dianthus caryophyllus</i> L.	Herb	Exotic	Annual
2.	<i>Spergula arvensis</i> L.	Herb	Exotic	Annual
3.	<i>Stellaria aquatica</i> (L.) Scop.	Herb	Exotic	Annual
4.	<i>Vaccaria pyramidata</i> L.	Herb	Exotic	Annual
Casuarinaceae				
1.	<i>Casuarina equisetifolia</i> L.	Tree	Exotic	Perennial
Celastraceae				
1.	<i>Celastrus paniculatus</i> Willd.	Woody climber	Native	Perennial
Ceratophyllaceae				
1.	<i>Ceratophyllum demersum</i> L.	Herb	Exotic	Annual
Chenopodiaceae				
1.	<i>Beta vulgaris</i> L.	Herb	Exotic	Biennial
2.	<i>Spinacea oleracea</i> L.	Herb	Exotic	Annual
Cleomaceae				
1.	<i>Cleome viscosa</i> L.	Herb	Native	Annual
Combretaceae				
1.	<i>Combretum indicum</i> (L.) De Filippis	Shrub	Native	Perennial
2.	<i>Terminalia arjuna</i> Wt. & Arn.	Tree	Native	Perennial
3.	<i>Terminalia bellerica</i> (Gaertn.) Roxb.	Tree	Native	Perennial
4.	<i>Terminalia catappa</i> L.	Tree	Exotic	Perennial
5.	<i>Terminalia chebula</i> Retz.	Tree	Native	Perennial
6.	<i>Terminalia tomentosa</i> Wt. & Arn.	Tree	Native	Perennial
Convolvulaceae				
1.	<i>Convolvulus arvensis</i> L.	Herb	Exotic	Annual
2.	<i>Convolvulus pluricaulis</i> Choisy	Herb	Native	Annual
3.	<i>Cuscuta reflexa</i> Roxb.	Herb	Native	Perennial
4.	<i>Evolvulus alsinoides</i> L.	Herb	Native	Annual
5.	<i>Evolvulus nummularius</i> L.	Herb	Native	Annual
6.	<i>Ipomoea aquatica</i> Forsk.	Herb	Native	Annual
7.	<i>Ipomoea fistulosa</i> Mart.	Shrub	Exotic	Perennial

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8.	<i>Ipomoea pes-tigridis</i> L.	Herb	Exotic	Perennial
9.	<i>Ipomoea pilosa</i> Sweet	Herb	Exotic	Perennial
10.	<i>Ipomoea quamoclit</i> L.	Herb	Exotic	Perennial
Crassulaceae				
1.	<i>Kalanchoe pinnata</i> (Lam.) Pers.	Herb	Exotic	Perennial
Cucurbitaceae				
1.	<i>Bryonia dioica</i> Jacq.	Herb	Exotic	Perennial
2.	<i>Coccinia grandis</i> (L.) Voigt	Herb	Native	Annual
3.	<i>Cucumis sativus</i> L.	Herb	Exotic	Annual
4.	<i>Cucurbita maxima</i> Duchense	Herb	Exotic	Perennial
5.	<i>Cucurbita moschata</i> Duchense ex Poit	Herb	Exotic	Perennial
6.	<i>Lagenaria siceraria</i> (Mol.) Standl.	Herb	Exotic	Perennial
7.	<i>Luffa acutangula</i> (L.) Roxb.	Herb	Native	Annual
8.	<i>Luffa cylindrica</i> (L.) Roem.	Herb	Exotic	Annual
9.	<i>Momordica charantia</i> L.	Herb	Native	Annual
10.	<i>Trichosanthes cucumerina</i> L.	Herb	Native	Annual
Dilleniaceae				
1.	<i>Dillenia indica</i> L.	Tree	Native	Perennial
Ebenaceae				
1.	<i>Diospyros embryopteris</i> Pers.	Tree	Native	Perennial
Elaeocarpaceae				
1.	<i>Elaeocarpus ganitrus</i> Roxb.	Tree	Native	Perennial
Euphorbiaceae				
1.	<i>Acalypha indica</i> L.	Herb	Native	Annual
2.	<i>Acalypha hispida</i> Burm. f.	Shrub	Exotic	Perennial
3.	<i>Acalypha wilkesiana</i> Muell.- Arg.	Shrub	Exotic	Perennial
4.	<i>Chrozophora prostrata</i> Dalz.	Herb	Native	Annual
5.	<i>Chrozophora rotteri</i> Juss.	Herb	Native	Annual
6.	<i>Codiaeum variegatum</i> Blume	Shrub	Exotic	Perennial
7.	<i>Croton bonplandianus</i> Baill	Herb	Exotic	Annual
8.	<i>Euphorbia antiquorum</i> L.	Tree	Native	Perennial
9.	<i>Euphorbia caducifolia</i> L.	Shrub	Native	Perennial
10.	<i>Euphorbia granulata</i> L.	Herb	Native	Annual
11.	<i>Euphorbia royleana</i> Boiss. L.N.	Shrub	Native	Perennial
12.	<i>Euphorbia hirta</i> L.	Herb	Exotic	Annual
13.	<i>Euphorbia nivulia</i> L.	Shrub	Native	Perennial
14.	<i>Euphorbia splendens</i> Boj.	Shrub	Exotic	Perennial
15.	<i>Euphorbia thymifolia</i> L.	Herb	Exotic	Annual
16.	<i>Euphorbia neriifolia</i> L.	Shrub	Native	Perennial
17.	<i>Euphorbia tirucalli</i> L.	Shrub	Native	Perennial
18.	<i>Excoecaria bicolor</i> L.	Shrub	Exotic	Perennial
19.	<i>Jatropha curcus</i> L.	Shrub	Exotic	Perennial
20.	<i>Jatropha podagrica</i> Hook.	Shrub	Exotic	Perennial
21.	<i>Jatropha gossypifolia</i> L.	Shrub	Exotic	Perennial
22.	<i>Jatropha integerrima</i> Jacq.	Shrub	Exotic	Perennial
23.	<i>Jatropha multifida</i> L.	Shrub	Exotic	Perennial
24.	<i>Mallotus philippensis</i> Muell.	Tree	Exotic	Perennial
25.	<i>Pedilanthus tithymaloides</i> L.	Shrub	Exotic	Perennial

