

**CHAPTER 4: TAXONOMIC ELUCIDATION: EXPLORATION,
DOCUMENTATION AND SYSTEMATIC ANALYSIS OF DICOT
ANGIOSPERMS**

4.1 Key to the Families

1a. Calyx and corolla both present

2a. Corolla with free petals

3a. Sepals free; petals hypogynous

4a. Torus small or elongate, not expanded

5a. Aquatic

6a. Leaves peltate, orbicular or reniform, no prickles

-----**Nymphaeaceae**

6b. Leaves rotund, flat, petiole with weak prickles

-----**Nelumbonaceae**

5b. Terrestrials

7a. Woody plants

8a. Leaves stipulate

9a. Carpels spirally arranged on elongated receptacle

-----**Magnoliaceae**

9b. Carpels cyclic, arranged on short receptacle

10a. Stamens connat

11a. Anthers 2-locular ---- **Sterculiaceae**

11b. Anthers 1-locular

12a. Stamens polydelphous; seeds arilate

-----**Bombacaceae**

12b. Stamens monadelphous; seeds not arilate

----- **Malvaceae**

10b. Stamens more or less free

- 13a. Ovary 1-celled or spuriously 2-5-celled
 - 14a. Androphore and or gynophores present
 - **Capparaceae**
 - 14b. Androphore and gynophores absent
 - **Bixaceae**
- 13b. Ovary 2-10-celled
 - 15a. Stamens borne on torus; fruit a drupe
 - Elaeocarpaceae**
 - 15b. Stamens inserted on disc; fruit capsular
 - **Tiliaceae**
- 8b. Leaves exstipulate
 - 16a. Leaves small, scaly
 - Tamaricaceae**
 - 16b. Leaves large, simple
 - 17a. Flowers unisexual
 - 18a. Vines; fruits dry
 - Menispermaceae**
 - 18b. Trees; fruits juicy
 - **Clusiaceae**
 - 17b. Flowers bisexuals
 - 19a. Herb; leaves opposite
 - Hypericaceae**
 - 19b. Tree or shrubs; leaves alternate
 - 20a. Flowers 3-merous; carpel many, free
 - Annonaceae**
 - 20b. Flowers 5-merous; carpel 1 to many
 - 21a. Seeds arillate
 - **Dilleniaceae**
 - 21b. Seeds not arillate
 - 22a. Sepals persistent; winged fruits
 - Dipterocarpaceae**
 - 22b. Sepals deciduous; fruits wingless
 - **Theaceae**

- 7b. Herbaceous plants
 - 23a. Fruits a head of achenes --- **Ranunculaceae**
 - 23b. Fruits pod like, siliqua or capsule
 - 24a. Leaves lobed
 - 25a. Leaves and fruits spiny --- **Papaveraceae**
 - 25b. Leaves and fruits smooth ----- **Cleomaceae**
 - 24b. Leaves simple
 - 26a. Sepals 4, fruit pod ---- **Brassicaceae**
 - 26b. Sepals 2-3 or more, fruit capsular
 - 27a. Sepals 2, leaves fleshy -- **Portulacaceae**
 - 27b. Sepals 3 or more, leaves glabrous
 - **Caryophyllaceae**
- 4b. Torus thickened or expanded into a disk
 - 28a. Herbs or undershrub
 - 29a. Leaves compound
 - 30a. Herbs; stamens 10 ---- **Oxalidaceae**
 - 30b. Erect shrubs; stamens 5 ----- **Leeaceae**
 - 29b. Leaves simple or rarely pinnate - **Balsaminaceae**
 - 28b. Trees, shrubs or climbers
 - 31a. Climbers ----- **Vitaceae**
 - 31b. Trees or shrubs
 - 32a. Leave pinnate ---- **Sapindaceae**
 - 32b. Leave simple
 - 33a. Flowers polygamous -- **Anacardiaceae**
 - 33b. All flowers bisexual
 - 34a. Disc present ----- **Meliaceae**
 - 34b. Disc absent
 - 35a. Sepals valvate ---- **Rhamnaceae**
 - 35b. Sepals imbricate

- 36a. Leaves gland-dotted ----- **Rutaceae**
- 36b. Leaves not gland-dotted
 - 37a. Ovules 1-2
 - 38a. Leaves simple; flowers irregular
 - Hippocastanaceae**
 - 38b. Leaves pinnate; flowers regular
 - Averrhoaceae**
 - 37b. Ovules many ----- **Moringaceae**
- 3b. Sepals connate. Petals inserted on the calyx
 - 39a. Flowers hypogynous, perigynous or epigynous; corolla pentamerous:
 - 40a. Fruit a pod or legume
 - 41a. Flowers irregular; petals unequal
 - 42a. Stamens diadelphous or monadelphous
 - Papilionaceae**
 - 42b. Stamens free
 - Caesalpiaceae**
 - 41b. Flowers regular; petals equal
 - **Mimosaceae**
 - 40b. Fruits otherwise; leaves exstipulate
 - **Crassulaceae**
 - 39b. Flowers epigynous; corolla tetra or pentamerous
 - 43a. Inflorescence head or umbel
 - 44a. Herbs or undershrubs; fruit a cremocarp ----- **Apiaceae**
 - 44b. Shrubs or tree; fruit a drupe -----**Araliaceae**
 - 43b. Inflorescence cymes or racemes
 - 45a. Leaves whorl or opposite and simple
 - 46a. Leaves whorls or radical
 - 47a. Aquatic herbs; fruits spiny ----- **Trapaceae**
 - 47b. Terrestrial herbs or shrubs
 - 48a. Succulents; leaves reduced ----- **Cactaceae**
 - 48b. Non-succulent; leaves normal -- **Molluginaceae**

- 46b. Leaves opposite
 - 49a. Stamens numerous or indefinite in several series
 - 50a. Seed angled or winged ----**Combretaceae**
 - 50b. Seed not angled or winged
 - 51a. Leaves opposite ----- **Myrtaceae**
 - 51b. Leaves alternate
 - 52a. Ovary 4 - celled; fruits many seeded
 - Lecythidaceae**
 - 52b. Ovary 2 celled ; fruits 1 - seeded
 - Barringtoniaceae**
 - 49b. Stamens numerous
 - 53a. Calyx persistent
 - 54a. Perianth thin, united; fruit 1-6 celled -- **Lythraceae**
 - 54b. Perianth thick, free;
 - 55a. Large tree. Ovary superior --**Sonneratiaceae**
 - 55b. Shrubs or small tree. Ovary inferior
 - **Punicaceae**
 - 53b. Calyx deciduous
 - 56a. Leaves opposite; calyx lobes imbricate
 - Melastomataceae**
 - 56b. Leaves alternate; calyx lobes valvate
 - Onagraceae**
 - 45b. Leaves alternate and simple
 - 57a. Herbs, shrubs or trees
 - 58a. Flowers bisexual ----- **Alangiaceae**
 - 58b. Flowers unisexual
 - 59a. Leaves digitately lobed ----- **Caricaceae**
 - 59b. Leaves simple ----- **Datisceae**

- 57b. Tendrillate climbers
 - 60a. Flowers bisexual ----**Passifloraceae**
 - 60b. Flowers unisexual ----**Cucurbitaceae**
- 2b. Corolla with united petals
 - 61a. Flowers epigynous
 - 62a. Ovary 1-celled; sepals modified to pappus ---- **Asteraceae**
 - 62b. Ovary 2-many celled; sepals not modified as above
 - 63a. Interpetiolar stipule conspicuous ----- **Rubiaceae**
 - 63b. Interpetiolar stipule absent ---**Campanulacea**
 - 61b. Flowers hypogynous
 - 64a. Flowers zygomorphic
 - 65a. Aquatic; carnivorous; leaves with sticky-glands
 - 66a. Plants floating aquatics; flowers yellow
 - Lentibulariaceae**
 - 66b. Plants terrestrial; flowers white with purple tinge
 - Droseraceae**
 - 65b. Terrestrial; not insectivorous; sepals 4 or 5
 - 67a. Herbs, shrubs or stragling shrubs; leaves alternate or rosette
 - 68a. Placentation parietal -----**Gesneriaceae**
 - 68b. Placentation axile -----**Scrophulariaceae**
 - 67b. Shrubs or trees; leaves opposite or absent
 - 69a. Leaves pinnately compound -----**Bignoniaceae**
 - 69b. Leaves simple or rarely 3-5-foliat
 - 70a. Ovules solitary
 - 71a. Style gynobasic ----- **Lamiaceae**
 - 71b. Style not gynobasic
 - 72a. Erect herbs, shrubs or trees; fruits not capsular -----**Verbenaceae**

