

## **A checklist of angiospermic plants of Manas National Park in Assam, India**

**K. K. Sarmah<sup>1</sup> and S. K. Borthakur<sup>2</sup>**

Department of Botany, Gauhati University, Guwahati, Assam, India

<sup>1</sup>Department of Botany, B.B.K. College, Nagaon, Barpeta, Assam, India

<sup>2</sup> Corresponding author: *E-mail*: skbgul@gmail.com

### **Abstract**

The Manas National Park (MNP), part of a 'Tiger Project' in Assam is also a World Heritage Site. The paper enumerates 641 species of Angiosperms belonging to 125 families. Of these, there are 471 species covering 310 genera and 99 families of Dicotyledons species and 170 species covering 99 genera and 26 families are Monocotyledonous. There are 337 species of herbs while trees and shrubs are represented by 96 and 94 species respectively. Out of the 641 species, 218 species are earlier reported by Jain & Hajra (1975). A comparison of the present work with that of Jain & Hajra (1975) accounts for a total of 806 Angiospermic species belonging to 133 families and 474 genera. The Dicotyledons belong to 106 families, 353 genera and 586 species and the Monocotyledons to 27 families, 121 genera and 220 species.

**Key words:** Manas National Park, Angiospermic plants, Checklist, Assam.

### **INTRODUCTION**

Study of plant life in protected areas is essential because it is the particular forest ecosystem which suits and supports particular fauna. Conservation of plant life of a protected area is therefore very essential. A major obstacle to plant conservation is lack of exhaustive exploration. The Manas National Park (MNP) in Assam is one of the important protected areas in India. Till date, the work of Jain & Hajra (1975) has been the only authentic report about its plant wealth. They enumerated 383 Angiospermic species belonging to 91 families and 278 genera from the specimens gathered through three botanical explorations only. Obviously, their findings were quite insufficient to have detailed information on the flora of the study area. With this background, the present work was carried out in MNP.

The Manas National Park, with an area of 500 sq km, was established in the year 1990 through expansion of the erstwhile Manas Wildlife Sanctuary. The latter had been established way back in 1928 with an initial area of 360 sq km. At present, the MNP represents the core area of the Manas Biosphere Reserve which had already been designated as a Tiger Reserve in 1973 with an area of 2837 sq km (Plate-I). The Manas Biosphere Reserve is a vast tract of land at the base of foothills of the Bhutan Himalayas and extends over an almost continuous linear belt of forest (Plate-I) from the Sankosh river in the west to the Dhansiri river in the east.

The MNP spreads across the Chirang and Baksa districts in Bodoland Territorial Autonomous Districts (BTAD), Assam (Plate-I). It lies within 91° 51' - 92° 00' E longitudes and 26° 30' - 27° 00' N latitudes. It is bounded in the north by the international boundary between India and Bhutan, in the south by the thickly populated regions of Barpeta district, now the Chirang and Baksa districts of BTAD in Assam. The terrain is a flat land gently sloping to the south with a number of rivers draining from north to south. The main rivers are Manas, Mora-Manas (or Beki), Jongrong, Gyati, Chorphuli, Goruchara and Rabang. Altitudes vary from 40 – 200 m above MSL. The river Manas flows through, dividing the MNP into two halves. The land comprises of alluvial terraces with deep layers of deposited rock and detritus overlain with sand and soil of varying depth, shifting river channels and swamps.

The climate of the MNP is characterized by hot summer with high humidity and moderately cold winter. Perpetual humidity, frequent and heavy rainfall and moderate temperature, warm summer and a cold winter especially distinguish the study area. Rainfall is comparatively more in the area due to its vicinity to the Bhutan Himalayas.

The vegetation of the study area consists of tropical semi-evergreen forests, tropical deciduous forests, riparian forests, tropical grasslands, tropical savannah, swamp vegetation and aquatic vegetation. Some common species occurring in the study area are *Dillenia indica*, *Casearia vareca*, *Tamarix dioica*, *Urena lobata*, *Bombax ceiba* (Plate – II; Fig. 2), *Grewia sapida*, *Micromelum minutum*, *Leea asiatica* (Plate – II; Fig. 3), *Crotalaria indobracteata*, *Desmodium motorium*, *Flemingia macrophylla*, *Cassia occidentalis*, *C. tora*, *Careya arborea*, *Duabanga grandiflora*, *Gymnopetalum cochinchinensis*, *Centella asiatica*, *Borreria articularis*, *Bidens biternata*, *Ethulia conyzoides*, *Tabernaemontana divaricata*, *Wrightia arborea*, *Eranthemum nervosum*, *Gmelina arborea* (Plate – II; Fig. 4), *Premna latifolia*, *Anisomeles indica*, *Hyptis suaveolens*, *Cyathula prostrata*, *Polygonum strigosum*, *Litsaea salicifolia*, *Macrosolen cochinchinensis* (Plate – II; Fig.-4), *Bischofia javanica*, *Embllica officinalis*, *Boehmeria macrophylla* var. *scabrella*, *Aerides multiflorum*, *Papilionanthe teres*, *Globba racemosa*, *Costus speciosus* var. *argyrophyllus*, *Dioscorea hamiltoni*, *Smilax ovalifolia*, *Calamus tenuis*, *Lasia spinosa*, *Rynchospora hookeri*, *Scleria levis*, *Coix lacryma-jobi*, *Eleusine indica*, *Hygroryza aristata* (Plate – II; Fig. 5), *Saccharum ravennae*, *S. spontaneum*, and *Themeda arundinacea* (Plate – II; Fig. 6).

### MATERIALS AND METHODS

Exploration was carried out for five years starting from 1999 for collection of specimens. Herbarium specimens were prepared following standard herbarium techniques (Jain & Rao, 1977). Identification was carried out through direct comparison of the collected specimens with the specimens in different herbaria (CAL, ASSAM). All the available literature was consulted before analyzing the data for the purpose. Bentham & Hooker's system of classification was followed for arrangement of the taxa. Voucher specimens were deposited in the Herbarium of the Department of Botany of Gauhati University in Assam.

### RESULTS AND DISCUSSION

The study area possesses 641 Angiospermic species belonging to 125 families and 409 genera (Tables 1, 2). Dicotyledons belonged to 99 families, 310 genera and 471 species and the Monocotyledons to 26 families, 99 genera and 170 species (Table-1). Eight dominant dicotyledonous families in order of decreasing number of species are viz., Fabaceae (53 spp.), Asteraceae (43 spp.), Euphorbiaceae (26 spp.), Rubiaceae (16 spp.), Acanthaceae (16 spp.), Verbenaceae (16 spp.), Polygonaceae (16 spp.) and Lamiaceae (15 spp.). Among the Monocotyledons, six dominant families are viz., Poaceae (70 spp.), Cyperaceae (34 spp.), Commelinaceae (12 spp.), Orchidaceae (9 spp.), Dioscoreaceae (6 spp.) and Araceae (6 spp.). Poaceae with its 70 species is the most dominant taxon in the study area. The numbers of species belonging to different habits viz., tree, scrub, shrub, under-shrub, herb, climber and twiner are 96, 3, 94, 51, 337, 21 and 39 species respectively.

The MNP, as evident from above description, harbors a rich bio-resource and it legitimately deserves a thorough recording of its plant taxa. As mentioned earlier, Jain & Hajra (1975) enumerated 383 Angiosperm species belonging to 91 families and 278 genera. Dicotyledons belonged to 74 families, 211 genera and 285 species and Monocotyledons to 17 families, 67 genera and 98 species. Eight dicotyledonous families in order of decreasing number of species were viz., Euphorbiaceae (23 spp.), Fabaceae (22 spp.), Asteraceae (22 spp.), Rubiaceae (11 spp.), Verbenaceae (11 spp.), Apocynaceae (10 spp.), Moraceae (10 spp.) and Acanthaceae (9 spp.). Five monocotyledonous families were viz., Poaceae (44 spp.), Orchidaceae (15 spp.), Cyperaceae (12 spp.), Zingiberaceae (6 spp.) and Commelinaceae (5 spp.). In addition to these, 18 species of ferns were also recorded belonging to 6 families and 14 genera.