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26.	<i>Phyllanthus emblica</i> L.	Tree	Native	Perennial
27.	<i>Phyllanthus niruri</i> L.	Herb	Native	Annual
28.	<i>Phyllanthus simplex</i> Retz.	Herb	Native	Annual
29.	<i>Poinsettia pulcherrima</i> R. Grah.	Shrub	Exotic	Perennial
30.	<i>Ricinus communis</i> L.	Shrub	Exotic	Annual
Fabaceae				
1.	<i>Acacia auriculiformis</i> A. Cunn. ex Benth.	Tree	Exotic	Perennial
2.	<i>Acacia catechu</i> Willd.	Tree	Native	Perennial
3.	<i>Acacia concinna</i> (Willd.) DC.	Tree	Native	Perennial
4.	<i>Acacia leucophloea</i> Willd.	Tree	Native	Perennial
5.	<i>Acacia mangium</i> Willd.	Tree	Exotic	Perennial
6.	<i>Acacia nilotica</i> (L.) Delile	Tree	Exotic	Perennial
7.	<i>Albizia lebbek</i> (L.) Willd.	Tree	Native	Perennial
8.	<i>Albizia saman</i> F. Muell.	Tree	Exotic	Perennial
9.	<i>Albizia procera</i> Benth.	Tree	Native	Perennial
10.	<i>Alysicarpus longifolius</i> Wt. & Arn.	Herb	Native	Annual
11.	<i>Alysicarpus monilifer</i> DC.	Herb	Native	Annual
12.	<i>Arachis hypogaea</i> L.	Herb	Exotic	Annual
13.	<i>Atylosia scarabaeoides</i> Benth.	Herb	Native	Annual
14.	<i>Bauhinia acuminata</i> L.	Tree	Native	Perennial
15.	<i>Bauhinia purpurea</i> L.	Tree	Native	Perennial
16.	<i>Bauhinia racemosa</i> Lam.	Tree	Native	Perennial
17.	<i>Bauhinia variegata</i> L.	Tree	Native	Perennial
18.	<i>Butea monosperma</i> (Lam.) Taubert	Tree	Native	Perennial
19.	<i>Cajanus cajan</i> (L.) Mill	Shrub	Exotic	Perennial
20.	<i>Caesalpinia crista</i> Lam.	Woody climber	Native	Perennial
21.	<i>Caesalpinia sappan</i> L.	Tree	Native	Perennial
22.	<i>Calliandra haematocephala</i>	Shrub	Exotic	Perennial
23.	<i>Calliandra surinamensis</i> Benth.	Shrub	Exotic	Perennial
24.	<i>Canavalia gladiata</i> (Jacq.) DC.	Herb	Exotic	Annual
25.	<i>Cassia fistula</i> L.	Tree	Native	Perennial
26.	<i>Cassia marginata</i> Roxb,	Tree	Native	Perennial
27.	<i>Cassia nodosa</i> Ham.	Tree	Native	Perennial
28.	<i>Cassia tora</i> L.	Herb	Exotic	Annual
29.	<i>Cicer arietinum</i> L.	Herb	Exotic	Annual
30.	<i>Clitoria ternatea</i> L.	Herb	Native	Perennial
31.	<i>Crotalaria medicaginea</i> L.	Herb	Exotic	Annual
32.	<i>Cyamopsis tetragonoloba</i> (L.)Taub.	Herb	Native	Annual
33.	<i>Dalbergia sissoo</i> Roxb.	Tree	Native	Perennial
34.	<i>Delonix regia</i> (Boj) Raf.	Tree	Exotic	Perennial
35.	<i>Derris elliptica</i> Lour.	Woody climber	Native	Perennial
36.	<i>Desmodium gangeticum</i> (L.) DC.	Undershrub	Native	Annual
37.	<i>Desmodium triflorum</i> DC.	Herb	Native	Annual
38.	<i>Dichrostachys cinerea</i> (L.) Wt. & Arn.	Tree	Native	Perennial

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39.	<i>Dolichos lablab</i> L.	Herb	Exotic	Perennial
40.	<i>Erythrina indica</i> Lam.	Tree	Native	Perennial
41.	<i>Erythrina variegata</i> L.	Tree	Native	Perennial
42.	<i>Heylandia latebrosa</i> (L.) DC.	Herb	Native	Annual
43.	<i>Indigofera enneaphylla</i> L.	Herb	Native	Annual
44.	<i>Indigofera linifolia</i> Retz.	Herb	Native	Annual
45.	<i>Lathyrus aphaca</i> L.	Herb	Native	Annual
46.	<i>Lathyrus sphaericus</i> Retz.	Herb	Exotic	Annual
47.	<i>Lens culinaris</i> Medic.	Herb	Exotic	Annual
48.	<i>Leucaena leucocephala</i> Willd.	Tree	Exotic	Perennial
49.	<i>Melilotus alba</i> Desv.	Herb	Exotic	Annual
50.	<i>Melilotus indicus</i> (L.) All.	Herb	Native	Annual
51.	<i>Medicago sativa</i> L.	Herb	Exotic	Annual
52.	<i>Mimosa pudica</i> L.	Herb	Exotic	Annual
53.	<i>Mucuna pruriens</i> Baker	Herb	Exotic	Perennial
54.	<i>Peltophorum pterocarpum</i> (DC.) K. Heyne	Tree	Exotic	Perennial
55.	<i>Phaseolus aureus</i> Roxb.	Herb	Native	Annual
56.	<i>Phaseolus mungo</i> Roxb.	Herb	Native	Annual
57.	<i>Phascolus lunatus</i> L.	Herb	Exotic	Annual
58.	<i>Pisum sativum</i> L.	Herb	Exotic	Annual
59.	<i>Pithecolobium dulce</i> Benth.	Tree	Exotic	Perennial
60.	<i>Pongamia pinnata</i> (L.) Pierre	Tree	Native	Perennial
61.	<i>Prosopis cineraria</i> Druce	Tree	Native	Perennial
62.	<i>Prosopis juliflora</i> (Sw.) DC.	Shrub	Exotic	Perennial
63.	<i>Prosopis specigera</i> L.	Tree	Native	Perennial
64.	<i>Rhynchosia capitata</i> DC.	Herb	Native	Perennial
65.	<i>Rhynchosia minima</i> (L.) DC.	Herb	Native	Perennial
66.	<i>Saraca indica</i> Roxb.	Tree	Native	Perennial
67.	<i>Senna alata</i> (L.) Roxb.	Shrub	Exotic	Perennial
68.	<i>Senna alexandrina</i> Mill	Herb	Native	Annual
69.	<i>Senna auriculata</i> (L.) Roxb.	Shrub	Native	Perennial
70.	<i>Senna occidentalis</i> (L.) Link.	Shrub	Exotic	Perennial
71.	<i>Senna glauca</i> Roxb.	Shrub	Exotic	Perennial
72.	<i>Sesbania aculeata</i> (Willd.) Poir.	Shrub	Exotic	Perennial
73.	<i>Sesbania sesban</i> (L.) Merr.	Shrub	Exotic	Perennial
74.	<i>Tamarindus indicus</i> L.	Tree	Exotic	Perennial
75.	<i>Tephrosia pumila</i> Pers.	Herb	Native	Perennial
76.	<i>Tephrosia purpurea</i> L.	Herb	Native	Perennial
77.	<i>Trifolium alexandrinum</i> L.	Herb	Exotic	Annual
78.	<i>Trigonella foenum-graecum</i> L.	Herb	Exotic	Annual
79.	<i>Uraria picta</i> Desv.	Undershrub	Native	Perennial
80.	<i>Uraria lagopodioides</i> DC.	Shrub	Native	Perennial
81.	<i>Vigna radiata</i> (L.) Wilczek	Herb	Exotic	Annual
82.	<i>Vigna sinensis</i> (L.) Savi & Hassk.	Herb	Exotic	Annual
83.	<i>Zornia diphylla</i> Pers.	Herb	Native	Annual
Fumariaceae				
1.	<i>Fumaria parviflora</i> Lam.	Herb	Native	Annual

