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Plant Diversity of Jeypore Reserve Forest, of Upper Assam, North East India

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ABSTRACT

Plant diversity of Jeypore Reserve Forest was studied during session 2012- 2015 to analyze diversity richness and correlation between diversity richness at species level. All trees greater than or equal to 10cm dbh at 1.3 m, shrubs (<10 cm dbh) and herbs were recorded. A total of 251 species belonging to 187 genera under 103 families and 4 unidentified species have been documented. A total of 94 tree species 55 Shrub species, 51 Herb species and 51 Climbers were recorded. The present study can serve as information for long time monitoring and sustaining the plant diversity of the forest.

Keywords: Plant Diversity, Jeypore Reserve Forest, Ecological aspect, Remnant Patches.

1. INTRODUCTION

Tropical rain forest is the greatest celebration of life on earth (Mayers, 1991) deserve special environmental attention as they constitute most biologically diverse terrestrial ecosystem. These forests covers less than 10% of the total land area, harbor 50-90% of the known plant and animal species and forest diversity underpins most of the forest ecosystem services (MEA 2005, Seppala et al.2009; FAO 2010 but once upon a time it covered 20% of the earth's land surface, and presently they occupy less than 7% area of the earth's surface in the America, South East Asia and Africa. These forests are enjoying special attention due to high floral and faunal diversity, fragility of their structure and function as well as provision of forest products and ecosystem services. In tropics, India is among the few countries endowed with rainforests, in the North-east and the Western Ghats. In Northeast India, tropical rain- forests are restricted to the far eastern part of the region, particularly Tirap and Changlang districts of Arunachal Pradesh, and Tinsukia and Dibrugarh districts of Assam .Quantitative inventories provide information on the diversity and structure of forest ecosystem. Tree species diversity in the tropics varies from place to place (Whitmore, 1998; Pitman *et al.*, 2002). Ecological inventories have been carried out across tropics at the comparable scale of one hectare from several sites (Black et al., 1950; Uhl and Murphy, 1981; Valencia *et al.*, 1994; Wattenberg and Breckle, 1995; Parthasarathy and Karthikeyan, 1997; Wright et al., 1997; Proctor et al., 1998; Small et al., 2004 and in north eastern region) for decades. Because of restricted distribution and inaccessibility of such forests of the region very few studies have been made concerning plant diversity with systematic approach (Mishra *et al.*, 2012, Dash 2012) with special reference to Jeypore Reserve Forest after division of the forest into two parts i.e., Dihing Patkai WS and Jeypore RF. Hence the present study is making an attempt to record each and every flora of with maximum effort covering entire forest in a systematic way in Jeypore Reserve Forest of Assam of North East India. The outcome would be useful for long time monitoring and sustaining the plant diversity of the forest with appropriate conservation strategies.

2. STUDY AREA

The Jeypore reserve forest is the last patch of biodiversity-rich rainforest of Assam (27^o 05'N To 27^o 28'N and 95^o 20'E to 95^o 38'E), spread on both sides of the river Buridihing in the districts of Dibrugarh and Tinsukia and it is continuing to the Lohit, Changlang and Tirap district of Arunachal Pradesh and to the easternmost part of Nagaland. It was once spread over both north and south banks of Brahmaputra towards the foothills of Himalaya. The altitude ranging from 122 m to 475 m above mean sea level. The climate is tropical monsoonal which is characterized by high humidity and a rainfall of 2,226–2,372 mm. The monsoon period last from June to September; where the July month is with heaviest rain falls. There is a relatively dry period from November to February. Average temperature ranges from 8°C to 39°C.