It is pertinent to make an account of the Angiospermic plants occurring in the MNP by comparing the findings of Jain & Hajra (1975) with the present one. This accounts for 806 Angiospermic species belonging to 133 families and 474 genera (Table-1). It is evident from Table-2 that as much as 218 species have been reported in both the works. Out of the 806 species the Dicotyledons include 106 families with 353 genera and 586 species and the Monocotyledons 27 families with 121 genera and 220 species. Five dominant dicotyledonous families in order of decreasing number of species are viz., Fabaceae (61 spp.), Asteraceae (53 spp.), Euphorbiaceae (39 spp.), Rubiaceae (21 spp.) and Acanthaceae (19 spp.). Five dominant monocotyledonous families are viz., Poaceae (89 spp.), Cyperaceae (39 spp.), Orchidaceae (23 spp.), Commelinaceae (14 spp.) and Zingiberaceae (10 spp.). The most dominant family is Poaceae with 89 species.

**Table-1:** Comparison of the number of taxa reported by Jain & Hajra (1975) and the present work (According to the system of Bentham & Hooker, 1862 - 1883).

	<b>Jain &amp; Hajra (1975): A</b>			<b>Present Work: B</b>			<b>Compilation of A &amp; B</b>		
	Dicot	Monocot	Total	Dicot	Monocot	Total	Dicot	Monocot	Total
Families	74	17	91	99	26	125	106	27	133
Genera	211	67	278	310	99	409	353	121	474
Species	285	98	383	471	170	641	586	220	806

The flora of the study area possesses considerable utilitarian value and the area is inhabited by important animals like elephants, rhinoceros, deer, wild buffalo, Indian bison and golden langur. These animals depend on the animals and plants of the Park for their food. Some of the plant species reported to be eaten by wild animals including *Alpinia nigra*, *Saccharum spontaneum*, *Eichhornia crassipes*, *Albizia lucidior*, *Bombax ceiba*, *Dillenia indica*, *D. pentagyna*, *Lippia javanica*, *Alternanthera sessilis*, *Oenanthe javanica* and *Hygroryza aristata*.

The study area includes also some medicinal and economic plants such as: *Dillenia indica*, *Toona ciliata*, *Hodgsonia macrocarpa*, *Terminalia bellirica*, *T. chebula*, *Rauvolfia serpentina*, *Gmelina arborea*, *Embllica officinalis*, *Dioscorea bulbifera* and *D. pentaphylla*.

**Table-2:** Angiosperm taxa occurring in Manas National Park. Numbered species were also reported by Jain & Hajra (1975). [Families arranged according to the system of Bentham & Hooker (1862 – 1883) and binomials arranged alphabetically in horizontal sequence]

<b>FAMILY</b>	<b>SPECIES</b>
Ranunculaceae	<i>Ranunculus pennsylvanicus</i> L.f. ssp. <i>napaulensis</i> (DC.) Reidl.; <i>R. sceleratus</i> L.
Dilleniaceae	<b>1.</b> <i>Dillenia indica</i> L. <b>2.</b> <i>D. pentagyna</i> Roxburgh
Magnoliaceae	<i>Michelia champaca</i> L.
Annonaceae	<i>Annona reticulata</i> L.
Menispermaceae	<i>Cissampelos pareira</i> L. var. <i>hirsuta</i> (Buch.-Ham. ex DC.) Forman; <i>Cyclea peltata</i> Hooker f. & Thomson
Nymphaeaceae	<b>3.</b> <i>Nymphaea caerulea</i> Savign.; <i>N. pubescens</i> Willdenow
Papaveraceae	<i>Argemone mexicana</i> L.
Brassicaceae	<i>Cardamine debilis</i> D. Don; <b>4.</b> <i>Rorippa indica</i> (L.) Hiern; <i>R. montana</i> (Wallich ex Hk.f. & T. Anderson) Small
Capparaceae	<b>5.</b> <i>Crateva magna</i> (Loureiro) DC.
Cleomaceae	<i>Cleome gynandra</i> L.; <i>C. rutidosperma</i> DC.; <i>C. viscosa</i> L.
Violaceae	<i>Viola betonicifolia</i> J. E. Smith
Flacourtiaceae	<b>6.</b> <i>Casearia vareca</i> Roxburgh
Polygalaceae	<b>7.</b> <i>Polygala arvensis</i> Willdenow; <i>P. longifolia</i> Poiret

FAMILY	SPECIES
Caryophyllaceae	<i>Drymaria cordata</i> (L.) Willdenow ex R. & S.; <i>Polycarpon prostratum</i> (Forsk.) Asch. & Schweinf.
Portulacaceae	<b>8.</b> <i>Portulaca oleracea</i> L.
Tamaricaceae	<b>9.</b> <i>Tamarix dioica</i> Roxburgh
Elatinaceae	<i>Bergia ammanioides</i> Roxburgh
Clusiaceae	<i>Garcinia pedunculata</i> Roxburgh; <i>G. xanthochymus</i> Hooker f. & T. Anderson; <i>Mesua ferrea</i> L.
Malvaceae	<i>Abelmoschus manihot</i> ssp. <i>tetraphyllus</i> var. <i>pungens</i> (Roxburgh) Hochreutiner; <i>Abutilon indicum</i> (L.) Sweet; <i>Hibiscus surattensis</i> L.; <i>Sida alba</i> L.; <i>S. cordifolia</i> L.
Bombacaceae	<b>11.</b> <i>Bombax ceiba</i> L.; <b>10.</b> <i>Urena lobata</i> L.
Sterculiaceae	<i>Ambroma augusta</i> L.f.; <i>Melochia corchorifolia</i> L.; <b>12.</b> <i>Sterculia villosa</i> Roxburgh
Tiliaceae	<i>Corchorus aestuans</i> L.; <b>13.</b> <i>Grewia disperma</i> Rottboel; <b>14.</b> <i>G. sapida</i> Roxburgh ex DC.; <b>15.</b> <i>Triumfetta rhomboidea</i> Jacquemont
Elaeocarpaceae	<i>Elaeocarpus sphaericus</i> (Gaertner) K. Schumacher
Linaceae	<b>16.</b> <i>Reinwardtia indica</i> Dumitriu
Geraniaceae	<i>Biophytum sensitivum</i> DC.
Oxalidaceae	<b>17.</b> <i>Oxalis corniculata</i> L.
Averrhoaceae	<i>Averrhoa carambola</i> L.
Balsaminaceae	<i>Impatiens benthamii</i> Steenis
Rutaceae	<i>Aegle marmelos</i> Correa; <b>18.</b> <i>Glycosmis arborea</i> (Roxburgh) DC.; <i>G. longifolia</i> (Hooker f.) Tanaka; <b>19.</b> <i>Micromelum minutum</i> (Forster f.) Wight & Arnott; <b>20.</b> <i>Murraya koenigii</i> (L.) Sprengel; <b>21.</b> <i>M. paniculata</i> (L.) Jack; <i>Paramignya scandens</i> (Griffith) Craib
Burseraeae	<i>Garuga pinnata</i> Roxburgh
Meliaceae	<i>Azadirachta indica</i> A. Jussieu; <b>22.</b> <i>Melia azedarach</i> L.; <b>23.</b> <i>Toona ciliata</i> M. Roemer
Olacaceae	<b>24.</b> <i>Oxal nana</i> Wallich
Icacinaceae	<b>25.</b> <i>Natsiatum herpeticum</i> Buchanon-Hamilton
Hippocrateaceae	<i>Hippocratea arborea</i> Roxburgh
Rhamnaceae	<i>Gouania tiliaefolia</i> Lamarck; <b>26.</b> <i>Rhamnus napalensis</i> M. Lawson; <b>27.</b> <i>Zizyphus mauritiana</i> Lamarck
Vitaceae	<i>Ampelocissus barbata</i> (Wallich) Planchon; <i>Cayratia japonica</i> (Thunburgh) Gagnepien; <b>28.</b> <i>Cissus adnata</i> Roxburgh; <i>C. repens</i> Lamarck; <i>Tetrastigma obovatum</i> (Lawson) Gagnepien
Leeaceae	<b>29.</b> <i>Leea alata</i> Edgewarth; <b>30.</b> <i>L. asiatica</i> (L.) Ridsdale; <i>L. compactiflora</i> Kurz
Sapindaceae	<i>Cardiospermum halicacabum</i> L.; <b>31.</b> <i>Lepisanthes erecta</i> (Thwart) Leenhouts; <i>L. senegalensis</i> (Poiret) Leenhouts
Sabiaceae	<b>32.</b> <i>Meliosma simplicifolia</i> (Roxburgh) Walpers; <b>33.</b> <i>Sabia paniculata</i> Edgewarth ex Hooker f. & Thomson
Anacardiaceae	<i>Lannea coromandelica</i> (Houttuyn) Merrill; <i>Mangifera indica</i> L.; <i>Spondias pinnata</i> (L.f.) Kurz
Moringaceae	<i>Moringa oleifera</i> Lamarck
Fabaceae	<i>Aeschynomene americana</i> L.; <i>A. indica</i> L.; <i>Alysicarpus scariosus</i> (Rottl. ex Spreng.) Grah. ex Thw.; <i>A. vaginalis</i> (L.) DC.; <i>A. wallichii</i> Wight & Arnott; <b>34.</b> <i>Butea monosperma</i> (Lamarck) Taubert; <i>Cajanus elongatus</i> (Bentham) Maesener; <b>35.</b> <i>Crotalaria albida</i> Heyne ex Roth; <i>C. bialata</i> Schrank; <i>C. indobracteata</i> Bennet; <i>C. juncea</i> L.; <i>C. laburnifolia</i> L.; <b>36.</b> <i>C. pallida</i> Aiton; <i>C. prostrata</i> Roxb.; <i>C. psoraloides</i> D. Don; <i>C. sessiliflora</i> L.; <i>C. tetragona</i> Roxbergh ex Andrews; <b>37.</b> <i>Dalbergia sissoo</i> Roxbergh; <i>D. volubilis</i> Roxbergh; <i>Derris indica</i> (Lamarck) Bennet; <b>38.</b> <i>D. robusta</i> Bentham; <i>Desmodium caudatum</i> (Thunbergh) DC.; <b>39.</b> <i>D. gangeticum</i> DC.; <i>D. gyroides</i> DC.; <i>D. heterocarpion</i> var. <i>strigosum</i> van Meeuwen; <i>D. heterophyllum</i> DC.; <i>D. laxiflorum</i> DC.; <i>D. motorium</i> (Houttuyn) Merrill; <b>40.</b> <i>D. pulchellum</i> Bentham; <b>41.</b> <i>D. triangulare</i> (Retzius) Merrill; <b>42.</b> <i>D. triflorum</i> DC.; <i>D. triquetrum</i> DC.; <i>D. velutinum</i> DC.; <i>Erythrina arborascens</i> Roxbergh; <i>E. fusca</i> Loureiro; <i>E. stricta</i> Roxbergh; <i>Flemingia macrophylla</i> Blume ex Miquel; <i>F. prostrata</i> Roxbergh ex Roxbergh; <b>43.</b> <i>F. strobilifera</i> (R. Brown) Aiton; <i>Indigofera zollingeriana</i>