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Gentianaceae				
1.	<i>Enicostema littorale</i> Blume	Herb	Native	Annual
2.	<i>Exacum pendunculatum</i> L.	Herb	Native	Annual
3.	<i>Exacum tetragonum</i> Roxb.	Herb	Native	Annual
Lamiaceae				
1.	<i>Clerodendrum infortunatum</i> Gaertn.	Shrub	Native	Perennial
2.	<i>Clerodendrum serratum</i> (L.) Moon	Shrub	Native	Perennial
3.	<i>Coleus amboinicus</i> Lour.	Herb	Exotic	Annual
4.	<i>Hyptis suaveolens</i> (L.) Poir.	Herb	Native	Annual
5.	<i>Leonurus sibricus</i> L.	Herb	Exotic	Annual
6.	<i>Leucas aspera</i> (Willd.) Link	Herb	Native	Annual
7.	<i>Mentha arvensis</i> L.	Herb	Exotic	Perennial
8.	<i>Mentha spicata</i> L.	Herb	Exotic	Perennial
9.	<i>Nepeta ruderalis</i> Buch.-Ham. ex Benth.	Herb	Exotic	Annual
10.	<i>Ocimum basilicum</i> L.	Herb	Native	Perennial
11.	<i>Ocimum canum</i> Sims.	Herb	Exotic	Annual
12.	<i>Ocimum sanctum</i> L.	Shrub	Native	Perennial
13.	<i>Orthosiphon pallidus</i> Royle ex Benth.	Undershrub	Native	Annual
14.	<i>Salvia officinalis</i> L.	Herb	Exotic	Perennial
15.	<i>Salvia plebeia</i> R. Br.	Herb	Exotic	Biennial
Lauraceae				
1.	<i>Cinnamomum verum</i> J. Presl	Tree	Exotic	Perennial
2.	<i>Cinnamomum camphora</i> (L.) J. Presl	Tree	Exotic	Perennial
3.	<i>Cinnamomum tamala</i> Buch.-Ham.	Tree	Native	Perennial
Lentibulariaceae				
1.	<i>Utricularia stellaris</i> L. f.	Herb	Exotic	Perennial
Linaceae				
1.	<i>Linum usitassimum</i> L.	Herb	Exotic	Annual
Linderniaceae				
1.	<i>Lindernia ciliata</i> (Colsm.) Pennell	Herb	Exotic	Annual
2.	<i>Lindernia crustacea</i> (L.) F. Muell	Herb	Native	Annual
Longaniaceae				
1.	<i>Strychnos nux-vomica</i> L.	Tree	Native	Perennial
Loranthaceae				
1.	<i>Loranthus longiflorus</i> Desv.	Herb	Native	Perennial
Lythraceae				
1.	<i>Ammania baccifera</i> L.	Herb	Native	Annual
2.	<i>Lagerstroemia speciosa</i> (L.) Pers.	Tree	Native	Perennial
3.	<i>Lawsonia inermis</i> L.	Shrub	Exotic	Perennial
4.	<i>Punica granatum</i> L.	Tree	Exotic	Perennial
5.	<i>Woodfordia fruticosa</i> (L.) Kurz.	Shrub	Native	Perennial
Magnoliaceae				
1.	<i>Magnolia grandiflora</i> L.	Shrub	Native	Perennial
2.	<i>Michelia champaca</i> L.	Shrub	Native	Perennial

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3.	<i>Schisandra grandiflora</i> Hook.	Woody climber	Native	Perennial
Malvaceae				
1.	<i>Abelmoschus esculentus</i> (L.) Moench.	Herb	Exotic	Biennial
2.	<i>Abutilon indicum</i> (L.) Sweet	Shrub	Native	Perennial
3.	<i>Althea rosea</i> (L.) Cav.	Undershrub	Exotic	Biennial
4.	<i>Bombax ceiba</i> L.	Tree	Native	Perennial
5.	<i>Corchorus aestuans</i> L.	Herb	Exotic	Annual
6.	<i>Grewia asiatica</i> L.	Shrub	Native	Perennial
7.	<i>Grewia serrulata</i> DC.	Tree	Native	Perennial
8.	<i>Grewia tiliacifolia</i> Vahl	Tree	Native	Perennial
9.	<i>Guazuma ulmifolia</i> Lam.	Tree	Exotic	Perennial
10.	<i>Hibiscus rosa-sinensis</i> L.	Shrub	Exotic	Perennial
11.	<i>Hibiscus schizopetalus</i> Hook f.	Shrub	Exotic	Perennial
12.	<i>Hibiscus sabdariffa</i> L.	Shrub	Exotic	Perennial
13.	<i>Hibiscus mutabilis</i> L.	Shrub	Exotic	Perennial
14.	<i>Hibiscus syriacus</i> L.	Shrub	Exotic	Perennial
15.	<i>Malva sylvestris</i> L.	Undershrub	Exotic	Annual
16.	<i>Malvaviscus arboreus</i> Cav.	Undershrub	Exotic	Perennial
17.	<i>Malvastrum coromandelianum</i> (L.) Garcke	Herb	Exotic	Perennial
18.	<i>Pavonia odorata</i> Willd.	Herb	Exotic	Perennial
19.	<i>Pterospermum acerifolium</i> (L.) Willd.	Tree	Native	Perennial
20.	<i>Sida acuta</i> Burm. f.	Undershrub	Exotic	Perennial
21.	<i>Sida cordifolia</i> L.	Undershrub	Native	Perennial
22.	<i>Sida rhombifolia</i> L.	Undershrub	Exotic	Perennial
23.	<i>Sterculia foetida</i> L.	Tree	Exotic	Perennial
24.	<i>Sterculia urens</i> Roxb.	Tree	Exotic	Perennial
25.	<i>Sterculia villosa</i> Roxb.	Tree	Exotic	Perennial
26.	<i>Tespesia populnea</i> Solnd.	Tree	Exotic	Perennial
27.	<i>Urena lobata</i> L.	Undershrub	Exotic	Annual
Martyniaceae				
1.	<i>Martynia annua</i> L.	Herb	Exotic	Perennial
Meliaceae				
1.	<i>Azadirachta indica</i> A. Juss.	Tree	Native	Perennial
2.	<i>Melia azedarach</i> L.	Tree	Exotic	Perennial
3.	<i>Toona ciliata</i> Roem.	Tree	Native	Perennial
Menispermaceae				
1.	<i>Cissampelos pareira</i> L.	Woody climber	Native	Perennial
2.	<i>Tinospora cordifolia</i> (Willd.) Miers	Woody climber	Native	Perennial
Moraceae				
1.	<i>Artocarpus heterophyllus</i> Lam.	Tree	Native	Perennial
2.	<i>Artocarpus lacucha</i> Roxb.	Tree	Native	Perennial
3.	<i>Ficus benghalensis</i> L.	Tree	Native	Perennial
4.	<i>Ficus benjamina</i> L.	Tree	Exotic	Perennial
5.	<i>Ficus carica</i> L.	Tree	Exotic	Perennial
6.	<i>Ficus elastica</i> Roxb.	Tree	Native	Perennial