- 84b. Ovules solitary in each cell
 - 85a. Stamens equal
 - 86a. Ovary vertically deeply 4-lobbed --**Boraginaceae**
 - 86b. Ovary not lobbed
 - Heliotropaceae**
 - 85b. Stamens unequal
 - 87a. Stem parasite; leafless
 - Cuscutaceae**
 - 87b. Non parasite; leaves conspicuous
 - Convolvulaceae**
- 75b. Leaves opposite; Stamens 2
 - **Oleaceae**
- 1b. Either calyx or corolla or sometimes both wanting
 - 88a. Aquatic herbs
 - Ceratophyllaceae**
 - 88b. Terrestrial or epiphytes
 - 89a. Epiphytes; stem parasite
 - Loranthaceae**
 - 89b. Terrestrial; non parasite
 - 90a. Plant large tree resembles with gymnosperms
 - Casuarinaceae**
 - 90b. Plant not resembles with gymnosperms
 - 91a. Ovary inferior or half inferior
 - Aristolochiaceae**
 - 91b. Ovary superior
 - 92a. Flowers bisexual
 - 93a. Anthers opening by valves
 - 94a. Stamens in whorls
 - Lauraceae**
 - 94b. Stamens not in whorls
 - 95a. Stamens 4
 - Proteaceae**
 - 95b. Stamens 2- many
 - Thymelaeaceae**
 - 93b. Anthers opening otherwise

- 96a. Perianth tubular **----Nyctaginaceae**
- 96b. Perianth not tubular
 - 97a. Ocrea present **----Polygonaceae**
 - 97b. Ocrea absent
 - 98a. Perianth chaffy **--Amaranthaceae**
 - 98b. Perianth absent
 - 99a. Erect herbs
 - 100a. Stamens 2-6
 - Chenopodiaceae**
 - 100b. Stamens 3 **-----Saururaceae**
 - 99b. Climber
 - 101a. Perisperms persistent
 - Piperaceae**
 - 101b. Perisperms absent
 - Basellaceae**
 - 92b. Flowers unisexual
 - 102a. Inflorescence hypanthodium **----- Moraceae**
 - 102b. Inflorescence otherwise
 - 103a. Ovary 1-celled
 - 104a. Ovule solitary
 - 105a. Filaments inflexed in bud; stigma 1
 - Urticaceae**
 - 105b. Filaments not inflexed in bud; stigma 2
 - Ulmaceae**
 - 104b. Ovule few **-- Euphorbiaceae**
 - 103b. Ovary 2-celled **----- Fagaceae**

4.2 Taxonomic Elucidations

POLYPETALAE

RANUNCULACEAE Juss.

Gen.Pl. 231. 1789.

India: 28 genera and 191 species; Present study area: 3 genera and 3 species.

Key to the genera:

- 1a. Plants climbing shrubs; sepals petaloid ----- *Naravelia*
- 1b. Plants herbs; sepals and petals both present
 - 2a. Flower subtended by solitary bract ----- *Ranunculus*
 - 2b. Flowers subtended by 5 involucre leafy bracts
-----*Nigella*

Naravelia DC.

Naravelia zeylanica (L.) DC., Syst. Nat. 1: 167. 1817; Hook. f. & Th., Fl. Ind. 3. 1855; Hook, f., Fl. Brit. Ind. 1:7.1872; Prain, Bengal Plants 1: 193. 1903; Kanjilal *et al.*, FA 1: 6. 1934; Chowdhury *et al.*, Ass. Fl. 181. 2005.

Woody spreading climber. Leaves 5-foliolate in seedlings but in mature plants the upper 3 leaflets become modified into tendrils; leaflets usually two, often in unequal pairs, thin, coriaceous, 5-nerved, pubescent, ovate-rotunded, base round or obtuse or margin entire, sometimes serrate, apex acute or acuminate; terminal tendril up to 12 cm, petiole to 5 cm; petiolule to 2 cm. panicles terminal or axillary, to 18 cm, pubescent. Flowers greenish, pedicels 1-1.4 cm long, pubescent. Sepals 4-5, ovate, densely buff-tomentose outside,

caducous. Petals usually 12, greenish-yellow, linear to spatulate, about 1 cm long. Stamens numerous, filaments ligulate. Carpels many, ovule 1 per cell. Fruit a head of tailed achenes; achene about 15-20 in cluster, spirally twisted, pointed at both ends, brown when mature, tail about 5- 8 cm long, finely hairy.

Fl: September- November & Fr.: December - January.

Occurrence: Common.

Coll. No. J Sarma/738 Coll. Date: 12.8.2017

Locality: Nameri NP

PLATE 1A

***Nigella* L.**

Nigella sativa L., Sp. Pl. 548, 1753. var *indica* (Roxb.) DC. Syst. Nat. 1:330, 1817; Rau in Sharma *et al.*, Fl. India 1:108, July 1, 1993; *N. indica* Roxb. Fl. India 2: 646,1824

Herb, erect, slender, 20-45 cm high. Leaves alternate, 2-3 pinnatisect, 3-6 cm long, cut into linear-lanceolate segments. Flowers solitary, terminal, pale blue, 2- 2.5 cm across subtended by 5 leafy bracts. Sepals 5, petaloid, 1.3 cm long Petals 8, transformed into nectaries, 2-fid, 0.2 cm long, clawed. Stamens numerous, 0.2 cm long, filaments slender, anthers 2-celled, adnate, Carpels 5, sessile, connate below, 1.2 cm long, style long, beaked. Follicles 0.8 cm. long. Seeds trigonous, tubercular. Cultivated, sometimes escape and grow wild along with *Vernonia cinerea*, *Parthenium hysterophorus*, *Blumea mollis* and *Cynodon dactylon*.

Fl. & Fr. : March - June.

Occurrence: Common.

Coll. No. J Sarma/554

Coll. Date: 30.1.2016

Locality: Tezpur

***Ranunculus* L.**

Key to the Species

1a. Plants glabrescent ----- ***R. scleratus***

1b. Plants pubescent ----- ***R. laetus***

Ranunculus laetus Wallich ex D. Don in Royle, *Illus. Bot. Himal.* 53, 1834; Hook. f. & Thomson in *Fl. Brit. Ind.* 1:19, 1872; Rau in Sharma *et al.*, *Fl. India* 1:22, July 1, 1993.

Herb, perennial. Stems erect, much branched, hairy or subglabrous. Leaves 3-partite or dissected into narrow, oblong, sharply 2-5 toothed lobes, lobes long and narrow, radical leaves 5-10 cm across, appressedly hairy. Flowers c 2 cm wide, yellow. Sepals c 0.5x0.3 cm, villous. Petals c 0.7x0.6 cm. Stamens many. Style persistent, somewhat straight, broad at the base. Achenes on globose heads, smooth, flattened, cuneate at base. Associated species *Phylla nodiflora*, and *Vernonia cinerea*.

Fl.: April-May.

Occurrence : Rare

Coll. No. J Sarma/436

Coll. Date: 8.2.2015

Locality: Bhomoraguri RF.

Ranunculus scleratus L., *Sp. Pl.* 776. 1753 ; Hook. f., & Thompson in *Fl. Brit. Ind.* 1 : 19. 1872; Kanjilal *et al.*, *FA.* 1 : 8. 1934; Rao in Sharma

et al., Fl. India 1 : 128.1993.

Erect annual herb 1-2 cm tall. Generally occurs in the edge of water
fleshy, hollow. Leaves radical, dimorphic, 3-partite, radical leaves
petiolate, petiole 2.5 - 8.0 cm long, segments cuneate. Flowers 1 cm
across; sepals 5, deciduous ; petals 5, yellow; stamens numerous;
carpels numerous. Associated species *Polygonum hydropiper*,
Oenanthe javanica, *Xanthium strumarium*, *Ipomoea aquatica* and
Sagittaria trifolia.