FAMILY	SPECIES
Caesalpiniaceae	Miquel; <b>44.</b> <i>Millettia pachycarpa</i> Benth; <b>45.</b> <i>Mucuna pruriens</i> (L.) DC.; <i>Pueraria phaseoloides</i> Benth; <i>Rhynchosia viscosa</i> DC.; <i>Sesbania bispinosa</i> (Jackuin) Wight; <i>Smithia grandis</i> Benth ex Baker; <i>S. sensitiva</i> Aiton; <b>46.</b> <i>Tephrosia candida</i> DC.; <i>Uraria lagopoides</i> DC.; <b>47.</b> <i>U. picta</i> Desv; <i>Vicia hirsuta</i> Koch.; <i>V. sativa</i> L.; <i>Vigna vexillata</i> (L.) A. Richard
Mimosaceae	<b>48.</b> <i>Bauhinia purpurea</i> L.; <b>49.</b> <i>B. variegata</i> L.; <i>Cassia alata</i> L.; <b>50.</b> <i>C. fistula</i> L.; <i>C. hirsuta</i> L.; <i>C. javanica</i> L. var. <i>indochinensis</i> Gagnepien; <b>51.</b> <i>C. mimosoides</i> L.; <i>C. occidentalis</i> L.; <i>C. siamea</i> Lamarck; <i>C. sophera</i> L.; <b>52.</b> <i>C. tora</i> L.; <i>Delonix regia</i> (Bojer) Rafinesque; <i>Tamarindus indicus</i> L.
Rosaceae	<b>53.</b> <i>Acacia catechu</i> Willdenow; <i>A. catechuoides</i> Benth; <i>Albizia lucidior</i> (Steudel) Nielson; <i>A. torta</i> (Roxbergh) Craib; <i>Leucaena leucocephala</i> (Lamarck) De Wit; <i>Mimosa invisa</i> Martius; <b>54.</b> <i>M. pudica</i> L.; <i>M. rubicaulis</i> Lamarck ssp. <i>Himalayana</i> (Gamble) Ohashi; <i>Samanea saman</i> (Jacquin) Merrill
Crassulaceae	<i>Duchesnea indica</i> (Andrew) Focke; <i>Potentilla supina</i> L.; <i>Rubus alceifolius</i> Poir
Haloragaceae	<i>Kalanchoe pinnata</i> (Lamarck) Persoon
Combretaceae	<i>Myriophyllum tetrandrum</i> Roxbergh
Myrtaceae	<i>Terminalia arjuna</i> Wight & Arnott; <b>55.</b> <i>T. bellirica</i> (Gaertner) Roxbergh; <b>56.</b> <i>T. chebula</i> Retzius
Lecythidaceae	<i>Psidium guajava</i> L.; <i>Sygygium balsaminea</i> Wight; <b>57.</b> <i>S. cumini</i> (L.) Skeels; <i>S. jambos</i> (L.) Alston; <i>S. operculatum</i> (Roxb.) Niedenzu
Barringtoniaceae	<b>58.</b> <i>Careya arborea</i> Roxbergh
Melastomaceae	<i>Barringtonia acutangula</i> Gaertn.
Lythraceae	<b>59.</b> <i>Melastoma malabathricum</i> L.; <i>Osbeckia chinensis</i> L.; <i>O. rostrata</i> D. Don; <b>60.</b> <i>O. rostrata</i> D. Don var. <i>pulchella</i> Triana
Sonneratiaceae	<i>Ammania multiflora</i> Roxbergh; <b>61.</b> <i>Cuphea balsamona</i> Chamisso & Schlechtendal; <b>62.</b> <i>Lagerstroemia parviflora</i> Roxbergh; <b>63.</b> <i>L. speciosa</i> (L.) Persoon; <i>Rotala indica</i> (Willdenow) Koehne; <i>R. macrandra</i> Loehne
Onagraceae	<b>64.</b> <i>Duabanga grandiflora</i> (Roxbergh ex DC) Walpers
Caricaceae	<i>Epilobium angustifolium</i> L. ssp. <i>circumvagum</i> Mosquin; <i>Ludwigia adscendens</i> (L.) Hara; <i>L. octavalvis</i> (Jacquin) Raven; <i>L. prostrata</i> Roxbergh
Cucurbitaceae	<i>Carica papaya</i> L. <i>Cucurbita pepo</i> DC.; <b>65.</b> <i>Gymnopetalum cochinchinensis</i> Kurz; <b>66.</b> <i>Hodgsonia macrocarpa</i> (Blume) Cogniaux; <b>67.</b> <i>Luffa aegyptiaca</i> Miller; <i>Momordica charantia</i> L.; <b>68.</b> <i>M. cochinchinensis</i> Sprengel; <i>Mukia maderaspatana</i> M. Roemer; <i>M. scabreoides</i> ; <b>69.</b> <i>Solena amplexicaulis</i> (Lamk.) Gandhi; <i>Thladiantha cordifolia</i> (Bl.) Cogniaux; <i>Trichosanthes ovigera</i> Blume; <i>T. tricuspidata</i> var. <i>tomentosa</i> (Heine ex Clarke) Kumari; <i>T. wallichiana</i> (Seringe) Wight
Aizoaceae	<i>Glinus oppositifolius</i> (L.) A. DC.
Apiaceae	<i>Centella asiatica</i> (L.) Urban; <i>Hydrocotyle sibthorpioides</i> Lamarck; <i>Oenanthe fistulosa</i> L.; <b>70.</b> <i>O. javanica</i> DC.; <i>Seseli daucifolium</i> Clarke
Alangiaceae	<b>71.</b> <i>Alangium chinense</i> (Loureiro) Harms
Caprifoliaceae	<i>Lonicera macrantha</i> (D. Don) Sprengel
Rubiaceae	<b>72.</b> <i>Anthocephalus chinensis</i> (Lamarch) A. Richard ex Walpers; <i>Borreria articularis</i> (L.f.) Williams; <b>73.</b> <i>Catunaregam nutans</i> (DC.) Tiruveng.; <b>74.</b> <i>Coffea bengalensis</i> Roxbergh; <i>Dentella serpyllifolia</i> Wallich ex Craib; <i>Hedyotis corymbosa</i> (L.) Lamarck; <i>H. diffusa</i> Willdenow; <i>H. lineata</i> Roxbergh; <b>75.</b> <i>H. scandens</i> Roxbergh; <i>H. verticillata</i> (L.) Lamarck; <i>Meyna spinosa</i> Roxbergh ex Link; <i>Morinda angustifolia</i> Roxbergh; <b>76.</b> <i>Mussaenda incana</i> Wallich; <b>77.</b> <i>Paederia foetida</i> L.; <i>P. tomentosa</i> Blume; <i>Richardsonia pilosa</i> Humboldt, Bonpland & Kunth
Asteraceae	<i>Adenostemma lavenia</i> (L.) Kuntze; <b>78.</b> <i>Ageratum conyzoides</i> L.; <i>Artemisia caruifolia</i> Roxbergh; <i>A. indica</i> Willdenow; <b>79.</b> <i>Bidens biternata</i> (Loureiro) Merrill & Sheriff; <b>80.</b> <i>Blumea fistulosa</i> (Roxbergh) Kurz; <i>B. hieracifolia</i> (D. Don) DC.; <i>B. lacera</i> DC. var. <i>glandulosa</i> Hooker f.; <i>B. mollis</i> (D. Don) Merrill; <i>B. obliqua</i> (L.) Druce; <i>Centipeda minima</i> (L.) A. Br. & Ascherson; <i>Cirsium arvense</i> Scopoli; <i>Conyza canadensis</i> (L.) Cronquist; <b>81.</b> <i>Cotula hemispherica</i> Wallich; <b>82.</b> <i>Crassocephalum crepidioides</i>