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7.	<i>Ficus glomerata</i> Roxb.	Tree	Exotic	Perennial
8.	<i>Ficus hispida</i> L. f.	Tree	Native	Perennial
9.	<i>Ficus religiosa</i> L.	Tree	Native	Perennial
10.	<i>Ficus retusa</i> L.	Tree	Exotic	Perennial
11.	<i>Ficus rumphii</i> Blume	Tree	Native	Perennial
12.	<i>Morus alba</i> L.	Tree	Exotic	Perennial
13.	<i>Morus nigra</i> L.	Tree	Exotic	Perennial
14.	<i>Streblus asper</i> Lour.	Tree	Native	Perennial
Moringaceae				
1.	<i>Moringa oleifera</i> Lam.	Tree	Exotic	Perennial
Myrtaceae				
1.	<i>Callistemon lanceolatus</i> Sweet	Tree	Exotic	Perennial
2.	<i>Eucalyptus globulus</i> Labill.	Tree	Exotic	Perennial
3.	<i>Eucalyptus</i> hybrid	Tree	Exotic	Perennial
4.	<i>Eucalyptus rostrata</i> Schlecht	Tree	Exotic	Perennial
5.	<i>Eucalyptus tereticornis</i> Sm.	Tree	Exotic	Perennial
6.	<i>Myrtus communis</i> L.	Shrub	Exotic	Perennial
7.	<i>Psidium guajava</i> L.	Tree	Exotic	Perennial
8.	<i>Syzygium cuminii</i> (L.) Skeels	Tree	Native	Perennial
Nelumbonaceae				
1.	<i>Nelumbo nucifera</i> Gaertn.	Herb	Native	Perennial
Nyctaginaceae				
1.	<i>Boerhavia diffusa</i> L.	Herb	Native	Annual
2.	<i>Bougainvillea buttiana</i> Holtum & Standl.	Shrub	Exotic	Perennial
3.	<i>Bougainvillea glabra</i> Choisy	Shrub	Exotic	Perennial
4.	<i>Bougainvillea peruviana</i> Humb. & Bonpl.	Shrub	Exotic	Perennial
5.	<i>Bougainvillea spectabilis</i> Willd.	Shrub	Exotic	Perennial
6.	<i>Mirabilis jalapa</i> L.	Herb	Exotic	Annual
Nymphaeaceae				
1.	<i>Nymphaea alba</i> L.	Herb	Exotic	Perennial
2.	<i>Nymphaea nouchali</i> Burm. f.	Herb	Native	Perennial
Ochnaceae				
1.	<i>Ochna pumila</i> Buch.- Ham. ex DC.	Herb	Native	Annual
Oleaceae				
1.	<i>Jasminum auriculatum</i> Vahl	Shrub	Native	Perennial
2.	<i>Jasminum flexile</i> Vahl	Shrub	Native	Perennial
3.	<i>Jasminum officinale</i> L.	Shrub	Native	Perennial
4.	<i>Jasminum sambac</i> (L.) Ait.	Shrub	Exotic	Perennial
5.	<i>Nyctanthes arbor-tristis</i> L.	Tree	Native	Perennial
Orobanchaceae				
1.	<i>Orobranche indica</i> Wall.	Herb	Native	Annual
2.	<i>Striga asiatica</i> Benth.	Herb	Native	Annual
Oxalidaceae				
1.	<i>Biophytum sensitivum</i> DC.	Herb	Native	Annual
2.	<i>Oxalis corniculata</i> L.	Herb	Exotic	Perennial

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Papavaraceae				
1.	<i>Argemone mexicana</i> L.	Herb	Exotic	Annual
2.	<i>Eschscholzia californica</i> Cham.	Herb	Exotic	Annual
3.	<i>Papaver orientale</i> L.	Herb	Exotic	Annual
4.	<i>Papaver nudicaule</i> L.	Herb	Exotic	Annual
5.	<i>Papaver rhoeas</i> L.	Herb	Exotic	Annual
Passifloraceae				
1.	<i>Passiflora edulis</i> Sims	Herb	Exotic	Perennial
2.	<i>Passiflora foetida</i> (L.) M. Roem.	Herb	Exotic	Perennial
Pedaliaceae				
1.	<i>Sesamum indicum</i> L.	Herb	Exotic	Annual
Piperaceae				
1.	<i>Peperomia pellucida</i> (L.) Kunth	Herb	Exotic	Annual
2.	<i>Piper longum</i> L.	Undershrub	Native	Perennial
3.	<i>Piper nigrum</i> L.	Undershrub	Native	Perennial
Plantaginaceae				
1.	<i>Scoparia dulcis</i> L.	Herb	Native	Annual
Plumbaginaceae				
1.	<i>Plumbago rosea</i> L.	Shrub	Native	Perennial
Polygalaceae				
1.	<i>Polygala chinensis</i> L.	Herb	Native	Annual
Polygonaceae				
1.	<i>Antigonon leptopus</i> Hook. & Arn.	Herb	Exotic	Perennial
2.	<i>Homocladium platycladum</i> (F. Muell) L. H. Bailey	Shrub	Exotic	Perennial
3.	<i>Persicaria amphibia</i> (L.) Gray	Herb	Native	Perennial
4.	<i>Persicaria capitata</i> (Buch.-Ham. ex D. Don) H Gross	Herb	Native	Annual
5.	<i>Persicaria glabra</i> (Willd.) M Gomez	Herb	Native	Annual
6.	<i>Persicaria hydropiper</i> (L.) Delabre	Herb	Exotic	Annual
7.	<i>Persicaria longiseta</i> Bruijn (Kitagawa)	Herb	Native	Annual
8.	<i>Persicaria orientalis</i> L.	Herb	Native	Annual
9.	<i>Persicaria pubescens</i> (Blume) H. Hara	Herb	Native	Annual
10.	<i>Persicaria serrulata</i> (Lagasc.) Webb. & Moq.	Herb	Exotic	Annual
11.	<i>Rumex nigricans</i> Hook.	Herb	Native	Annual
Portulacaceae				
1.	<i>Portulaca oleracea</i> L.	Herb	Exotic	Biennial
2.	<i>Portulaca quadrifida</i> L.	Herb	Exotic	Biennial
3.	<i>Portulaca grandiflora</i> Hook.	Herb	Exotic	Annual
4.	<i>Portulacaria afra</i> Jacq.	Shrub	Exotic	Perennial
Primulaceae				
1.	<i>Anagallis arvensis</i> L.	Herb	Exotic	Annual
Proteaceae				
1.	<i>Grevillea pteridifolia</i> Knight	Tree	Exotic	Perennial

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2.	<i>Grevillea robusta</i> A. Cunn ex R. Br.	Tree	Exotic	Perennial
Putranjivaceae				
1.	<i>Putranjiva roxburghii</i> Wall.	Shrub	Native	Perennial
Ranunculaceae				
1.	<i>Consolida ajacis</i> (L.) Schur	Herb	Exotic	Annual
2.	<i>Ranunculus sceleratus</i> L.	Herb	Exotic	Annual
Rhamnaceae				
1.	<i>Ziziphus mauritiana</i> Lam.	Tree	Exotic	Perennial
2.	<i>Ziziphus nummularia</i> (Burm. f.) Wt. & Arn.	Shrub	Native	Perennial
3.	<i>Ziziphus oenoplia</i> Mill.	Shrub	Native	Perennial
4.	<i>Ziziphus xylopyrus</i> Willd.	Shrub	Native	Perennial
Rosaceae				
1.	<i>Eriobotrya japonica</i> Lindl	Tree	Exotic	Perennial
2.	<i>Prunus amygdalus</i> Batsch.	Tree	Exotic	Perennial
3.	<i>Prunus persica</i> (L.) Stokes	Tree	Exotic	Perennial
4.	<i>Rosa banksiae</i> R. Br.	Shrub	Exotic	Perennial
5.	<i>Rosa centifolia</i> L.	Shrub	Exotic	Perennial
6.	<i>Rosa damascena</i> Mill.	Shrub	Exotic	Perennial
7.	<i>Rosa indica</i> L.	Shrub	Native	Perennial
8.	<i>Rosa chinensis</i> Jacq.	Shrub	Exotic	Perennial
9.	<i>Rosa gigantea</i> Mill.	Shrub	Native	Perennial
10.	<i>Rosa moschata</i> Herrm.	Shrub	Native	Perennial
11.	<i>Rosa multiflora</i> Thunb.	Shrub	Exotic	Perennial
Rubiaceae				
1.	<i>Anthocephalus cadamba</i> Miq.	Tree	Native	Perennial
2.	<i>Borreria articularis</i> L.	Herb	Native	Annual
3.	<i>Gardenia gummiifera</i> L. f.	Shrub	Native	Perennial
4.	<i>Gardenia jasminoides</i> Ellis	Shrub	Native	Perennial
5.	<i>Haldina cordifolia</i> Roxb.	Tree	Native	Perennial
6.	<i>Hamelia patens</i> Jacq.	Shrub	Exotic	Perennial
7.	<i>Ixora chinensis</i> L.	Shrub	Exotic	Perennial
8.	<i>Ixora coccinea</i> L.	Shrub	Native	Perennial
9.	<i>Ixora parviflora</i> Vahl	Shrub	Native	Perennial
10.	<i>Mussaenda frondosa</i> L.	Shrub	Native	Perennial
11.	<i>Mussaenda hybrid</i>	Shrub	Exotic	Perennial
12.	<i>Mussaenda incana</i> Wall. ex Roxb.	Shrub	Exotic	Perennial
13.	<i>Mussaenda luteola</i> Delile	Shrub	Exotic	Perennial
14.	<i>Oldenlandia corymbosa</i> L.	Herb	Native	Annual
15.	<i>Oldenlandia dichotoma</i> Hook.	Herb	Native	Annual
16.	<i>Oldenlandia diffusa</i> (Willd.) Roxb.	Herb	Native	Annual
17.	<i>Spermacoce stricta</i> L.	Herb	Native	Annual
Rutaceae				
1.	<i>Aegle marmelos</i> (L.) Corr.	Tree	Native	Perennial
2.	<i>Citrus aurantifolia</i> Swingle	Tree	Exotic	Perennial
3.	<i>Citrus aurantium</i> L.	Tree	Native	Perennial
4.	<i>Citrus limon</i> (L.) Burm. f.	Tree	Exotic	Perennial