The vegetation of the forest comes under Assam Valley Tropical Wet Evergreen Forest (category 1B/C1) as per Champion and Seth 1968, also called the Upper Assam Dipterocarpus-*Mesua* forest. The forest reserves have old mixed plantations with a number of deciduous species. Soil type is old alluvium of the Brahmaputra and Dihing rivers. The forest is dissected by seasonal streams from Burhidihing and Dilli River. As per Govt. Gazette notification No-137 in the year 1988 it was declared as a Reserve Forest with an

area of 10876.68 hectare. But later it was divided into two parts, namely Dihing-Patkai Wildlife Sanctuary and Jeypore Reserve Forest. The present study is confined to the newly formed Jeypore Reserve Forest covering an area of 8469.72 hectare. The forest is now shrinking rapidly, mainly due to human interference like Tea gardening, stone and sand collection, coal mining and many other biotic factors turned the rich tract of dense forest into fragments of small and discontinuous patches. At present a considerable size of forest, covering an area of about 8000 hectare, represents remnant patch of the biodiversity-rich rainforest. Though the establishment of this reserve forest was long dates back, but due to lack of proper forest management the forest is facing a huge loss in many context but the forest possesses habitat heterogeneity that supports a large number of flora and fauna still now.

3. METHODOLOGY

Extensive field study were conducted in the study area in different seasons (rainy, winter and summer) to access the diversity of plants. The specimens of each species were collected, prepared herbarium, and identified with the help of existing herbaria of Botanical Survey of India, North Eastern Circle Shillong (BSI, Shillong) and inventorized. The present study is undertaken as per grid pattern method. Relevant characteristics of selected sites were recorded prior to the initiation of study. Vegetation data is collected by selecting a total of 18 plots each of which was divided in 100 squares by using a grid adapted to plot size. Density, frequency, basal area, and IVI of each species were calculated by applying the formula. Spatial distribution is also calculated by calculating abundance frequency ratio (Whitford 1949). Simpson's index and Shannon-Wiener index (Shannon and Wiener 1963) were also applied.

4. RESULTS AND DISCUSSION