Fl. & Fr.: February- March.

Occurrence : Moderate

Coll. No. J Sarma/556 Coll. Date: 30.1.2016

Locality: Tezpur

DILLENIACEAE Salisb.

Parad. Lond. 2: t. 73. 1807.

India: 4 genera and 9 species in; Present study area: 2 genera and 2
specie.

Key to the genera:

- 1a. Climber; carpel 1 ----- ***Tetracera***
1b. Trees; carpel many ----- ***Dillenia***

***Dillenia* L.**

Dillenia indica L., Sp. Pl. 535. 1753; Hook.f. & Thoms. in Hook. f., Fl.
Brit. India 1: 36.872; Dunn in Gamble, Fl. Pres. Madras 7(5). 1915; N.
C. Majumdar in B. D. Sharma *et al.*, Fl. India 1: 155. 1993. *Dillenia*
speciosa Thunb., Trans. Linn. Soc. Bot. London 1: 200. 1791.

Evergreen trees. Leaves simple, large, alternate, oblong - elliptic; petiole 1.5-7.5 cm long, stout, winged, tomentose, grooved above; Flowers bisexual, solitary, showy, white, terminal; pedicels 4-8 cm long, silky hairy; bracts to 5 mm long, solitary, lanceolate; sepals 5, 4-6 × 3-5 cm, orbicular or elliptic, thick, fleshy; petals obovate, caducous, 6 - 8 x 4 - 6 cm; stamens many; carpels 15 - 25, flattened. Fruits green, 8-14 cm across; seeds reniform, compressed.

Fl. & Fr.: May-February

Occurrence : Common in wild

Vern. name: Ou tenga (As.)

Uses : Used as timber; fruit eaten

Coll. No. J Sarma/741 Coll. Date:12.8.2017

Locality: Nameri NP

PLATE 1B

***Tetracera* Schreb.**

Tetracera sarmentosa (L.) Vahl., Symb. Bot. 3:70. 1794; Roxb., Fl. ind. 449. 1832. ssp. *andamanica* (Hoogland) Hoogland in Blumea 9:588. 1959. *Delima sarmentosa* L., Gen. Pl. ed. 5. 1754. Hook. f. & Th. Fl. Brit. Ind. 1: 31. 1872; *Delima sermentosa* L., Kanjilal *et al.*, FA 1: 10. 1934; Fl. 1: 157. 1993. *Delima sarmentosa* var. *glabra* Hook. f. Th., Fl. Ind. 1: 61.1855 & Fl. Brit. Ind. 1: 31.1872.

A semi-evergreen climber. Stem cinnamon coloured, exfoliating in square. Leaves elliptic or oblong, 7- 12 cm x 5- 6 cm, more or less cuneate at base, scabrid on both surfaces, later nerve 14-16 paired. Petiole 1.5- 2 cm long, pillose. Flowers white, in terminal panicles. Sepals reflexed. Petals obovate, ciliate. Ovary of one carpel only. Follicles 1-seeded, dry. Seeds arillate.

Fl.: May- July. Fr.: July - September.

Occurrence: Rare.

Vern. name: Ou Lota (As.)

Coll. No. J Sarma/742 Coll. Date: 12.8.2017

Locality: Nameri NP

PLATE 2A

MAGNOLIACEAE Juss.

Gen. Pl. 280. 1789.

India: 6 genera and 22 species; Present study area: 3 genera 3 species

About recorded from India while in the study area 2 genera and 2 species recored.

Key to the genera

- 1a. Flowers terminal
 - 2a. Carpels persistent on the axis ----- ***Magnolia***
 - 2b. Carpels separating from the axis ----- ***Talauma***
- 1b. Flowers axillary ----- ***Michelia***

Magnolia L.

Magnolia pterocarpa Roxb., Pl. Corom. 3:62. t. 266. 1820; Prain, Bengal Plants 1: 197. 1903; Kanjilal *et al.*, FA 1: 13. 1934; Chowdhury *et al.*, Ass. Fl. 182. 2005. *M. sphenocarpa* Roxb., Hajra and Jain, Bot. Kaz. Man. 28. 1978; Deb, FT 1:7& 1981; B.D. Sharma (edt.) Fl. 1: 172. 1993; Fl. Ind. 2:65.1832; Wall, ex Hook, f., Fl. Brit. Ind. 1: 41. 1872.

A middle size evergreen tree. Leaves 9-16 by 10- 15 cm, elliptic or obovate, coriaceous, rusty-tomentose beneath while young, glabrous and shining above; light green when young, pale yellow when old; base cuneate; petiole 2- 5 cm long, flattened with a V- shaped scar. Flowers 12-15 cm across, terminal. Sepals 3, 6 by 4.5 cm, very concave, green outside, greenish-white inside. Petals 6, dull-white, very fleshy but with a sharp margin, gradually smaller but scarcely inwards, emarginate. Stamens numerous with no interval between them and carpel; stamens and carpel together forming a continuous conical mass; anthers long with purple tips. Carpel many, with a recurved terminal wing, stigmas feathery. Fruit an aetario of follicles.

Fl. & Fr.: April- February.

Occurrence: Rare in the locality.

Vern. name: Borhomthuri sopa, Thouthoua (As.)

Uses : Used as timber

Coll. No. J Sarma/ 458 Coll. Date: 23.4.2016

Locality: Sonai Rupai WLS

Talauma Juss.

Talauma hodgsonii Hook. f. & Th. Fl. Ind. (Hooker f. & Thomson) 1: 74. 1855; Kanjilal *et al.*, FA 1: 17. 1934; Hook. f. Fl. Brit. Ind. 1: 40. 1872.

Small evergreen tree. Bark greenish, grey with distinct horizontal wrinkles. Leaves 8-20 by 4-8 in., oblanceolate, rounded, red and erect while young. Flowers large, terminal. Sepals greenish purple.

Petals greenish white at base, bright red above. Filaments short.
Fruit ovoid, 4-6 by 2.5-3.5 in. Carpels beaked woody.

Fl. & Fr.: March- June.

Occurrence: Fairly common.

Vern. name: Borhomthuri (As.)

Uses: Used in Bihu

Coll. No. J Sarma/ 455 Coll. Date: 9.4.2016

Locality: Sonai Rupai WLS

PLATE 1C

***Michelia* L.**

Michelia champaca L., Sp. PL 536. 1753; Roxb., Fl. ind. 2: 656. 1832; Wight & Am., Prodr. fl. Ind. orient 6.1834; Hook. f. & Thomson, Fl. Ind. 79.1855; Hook. f. Fl. Brit. Ind. 1: 42. 1872; Matthew, Fl. Tam. Car. 1: 3. 1981; Kanjilal *et al.*, FA 1: 22. 1934.

Tree. Leaves ovate-lanceolate, coriaceous, glabrescent, base sub-acute or cuneate, margin entire, apex acuminate; petiole 2-2.5 cm. Flowers axillary, solitary, to 4 cm across; pedicel jointed, to 2.5 cm., very fragrant. Perianth 9, pale yellow, in 3 series, 4.1-1.5 cm; outer ones oblong or ovate; inner ones linear. Stamens many; anthers linear, apiculate. Carpels ovoid, striate; ovules 2 or more per cell. Follicle -cluster to 7 cm across; fruitlets warty, to 2cm across, dehiscent by 2 valves; seeds ca. 5, sub-globose, red.

Fl: April- June & Fr.: up to next flowering season.

Occurrence: Common

Vern. name: Tita chapa (As.)

Uses: Used as timber

Coll. No. J Sarma/745 Coll. Date:12.8.2017

Locality: Nameri NP

ANNONACEAE Juss.

Gen. Pl. [Jussieu] 283. 1789

India: 20 genera and 95 species; Present study area: 2 genera and 2 species.

Key to the genera

- 1a. Outer petal more or less flat, valvate, ripe carpel baccate
----- ***Polyalthia***
- 1b. Outer petal triquetrous
----- ***Annona***

Annona L.