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5.	<i>Citrus limettioides</i> Tanaka	Tree	Exotic	Perennial
6.	<i>Citrus maxima</i> (Burm.) Merr.	Tree	Exotic	Perennial
7.	<i>Citrus medica</i> L.	Tree	Native	Perennial
8.	<i>Citrus paradisi</i> Macf.	Tree	Exotic	Perennial
9.	<i>Citrus reticulata</i> Blanco	Tree	Exotic	Perennial
10.	<i>Citrus sinensis</i> (L.) Osbeck	Tree	Exotic	Perennial
11.	<i>Feronia limoni</i> (L.) Swingle	Tree	Exotic	Perennial
12.	<i>Murraya koenigii</i> (L.) Spreng	Tree	Native	Perennial
13.	<i>Murraya paniculata</i> (L.) Jacq.	Shrub	Native	Perennial
14.	<i>Ruta graveolens</i> L.	Undershrub	Exotic	Perennial
Salicaceae				
1.	<i>Populus deltoides</i> L.	Tree	Exotic	Perennial
Santalaceae				
1.	<i>Santalum album</i> L.	Tree	Native	Perennial
Sapindaceae				
1.	<i>Litchi chinensis</i> (Gaertn.) Sonn.	Tree	Exotic	Perennial
2.	<i>Sapindus mukorossi</i> Gaertn.	Tree	Native	Perennial
3.	<i>Schleichera oleosa</i> (Lour.) Oken.	Tree	Native	Perennial
Sapotaceae				
1.	<i>Madhuca indica</i> Gmel.	Tree	Native	Perennial
2.	<i>Manilkara zapota</i> Roxb.	Tree	Exotic	Perennial
3.	<i>Mimusops elengi</i> L.	Tree	Exotic	Perennial
Scrophulariaceae				
1.	<i>Antirrhinum majus</i> L.	Herb	Exotic	Annual
2.	<i>Bacopa monnieri</i> (L.) Pennell	Herb	Native	Annual
3.	<i>Celsia coromandeliana</i> Vahl	Herb	Native	Annual
4.	<i>Digitalis purpurea</i> L.	Herb	Exotic	Annual
5.	<i>Limnophila sessiliflora</i> (Vahl) Blume	Herb	Native	Annual
6.	<i>Linaria ramosissima</i> (Wall.) Janch.	Herb	Native	Perennial
7.	<i>Lindenbergia indica</i> Kuntze	Herb	Native	Perennial
8.	<i>Mecardonia procumbens</i> (Mill) Small	Herb	Exotic	Annual
9.	<i>Torenia asiatica</i> L.	Herb	Exotic	Annual
10.	<i>Verbascum thapsus</i> L.	Herb	Exotic	Annual
11.	<i>Veronica anagallis</i> L.	Herb	Exotic	Annual
Solanaceae				
1.	<i>Capsicum annuum</i> L.	Undershrub	Exotic	Perennial
2.	<i>Capsicum frutescens</i> L.	Undershrub	Exotic	Perennial
3.	<i>Cestrum diurnum</i> L.	Shrub	Exotic	Perennial
4.	<i>Cestrum nocturnum</i> L.	Shrub	Exotic	Perennial
5.	<i>Datura metel</i> L.	Undershrub	Exotic	Perennial
6.	<i>Datura stramonium</i> L.	Herb	Exotic	Annual
7.	<i>Lycopersicon esculentum</i> Mill.	Herb	Exotic	Annual
8.	<i>Nicotiana plumbaginifolia</i> Viv.	Herb	Exotic	Annual
9.	<i>Petunia hybrida</i> Vilm.	Herb	Exotic	Annual
10.	<i>Petunia violacea</i> Lindl.	Herb	Exotic	Annual
11.	<i>Physalis minima</i> L.	Herb	Exotic	Annual

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12.	<i>Solanum elaeagnifolium</i> Cav.	Herb	Exotic	Perennial
13.	<i>Solanum melongena</i> L.	Shrub	Native	Perennial
14.	<i>Solanum nigrum</i> L.	Herb	Native	Annual
15.	<i>Solanum torvum</i> Sweet	Shrub	Exotic	Perennial
16.	<i>Solanum tuberosum</i> L.	Herb	Exotic	Annual
17.	<i>Solanum xanthocarpum</i> Schrad. & Wendl.	Herb	Native	Annual
18.	<i>Withania somnifera</i> Dunal	Shrub	Exotic	Perennial
Symplocaceae				
1.	<i>Symplocos racemosa</i> Roxb.	Tree	Native	Perennial
Tamaricaceae				
1.	<i>Tamarix aphylla</i> (L.) Karst.	Tree	Exotic	Perennial
2.	<i>Tamarix dioica</i> Roxb.	Tree	Exotic	Perennial
Tropaeolaceae				
1.	<i>Tropaeolum majus</i> L.	Herb	Exotic	Annual
Ulmaceae				
1.	<i>Holoptelea integrifolia</i> (Roxb.) Planch	Tree	Exotic	Perennial
Urticaceae				
1.	<i>Urtica dioica</i> Roxb.	Herb	Native	Perennial
Verbenaceae				
1.	<i>Caryopteris incana</i> Miq.	Shrub	Exotic	Perennial
2.	<i>Duranta repens</i> L.	Shrub	Native	Perennial
3.	<i>Lantana camara</i> L.	Shrub	Exotic	Perennial
4.	<i>Lippia nodiflora</i> Rich.	Herb	Exotic	Annual
5.	<i>Petrea volubilis</i> L.	Woody climber	Exotic	Perennial
6.	<i>Tectona grandis</i> L. f.	Tree	Native	Perennial
7.	<i>Verbena officinalis</i> L.	Herb	Exotic	Annual
Violaceae				
1.	<i>Viola odorata</i> L.	Herb	Exotic	Annual
2.	<i>Viola tricolor</i> L.	Herb	Exotic	Annual
Vitaceae				
1.	<i>Vitis quandrangula</i> L.	Herb	Native	Perennial
2.	<i>Vitis vinifera</i> L.	Woody climber	Exotic	Perennial
Zygophyllaceae				
1.	<i>Tribulus terrestris</i> L.	Herb	Native	Annual
MONOCOTYLEDONS				
Alismataceae				
1.	<i>Alisma oligococcum</i> F. Muell	Herb	Native	Perennial
2.	<i>Alisma plantago-aquatica</i> L.	Herb	Exotic	Perennial
3.	<i>Limmophytus obtusifolium</i> (L.) Miq.	Herb	Exotic	Annual
4.	<i>Sagittaria sagittifolia</i> L.	Herb	Native	Perennial
Amaryllidaceae				
1.	<i>Allium cepa</i> L.	Herb	Exotic	Annual
2.	<i>Allium sativum</i> L.	Herb	Exotic	Annual
3.	<i>Amaryllis belladonna</i> L.	Herb	Exotic	Perennial
4.	<i>Asphodelus tenuifolius</i> Cav.	Herb	Native	Annual
5.	<i>Crinum asiaticum</i> L.	Herb	Native	Perennial