A list of species occurring in all sampling sites was prepared and arranged in habit wise as trees, shrubs, herbs, climbers, and woody climbers and enlisted in table 1. An inventory of collected plant specimens has been prepared. All the collected plant specimens were identified with the help of Herbarium of BSI, Shillong, North Eastern Regional Circle Shillong, Flora of Assam, (Kanjilal U.1936.) Flora of Majuli (Islam M. 1990). Name changes were confirmed from recent literature (Bennett, 1986).

Table-1: Species Recorded During the Study

Species Name 1	Family 2	Habit/Life form 3	Local Name 4
<i>Actinodaphne angustifolia</i> (Bl.) Nees	Lauraceae	Tree	NK
<i>A. obovata</i> Blume.	Lauraceae	T	Patihonda
<i>Adina polycephala</i> Benth	Rubiaceae	ST	NK
<i>Alangium chinensie</i> (L) Harms.	Alanginaceae	T	Chikamorolia
<i>Albizia procera</i> Benth	Leguminosaceae	T	Boga koro
<i>Aleurites fordii</i> Hemsl	Euphorbiaceae	T	Tang
<i>Alstonia scholaris</i> (L) R Br.	Apocynaceae	T	Chotiona
<i>Altingia excelsa</i> Bl.	Hemamelidaceae	T	Jutuli tenga
<i>Aquilaria malaccensis</i> Benth	Thymelaceae	T	Sasi
<i>Ardisia depressa</i> Clark	Myrsinaceae	ST	NK
<i>A. humilis</i> Vahl.	Myrsinaceae	T	Tolothapoka
<i>A. pedunculosa</i> Wall	Myrsinaceae	ST	NK
<i>A. undulata</i> Clarke	Myrsinaceae	ST	NK
<i>Artocarpus chaplasha</i> Roxb.	Moraceae	T	Cham kothal
<i>Baccaurea sapida</i> Muell. & Arg	Euphorbiaceae	T	Leteku
1	2	3	4
<i>Bridelia pubescens</i> .Kurz	Euphorbiaceae	T	NK
<i>Camellia sinensis</i> (L) Kuntze	Theaceae	T	Sahpat
<i>Canarium bengalense</i> Roxb	Burseraceae	T	Dhuna
<i>Castanopsis indica</i> A.Dc.	Fagaceae	T	Hingori
<i>C. armata</i> Sparh.	Fagaceae	T	Nk
<i>Cinamomum obtusifolium</i> .Nees	Lauraceae	T	Noga Dalchini
<i>C. cicieodaphane</i> Meissn.	Lauraceae	T	Gondhkoroi
<i>Crypteronia paniculata</i> Bl	Lythraceae	T	NK
<i>Cryptocarya floribunda</i> .Nees	Lauraceae	T	NK
<i>Dendrocalamus hamiltonii</i> Nees & Arn	Poaceae	T	Kako Bah
<i>Diospyros lanceaefolia</i> Roxb.	Ebenaceae	T	Kendu Gach
<i>D. variegata</i> Kurz.	Ebenaceae	T	Kolori
<i>Dipterocarpus retusus</i> Bl	Dipterocarpaceae	T	Holong
<i>Drimycarpus recemosus</i> (Roxb) Hk.F	Anacardiaceae	T	Amsia
<i>Dysoxylum binectiferum</i> (Roxb.) Hook. f	Meliaceae	T	Bandardima
<i>D. alliarium</i> (Buch-Hm.)Balakr	Meliaceae	T	Gendheli Poma
<i>D. procerum</i> Hiern	Meliaceae	T	Lali amari
<i>Duabanga grandiflora</i> (Roxb.ex DC.)Walp	Lythraceae	T	Khokon