FAMILY	SPECIES
	(Bentham) Moore; <i>Dichrocephala integrifolia</i> (L. f.) Kuntze; <i>Eclipta prostrata</i> L.; <b>83.</b> <i>Emilia sonchifolia</i> DC.; <i>Enhydra fluctuans</i> Loureiro; <i>Ethulia conyzoides</i> L.; <b>84.</b> <i>Eupatorium odoratum</i> L.; <i>Gnaphalium indicum</i> L.; <i>G. polycaulon</i> Persoon; <i>Grangea maderaspatana</i> Poiret; <i>Ixeris gracilis</i> (Wallich ex DC.) Stebbins; <i>Launaea asplenifolia</i> Hooker f.; <i>L. procumbens</i> (Roxbergh) Rammaya & Raja; <b>85.</b> <i>Mikania micrantha</i> Humboldt, Bonpland & Kunth; <i>Parthenium hysterophorus</i> L.; <b>86.</b> <i>Senecio latiligulatus</i> Balakrishnan; <i>S. vulgaris</i> L.; <i>Sphaeranthus senegalensis</i> DC.; <i>Spilanthes paniculata</i> DC.; <b>87.</b> <i>Synedrella nodiflora</i> Gaertner; <i>Thespis divaricata</i> DC.; <i>Tithonia diversifolia</i> A. Gray; <b>88.</b> <i>Tridax procumbens</i> L.; <i>Vernonia aspera</i> Buchanon-Hamilton; <b>89.</b> <i>V. conyzoides</i> DC.; <i>V. patula</i> Martius ex DC.; <i>V. silhetensis</i> (DC.) Handle-Mazzetti; <i>Xanthium strumarium</i> L.; <i>Youngia japonica</i> (L.) DC.
Campanulaceae	<i>Wahlenbergia marginata</i> (Thunbergh) DC.
Myrsinaceae	<i>Ardisia thomsonii</i> (Cl.) Mez; <b>90.</b> <i>Maesa indica</i> Wallich
Sapotaceae	<i>Mimusops elengi</i> L.
Oleaceae	<i>Nyctanthes arbor-tristis</i> L.
Apocynaceae	<b>91.</b> <i>Alstonia scholaris</i> R. Brown; <b>92.</b> <i>Cascabela thevetia</i> (L.) Lippold; <i>Catharanthus roseus</i> (L.) G. Don; <b>93.</b> <i>Holarrhena antidysenterica</i> Wallich; <b>94.</b> <i>Ichnocarpus frutescens</i> R. Brown; <i>Plumeria rubra</i> var. <i>acutifolia</i> (Poiret) Bailey; <b>95.</b> <i>Rauwolfia serpentina</i> Bentham ex Kurz; <b>96.</b> <i>Tabernaemontana divaricata</i> R. Brown; <b>97.</b> <i>Wrightia arborea</i> (Dennstedt) Mabblerley ex Roemer & Schultes
Asclepiadaceae	<i>Calotropis gigantea</i> (Dryand.) Aiton; <b>98.</b> <i>C. acea</i> Buchanon-Hamilton; <i>Marsdenia roylei</i> Wight; <i>Sarcostemma secamone</i> (L.) Bannet
Loganiaceae	<i>Mitreola petiolata</i> (Gmelin) Torrey & Grey
Buddleiaceae	<b>99.</b> <i>Buddleja asiatica</i> Loureiro
Gentianaceae	<i>Exacum bicolor</i> Roxbergh; <i>E. teres</i> Wallich; <i>Nymphoides hydrophylla</i> (Loureiro) Kuntze; <i>N. indica</i> (L.) Kuntze
Hydrophyllaceae	<i>Hydrolea zeylanica</i> Vahl
Boraginaceae	<b>100.</b> <i>Cordia dichotoma</i> Forster f.; <i>Cynoglossum glochidiatum</i> Wallich; <b>101.</b> <i>C. zeylanicum</i> Thunbergh ex Lehmann
Heliotropiaceae	<i>Heliotropium indicum</i> L.
Convolvulaceae	<i>Argyreia argentea</i> Arnott ex Choisy; <i>A. capitata</i> Arnott ex Choisy; <b>102.</b> <i>A. roxburghii</i> Arnott ex Choisy; <i>Evolvulus nummularius</i> L.; <i>Ipomoea aquatica</i> Forskal; <i>I. carnea</i> ssp. <i>fistulosa</i> (Martius ex Choisy); <i>I. obscura</i> Ker-Gawler; <i>I. quamoclit</i> L.; <i>Merremia hederacea</i> (Burman f.) Hallier f.; <b>103.</b> <i>M. umbellata</i> (L.) Hallier f.; <b>104.</b> <i>M. vitifolia</i> (Burman f.) Hallier f.; <i>Operculina turpethum</i> (L.) Manso; <i>Porana paniculata</i> Roxbergh
Cuscutaceae	<b>105.</b> <i>Cuscuta reflexa</i> Roxbergh; <i>C. reflexa</i> ssp. <i>anguina</i> (Edgewarth) Yuncher.
Solanaceae	<i>Capsicum annuum</i> L.; <i>Datura metel</i> L.; <i>Nicotiana plumbaginifolia</i> Viviani; <b>106.</b> <i>Physalis minima</i> L.; <i>Solanum anguivii</i> Lamk.; <i>S. kurzii</i> Brace ex Prain; <b>107.</b> <i>S. myriacanthum</i> Dunal; <b>108.</b> <i>S. nigrum</i> L.; <b>109.</b> <i>S. torvum</i> Swartz
Scrophulariaceae	<i>Adenosma indicum</i> (Loureiro) Merrill; <b>110.</b> <i>Limnopyla heterophylla</i> Bentham; <b>111.</b> <i>L. sessiliflora</i> Blume; <i>Lindernia multiflora</i> (Roxbergh) Mukerjee; <i>L. procumbens</i> (Krocker) Borbas; <i>L. ruellioides</i> (Colsmann) Pennel; <i>Mazus pumilus</i> (Burman f.) Steenis; <i>Mecardonia procumbens</i> (Miller) Small; <b>112.</b> <i>Scoparia dulcis</i> L.; <i>Torenia violacea</i> (Azaolo ex Blanco) Pennel
Lentibulariaceae	<i>Utricularia aurea</i> Loureiro
Gesneriaceae	<i>Aeschynanthus bracteatus</i> Wallich
Bignoniaceae	<b>113.</b> <i>Oroxylum indicum</i> Ventenat; <i>Stereospermum chelonoides</i> DC.
Acanthaceae	<i>Andrographis paniculata</i> Nees; <b>114.</b> <i>Barleria cristata</i> L.; <i>Dicliptera bupleuroides</i> Nees; <i>Difflugossa colorata</i> (Nees) Bremekamp; <b>115.</b> <i>Eranthemum nervosum</i> Brown; <i>Hygrophila salicifolia</i> Nees; <i>Justicia adhatoda</i> L.; <b>116.</b> <i>Lepidagathis incurva</i> Buchanon-Hamilton ex D. Don; <i>Nelsonia canascens</i> Sprengel; <b>118.</b> <i>Phlogacanthus thyriformis</i> (Roxbergh ex Hardwicke) Mabblerley; <i>Rungia himalayensis</i> Clarke; <b>119.</b> <i>R. parviflora</i> Nees; <i>R. repens</i> (L.) Nees; <i>Tarphochlamys affinis</i> (Griffith) Bremekamp
Thunbergiaceae	<b>120.</b> <i>Thunbergia grandiflora</i> Roxbergh