Key to the species

- 1a. Leaves 1.5 -5 cm, fruits greenish
----- ***A. reticulata***
- 1b. Leaves 5-8 cm, fruits reddish
----- ***A. squamosa***

Annona squamosa L., Sp. Pl. 537. 1753; Roxb., in Fl. ind. 2: 657. 1832; Wight & Am. odr., ft. Ind. orient. 7. 1834; Hook, f., Fl. Brit. Ind. 1:78. 1872; Matthew, Fl. Tam. Car. 1:8.1983; Kanjilal *et al.*, FA. 1:43.1934; B.D. Sharma (edt.) Fl. 1:207.1993.

Small tree, deciduous. Leaves elliptic, oblong-lanceolate, 4.5-8 x 2.5-4 cm, thin orioaceous, glabrescent, glaucous beneath, base cuneate, margin entire, apex acute or obtuse; petiole approximately 1.5 cm. Flowers solitary; pedicel to 1.5 cm. Sepals 3, triangular, 3mm, pubescent. Petals 3(+3), greenish-yellow; outer ones thick, 2-3 x 2.5-

4 cm. Stamens many. Carpels less than stamens. Fruit ovoid or conical, to 7 cm across, glaucous; monocarp, 1-seeded, reddish, l x 0.5 cm.

Fl.: May & Fr.: November, ripe fruits continue to April.

Occurrence: Common, cultivated.

Vern. name: Ata kothal (As.)

Uses: Fruit eaten

Coll. No. J Sarma/558 Coll. Date:12.3.2016

Locality: Biswanath

Annona reticulata L., Sp. Pl. 573. 1753; Hook, f., & Th. in Fl. Brit. Ind. 1. 78. 1872; Kanjilal *et al.*, FA. 1:43.1934; Mitra in Sharma *et al.*, Fl. India 1:207.1993.

Trees with longer branches, glabrous. Leaves 5-8 by 1.5-2.5 cm, lanceolate, rounded at base, acute or acuminate at apex; petioles up to 1.5 cm long, glabrous. Flowers terminal, cymes, 2-7 together ; pedicels 1.5 - 3 cm long, bracts basal and medium; sepals 3 ; broadly ovate, pubescent outside; petals pubescent outside, reddish at base; stamens numerous; carpels many, ovoid to linear. Fruit 2-3 together, ovoid or sub - globose, 7-13 cm in diameter, many seeded, greenish; seeds black,

Fl.& Fr.: July -February , natural as well as cultivated. Fruits edible.

Occurrence: Common, cultivated.

Vern. name: Atafol, Meofol, Arterfol (As.)

Coll. No. J Sarma/560 Coll. Date: 12.3.2016

Locality: Tezpur

***Polyalthia* Blume**

Polyalthia longifolia (Sonner) Thawaites, Enum. pi. Zeyl. 398. 1864; Beddome, Fl. sylv. S. India t. 38. 1870; Hook, f., Fl. Brit. Ind. 1:62. 1872; Gamble, Fl. Madrasi: 16 (11). 1915; Kanjilal *et al.*, FA 1: 31. 1934; Matthew, Fl. Tam. Car.l:12. 1981; B.D. Sharma(edt.) Fl. 1:274.1993; Chowdhury *et al.*, Ass. Fl. 183.2005.

A handsome evergreen tree. Leaves 8- 14 x 2-4 cm, narrowly lanceolate, taper pointed; lateral nerves oblique, base cuneate; petiole 0.5-1.3 cm long. Flowers yellowish green, 2- 2.3 cm long, in fascicles or short umbels from axils of fallen leaves; pedicels slender, 2- 4 cm long with one or two minute bracts. Sepals about 0.5 cm long, ovate-triangular, densely pubescent. Petals about 2 x 0.5 cm, tapering from a slightly expanded base, Ripe fruits black. Seeds smooth, shining.

Fl.: March- May & Fr.: July -September.

Occurrence: Common.

Vern. name: Unaboi (As.)

Coll. No. J Sarma/562 Coll. Date:19.3.2016

Locality: Tezpur

MENISPERMACEAE Juss.

Gen. Pl. 284. 1789.

India: about 17 genera and 42 species; Present study area: 4 genera and 5 species.

Key to the genera

1a. Leaves peltate or sub peltate.

2a. Petals free

3a. Leaves generally glabrous, style 3-6 partite

----*Stephania*

3b. Leaves pubescent, style 2 partite

-- *Paricampylus*

2b. Petals connate in male flower. Solitary in female

--- *Cissampelos*

1b. Leaves not peltate

----- *Tinospora*

Cissampelos L.

Cissampelos pareira L. var. *hirsuta* (DC.) Forman, Kew Bull. 22:356. 1968; Fl. Silent Valley 4. 1988; Vajr., Fl. Palghat Dist. 50. 1990B.D. Sharma (edt.) Fl. 1: 274. 1993; Chowdhury *et al.*, Ass. Fl. 184. 2005. *C. hirsuta* Buch- Ham. ex DC., Syst. nat. 1: 535. 1817. *C. pareira* L., in part: Hook. f. & Thomson, Fl. Ind. 198. 1855; Hook. f., Fl. Brit. Ind. 1: 103. 1872. *C. pareire* Kanjilal *et al.*, FA. 1: 52. 1934. *C. convolvulacea* Willd., Sp. pi. 4: 862. 1806; Wight & Am. Prodr. fl. Ind. orient. 14. 1834; Dunn in Gamble, Fl. Pres. Madras 30(21). 1915..

A dextrorse climber. Leaves reniform, orbicular or cordate, 4 - 4.5 x 5-5.5 cm, peltate, chartaceous, 5-7 nerved, pubescent, base cordate or truncate, apex retuse, mucronate, petiole about 4 cm. Male flower: cymose. Sepals 4-6, free, obovate, 2 mm. Petals 4, greenish, connate, copular, 1.5 mm, puberulous without. Stamens 4, connate in a peltate synandrium, to 1 mm. Female flower: Racemed and crowded; bracts foliaceous, ovate. Sepal 1, broadly obovate, 1.5 mm. Petal 1, broadly cuneate or obovate, ca 1mm. Carpel 1.5 mm, pilose; style glabrous; stigma 3-lobed. Fruit a drupe, ovoid, 4mm; style scar.

Fl.: October – December & Fr.: March - May

Occurrence: Common

Vern. name: Tubuki Lota (As.)

Coll. No. J Sarma/567 Coll. Date: 19.3.2016

Locality: Tezpur

***Pericampylus* Miers**

Pericampylus incanus (Lam.) Merr. Ann. Mag. Nat. Hist. ser. 2, 7(37): 40. 1851 [Jan 1851]; Hook. f., Fl. Brit. Ind. 1: 102. 1872; ; Kanjilal *et al.*, FA 1: 52. 1934.

Climber, grey -tomentose all over. Leaves 2-4 in., orbicular, very narrowly peltate or not peltate, pubescent or glabrescent above, mucronate, membranous; basal nerve usually 5. Flowers small, cymose; peduncle axillary. Sepals 6 in 2 whorls, villous. Petals 6, shorter than the sepals. Male flower- stamens 6, free. Female flower- Carpels 3; 3 partite.

Fl.: April - May.

Occurrence: Moderately Common

Vern. name: Gorla loti (As.)

Coll. No. J Sarma/ 142 Coll. Date:23.01.2016

Locality: Burha Chapori WLS

***Stephania* Lour.**

Stephania japonica (Thunb.) Miers, Ann. Mag. Nat. Hist. (ser. 3) 18:14. 1866, in part; Gamble Fl. Madras 1:29(21). 1915; Matthew, FL. Tam. Car. 1:22. 1983; B.D. Sharma (edt.) Fl. 1: 337. 1993; Chowdhury *et al.*, Ass. Fl. 184. 2005. *S. japonica* var. *japonica*

Forman, Kew Bull. 11:54. 1956. *Menispermum japonicum* Thunb., Fl. Jap. 193. 1784. *Cissampelos hernandiifolia* Willd., Sp. pi. 4:861. 1806; Roxb. Fl. ind. 3: 842. 1832. *Stephania hernandiifolia* (Willd.) Walp., Repert. 1:96. 1842; Hook, f., Fl. Brit. Ind. 1:103.1872; Kanjilal *et al.*, FA 1: 51.1934. Rao et Verma in BOBSI 11 (3 &4) : 406. (1969)1972.