<i>Eleocarpus ganitus</i> Roxb	Eleocarpaceae	T	Rudraksha
<i>Ficus clavata</i> Wall	Moraceae	T	Nk
<i>F. fistulosa</i> Reinw	Moraceae	T	NK
<i>F. glaberrima</i> Bl	Moraceae	T	NK
<i>Garcinia cowa</i> Roxb	Clusiaceae	T	Thekera
<i>G. lanceafolia</i> (Roxb)	Clusiaceae	T	Rupohi Thekera
<i>G. xanthochymus</i> Hk.f	Clusiaceae	T	Tepor tenga
<i>Helicia excelsa</i> (Roxb.) Bl	Proteaceae	T	NK
<i>Juglans regia</i> Linn.	Juglandaceae	T	Kathbadam
<i>Lagerstroemia speciosa</i> (L) Pers.	Lythraceae	T	Ajar
<i>Lasianthus tubiferus</i> Hook.f.	Rubiaceae	T	NK
<i>Lindera griffithii</i> Meisn	Lauraceae	T	NK
<i>L. reticulata</i> .Benth	Lauraceae	T	NK
<i>L. elongata</i> Benth and Hook.	Lauraceae	T	Petari chua
<i>Litsea citrata</i> Bl.	Lauraceae	T	Mezankori
<i>L. khasiana</i> Meissn.	Lauraceae	T	NK
<i>L. laeta</i> Benth &Hook.f	Lauraceae	T	Bonhualu
<i>L. lanuginosa</i> Nees	Lauraceae	T	Nk
<i>L. oblonga</i> (Nees)Hook.f.	Lauraceae	T	NK
<i>L. sabifera</i> .Pers.	Lauraceae	ST	Baghnola
<i>L. thomsonii</i> Hk.f	Lauraceae	T	NK
<i>Maesa indica</i> Wall.	Myrsianaceae	ST	Machpora
<i>M. montana</i> A.Dc	Myrsinaceae	T	NK
<i>Magnolia sphenocarpa</i> Hook.f.& Th	Magnoliaceae	T	Doloi Chopa
<i>Mallotus alba</i> Muell & Arg.	Euphorbiaceae	T	Morolia gach
<i>M.philippensis</i> (Lam) Muell &A	Euphorbiaceae	T	Senduri Guti
<i>Mangifera indica</i> L	Anacardiaceae	T	Aam
<i>Mecaranga denticulatum</i> Muell	Euphorbiaceae	T	NK
<i>Mesua ferrea</i> L.	Clausiaceae	T	Nahor
<i>Michelia champaca</i> Linn	Magnoliaceae	T	Tita chopa
<i>Michelia hodgsonii</i> Hooker f. & T.	Magnoliaceae	T	Borhmothuri
<i>M. manii</i> King	Magnoliaceae	T	Kothal chopa
<i>M. oblonga</i> Wall ex H.Kf. Thomas.	Magnoliaceae	T	Ful chopa,
<i>Millettia cinerea</i> Benth	Fabaceae	T	Bokol Bih
<i>Myristica longifolia</i> .Wall	Myristicaceae	T	NK
<i>Olea dioica</i> Roxb.	Oleaceae	T	NK
1	2	4	3
<i>Ormosia robusta</i> (Weight)	Fabaceae	T	NK
<i>Phoebe lanceolata</i> Nees	Lauraceae	T	Bon chom
<i>Polyathea jenkinsii</i> Benth	Annonaceae	T	Titasachi
<i>Premna bengalensis</i> Clarke	Verbenaceae	T	Gohora
<i>Pterospermum chelonides</i> DC.	Sterculiaceae	T	
<i>P. lanceafolium</i> Roxb	Sterculiaceae	T	Bon bogori,
<i>Randia griffithii</i> H.K.f	Rubiaceae	T	NK
<i>Sapium baccatum</i> Roxb.	Euphorbiaceae	T	Borkora
<i>Saprosma ternatum</i> H.K.f	Rubiaceae	T	NK
<i>Shorea assamica</i> Dyer.	Dipterocarpaceae	T	Mekai
<i>Sterculia balanghuas</i> linn.	Sterculiaceae	T	Hijol
<i>S.roxburghii</i> Wall.	Sterculiaceae	T	NK
<i>S.villosa</i> Roxb.	Sterculiaceae	T	Udal
<i>Syzigium cumini</i> (L) Skeel.	Myrtaceae	T	Borjamuk
<i>S.fruticosum</i> Roxb DC.	Myrtaceae	T	Kutahi Jamuk
<i>Syzigium reticulatum</i> (wt) Walp.	Myrtaceae	T	NK
<i>Syzygium oblatum</i> (Roxb)	Myrtaceae	T	NK
<i>Talauma pleocarpa</i> King.	Magnoliaceae	T	Khorokia chopa
<i>Teinostachyum dullooa</i> Gamble.	Bambuseae	T	Dolo Bah
<i>Terminalia belerica</i> Roxb.	Combrataceae	T	Bhumura guti
<i>T.chebula</i> Retz.	Combretaceae	T	Hilikha
<i>T. myriocarpa</i> Heruk & Muell.	Combrataceae	T	Holokh
<i>Unona longiflora</i> Roxb.	Anonaceae	T	NK
<i>Vatica lanceafolia</i> Blume.	Dipterocarpaceae	T	Morsal.
<i>Ziziphus funiculosa</i> Ham.	Rhamnaceae	T	Nk