FAMILY	SPECIES
Verbenaceae	<b>121.</b> <i>Callicarpa arborea</i> Roxbergh; <i>C. arborea</i> var. <i>oblongifolia</i> ; <i>C. macrophylla</i> Vahl; <i>Clerodendrum colebrookianum</i> Walpers; <b>122.</b> <i>C. indicum</i> (L.) Kuntze; <i>C. philippinum</i> Schauer; <b>123.</b> <i>C. serratum</i> Spreng.; <b>124.</b> <i>C. viscosum</i> Ventenat; <b>125.</b> <i>Gmelina arborea</i> Roxbergh; <b>126.</b> <i>Holmskioldia sanguinea</i> Retzius; <i>Lippia javanica</i> (Burman f.) Sprengel; <b>127.</b> <i>Phyla nodiflora</i> (L.) Greene; <i>Premna barbata</i> Wallich; <b>128.</b> <i>P. latifolia</i> Roxbergh; <b>129.</b> <i>Pygmaepremna herbacea</i> (Roxbergh) Moldenke; <i>Tectona grandis</i> L.f.; <b>130.</b> <i>Vitex glabrata</i> R. Brown; <i>V. negundo</i> L.
Lamiaceae	<i>Acrocephalus hispidus</i> (L.) Nicolson & Sivadasan; <i>Ajuga macrosperma</i> var. <i>breviflora</i> Hooker f.; <b>131.</b> <i>Anisochilus polystachys</i> Benthams; <i>Anisomeles indica</i> (L.) Kuntze; <i>Eusteralis crassicaulis</i> (Benthams) Panigrahi; <i>E. stellata</i> (Loureiro) Panigrahi; <b>132.</b> <i>Hyptis suaveolens</i> Poiteau; <i>Leonurus sibiricus</i> L.; <b>133.</b> <i>Leucas indica</i> (L.) R. Brown ex Vatke; <b>134.</b> <i>Mosla dianthera</i> (Buchanan-Hamilton) Maximowicz; <i>Ocimum gratissimum</i> L.; <i>Orthosiphon diffusus</i> Benthams; <b>135.</b> <i>Plectranthus ternifolius</i> D. Don; <b>136.</b> <i>Pogostemon auricularis</i> (L.) Hasskarl; <i>Teucrium viscidum</i> Blume
Nyctaginaceae	<b>137.</b> <i>Boerhaavia diffusa</i> L.; <i>Mirabilis jalapa</i> L.
Amaranthaceae	<b>138.</b> <i>Achyranthes aspera</i> L.; <i>Alternanthera paronichyoides</i> St. Hilaire; <i>A. philoxeroides</i> Grisebach; <b>139.</b> <i>A. sessilis</i> R. Brown; <b>140.</b> <i>Amaranthus spinosus</i> L.; <i>A. viridis</i> L.; <i>Celosia argentea</i> L.; <b>141.</b> <i>Cyathula prostrata</i> Blume; <b>142.</b> <i>Deeringia amaranthoides</i> (Lamarck) Merrill
Chenopodiaceae	<i>Chenopodium album</i> L.; <i>C. ambrosioides</i> L.
Polygonaceae	<i>Polygonum auriculatum</i> Meissner; <b>143.</b> <i>P. barbatum</i> L.; <b>144.</b> <i>P. chinense</i> L.; <i>P. hydropiper</i> L.; <i>P. kawagoeanum</i> Makino; <i>P. lapathifolium</i> L. var. <i>lanatum</i> (Roxbergh) Steward; <i>P. orientale</i> L.; <b>145.</b> <i>P. perfoliatum</i> L.; <i>P. plebejum</i> R. Br.; <i>P. plebejum</i> R. Brown var. <i>indica</i> (Heine ex Roth) Hooker f.; <b>146.</b> <i>P. posumbo</i> Buchanan-Hamilton ex D. Don; <i>P. serrulatum</i> Lagasca; <b>147.</b> <i>P. strigosum</i> R. Brown; <i>P. tubulosum</i> Boissier; <i>P. viscosum</i> Buchanan-Hamilton ex D. Don; <i>Rumex maritimus</i> L.
Piperaceae	<i>Peperomia pellucida</i> (L.) Humboldt, Bonpland & Kunth; <b>148.</b> <i>Piper longum</i> L.; <i>P. mullesua</i> D. Don; <i>P. nigrum</i> var. <i>macrostachya</i> Cassini; <i>P. trioicum</i> Roxburgh
Lauraceae	<i>Litsaea elongata</i> Wallich; <b>149.</b> <i>L. glutinosa</i> (Loureiro) Robinson; <b>150.</b> <i>L. salicifolia</i> Roxbergh; <i>Persea gamblei</i> (King ex Hooker f.) Kostermans; <b>151.</b> <i>Polyanthia monopetala</i> (Roxbergh) Persoon
Proteaceae	<i>Grevillea robusta</i> A. Cunningham
Loranthaceae	<i>Helexanthera ligustrina</i> (Wallich) Danser; <b>152.</b> <i>Macrosolen cochinchinensis</i> Blume
Euphorbiaceae	<i>Acalypha brachystachya</i> Hornemann; <i>A. indica</i> L.; <b>153.</b> <i>Antidesma acidum</i> Retzius; <i>A. bunius</i> Sprengel; <b>154.</b> <i>A. ghesaembilla</i> Gaertner; <i>Baliospermum montanum</i> Mueller; <b>155.</b> <i>Bischofia javanica</i> Blume; <i>Bridelia monoica</i> (Loureiro) Merrill; <b>156.</b> <i>B. scandens</i> (Roxburgh) Willdenow; <b>157.</b> <i>B. squamosa</i> (Lamarck) Gehrmann; <i>Croton bonplandianus</i> Baillon; <b>158.</b> <i>Embllica officinalis</i> Gaertner; <i>Euphorbia hirta</i> L.; <i>E. indica</i> Lamarck; <i>E. thymifolia</i> L.; <b>159.</b> <i>Glochidion assamicum</i> Hooker f.; <i>Jatropha curcas</i> L.; <i>G. multiloculare</i> Mueller; <i>Kirganelia reticulata</i> (Poiret) Baillon; <b>160.</b> <i>Mallotus philippinensis</i> Mueller; <i>Phyllanthus amarus</i> Schumann; <i>P. urinaria</i> L.; <b>161.</b> <i>Ricinus communis</i> L.; <i>Securinega virosa</i> (Willdenow) Paxton & Hoffmann; <i>Trewia nudiflora</i> L.
Urticaceae	<i>Boehmeria macrophylla</i> var. <i>scabrella</i> (Roxburgh) Grierson & Long; <i>Cudrania cochinchinensis</i> (Loureiro) Kudo-Masamune ex Sauer; <i>Dendracnide sinuata</i> (Blume) Chew; <b>163.</b> <i>Neodistemon indicum</i> (Weddel) Babu & Henry; <b>164.</b> <i>Pouzolzia bennetiana</i> Wight; <i>P. indica</i> Gaudichaud var. <i>alienata</i> Weddel; <b>165.</b> <i>P. pentandra</i> Bennett; <b>166.</b> <i>P. zeylanica</i> Bennett; <i>Sarcochlamys pulcherrima</i> Gaudichaud
Moraceae	<i>Ficus heterophylla</i> L.f.; <b>167.</b> <i>F. hispida</i> L.f.; <i>F. obscura</i> Blume; <i>F. rumphii</i> Blume; <b>168.</b> <i>Morus australis</i> Poiret; <b>169.</b> <i>Streblus asper</i> Loureiro
Cannabaceae	<i>Cannabis sativa</i> L. ssp. <i>indica</i> var. <i>indica</i> (Lamarck) Wehmer
Ceratophyllaceae	<b>170.</b> <i>Ceratophyllum demersum</i> L.
Hydrocharitaceae	<i>Hydrilla verticillata</i> Presler; <i>Nechamandra alternifolia</i> (Roxbergh) Thwaites; <b>171.</b> <i>Ottelia alismoides</i> Persler; <b>172.</b> <i>Vallisneria natans</i> (Loureiro) Hara
Orchidaceae	<i>Aerides multiflorum</i> Roxbergh; <i>Calanthe angusta</i> Lindley; <i>C. triplicata</i> (Willem.) Ames; <i>Eulophia obtusa</i> Hooker f.; <i>Flickingeria fugax</i> (Reichenbach f.) Seidenfaden;