A climber; branchlets glabrous. Leaves petiolate, 9-11 nerved, ovate - deltoid, peltate, membranous ; basal veins reticulate. Flowers in capitate umbels, yellow ; sepals 6, obovate; petals 3-4, smaller than sepals. Male flower. Stamens 6 or 8, in a peltate synandrium, anthers transversely dehiscent. Female flower: Carpels ovoid, stigma lobed, staminodes 0. Fruits drupe, globose, red when ripe.

Fl. & Fr.: April - July

Occurrence: Common

Vern. name: Goldowa (As.)

Coll. No. J Sarma/ 144 Coll. Date:23.1.2016

Locality: Burha Chapori WLS

***Tinospora* Miers**

Key to the species

- 1a. Barks corky, stamens free --- ***T. cordifolia***
- 1b. Bark warted, stamens adnate to the base of petals ----- ***T. crispa***

Tinospora crispa (L.) Hook. & Th., Fl. Ind. 1: 183. 1885.; Hook. f., Fl. Brit. Ind. 1: 96. 1872; ; Kanjilal *et al.*, FA 1: 54. 1934.

A large glabrous climber, stem warted. Leaves 2-6 by 1-4in. , ovate, oblong, blabrous. Flowers yellowish –green, subulate fleshy.

Stamens adnate to the base of the petale, anther square. Drupe about 1 in. , long, ellipsoid, yellowish.

Fl. & Fr.: July – August.

Occurrence: Common in wild

Vern. name: Soguni lota (As.)

Coll. No. J Sarma/146 Coll. Date: 23.1.2016

Locality: Burha Chapori WLS

Tinospora cordifolia (Willd.) Hook. f. & Th., Fl. Ind. 184.1855; Hook, f., Fl. Brit. Ind. 1:97. 1872; Gamble, Fl. Madras 1:26(19). 1915; Forman, Kew Bull. 36:403. 1981; Kanjilal *et al.*, FA 1:54. 1934; Matthew, Fl. Tam. Car. 1:23. 1983; B.D. Sharma (edt.) Fl. 1: 347. 1993; Chowdhury *et al.*, Ass. Fl. 184. 2005. *Menispermum cordifolium* Willd., Sp. pi. 4:826. 1806; Roxb., Fl. ind. 3:811. 1832. *Cocculus cordifolius* DC., Prodr. 1: 97. 1824; Wight. & Am., Prodr. fl. Ind. orient. 12. 1834; Wight, Icon. Pl. Ind. orient, tt. 485 & 486.1841.

Large succulent climber with corky bark, young shoots glabrous. Stem green when young, covered with loose, dry, papery bark, flaking off with age. Leaves 4- 9 cm long and as broad, chartaceous, 5-7- nerved, orbicular or broadly ovate-cordate, acute or shortly acuminate, glabrous. Male flowers: in pseudo-racemes, axillary or on leafless branchlets. Sepals and petals 6 each, free, obovate. Stamens 6, enclosed by petals, free, filaments clavate; anthers longitudinally dehiscent. Female flowers: solitary on longer pedicels, outer sepals lanceolate, inner ones obovate. Petals broadly spathulate. Carpels three; staminodes 6, subulate. Drupes globose, shortly stalked, red and glossy when ripe.

Fl.: February – April & Fr.: March- April.

Occurrence: Common

Vern. name: Soguni lota (As.)

Coll. No. J Sarma/561 Coll. Date: 19.3.2016

Locality: Tezpur

PLATE 1D

NYMPHAEACEAE Salisb.

Ann. Bot. [König & Sims]. 2:70. 1805

India: about 2 genera and 7 species; Present stuay area: 2 genera 4 species

Key to the genera

1a. Sepals persistent; seeds large, 8-20 ----- ***Euryale***

1b. Sepals deciduous; seeds minute, numerous ----- ***Nymphaea***

Euryale Salisb.

Euryale ferox Salisb., in Koen. *et* Sims, Ann. Bot. 2:73, 1806; Hook, f., Fl. Brit. Ind. 1:115, 1872; Kanjilal *et al.*, FA. 1: 65. 1934; B.D. Sharma (edt.) Fl. 1: 427. 1993; Chowdhury *et al.*, Ass. Fl. 185. 2005.

Prickly aquatic herb having fibrous rootstock. Leaves orbicular, floating, green and glabrous but bullate and corrugated above, pink or deep purpulate beneath, with stout but very porous interlacing ribs; petiole prickly, pink or deep green. Flowers about 5 cm in diameter, violet blue or red. Torus prickly. Sepals 4. Petals in many series passing into the stamens, which are in bundles of 8. Carpels 8. Ovary inferior. Fruit spongy, prickly outside. Seeds arillate, about 20. Fl. & Fr.: May - July.

Occurrence: Not common.

Vern. name: Makhana / Nikori (As.).

Use: Seeds are eaten fresh or roasted called *Makhna*.

Coll. No. J Sarma/563 Coll. Date: 19.3.2016

Locality: Hazara Pukhuri, Tezpur

PLATE 1E

Nymphaea L.

Key to the species

1a. Leaf margins sharply dentate. Flowers white or rose

-----*N. nouchali*

1b. Leaf margin slightly toothed

2a. Flowers red

-----*N. rubra*

2b. Flower white

-----*N. pubescens*

Nymphaea nouchali Burm. f., Fl. India 120. 1768; Subramanyam, Aq. Angiosperm 6. 962; B.D. Sharma (edt.) Fl. 1: 430. 1993; Chowdhury *et al.*, Ass. Fl. 185. 2005. *N. lotus* auct. non L.: Hook. f. & Th., Fl. Brit. Ind. 1:114. 1872. *N. stellata* Willd., Sp. Pl 2:1153.1799; Prain, Bengal Plants 1:213.1903; Kanjilal *et al.*, FA. 1: 64. 1934.

Aquatic herb. Corms nodular. Leaves broad, oval or orbicular, purple and pubescent below, sinuate, margins sharply dentate. Flowers to 15 cm across, white or rose. Sepals 4, oblong, prominently 7-nerved, acute. Petals indefinite, rose to white. Stamens many, slightly free from petals, filaments broadly subulate.

Fl.: August- October & Fr.: September- November

Occurrence: Common in *beels*.

Vern. name: Boga bhet / Mokuwa (As.).

Uses: Flower and fruit eaten

Coll. No. J Sarma/574 Coll. Date: 21.5.2016

Locality: Hazara Pukhuri, Tezpur

Nymphaea pubescens Willd, Sp. Pl. 2: 1154, 1798; Mitra in Sharma *et al.* Fl. India 1:431 July 1, 1993; *N. lotus auct non* L. Sp. Pl. 510, 1753; Hook. f. & Thomson in Fl. Brit. Ind. 1:114, 1872; Kanjilal *et al.*, Fl. As 1(1): 64, 1934.

Large aquatic herb with creeping rootstock. Leaves oval or orbicular, 15-30 cm broad, margins slightly toothed, strongly veined, glossy green above. Scape long, flexible. Flowers large, white. Sepals 4, free, oblong, ca 5 cm long, greenish outside with 5-10 white ribs. Petals many, linear or oblong, white. Stamens indefinite, filaments flattened at the base, anthers small, linear. Carpels many, often 10-20. confluent with the disk. Fruit a spongy berry. Seeds ellipsoid, enclosed in a fleshy saccate aril.

Fl.: August- October & Fr.: September- November

Occurrence: Frequent in still water.

Coll. No. J Sarma/284 Coll. Date:7.2.2016

Locality: Holeswar

Nymphaea rubra Roxb. ex Andrews, Bot. Rep. 8(104):t. 503.1808; Roxb., Fl. ind. 1:427.1832; Hook. f. & Th., Fl. Brit. Ind. 1:114.1872; Prain, Bengal Plants 1:213.1903; Mitra and Subramanyam in BBSI24:83.1983; B.D. Sharma (edt.) Fl. 1: 432.1993; Chowdhury *et al.*, Ass. Fl. 185.2005. *N. lotus* auct non L.; Kanjilal *et al.*, FA. 1:64.