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6.	<i>Crinum latifolium</i> L.	Herb	Native	Perennial
7.	<i>Curculigo capitulata</i> Kuntze	Herb	Exotic	Perennial
8.	<i>Curculigo latifolia</i> Dry.	Herb	Exotic	Perennial
9.	<i>Eucharis amazonica</i> Linden ex. Planch.	Herb	Exotic	Perennial
10.	<i>Hippeastrum vittatum</i> Herb.	Herb	Exotic	Perennial
11.	<i>Narcissus jonquilla</i> L.	Herb	Exotic	Perennial
12.	<i>Narcissus poelcus</i> L.	Herb	Exotic	Perennial
13.	<i>Narcissus pseudo-narcissus</i> L.	Herb	Exotic	Perennial
14.	<i>Narcissus tazetta</i> L.	Herb	Exotic	Perennial
15.	<i>Zephyranthes citrina</i> Baker	Herb	Exotic	Perennial
Araceae				
1.	<i>Alocasia indica</i> (Roxb.) Schott	Herb	Native	Perennial
2.	<i>Alocasia lowii</i> Hook.	Herb	Native	Perennial
3.	<i>Amorphophallus paeoniifolius</i> (Dennst) Nicolson	Herb	Native	Perennial
4.	<i>Arisaema atrorubens</i> Blume	Herb	Exotic	Perennial
5.	<i>Caladium bicolor</i> Vent	Herb	Exotic	Perennial
6.	<i>Caladium picturatum</i> Koch.	Herb	Exotic	Perennial
7.	<i>Dieffenbachia picta</i> Schott	Herb	Exotic	Perennial
8.	<i>Colocasia antiquorum</i> L.	Herb	Exotic	Perennial
9.	<i>Colocasia esculenta</i> (L.) Schott	Herb	Native	Perennial
10.	<i>Epipremnum aureum</i> (L.) Engl.	Herb	Native	Perennial
11.	<i>Lemna minor</i> L.	Herb	Native	Perennial
12.	<i>Monstera deliciosa</i> Liebm	Herb	Exotic	Perennial
13.	<i>Pistia stratiotes</i> L.	Herb	Exotic	Perennial
14.	<i>Scindapsus officinalis</i> (Roxb.) Schott	Herb	Native	Perennial
15.	<i>Scindapsus pictus</i> Hassk.	Herb	Exotic	Perennial
16.	<i>Spirodela polyrriza</i> (L.) Schleid	Herb	Native	Perennial
17.	<i>Wolffia arhiza</i> (L.) Horkel ex Wimm.	Herb	Exotic	Perennial
18.	<i>Wolffia microscopica</i> Kurz.	Herb	Exotic	Perennial
Arecaceae				
1.	<i>Archotophoenix alexandrae</i> (F. Muell.) H. Wendl. & Drude	Tree	Exotic	Perennial
2.	<i>Areca catechu</i> L.	Tree	Exotic	Perennial
3.	<i>Areca triandra</i> Roxb. Ex Buch.Ham.	Tree	Native	Perennial
4.	<i>Bactris major</i> Jacq.	Tree	Exotic	Perennial
5.	<i>Borassus flabellifer</i> L.	Tree	Exotic	Perennial
6.	<i>Caryota mytis</i> L.	Tree	Exotic	Perennial
7.	<i>Caryota urens</i> L.	Tree	Exotic	Perennial
8.	<i>Chamaerops humilis</i> L.	Shrub	Exotic	Perennial
9.	<i>Cocos nucifera</i> L.	Tree	Native	Perennial
10.	<i>Dypsis lutescens</i> (H. Wendl.) Beentje & J. Dransf.	Herb	Exotic	Perennial
11.	<i>Livistona chinensis</i> R. Br.	Tree	Exotic	Perennial
12.	<i>Heterospatha elata</i> Scheff.	Tree	Exotic	Perennial

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13.	<i>Phoenix dactylifera</i> L.	Tree	Exotic	Perennial
14.	<i>Phoenix rupicola</i> T. Anders.	Tree	Native	Perennial
15.	<i>Phoenix sylvestris</i> (L.) Roxb.	Tree	Native	Perennial
16.	<i>Raphis excelsa</i> (Thunb.) A. Henry	Shrub	Exotic	Perennial
17.	<i>Roystonea regia</i> (Kunth.) f. Cook	Tree	Exotic	Perennial
Asparagaceae				
1.	<i>Agave americana</i> L.	Herb	Exotic	Perennial
2.	<i>Agave mexicana</i> Miller	Herb	Exotic	Perennial
3.	<i>Agave vera-cruz</i> Miller	Herb	Exotic	Perennial
4.	<i>Agave wightii</i> Drumm. & Prain	Herb	Exotic	Perennial
5.	<i>Asparagus officinalis</i> L.	Herb	Exotic	Perennial
6.	<i>Asparagus racemosus</i> Willd.	Herb	Exotic	Perennial
7.	<i>Asparagus setaceus</i> (Kunth) Jessop	Herb	Exotic	Perennial
8.	<i>Dracaena fragrans</i> (L.) Ker Gawl.	Shrub	Exotic	Perennial
9.	<i>Dracaena reflexa</i> Lam.	Shrub	Exotic	Perennial
10.	<i>Nolina brittoniana</i> Nash	Shrub	Exotic	Perennial
11.	<i>Nolina recurvata</i> Lam.	Shrub	Exotic	Perennial
12.	<i>Polianthes tuberosa</i> L.	Herb	Exotic	Perennial
13.	<i>Ruscus aculeatus</i> L.	Shrub	Native	Perennial
14.	<i>Sansevieria trifasciata</i> Prain	Herb	Exotic	Perennial
15.	<i>Yucca gloriosa</i> L.	Shrub	Exotic	Perennial
16.	<i>Yucca oloifolia</i> L.	Shrub	Exotic	Perennial
Cannaceae				
1.	<i>Canna indica</i> L.	Herb	Native	Perennial
Colchicaceae				
1.	<i>Gloriosa superba</i> L.	Herb	Native	Perennial
Commelinaceae				
1.	<i>Aneilema nudiflorum</i> R. Br.	Herb	Native	Annual
2.	<i>Commelina benghalensis</i> L.	Herb	Native	Annual
3.	<i>Commelina diffusa</i> Burm. f.	Herb	Native	Annual
4.	<i>Commelina longifolia</i> Lam.	Herb	Native	Annual
5.	<i>Cyanotis axillaris</i> Schult.	Herb	Native	Annual
6.	<i>Tradescantia spathacea</i> L.	Herb	Exotic	Perennial
7.	<i>Tradescantia virginiana</i> L.	Herb	Exotic	Perennial
8.	<i>Tradescantia zebrina</i> (Schinz) D. R. Hunt	Herb	Exotic	Perennial
Costaceae				
1.	<i>Cheilocostus speciosus</i> (J. Konej) C. Specht	Herb	Exotic	Perennial
Cyperaceae				
1.	<i>Bulbostylis barbata</i> Kunth.	Herb	Native	Annual
2.	<i>Carex cruciata</i> Wah.	Herb	Exotic	Perennial
3.	<i>Cyperus aristatus</i> Roxb.	Herb	Exotic	Annual
4.	<i>Cyperus compressus</i> L.	Herb	Native	Annual
5.	<i>Cyperus corymbosus</i> Rottb.	Herb	Exotic	Annual
6.	<i>Cyperus difformis</i> L.	Herb	Native	Annual
7.	<i>Cyperus digitatus</i> Roxb.	Herb	Native	Perennial
8.	<i>Cyperus iria</i> L.	Herb	Native	Annual