FAMILY	SPECIES
Zingiberaceae	<i>Geodorum densiflorum</i> (Lamarck) Schlechter; <i>Liparis paradoxa</i> Reichenbach f.; <b>173.</b> <i>Papilionanthe teres</i> (Roxburgh) Schlechter; <i>Zeuxine strateumatica</i> (L.) Schlechter <b>174.</b> <i>Alpinia nigra</i> (Gaertner) Burt; <i>Curcuma aromatica</i> Salisbury; <i>C. zedoaria</i> (Berg) Roscoe; <i>Curcumorpha longiflora</i> (Wallich) Rao & Verma; <b>175.</b> <i>Globba racemosa</i> Smith; <i>Zingiber capitatum</i> Roxburgh
Musaceae	<i>Musa paradisiaca</i> ssp. <i>sapientum</i> (L.) K. Schumacher
Costaceae	<i>Costus speciosus</i> var. <i>argyrophyllus</i> Wallich
Cannaceae	<i>Canna indica</i> L.
Haemodoraceae	<b>176.</b> <i>Ophiopogon intermedius</i> D. Don
Amaryllidaceae	<i>Crinum asiaticum</i> L.
Hypoxidaceae	<b>177.</b> <i>Curculigo orchioides</i> Gaertner
Dioscoreaceae	<i>Dioscorea alata</i> L.; <i>D. anguina</i> Roxburgh; <b>178.</b> <i>D. bulbifera</i> L.; <i>D. hamiltonii</i> Hooker f.; <i>D. hispida</i> Dennstedt.; <b>179.</b> <i>D. pentaphylla</i> L.
Liliaceae	<i>Iphigenia indica</i> A. Gray
Smilacaceae	<i>Smilax ovalifolia</i> Roxburgh
Pontederiaceae	<b>180.</b> <i>Eichhornia crassipes</i> Solms; <b>181.</b> <i>Monochoria hastata</i> Solms; <i>M. vaginalis</i> Presler
Commelinaceae	<b>182.</b> <i>Commelina appendiculata</i> Clarke; <i>C. benghalensis</i> L.; <i>C. diffusa</i> Burman f.; <i>C. longifolia</i> Lamarck; <i>C. paludosa</i> Blume; <b>183.</b> <i>Cyanotis cristata</i> D. Don; <b>184.</b> <i>Dictyospermum scaberrimum</i> (Blume) Morton ex Hara; <i>Floscopa scandens</i> Loureiro; <i>Murdannia japonica</i> (Thunburgh) Faden; <i>M. spirata</i> (L.) Bruckner; <i>M. nudiflorum</i> (L.) Brenan; <i>Tonningia axillaris</i> (L.) Kuntze
Juncaceae	<i>Juncus wallichianus</i> Laharpe
Arecaceae	<i>Calamus tenuis</i> Roxburgh; <i>Phoenix sylvestris</i> Roxburgh
Typhaceae	<b>185.</b> <i>Typha elephantina</i> Roxburgh
Araceae	<i>Alocasia macrorrhiza</i> (L.) G. Don; <i>Colocasia esculenta</i> Schott; <i>C. fallax</i> Schott; <b>186.</b> <i>Lasia spinosa</i> Thwaites; <i>Pistia stratiotes</i> L.; <i>Typhonium trilobatum</i> Schott
Lemnaceae	<i>Lemna perpusilla</i> Torrey
Alismaceae	<i>Sagittaria guayanensis</i> Humboldt, Bonpland & Kunth
Naiadaceae	<i>Naias graminea</i> Delile; <i>N. marina</i> L.
Aponogetonaceae	<i>Aponogeton undulatus</i> Roxburgh
Potamogetonaceae	<i>Potamogeton lucens</i> L.
Eriocaulaceae	<i>Eriocaulon cinereum</i> R. Brown
Cyperaceae	<b>187.</b> <i>Cyperus brevifolius</i> Hasskarl; <b>188.</b> <i>C. compactus</i> Retzius; <b>189.</b> <i>C. compressus</i> L.; <b>190.</b> <i>C. distans</i> L.f.; <i>C. flavidus</i> Retzius; <i>C. fuscus</i> L.; <i>C. globosus</i> Allioni; <b>191.</b> <i>C. iria</i> L.; <i>C. laxus</i> Lamarck; <i>C. niveus</i> Retzius; <i>C. nutans</i> var. <i>eleusinoides</i> (Kunth) Haines; <i>C. paniceus</i> Vahl var. <i>roxburghii</i> (Clarke) Kuckenth; <b>192.</b> <i>C. pilosus</i> Vahl; <i>C. pulcherrimus</i> Willdenow ex Kunth; <i>C. pygmaeus</i> Rottboell; <i>C. rotundus</i> L.; <i>C. sesquiflorus</i> (Torrey) Mattfeld & Kukenthal; <i>C. sulcinus</i> Clarke; <i>C. tenuispica</i> Steudel; <i>Eleocharis acutangula</i> Schultes; <i>E. congesta</i> D. Don; <i>E. ovata</i> R. Brown; <i>E. variegata</i> Presler; <i>Fimbristylis aestivalis</i> Vahl; <b>193.</b> <i>F. dichotoma</i> Vahl; <i>F. miliacea</i> (L.) Vahl; <i>F. squarrosa</i> Vahl; <i>F. tristachya</i> R. Brown; <i>Rynchospora hookeri</i> Boeckeler; <i>Schoenoplectus articulatus</i> (L.) Palla; <i>S. grossus</i> (L.f.) Palla; <i>S. supinus</i> (L.) Palla; <i>Scirpus erectus</i> Poir; <i>Scleria levis</i> Retzius
Poaceae	<i>Acroceros zizanioides</i> (Humboldt, Bonpland & Kunth) Dandy; <i>Andropogon munroi</i> Clarke; <b>194.</b> <i>Apluda mutica</i> L.; <i>Arundinella bengalensis</i> (Sprengel) Druce; <i>A. khaseana</i> Nees ex Steudel; <i>A. nepalensis</i> Trinius; <i>A. setosa</i> Trinius; <i>Arundo donax</i> L.; <i>Axonopus compressus</i> (Swartz) P. Beauverd; <i>Bambusa bambos</i> (L.) Voss; <i>Bothriochloa parviflora</i> (R. Brown) Ohwi; <b>195.</b> <i>Chrysopogon aciculatus</i> Trinius; <b>196.</b> <i>C. zizanioides</i> (L.) Roberty; <i>Coix lacryma-jobi</i> L.; <i>Cymbopogon exsertus</i> (Hack.) A. Camus; <i>C. iwarancusa</i> Schultes; <i>C. khasianus</i> (Hackel) Stapf; <b>197.</b> <i>Cynodon dactylon</i> Perser; <b>198.</b> <i>Cyrtococcum accrescens</i> (Trinius) Stapf; <i>Dactyloctenium aegypticum</i> (L.) Willdenow; <b>199.</b> <i>Digitaria abludens</i> (Roemer & Schultes) Velolcamp; <i>D. compacta</i> (Roth ex Roemer & Schultes) Velolcamp; <b>200.</b> <i>D. longiflora</i> (Retzius) Persoon; <b>201.</b> <i>D. setigera</i> Roth; <b>202.</b> <i>Echinochloa colonum</i> Link; <i>E. crus-galli</i> (L.) P. Beauverd; <i>E. crus-pavonis</i> Schultes; <i>E. stagnina</i> (Retzius) P. Beauvois; <b>203.</b> <i>Eleusine indica</i>