Shrub

<i>Blastus cochinchinensis</i> Lour	Melastomaceae	SH	Futkola
<i>Boehmeria niivea</i> (L) Gaud.	Urticaceae	SH	Riha
<i>Breynia patens</i> Benth	Euphorbiaceae	SH	Nk
<i>Calamus jenkinsiana</i> Griff.	Aracaceae	SH	Raidang bet
<i>Calamus tenuis</i>	Aracaceae	SH	Jatibet
<i>Callicarpa arborea</i> Roxb.	Verbenaceae	SH	Bonmola
<i>Callicarpa longifolia</i> Lam.	Verbenaceae	SH	NK
<i>Camellia sinensis</i> (L)Kuntze.	Theaceae	SH	Tea
<i>Casearia veraca</i> Roxb.	Flacourtiaceae	SH	Bon kecheru
<i>Chasalia curviflora</i> Thw.	Rubiaceae	SH	NK
<i>Citrus aurantium</i> Linn.	Rutaceae	SH	Jora tenga
<i>Clerodendron colebrookianum</i>	Verbenaceae	SH	Nefafu
<i>C. viscosum</i> Vent.	Verbenaceae	SH	Dhopat tita
<i>Croton caudatus</i> Geisel.	Euphorbiaceae	SH	Lota mahudi
<i>Cryptolepis sinensis</i> (Lour.) Merr.	Apocynaceae	SH	NK
<i>Eranthemum album</i> Nees.	Acanthaceae	SH	NK
<i>E.platifolium</i> (Nees)	Acanthaceae	SH	NK
<i>Ficus clavata</i> Wall.	Moraceae	SH	Dimoru
<i>F. rostrata</i> Lamk.	Moraceae	SH	NK
<i>Fissistigma wallichii</i> (Hk.f & Th)	Anonaceae	SH	NK
<i>Garcinia cowa</i> Roxb	Guttiferae	SH	Thekera
<i>Glochidion zeylanicum</i> A.Juss.	Euphorbiaceae	SH	NK
<i>Goniothalamus sesquipedalis</i> Hk.f &Th.	Anonaceae	SH	NK
<i>Helicia nilgirica</i> Beddome.	Proteaceae	SH	NK
<i>Ixora acuminata</i> Roxb.	Rubiaceae	SH	NK
<i>I. nilgirica</i> R.Br.	Rubiaceae	SH	NK
<i>I. subsessilis</i> Wall.	Rubiaceae	SH	NK
<i>Ixora villosa</i> Roxb.	Rubiaceae	SH	NK
1	3	4	2
<i>Laportea crenulata</i> Gaud.	Urticaceae	SH	Churat gach
<i>Lasianthus lucidus</i> Blume.	Rubiaceae	SH	NK
<i>Leea indica</i> (Burn) Merr.	Leeaceae	SH	Kukurathengia
<i>Litsea lancifolia</i> Roxb.	Lauraceae	SH	NK
<i>L. salicifolia</i> (Roxb)	Lauraceae	SH	Dighloti
<i>Livistona jnkensiana</i> Griff.	Aracaceae	SH	Tokou goch
<i>Melastoma malabethricum</i> Linn.	Melastomaceae	SH	Ronga Phutukola
<i>Mimosa himalayana</i> Gamble.	Mimosaceae	SH	Kauri kiat
<i>Morinda angustifolia</i> Roxb.	Rubiaceae	SH	Akalbih
<i>M. villosa</i> H.K. F.	Rubiaceae	SH	NK
<i>Myrioneuron nutans</i> Wall.	Rubiaceae	SH	NK
<i>Nerium indicum</i> Mill.	Apocynaceae	SH	Korobi
<i>Pericampylus incanus</i> (Colebr) Meirs.	Manispermaceae	SH (Climber)	Garo lota
<i>Phlogacanthus guttatus</i> Nees.	Acanthaceae	SH	NK
<i>P. curviflora</i> Nees.	Acanthaceae	SH	Titaful
<i>Phyllanthus glauca</i> Wall.	Euphorbiaceae	SH	Kola bahok
<i>Pinanga gracilis</i> (L) Blume.	Aracaceae	SH	Ram tamul
<i>Psychotria silhentensis</i> Deb& Gans	Rubiaceae	SH	NK
<i>Rauwolfia densiflora</i> Benth.	Apocynaceae	SH	NK
<i>Roydsia suaviolense</i> Roxb.	Capparidaceae	SH	Modhumola
<i>Schizostachyum polymorphm</i> (Munro).	Poaceae	SH	Bajal Banh
<i>Solanum khasianum</i> C.B.C.	Solanaceae	SH	Bor vekruri
<i>Spiradiclis cylindrica</i> Wakk.	Acanthaceae	SH	NK
<i>Zallacca secunda</i> Griff.	Aracaceae	SH	Jengoo pat
<i>Zizyphus Rugosa</i> Lamk.	Rhamnaceae	SH	Bon Bogori
<i>Allophyllus zeylanicus</i> Linn Var.grandifolia	Sapindaceae	SH	NK