1934.

Aquatic herb. Corms nodular. Leaves sub-orbicular, margins slightly toothed, downy underneath. Flowers red. Stamens 40-50. Fruit berries, spherical, 10- 20-celled.

Fl.: August- October & Fr.: September- November

Occurrence: Not Common.

Vern. name: Ronga bhet (As.).

Coll. No. J Sarma/148 Coll. Date: 24.1.2016

Locality: Burha Chapori WLS

PLATE 1F

NELUMBONACEAE A.Rich.

Dict. Class. Hist. Nat. [Bory] 11: 492. 1827

India: 1 genus and 1 species ; Study area: 1 genus and 1 species

Nelumbo Adans.

Nelumbo nucifera Gaertn., Fruct. 1 :73. 1789 ; Subramanyam Aq. Ang. 6. 1962; Deb, FTS. 2 : 124. 1983 ; Royen in Nova Guinea II. 10 (8) : 105. 1962. *Nymphaea nelumbo* L., Sp. Pl. 511.1753. *Nelumbo indica* Poir. in Lamk. Encycl. 4:543. 1797. *N. javonica* Poir. in Lamk. l.c. 454. 1797; *Nelumbium speciosum* Willd., Sp. Pl.ed. 2 : 1258. 1799; Hook, f., Fl. Brit. Ind. 1 : 116. 1872 ; B.D. Sharma (edt.) FI. 1: 441. 1993, Kanjilal *et al.*, FA. 1 : 65. 1934.

Large aquatic perennial herb, root-stock bearing small scale leaves
Leaves rotund, orbicular or peltate, 30- 60 cm across, radiately nerved, waxy, entire; petiole warty, fleshy; young leaves generally

raised above the water, old flat, floating, often with weak prickles. Petiole very long as per deep of water. Flowers erect, about 20 cm across, scape sheathing. Sepals 4-5, greenish white, ovate. Petals rose, elliptic, apex obtuse. Stamens many, superior. Carpels many, single ceiled, superior, free. Ovules 1 or 2. Stigma peltate.

Fl.: June - September. Fr.: Up to December.

Occurrence: Not Common.

Vern. name: Podum (As.).

Uses: Flower treated as holy in hindu religion

Coll. No. J Sarma/578 Coll. Date: 21.5.2016

Locality: Podum Pukhuri, Tezpur

PAPAVERACEAE Juss.

Gen. Pl. [Jussieu] 235. 1789

India: 5 genera and 27 species; Study area: 1 genus and 1 species

Argemone L.

Argemone mexicana L., Sp. PL 508, 1753; Hook, f., Fl. Brit. Ind. 1:117, 1872; Roxb., Fl. ind. :571,1824; Kanjilal *et al.*, FA. 1: 66, 1934; B.D. Sharma (edt.) Fl. 2: 3. 1993; Chowdhury *et al.*,185.2005

Annual erect herb. stem branched, herbaceous, woody below, glaucous, with yellow latex. Leaves cauline, bluish, exstipulate, sessile, alternate, simple, margin lobed, spinous. Flowers solitary terminal, large, showy; ebracteate, pedicillate; pedicels covered with prickles, complete, actinomorphic, bisexual, hypogynous. Fruit a many seeded capsule.

Associated with *Amaranthus spinosus*, *Evolvulus nummularius*,
Vernonia cinerea, *Borreria articularis* and *Acalypha indica*.

Fl. & Fr.: February- April.

Occurrence: Common in roadside.

Vern. name: Sialkata/Kuhumkanta (As.).

Coll. No. J Sarma/395 Coll. Date: 24.4.2016

Locality: Balipara.

BRASSICACEAE Burnett

Outlines Bot. (Burnett) 854, 1093, 1123. 1835

(CRUCIFERAE)

India: 64 genera and 207 species; Study area: 1 genus and 1 species

Rorippa Scopoli

Rorippa indica (L.) Hiem in Cat. Afr. PL Welw. 1: 26. add. *et* Corn
1896 *et* 2: 481. *erreta* 1899; Hajra & Chowdhery in Sharma *et al.*, Fl.
India 2:129.1993. Chowdhery *et al.*, in Hajra *et al.*, Mat. Fl. A.P.1 :
136. 1996. *Symbrium indicum* L. Mant. Pl. 1 : 93. 1767. *Nasturtium*
indicum (L.) DC. Syst. Nat. 2 :199.1821; Hook. f., & Thompson in Fl.
Brit. Ind. 1 : 134. 1872 ; Kanjilal *et al.*, FA. 1 : 70. 1934.

Small, annual, branched weed about. Leaves variously lobed or
divided, coarsely toothed rarely simple. Racemes 2.5-10 cm long.
Flowers small; sepals and petals equal, Petals wanting. Stamens 6.
Siliqua about 3 cm long, 2 mm in breadth, narrowly
oblong, spreading or ascending. Seeds many seeds numerous, small
in 2 series.

Fl. & Fr.: March – May

Occurrence: Common.

Vern. name: Bon Sorioh (As.).

Coll. No. J Sarma/437

Coll. Date: 8.2.2015

Locality: Bhomoraguri RF

CAPPARACEAE Juss.

Genera Plantarum 242. 1789.

(CAPPARIDACEAE)

India: about 7 genera and 55 species; Study area: 1 genus and 1 species

***Crataeva* L.**

Crataeva religiosa Froster f., Pl. Escul. Ins. Occ. Austral. 45. 1786; Hook. f., Fl. Brit. Ind. 1 :172. 1872; Jacobs in Blumea 12:193. 1964; Hajra and Jain, Bot. Kaz. Man. 34. 1978; B.D. Sharma (edt.) Fl. 2: 325. 1993; Chowdhury *et al.*, Ass. Fl. 187. 2005. *C. religiosa* var. Roxb. (R. Br.) Hook, f., Th. in Fl. Brit. Ind. 1:172. 1872. *C. roxburghii* sensu Kanjilal & Das, FA 1:73.1934.

Often a huge tree; branchlets greyish brown. Petioles with distinct glands; leaflets ovate, elliptic, stalked, light green above, pale beneath, lateral ones oblique at base; nerves 8-12 pairs. Inflorescence terminal; flowers white fading to pale yellow. Sepals green, 6-10 x 2-5 mm. Petals white, yellow when old. Stamens 15. Gynophore ca 5.5 cm long; ovary ca 4 mm. Fruits globose, ca 4 cm across; seeds smooth, brownish.

Fl. & Fr.: April - June

Occurrence: Common.

Vern. name: Barun (As.)

Coll. No. J Sarma/439

Coll. Date: 8.2.2015

Locality: Bhomoraguri RF

PLATE 2B

CLEOMACEAE Bercht. & J. Presl

Přir. Rostlin 2(64): 253. 1825.

India: about 14 species; Study area 1 genus and 4 species

Cleome L.

Key to the species

- 1a. Flowers solitary ----- *C. rutidosperma*
- 1b. Flowers racemed
 - 2a. Gonophore absent ----- *C. viscosa*
 - 2b. Gonophore present
 - 3a. Stipules spinous ----- *C. hassleriana*
 - 3b. Stipules not spinous ----- *C. gynandra*

Cleome gynandra L., Sp. Pl. 671. 1753; M. Jacobs in Steenis, Fl. Males. I. 6:101. 1960; B.D. Sharma (ed) Fl. 2: 309. 1993. *Gynandropsis gynandra* (L.) Briq., Annuaire Conserv. Jard. Bot. Geaneve 17:382.1914; *Gynandropsis pentaphylla* (L.) DC., Prodr. 1:238.1824; Hook. f. & Thomas., Fl. Brit. Ind. 1:171.1872. *Cleome pentaphylla* (L.) L., Sp. Pl. (ed. 2) 938.1763; Roxb., Fl. ind. 3:126.1832.