FAMILY	SPECIES
	Gaertner; <i>Eragrostis atrovirens</i> Trinius ex Steudel; <i>E. diarrhena</i> Steudel; <i>E. gangetica</i> Steudel; <i>E. zeylanica</i> Nees & Meyer; <i>Eriochloa procera</i> (Retzius) C. E. Hubberd; <i>Eulalia fastigiata</i> (Nees) Haines; <i>Hemarthria compressa</i> R. Brown; <b>204.</b> <i>H. protensa</i> Steudel; <i>Hygroryza aristata</i> Nees; <i>Hymenachne acutigluma</i> (Steudel) Gilliland; <i>H. assamica</i> (Hooker) Hitchcock; <b>205.</b> <i>Imperata cylindrica</i> P. Beauvois; <b>206.</b> <i>I. cylindrica</i> var. <i>major</i> (Nees) C.E. Hubberd ex Hubberd & Vaughan; <i>Ischaemum rugosum</i> Salisbury; <i>Leersia hexandra</i> Swartz; <i>Microstegium vimineum</i> (Trinius) A. Camus; <i>Ophiuros megaphyllus</i> Stapf ex Haines; <b>207.</b> <i>Oplismenus compositus</i> P. Beauvois; <i>Ottochloa nodosa</i> (Kunth) Dandy; <b>208.</b> <i>Panicum paludosum</i> Roxburgh; <i>P. repens</i> L.; <i>P. walanse</i> Mez; <b>209.</b> <i>Paspalum conjugatum</i> Berg; <b>210.</b> <i>P. longifolium</i> var. <i>lorirhachis</i> Bor; <b>211.</b> <i>P. scrobiculatum</i> L.; <b>212.</b> <i>Phacelurus zea</i> (Clarke) Clayton; <i>Pseudoraphis spinescens</i> (R. Brown) Vickery; <i>Saccharum arundinaceum</i> Retz.; <i>S. narenga</i> (Nees ex Steudel) Hackel; <i>S. ravennae</i> Murray; <b>213.</b> <i>S. spontaneum</i> L.; <i>Saccolipsis indica</i> (L.) A. Chase; <i>S. interrupta</i> (Willdenow) Stapf; <b>214.</b> <i>Sclerostachya fusca</i> (Roxburgh) A. Camus; <b>215.</b> <i>Setaria glauca</i> P. Beauvois; <b>216.</b> <i>S. palmifolia</i> (Koen) Stapf; <b>217.</b> <i>Sporobolus diander</i> P. Beauvois; <i>S. indicus</i> R. Brown; <i>Themeda arundinacea</i> (Roxburgh) Ridley; <b>218.</b> <i>Thysanolaena latifolia</i> (Roxburgh ex Hornemann) Honda; <i>Urochloa villosa</i> (Lamarck) Nguy

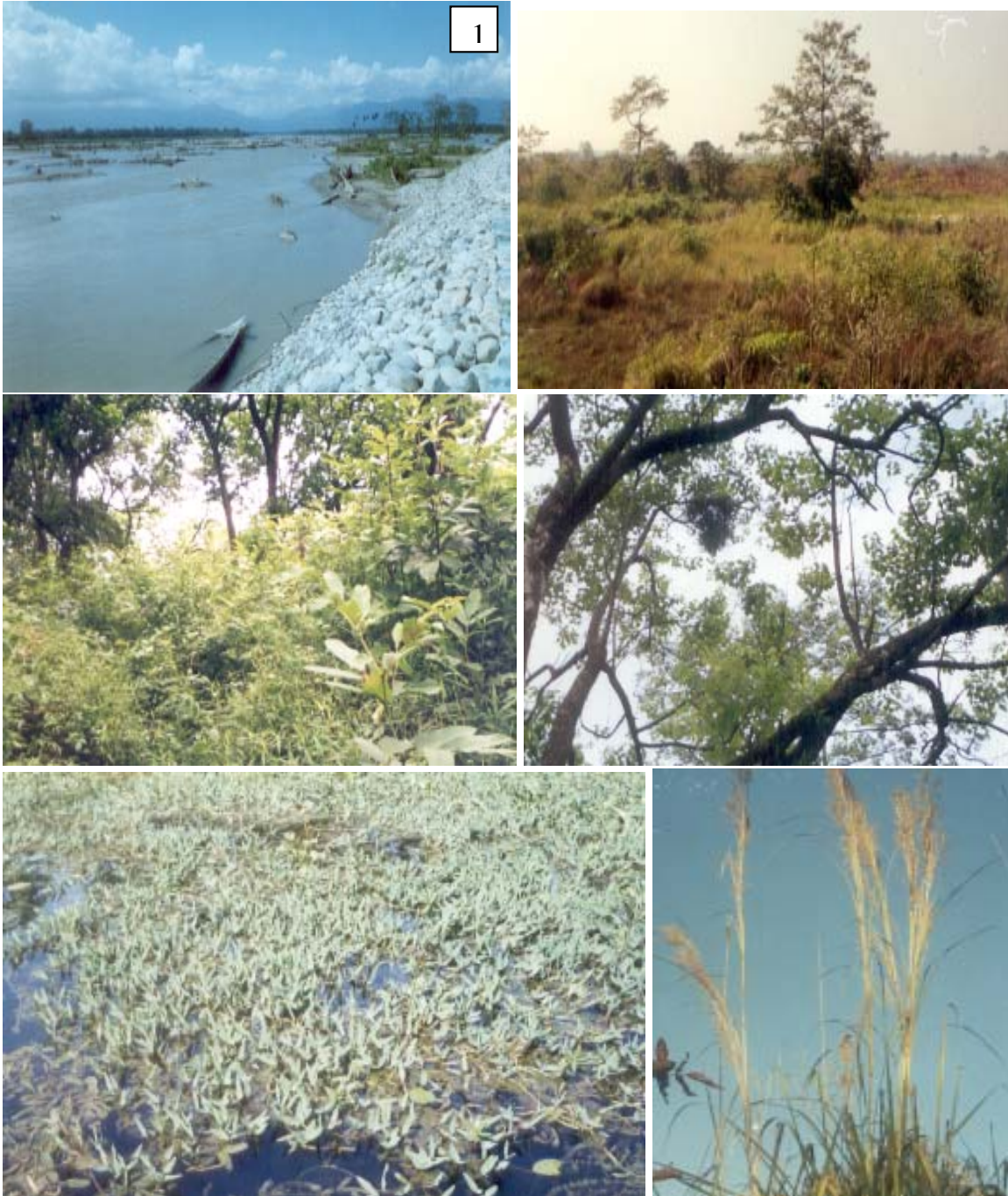
### CONCLUSION

The present work was carried out as an attempt for an exhaustive account of the Angiosperm plant taxa in the MNP. A comparison of the finding of the present work with that of Jain & Hajra (1975) revealed the occurrence of as many as 806 species of Angiosperms in the park.