Herb

<i>Acanthus leucostachyus</i> .Wall	Acanthaceae	H
<i>Alocasia forniculata</i> (Roxb) Scott.	Araceae	H
<i>Alpinea bracteata</i> Roxb.	Zingiberaceae	H
<i>Apostasia nuda</i> Br.	Araceae	H
<i>Aristida fusca</i>	Poaceae	H
<i>Arundinella leptochloa</i> (Nees ex Steud.) Hook.f	Poaceae	H
<i>Barleria cristata</i> Lin.	Acanthaceae	H
<i>Begonia roxburghii</i> A Dc.	Begoniaceae	H
<i>Canscora andrographiodes</i> Griff.	Gentianaceae	H
<i>Chloranthus officinalis</i> Bl.	Chloranthaceae	H
<i>Codonacanthus pauciflorus</i> Nees.	Acanthaceae	H
<i>Colocasia affinis</i> Schott.	Araceae	H
<i>Commelina obliqua</i> .Ham.	Commelinaceae	H
<i>Costus speciosus</i> (Koen) Smith.	Zingiberaceae	H
<i>Curculigo orchiioides</i> Gaert.	Hypoxidaceae	H
<i>Cymbidium flexus</i> Nees.	Orchidaceae	H
<i>Dracaena petiolata</i> Hk.f &T.	Liliaceae	H
<i>Ebermaia stacerogyne</i> Nees.	Acanthaceae	H
<i>Elatostema accuminatum</i> Brog.	Ericaceae	H
<i>Eupatorium wallichii</i> Dc.	Asteraceae	H
<i>Globba multiflora</i> Wall.	Zingiberaceae	H
<i>Hedychium gracile</i> Roxb.	Zingiberaceae	H
<i>Hedyotis costata</i> Br.	Rubiaceae	H
<i>Hedyotis glabra</i> R.Br.	Rubiaceae	H
<i>Hemizymnia fusua</i> Rich.	Poaceae	H
<i>Homalomena aromatic</i> Schott.	Araceae	H
<i>Hypopolytrium nemorum</i> (vahl) Spreng.	Cyperaceae	H
<i>Isachne albeus</i>	Poaceae	H
<i>Laportea crenulata</i> Gaud.	Urticaceae	H
<i>Lasia spinosa</i> (L) Thw.	Araceae	H
<i>Oenanthes javanica</i> (Bt) Dc.	Apiaceae	H
<i>Oplismenus compositus</i> (L) P. Beaure.	Poaceae	H
<i>Pallia subumbellata</i> .C.B.el.	Commelinaceae	H
<i>Panicum brevifolium</i> Roxb.	Poaceae	H
<i>Panicum montanum</i> Roxb.	Poaceae	H
<i>Peliosanthes violacca</i> Wall.	Liliaceae	H
<i>Phrynium capitatum</i> Willd.	Marantaceae	H
<i>Phrynium pubescence</i>	Zingiberaceae	H
<i>Polygonum chinense</i> L.	Polygonaceae	H
<i>Polygonum serrulatum</i> Lag.	Polygonaceae	H
<i>Pothos cathcarteae</i>	Araceae	H
<i>Pseudostachium polymorphum</i> Munro.	Poaceae	H
<i>Rhopalephora scaberrima</i> (Bl) Faden.	Commelinaceae	H
<i>Sarcopyramis nepalensis</i> Wall.	Melastomaceae	H
<i>Scleria terrestris</i> (L) Fass.	Cyperaceae	H
<i>Strobilanthus flaccidifolius</i> Nees.	Acanthaceae	H
<i>Thysenolena maxima</i>	Poaceae	H

Climber and Woody Climbers

Species Name	Family	Habit/life forms
<i>Ampelopsis nerrifolia</i> D.Don.	Vitaceae	CL
<i>Ampelopsis rubifolia</i> Planch.	Vitaceae	CL
<i>Cissampelos Pereira</i> Lin.	Manispermaceae	CL
<i>Cyclea bicristata</i> (Griff).	Menispermaceae	CL
<i>Dalbergia pinnata</i> (Lour) Prain.	Papilionaceae	WCL
<i>Derris ferruginea</i> Benth.	Papilionaceae	CL
<i>Dioscorea bulbifera</i> L	Dioscoreaceae	CL
<i>D.glabra</i> Roxb.	Dioscoreaceae	CL
<i>Enantheum album</i> .Nees.	Acanthaceae	CL
<i>Erythralum scandens</i> Bl.	Olacaceae	CL
<i>Ficus villosa</i> Bl.	Moraceae	CL