Erect annual herb; stems glandular pubescent. Leaves 3-5 foliate; leaflets obovate; middle one is larger than laterals, base cuneate, margin entire, apex acute; petiole 5-17 cm. Flowers 2.5 cm across. Sepals 4, ovate or lanceolate. Petals 4, pink or faded white, obovate. Androphore 1 - 2.5 cm. Stamens ca 6; filaments 1.5 - 2 cm. Gynophore

up to 1 cm. Ovary oblong; stigma discoid. Capsule terete, 7-10 cm, to 4 mm across, striate, glandular, seeds indefinite.

Fl. & Fr.: March to June

Occurrence: Common.

Vern. name: Bhut Mula (As.)

Coll. No. J Sarma/ 920 Coll. Date: 3.6.2017

Locality: Poruwa

Cleome hassleriana Chodat in Bull. Herb. Boiss 6 (app.l) : 12, 1898, Raghavan in Sharma *et al*, Fl. India 2 : 320, 1993.

Annual herb, covered with glandular hairs. Leaves habitually 7 foliate, occasionally more, terminal leaflet largest, lanceolate; stipules spinescent. Flowers pale purple in corymbiform terminal racemes, bracteate, bracts foliaceous. Sepals spreading. Petals ca.1.7 cm long with claws. Stamens 6, long protruding, adnate below to the androphore.

Carpels 2, situated on an elongated gonophore, stigma sessile. Fruit a stalked elongated capsule.

Fl.: Jan –June & Fr.: April –July

Occurrence: Common.

Vern. Name: Sial kotohia (As.)

Coll. No. J Sarma/206 Coll. Date: 2.5.2016

Locality: Porowa

PLATE 2C

Cleome rutidosperma DC., Prodr. 1: 241. 1824; Ghosh *et Prasad*, JBNH. 67(1):129.1979; B.D. Sharma (edt.) Fl. 2: 313. 1993;

Chowdhury *et al.*, 187.2005.

Healthy branched annual herb. Leaflets ovate to elliptic, acute, base cuneate; petioles 2.5- 4.0 cm long. Flowers blue -violet; pedicels 2-3 cm, sticky glandular hairy, capsules cylindrical, ribs and stronger cross ribs yellowish with blackish centre.

Fl. & Fr.: Whole year

Occurrence: Frequent

Coll. No. J Sarma/207

Coll. Date: 3.5.2016

Locality: Porowa

Cleome viscosa L., Sp. PL 672. 1753; Hook. f., Fl. Brit. Ind. 1:170.1872; Kanjilal *et al.*, FA 1:72. 1934; Rao *et Rabha*, BBSI. 8:298. 1966; B.D. Sharma (edt.) FI. 2: 320. 1993; Chowdhury *et al.*, Ass. FI. 187.2005.

Erect annual weed, branches glandular, viscid. Leaves tetra-penta foliates; leaflets elliptic - obovate, acute, cuneate at base, petioles 3-5 cm long. Flowers in racemes, yellow faded to white, 1.0- 1.5 cm across, pedicels 1-3 cm long. Ovary sessile. Capsules cylindrical, glandular hairy, ca 7.0 x 0.5 cm; seeds with prominent transverse ridges and obscure concentric ridges, dark brown.

Fl. & Fr.: Whole year.

Occurrence: Common

Vern. name: Hurhuria (As.)

Coll. No. J Sarma/208

Coll. Date: 3.5.2016

Locality: Nikamul

BIXACEAE Kunth

Malvac., Buttner., Tiliac. 17. 1822.

India: 1 genus and 1 species ; Study area: 1 genus and 1 species

Bixa L.

Bixa orellana L., Sp. Pl. 512. 1753; Hook, f., Fl. Brit. Ind. 1: 190. 1872; Rao *et* Rabha, mBBSI. 8:298. 1966; Kanjilal *et al.*, FA 1: 83. 1934; Deb, FTS. 1: 232. 1981; Balak., FJ. 1: 78.1981; Chowdhury *et al.*, Ass. Fl. 188.2005.

A small evergreen, abundant branched tree. *Bark* brown, smooth; young parts and inflorescence with rust coloured scurfy tomentum. Leaves alternate, broadly ovate to cordate, acuminate, entire or more less sinuate on the margins, dots, nerves prominent beneath; stipules very short, broad, deciduous, stipular scar almost annulate with a circular gland. Flowers white or pinkish, in short terminal panicles. Sepals 5, imbricate, deciduous. Petals 5, contorted in bud, oblong-obovate. Stamens many, filaments slender; anthers opening by two terminal pores. Ovary single celled, covered with soft bristles; style slender, curved; stigma 2-cleft; ovules many on parietal placenta. Capsule 3- 5 cm long, ovoid, densely but softly echinate, spines slender up to 1 cm long, subulate. *Seeds* many in a farinaceous red pulp.

Fl.: July- October & Fr.: October - December.

Occurrence: Common

Vern. name: Joroth, Sendur-gach, Jalandhar, Hatronga (As.)

Coll. No. J Sarma/209

Coll. Date: 3.5.2016

Locality: Porowa

PLATE 2D

CARYOPHYLLACEAE Juss.

Gen. Pl. 299. 1789.

India: 25 genera and 122 species; Study area: 2 genera and 2 species

Key to the genera

1a. Leaves oblong; blades penninerved. Stamens more than 5

----- *Stellaria*

1b. Leaves ovate or . Date; blades palminerved. Stamens less than 3

----- *Drymaria*

Drymaria Willd. ex J.A. Schultes

Drymaria cordata (L.) Roemer ex Schultes in L. Syst. Veg. (ed. 16) 5:406. 1819- 1820; *Cerastium cordifolium* Roxb., Fl. Ind. 2: 458. 1832. Wight & Am., Prodr. Fl. Ind. orient. 359.1834; Hook, f., Fl. Brit. Ind. 1:244.1874. ssp. *diandra* (Blume) Duke, Majumder, BBSI 10:294. 1969. B.D. Sharma (edt.) Fl. 2: 533. 1993.

Dichotomously branched diffuse herb. Leaves decussate ovate, sub-orbicular, or cordate, chartaceous, glabrous, 3-5 palminerved, base cordate, obtuse or sub-truncate, margin entire, apex apiculate, subsessile; stipules interpetiolar. Cymes axillary or terminal;. Flowers 4 mm across. Sepals 5, oblong, to 4 mm, connate at the base, 3-nerved, keeled in the middle. Petals 5, white, 2 mm, 2-partite. Disc annular. Stamens 2 or 3; filaments 1.5 mm. Ovary 3-gonous-ovoid, 2 mm, one celled; ovules 5 or 6; styles 3-fid, 1.5 mm; stigma simple. *Capsule* oblong, tri-gonous, 3-valved. seeds compressed,

Fl. & Fr.: Whole year

Occurrence: Frequent

Vern. name: Lai-jabori, Thunthuni (As.)

Uses: Eaten as vegetable

Coll. No. J Sarma/909 Coll. Date: 4.11.2017

Locality: Dekargaon

***Stellaria* L.**

Stellaria media (L.), Will., Hist. Pl. Dauph. 3:615.1789 ; Hook, f., Fl. Brit. Ind. 1 :230.1874; Rao *et* Vermain BOBSI 11 (3 & 4) : 406, (1969) 1972; Rao in Sharma *et al.*, Fl. India 2 : 585. 1993.

Annual diffusely branched herb. Leaves oblong. Flowers in dichotomous cymes, terminal, white; sepals glandular, free; petals bifid, shorter than sepals; stamens 10; ovary single-ovuled, style trifid. Capsules 3- toothed, ovoid; seeds plentiful, brown tubercled.

Fl. & Fr.: December- April

Occurrence: Common

Vern. name: Morolia, Menmeni (As.)

Uses: As vegenatable

Coll. No. J Sarma/911 Coll. Date: 4.11.2017

Locality: Dekargaon

PORTULACACEAE Juss.

Gen. Pl. 312. 1789.

[Family Portulacaceae have not been incorporated in Fl. of Ass.]