### LITERATURE CITED

- Barooah, C. & Borthakur, S.K. 2003. *Diversity and Distribution of Bamboos in Assam*. Bishen Singh Mahendra Pal Singh, Dehradun.
- Bennet, S.S.R. 1987. *Name Changes in Flowering Plants of India and Adjacent Regions*. Triseas Publishers, Dehradun.
- Bor, N.L. 1940. *Flora of Assam*. Vol. 5. Govt. of Assam Press, Shillong.
- Bor, N.L. 1960. *The Grasses of Burma, Ceylon, India and Pakistan*. Pergamon Press, Oxford.
- Das, B.N. & Rajkhowa, S. 1968. Woodlands of Assam. *Indian For.* 94(2): 137 – 146.
- Goswami *et al.* 2004. *Statistical Handbook of Assam*. Directorate of Economics and Statistics, Govt. of Assam, Guwahati.
- Grierson, A.J.C. & Long, D.G. 1983 – 1999. *Flora Bhutan*. Vol. 1(1-3), 1983-1987; Vol. 2(1-2), 1991-1999. Royal Botanic Garden, Edinburgh.
- Hajra, P.K. 1981. Vegetation of National Parks and Sanctuaries of Assam. *Proc. of the Workshop on Wildlife Ecology*. pp.53 – 59.
- Hara *et al.* 1978 – 1979. *An Enumeration of the Flowering Plants of Nepal*. Vol. 1, 1978; Vol. 2, 1979. Trustees of British Museum (Natural History), London.
- Hooker, J.D. 1872 – 1897. *Flora of British India*. Vols. 1-7. L. Reeve & Co, Ashford, London.
- Jain, S.K. & Hajra, P.K. 1975. On the Botany of Manas Wild Life Sanctuary in Assam. *Bull. Bot. Surv. Ind.* 17(1-4): 75 – 86.
- Jain, S.K. & Rao, R.R. 1977. *A handbook of field and herbarium methods*. Today & Tomorrow's Printers & Publishers, New Delhi.
- Kanjilal *et al.* 1934 – 1940. *Flora of Assam*. Vols. 1-4. Govt. of Assam Press. Shillong.
- Karthikeyan, S.; Jain, S.K.; Nayar, M.P. & Sanjappa, M. 1989. *Florae Indicae Enumeratio: Monocotyledonae*. Botanical Survey of India, Calcutta.
- Rajkhowa, S. 1961. Forest types of Assam with special reference to the evergreen and semi-evergreen forests. *Indian Forester* 87: 520 – 541.
- Rao, A.S. & Verma, D.M. 1982. *Cyperaceae of N. E. India*. Botanical Survey of India, Howrah.
- Rowntree, J.B. 1954. An Introduction to the Vegetation of Assam Valley. *Indian For. Rec. (n.s.)* 9(1): 1 – 87.
- Sharma *et al.* (Ed.) 1993. *Flora of India*. Vols.1-3. Botanical Survey of India, Calcutta.

## PLATE – II



**Fig.-1:** Habitat destruction by River Beki at Bansbari under MNP. **Fig.-2:** A patch of forest in-between Bansbari and Latajhar under MNP. The trees are *Bombax ceiba* L. The undergrowth consists chiefly of tall grasses mixed with shrubs and climbers. **Fig.-3:** A semi-evergreen patch of forest at Bansbari under MNP. The bottom right species is *Leea asiatica*. **Fig.-4:** Semi-evergreen forest at Mathanguri under MNP is rich in epiphytic elements. The picture shows the luxuriant growth of *Macrosolen cochinchinensis* on *Gmelina arborea*. **Fig.-5:** A near carpet occurrence of *Hygroryza aristata* at Gati village, Salbari. The submerged specimen is *Hydrilla verticillata*. **Fig.-6:** Beauty of *Themeda arundinacea* at Bansbari under MNP.

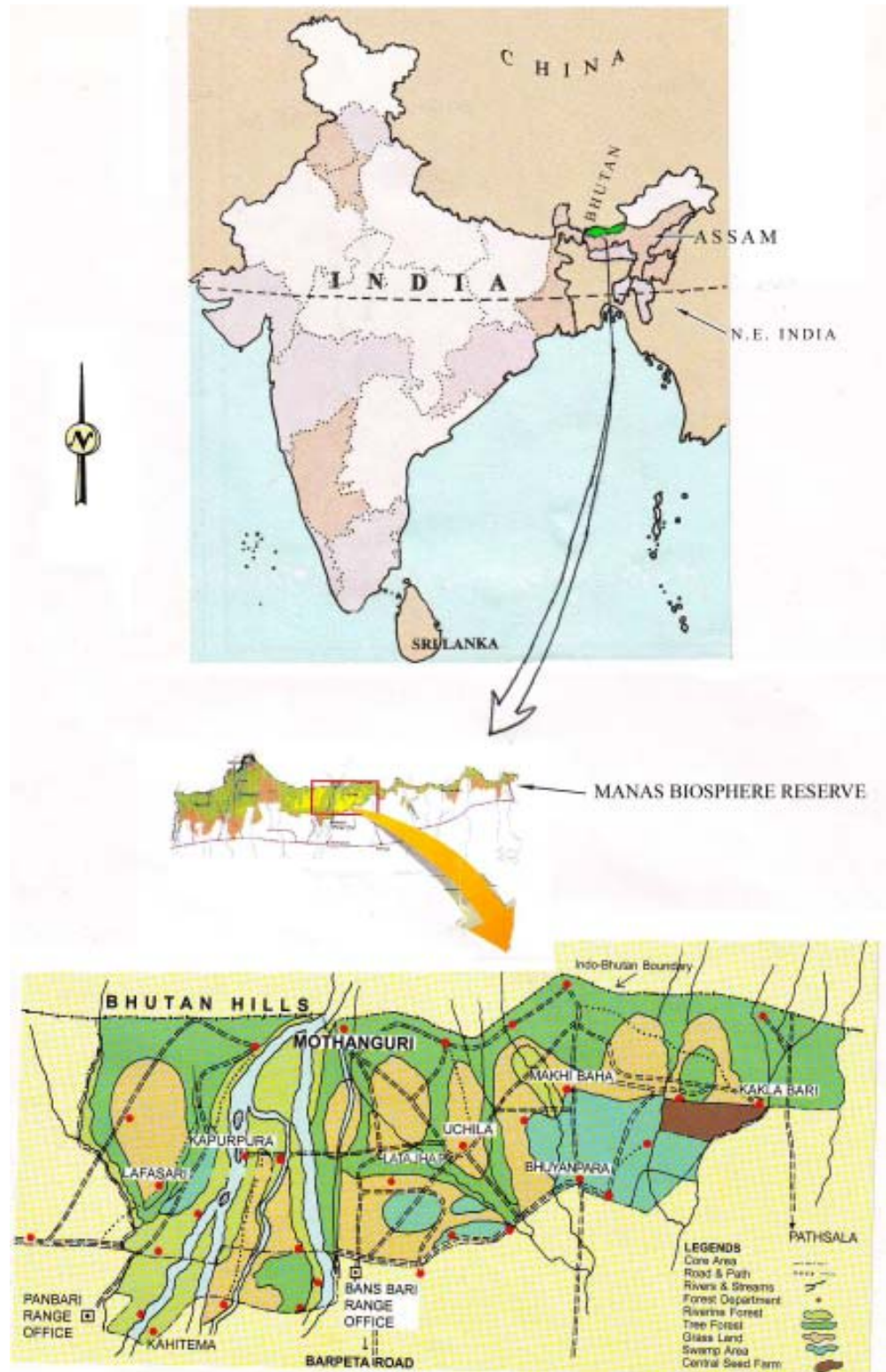


PLATE I: Location map of Manas National Park, Assam (Map not to scale)