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9.	<i>Cyperus rotundus</i> R. Br.	Herb	Exotic	Perennial
10.	<i>Cyperus scariosus</i> L.	Herb	Exotic	Perennial
11.	<i>Eriophorum comosum</i> Wall. ex Nees	Herb	Exotic	Perennial
12.	<i>Fimbristylis dichotoma</i> (L.) Vahl	Herb	Native	Annual
13.	<i>Kyllinga triceps</i> Rottb.	Herb	Exotic	Annual
14.	<i>Scirpus articulatus</i> L.	Herb	Exotic	Annual
15.	<i>Scirpus erectus</i> Poir	Herb	Exotic	Annual
16.	<i>Scirpus mucronatus</i> L.	Herb	Exotic	Perennial
17.	<i>Scirpus supinus</i> L.	Herb	Exotic	Annual
Hydrocharitaceae				
1.	<i>Hydrilla verticillata</i> Royle	Herb	Native	Annual
2.	<i>Lagarosiphon roxburghii</i> Benth.	Herb	Native	Annual
3.	<i>Najas indica</i> (Willd.) Cham	Herb	Native	Annual
4.	<i>Najas minor</i> All.	Herb	Exotic	Annual
5.	<i>Ottelea alismoides</i> Pers.	Herb	Native	Annual
6.	<i>Vallisneria spiralis</i> L.	Herb	Native	Annual
Musaceae				
1.	<i>Musa paradisiaca</i> L.	Herb	Native	Perennial
2.	<i>Ravenala madagascariensis</i> Gmel.	Herb	Exotic	Perennial
Pandanaceae				
1.	<i>Pandanus tectorius</i> Soland. ex Parkinson	Shrub	Native	Perennial
Poaceae				
1.	<i>Avena fatua</i> L.	Herb	Exotic	Annual
2.	<i>Bambusa bambos</i> Voss.	Woody grass	Native	Perennial
3.	<i>Bambusa tulda</i> Roxb.	Woody grass	Native	Perennial
4.	<i>Bambusa vulgaris</i> Schrad.	Woody grass	Native	Perennial
5.	<i>Bothriochloa pertusa</i> (Willd.) A. Camus	Herb	Native	Perennial
6.	<i>Brachiaria ramosa</i> (L.) Stapf	Herb	Exotic	Annual
7.	<i>Chloris barbata</i> Sweet	Herb	Exotic	Perennial
8.	<i>Chloris incompleta</i> Roth.	Herb	Exotic	Perennial
9.	<i>Cymbopogon flexuosus</i> (Steud.) Wats.	Herb	Native	Perennial
10.	<i>Cynodon dactylon</i> (L.) Pers.	Herb	Exotic	Perennial
11.	<i>Dactyloctenium aegyptium</i> Beauv.	Herb	Native	Annual
12.	<i>Dendrocalamus strictus</i> Nees	Woody grass	Native	Perennial
13.	<i>Desmostachya bipinnata</i> (L.) Stapf	Herb	Native	Perennial
14.	<i>Dichanthium annulatum</i> (L.) Stapf	Herb	Native	Perennial
15.	<i>Digitaria marginata</i> Beauv.	Herb	Native	Annual
16.	<i>Digitaria sanguinalis</i> (L.) Scop.	Herb	Native	Annual
17.	<i>Echinochloa colonum</i> (L.) Link	Herb	Native	Annual
18.	<i>Echinochloa crus-galli</i> (L.) P. Beauv.	Herb	Native	Annual
19.	<i>Eleusine indica</i> (L.) Gaertn.	Herb	Native	Annual
20.	<i>Elymus repens</i> (L.) Gould	Herb	Native	Perennial

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21.	<i>Eragrostis amabilis</i> (L.) Wt. & Arn. ex Nees	Herb	Exotic	Annual
22.	<i>Eragrostis elongata</i> Nees	Herb	Exotic	Annual
23.	<i>Eragrostis unioloides</i> Nees	Herb	Native	Annual
24.	<i>Eragrostis viscosa</i> (Retz.) Trin.	Herb	Native	Annual
25.	<i>Eulaliopsis binata</i> (Retz.) C. E. Hubbard	Herb	Native	Perennial
26.	<i>Hordeum vulgare</i> L.	Herb	Exotic	Annual
27.	<i>Imperata cylindrica</i> Rausch.	Herb	Native	Perennial
28.	<i>Oplismenus burmanii</i> (Retz.) P. Beauv.	Herb	Exotic	Annual
29.	<i>Oryza sativa</i> L.	Herb	Native	Annual
30.	<i>Panicum psilopodium</i> Trin.	Herb	Native	Annual
31.	<i>Paspalum flavidum</i> A. Camus	Herb	Native	Perennial
32.	<i>Paspalum scorbiculatum</i> L.	Herb	Exotic	Annual
33.	<i>Phalaris minor</i> L.	Herb	Exotic	Annual
34.	<i>Pennisetum typhoides</i> (Burm. f.) Stapf & Hubbard	Herb	Exotic	Annual
35.	<i>Poa annua</i> L.	Herb	Exotic	Annual
36.	<i>Rottboellia exaltata</i> L. f.	Herb	Native	Perennial
37.	<i>Saccharum munja</i> Roxb.	Herb	Native	Perennial
38.	<i>Saccharum spontaneum</i> L.	Herb	Native	Perennial
39.	<i>Saccharum officinarum</i> L.	Shrub	Native	Perennial
40.	<i>Setaria viridis</i> (L.) P. Beauv.	Herb	Exotic	Annual
41.	<i>Sorghum halepense</i> Pers.	Herb	Exotic	Perennial
42.	<i>Sorghum vulgare</i> (L.) Pers.	Herb	Exotic	Annual
43.	<i>Sporobolus diander</i> (Retz.) P. Beauv	Herb	Exotic	Perennial
44.	<i>Sporobolus tetragonus</i> R. Br.	Herb	Exotic	Perennial
45.	<i>Triticum aestivum</i> L.	Herb	Exotic	Annual
46.	<i>Zea mays</i> L.	Herb	Exotic	Annual
Pontederiaceae				
1.	<i>Eichhornia crassipes</i> Solms.	Herb	Exotic	Perennial
2.	<i>Monochoria vaginalis</i> (Burm. f.) C. Presl. ex Kunth	Herb	Native	Annual
Potamogetonaceae				
1.	<i>Potamogeton indicus</i> Roxb.	Herb	Native	Annual
Smilacaceae				
1.	<i>Smilax zeylanica</i> L.	Woody climber	Native	Perennial
Typhaceae				
1.	<i>Typha latifolia</i> L.	Herb	Exotic	Perennial
Xanthorrhoeaceae				
1.	<i>Aloe vera</i> (L.) Burm.	Shrub	Exotic	Perennial
2.	<i>Asphodelus tenuifolius</i> L.	Herb	Native	Annual
Zingiberaceae				
1.	<i>Curcuma longa</i> L.	Herb	Native	Biennial
2.	<i>Elettaria cardamomum</i> (L.) Maton	Herb	Native	Perennial
3.	<i>Zingiber officinale</i> Rosc.	Herb	Native	Biennial