<i>Fissistigma wallichii</i> (Hkf) Thm.	Annonaceae	CL
<i>Gnetum scandens</i> Roxb.	Gnetaceae	CL
<i>Hoya longifolia</i> Wall.ex Wight.	Asclepidiaceae	CL
<i>H. parasitica</i> Wall.	Asclepidiaceae	CL
<i>H. vaccinioides</i> Hook.f.	Asclepidiaceae	CL
<i>Jesminum anastomosans</i> Wall	Oleaceae	CL
<i>J. attenuatum</i> Roxb	Oleaceae	CL
<i>J. dispernum</i> Wall	Oleaceae	CL
<i>J. lanceolaria</i> Roxb	Oleaceae	WCL
<i>J.laurifolium</i> Roxb	Oleaceae	CL
<i>Marsdenia tinctoria</i> Br	Asclepiadaceae	WCL
<i>Mikania micrantha</i> H.B&K	Asteraceae	CL
<i>Mimosa himalayana</i> Gamble	Mimosaceae	CL
<i>Modecca trilobata</i> Roxb	Passifloraceae	CL
<i>Myrioneuron smilacifolia</i> Wall.	Oleaceae	CL
<i>Myxopyrum smilacifolium</i> .Bl	Oleaceae	CL
<i>Oxymitra fornicata</i> (Roxb.) Hook. f. &	Annonaceae	CL
<i>Pericampylus glaucus</i> (Colebr) Miers	Menispermaceae	CL
<i>Piper attenuatum</i> Ham.	Piperaceae	CL
<i>P. griffithii</i> C.DC.	Piperaceae	CL
<i>P. hymanophyllum</i> Miq.	Piperaceae	CL
<i>P. syvaticum</i> Roxb.	Piperaceae	CL
<i>Polygonum chinense</i> . Linn.	Polygonaceae	CL
1	2	3
<i>Pothos cathcartii</i> Schott.	Araceae	CL
<i>Rapidophora hookari</i> (Scott).	Araceae	CL
<i>Rourea caudata</i> Planch.	Connaraceae	WCL
<i>Rubus hamiltoni</i> Hk.f .	Rosaceae	CL
<i>Sabia limoniaceae</i> Wall.	Sabiaceae	WCL
<i>Smilex lancaefolia</i> Roxb.	Liliaceae	CL
<i>Stemona tuberosa</i> Lour.	Stemonaceae	CL
<i>Stephania glandulifera</i> Nees.	Menispermaceae	CL
<i>S.hernandifolia</i> (Wall) Walp.	Manispermaceae	CL
<i>Tetracera sarmentosa</i> L.	Deliniaceae	WCL
<i>Tetrastigma planicaulata</i> Hk.f.	Vitaceae	CL
<i>Thunbergia coccnea</i> Wall.	Acanthaceae	CL
<i>T. grandiflora</i> Roxb.	Acanthaceae	CL
<i>Vitis capriolata</i> .D.Don.	Vitaceae	CL
<i>V. elongata</i> Wall.	Vitaceae	CL
<i>V.lanceolaria</i> Roxb.	Vitaceae	CL
<i>V. trifolia</i> Linn	Vitaceae	CL

Abbreviation: T-Tree, SH-Shrub, H-Herbs, ST-Small Tree, Cl-Climber, WCL-Woody Climber, NK-not known.

A total of 251 species belonging to 187 genera under 103 families have been documented. A total of 94 tree 55 shrub, 51 herb and 51 climbers have been recorded in the present survey. The mean Density (Stem Ha⁻¹) was 7674.45 stem Ha⁻¹ with a mean basal area 1131.94 (m² Ha⁻¹) of the tree species. The mean density of shrub group was 16555.68 stem Ha⁻¹ while mean basal area was 103.16 m² Ha⁻¹. (Table -2)

Table-2: Details of Species of Jeypore Reserve Forest (JRF)

Category	Tree	Shrub	Herb	Climber
No of Species	94	55	51	51
No of Genus	61	45	44	37
No of Family	34	24	21	24
Density (Stem Ha ⁻¹)	7674.45	16555.68	102450.78	12543
Basasl area (m ² Ha ⁻¹)	1131.94	103.16	-	-