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Table 2: Gymnospermic flora of Banaras Hindu University main campus

S.No.	Family/Plant species	Habit	Origin status	Duration
Araucariaceae				
1.	<i>Araucaria bidwilli</i> Hook.	Tree	Exotic	Perennial
2.	<i>Araucaria columnaris</i> J. R. Forst. Hook.	Tree	Exotic	Perennial
3.	<i>Araucaria cunninghamii</i> Ait. ex D. Don	Tree	Exotic	Perennial
4.	<i>Araucaria heterophylla</i> (Salisb.) Franko	Tree	Exotic	Perennial
Cupressaceae				
1.	<i>Cupressus sempervirens</i> D. Don	Tree	Exotic	Perennial
2.	<i>Juniperus chinensis</i> L.	Shrub	Exotic	Perennial
3.	<i>Juniperus communis</i> L.	Shrub	Exotic	Perennial
4.	<i>Juniperus indica</i> Bertol.	Shrub	Native	Perennial
5.	<i>Juniperus virginiana</i> L.	Tree	Exotic	Perennial
6.	<i>Platycladus orientalis</i> (L.) Franco	Shrub	Exotic	Perennial
7.	<i>Thuja occidentalis</i> L.	Tree	Exotic	Perennial
Cycadaceae				
1.	<i>Cycas circinalis</i> L.	Tree	Native	Perennial
2.	<i>Cycas pectinata</i> Griff.	Tree	Native	Perennial
3.	<i>Cycas revoluta</i> Thunb.	Tree	Exotic	Perennial
4.	<i>Cycas rumphii</i> Miq.	Tree	Native	Perennial
Pinaceae				
1.	<i>Pinus roxburghii</i> Sarg.	Tree	Native	Perennial
2.	<i>Pinus wallichiana</i> A. B. Jads	Tree	Native	Perennial
Zamiaceae				
1.	<i>Zamia pygmaea</i> Sims	Shrub	Exotic	Perennial

Among Angiospermic flora which dominate the vascular floristic wealth of Banaras Hindu University main campus, maximum number of plant species were represented by Fabaceae (83 species) family followed by Asteraceae (54 species) and Poaceae (46 species) families. Thus the vascular floristic wealth of the Banaras Hindu University main campus is dominated by Asteraceae, Fabaceae and Poaceae families. This finding agrees (Singh, 2011 a, b) and disagrees (Singh, 2010, 2011c, 2012) with other studies conducted on the flora of Banaras Hindu University main campus. Cupressaceae was the dominant family among Gymnosperms representing 7 plant species while Salviniaceae was the dominant family among Pteridophytes representing 3 plant species.

Herbs are non-woody plants without persistent aerial parts whereas shrubs are usually small woody plants with several branches emanating from near ground level. Undershrubs are low shrubs often with herbaceous branches which die down annually. Furthermore, trees are usually tall woody plants with single stem and clearly recognizable stem. Woody climbers are plants with pliable hard stems which need

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support of other plants to spread while woody grasses are the plants with woody stems (culms) which belongs to family Poaceae. Of the total reported Angiospermic species 429 plant species were represented by herbs, 122 by shrubs, 16 by undershrubs, 147 by trees, 21 by woody climbers and only 4 species by woody grasses. Thus the study indicates that the Angiospermic floristic wealth of the Banaras Hindu University main campus is dominated by plants of herbaceous habit. However, contrary to this, the Gymnospermic flora is dominated by trees. Furthermore, the Pteridophytic flora of the campus was dominated exclusively by the herbs.

Table 3: Pteridophytic flora of Banaras Hindu University main campus

S.No.	Family/Plant species	Habit	Origin status	Duration
	Azollaceae			
1.	<i>Azolla pinnata</i> R. Br.	Herb	Native	Annual
	Dryopteridaceae			
1.	<i>Dryopteris filix-mas</i> (L.) Schott	Herb	Native	Perennial
	Lygodiaceae			
1.	<i>Lygodium microphyllum</i> (Cav.) R. Br.	Herb	Exotic	Perennial
	Marsiliaceae			
1.	<i>Marsilea minuta</i> L.	Herb	Exotic	Annual
	Pteridaceae			
1.	<i>Adiantum caudatum</i> Klotzsch	Herb	Native	Annual
	Salviniaceae			
1.	<i>Salvinia cucullata</i> Roxb.	Herb	Native	Annual
2.	<i>Salvinia natans</i> (L.) All.	Herb	Native	Annual
3.	<i>Salvinia molesta</i> D Mitch	Herb	Exotic	Annual

Table 4: Quantitative analysis of genera and families of vascular flora of Banaras Hindu University main campus

S. No.	Group	Genera	Families
1.	Angiosperms	477	111
2.	Gymnosperms	8	5
3.	Pteridophytes	6	6

Table 5: Quantitative analysis of origin status and duration of vascular flora of Banaras Hindu University main campus

S. No.	Group	Origin status		Duration		
		Native	Exotic	Annual	Biennial	Perennial
1.	Angiosperms	319	420	273	14	452
2.	Gymnosperms	6	12	-	-	18
3.	Pteridophytes	5	3	6	-	8

Annuals are the plants that complete their entire life-cycle, from seed to seed, and die in a single season while biennials are the plants that complete their life cycle in two seasons. Perennials are the plants that continue their growth from year to year. Of the total reported vascular plant species of the Banaras Hindu University campus, 279 species were represented by annuals, 14 by biennials and 478 species were represented by perennials (Table 5). Plants of biennial duration were only represented by the Angiosperms. Therefore, the study clearly suggests that the majority of the vascular plant species of the campus belongs to annual and perennial duration. Moreover, the vascular flora of perennial duration dominates over flora of annual and biennial duration. Among Angiosperms 273 species were represented by annuals while 452 species were represented by perennials.

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The study on origin status of the campus flora reveals that the 330 plant species were native (of Indian origin) while 435 plant species were exotic (of foreign origin). Thus the study indicates the vascular floristic wealth of the Banaras Hindu University main campus is dominated by the exotics. Among the Angiospermic flora, 319 species were represented by native flora whereas the 420 species were represented by the exotic flora. Non-native plant species have become component of the flora of most regions of the world within the last five centuries as a result of tremendous species exchange between the continents and vegetation transformation by human beings (Nagar *et al.*, 2004). Himalayan and Peninsular regions of India are poor in exotic flora while the Indo-Gangetic Plains and the Thar desert regions are rich in exotic flora (Ahmad, 1999). Since Varanasi district belongs to Indo-Gangetic Plains region of India, hence this may be the probable reason behind abundance of exotic plant species on the university campus. A previous study on exotic flora suggests that Banaras Hindu University main campus is rich in exotic flora and the flora of American origin dominates the exotic floristic composition of the university campus (Singh, 2011a).

Several plant species observed in Banaras Hindu University main campus like *Butea monosperma*, *Dendrocalamus strictus*, *Holarrhena pubescens*, *Holoptelea integrifolia*, *Madhuca indica*, *Melia azedarach*, *Nyctanthes arbor-tristis*, *Phyllanthus emblica*, *Terminalia arjuna*, *Terminalia bellerica*, *Woodfordia fruticosa* and *Ziziphus nummularia* are the chief constituent species of tropical dry deciduous forest of the locality (Jha and Singh, 1992).

Conclusion

It can be concluded from the study that Banaras Hindu University main campus is rich in vascular flora dominated mostly by Angiosperms. Asteraceae, Fabaceae and Poaceae are the dominant families of the campus flora. The number of exotic flora exceeds the native flora. Flora of herbaceous habit dominates over the other habit forms. Furthermore, vascular flora of perennial duration dominates over the flora of annual and biennial duration.

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