The most frequently occurring tree species as *Dipterocarpus retusus* , *Vatica lanceaefolia*, *Mesua ferrea* , *Dryoxylum binectiferum*, *Baccaurea sapida* , *Shorea assamica* , *Canarium bengalense*, *Saprosma ternatum*, *Castanopsis indica*, *Michelia oblonga*, *Ficus clavata*, *Magnolia sphenocarpa* , *Syzgium cumini*, *Altingia excelsa*, *Syzgium reticulatum*, *pterospermum lancefolium* etc were found dominant in the present study.

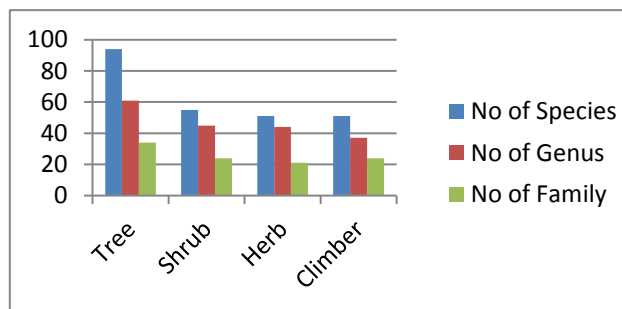


Figure 1: Various Plant Forms of JRF

Shannon’s index is commonly used to characterize species diversity of a community and it accounts for abundance and evenness of the species present. The Shannon Winner index (H’) for trees found 2.74 and for shrubs 2.87 of the forest. The higher the value of H, the forest is highly diverse in context of plant species.

Table3: Species, Genus and Family Ratio of JRF

Family	Genus	Species	%
Lauraceae	7	16	19.28
Euphorbiaceae	6	6	7.23
Magnoliaceae	4	5	6.02
Sterculiaceae	3	5	6.02
Clausiaceae	3	4	4.82
Ebenaceae	4	4	4.82
Moraceae	2	4	4.82
Rubiaceae	4	4	4.82
Meliaceae	1	3	3.61
Myrtaceae	1	3	3.61

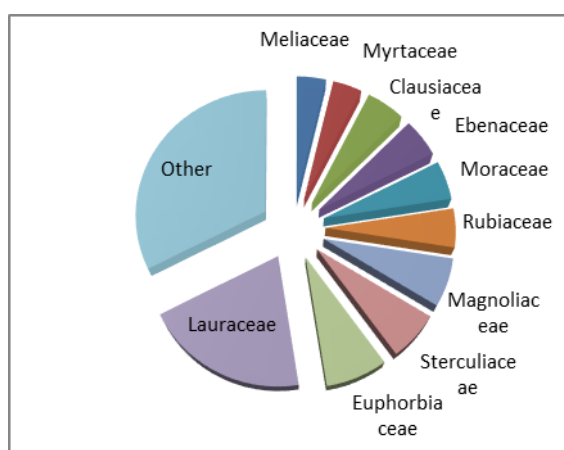


Fig.2: Dominance of Family (Among Top 10)

The value indicates in the Simpsons diversity index is a measure of diversity and it is sometime used to quantify the biodiversity of certain habitat. The index takes into account the number of species present as well as abundance of every species. In Jeypore Reserve Forest Simpson diversity index found 0.20 for trees and 0.21 for Shrubs which are a strong indication of the richness of Plant diversity.

5. CONCLUSION

Jeypore Reserve Forest gaining immense importance, as it is one of the important Forest, of North East India, comes under the Tropical wet evergreen Forest bearing all characters of rain forest. Inventorization index of all ecological parameters have helped in understanding the ecological significance of the species of the forest. Tree species cum stem diversity were observed in decreasing trend with increase in Girth Class. It may be concluded that Jeypore Reserve Forest is still rich in plant species even after the much anthropogenic disturbances in most of the areas. The on people's participation is very much essential for effective monitoring and sustenance of the plant diversity of Jeypore Reserve Forest of Assam.

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