India: 2 genera and 8 species; Study area: 2 genera and 2 species

Key to the genera

1a. Leaves linear; ovary semi-inferior ----- ***Portulaca***

1b. Leaves broad; ovary superior ----- ***Talinum***

***Portulaca* L.**

Portulaca oleracea L., Sp. PL 445. 1753 ; Roxb. Fl. Ind. 2 : 463. 1832; Hook, f., Fl. Brit. Ind. 1: 246. 1874; Rao *et* Verma BOBSI. 11 (3 & 4): 406 (1969) 1972; Singh *et al.*, FM. I: 201. 2002; Rao in Sharma *et al.*, Fl. India 3: 4.1993; Matthew, Fl. Tam. Car. 1: 81: 1983.

Annual prostrate herb; branchlets glabrous ; stem reddish; nodes swollen. Leaves opposite, exstipulate, fleshy, margins reddish. Flowers in cymose clusters with involucre bracts; sepals obtuse, connate at base; petals 5, united at base, yellow, obovate; stamens 8-12, filaments unequal; style 3-8 fid. Capsules ovoid, operculate, glabrous; seeds numerous, black.

Fl. & Fr.: March - May

Common found with *Oxalis corniculata* and *Leucus plukenetii* in waste land.

Occurrence: Common

Vern. name: Malbhog sak (As.)

Coll. No. J Sarma/211 Coll. Date: 23.5.2016

Locality: Sotia

***Talinum* Adans**

Talinum portulacifolium (Forssk.) Asch. ex Schweinf in Bull. Herb. Boiss 4 App 2 : 172, 1896; *Orygia portulacifolia* Forssk., Fl. Aegypt. Arab 103, 1775; *Portulaca cuneifolia* Vahl. Symb. Bot 1 : 33, 1790;

Talinum cuneifolium Willd., Sp. Pl. 2 : 864, 1799; Dyer in Hook. f. Fl. Brit. Ind. 1 : 247, 1874.

Small herb. Leaves obovate or oblanceolate obtuse, glossy above. Flowers pink-purple in terminal racemes or panicles; bract linear. Sepals ovate. Petals 4. Stamens many, filaments *ca.* 0.2-0,35 cm long, unequal, basally connate. Ovary superior, single locular, ovules many on free central placenta; styles tri armed. Seeds black, shining.

Fl. & Fr.: March – Aug

Occurrence: Common or cultivated

Coll. No. J Sarma/213 Coll. Date:3.5.2016

Locality: Bamun Gaon

PLATE 2E

TAMARICACEAE Link

Enum. Hort. Berol. Alt.1: 291. 1821.

India: 3 genera and 16 species; Study area: 1 genus and 1 species

***Tamarix* L.**

Tamarix dioica Roxb., Fl. Ind. 2: 274. 1832; Prain, Bengal Plants 1:242. 1908; Kanjilal *et al.*, FA. 1:99.1934; Chowdhury *et al.*, Ass. Fl. 190.2005.

Handsome gregarious shrub with spreading branches. Leaves tubular and clasping the stem, acuminate, margin whitish. Flowers pink, minute, many in compact panicles usually paniced spikes, generally dioecious; bracts as long as flowers, triangular, acuminate, keeled. Sepals 5, about half as long as petals. Male flower: petals 5,

oblong. Stamens 5, inserted between the notches of a 5-lobed disc; filaments ligulate, anthers purple. Female flower: petals 5, broader than the males. Ovary single celled, tri lobed; styles 3. Capsule conical, 3-valved. Seeds minute, plumose, numerous, trodden.

Fl.: May- September & Fr.: October- December

Occurrence: Common

Vern. name: Jhao bon (As.)

Coll. No. J Sarma/ 155 Coll. Date:23.4.2016

Locality: Burha Chapori WLS

HYPERICACEAE Juss.

Gen. Pl. 254. 1789.

India: 3 genera and 29 species; Study area: 1 genus and 2 species

Hypericum L.

Key to the species

- 1a. Leaves sessile, base . Date ----- ***H. japonicum***
1b. Leaves sub-sessile, base cuneate ----- ***H. petiolatum***

Hypericum japonicum Thunb. ex Murray, Syst. Veg. ed. 14 : 702. 1784 ; Hook, f., Fl. Brit. Ind. 1:256. 1874; Kanjilal *et al.*, FA. 1:102. 1934; Balakr. Fl. Jowai 1:86. 1981; Biswas in Sharma *et al.*, Fl. India 3: 69.1993;. Singh *et al.*, FM. 1:205.2002.

Annual herb. Leaves sessile, ovate or elliptic, glabrous. Flowers solitary, axillary, yellow; sepals lanceolate; petals persistent;

stamens connate at base; ovary single celled, styles three. Capsules 3- nerved, ovoid, equalling the sepals.

Commonly found with *Lindernia anagallis*, *Enhydra fluctuans*, *Drymaria cordata*, *Commelina benghalensis*, etc.

Fl. & Fr.: Almost Whole year.

Occurrence: Common

Coll. No. J Sarma/912 Coll. Date:4.11.2017

Locality: Dekargaon

Hypericum petiolatum Hook. f. & Thomson ex Dyer in Fl. Brit. Ind. 1 : 255, 1874; Biswas in Sharma *et al.*, Fl. India 3 : 75, 1993.

Prostrate annual herb. Stems and branches slender, usually reddish purple. Leaves ovate to elliptic, rounded at base, obtuse to rounded at apex. Flowers yellow, 1 - 3 in terminal and axillary lax cymes. Sepals 5, linear or oblong lanceolate. Petals 5, oblong, lanceolate to spatulate, prominently veined. Stamens many. Styles 3, very short ca.1 mm. Capsule broadly ovoid to globose or elliptic oblong.

Fl. : April – June & Fr. : July - September

Occurrence : Not frequent

Coll. No. J Sarma/467 Coll. Date: 23.7.2016

Locality: Khonamukh

CLUSIACEAE Lindl.

Intr. Nat. Syst. Bot. 74: 1836

(GUTTIFERAE)

India: 6 genera and 22 species; Study area: 2 genera and 5 species

Key to the genera

- 1a. Style short. Ovary 2 or more celled ; cells 1 ovuled ----- ***Garcinia***
1b. Style long. Ovary 2 celled ; cells 2 ovuled ----- ***Mesua***

***Garcinia* L.**

Key to the species

- 1a. Flowers 5-merous. --- ***G. xanthochymus***
1b. Flowers 4-merous:
2a. Flowers terminal or axillary:
3a. Middle size tree. Flowers yellow ----- ***G. cowa***
3b. A shrub. Flowers red ----- ***G. lancaefolia***
2b. Male flower in short terminal panicles --- ***G. pedunculata***

Garcinia cowa Roxb. Fl. ind. 2: 442.1832; Hook, f., Fl. Brit. Ind. 1:262. 1874; Prain, D. Bengal Plants 1:247. 1903 Kanjilal *et al.*, FA 1:105.1934; Maheswari in BOBS I6 : 130. 1965.

A middle sized tree, bark brown grayish outside and reddish in side. Leaves dark green, broadly elliptical lanceolate, cuneate at the base, somewhat fleshy when green, red to reddish brown when young. Flowers dioecious, tetra-merous, yellow. Male flower: terminal or axillary clusters. Sepals ovate or sub-orbicular, pale yellow, unequal. Petals double the sepals length, oblong; Stamens brownished, anthers 4-celled, sub-sessile, collected in a fleshy mass. Pistillode miniature. Female flower: larger than male flowers, terminal, solitary or in 3-5 flowered clusters, shortly pedicelled. Staminodes

forming an interrupted ring round the ovary. Stigma 6-8 lobed. Fruit globose, slightly tapering and somewhat oblique towards the apex; dull red outside and orange inside when ripe, 4-8 seeded, crowned by a persistent stigma.

Fl.: March - April & Fr.: June - October.

Occurrence: Rare

Vern. name: Kuji thekera (As.)

Use: Fruits eaten

Coll. No. J Sarma/396 Coll. Date: 24.4.2016

Locality: Balipara

Garcinia lancaefolia Roxb. Fl. Ind. 2: 623. 1832; Hook, f., Fl. Brit. Ind. 1:263. 1874; Kanjilal *et al.*, FA 1:106.1934.

Handsome glabrous shrub. Leaves dark glossy green, lanceolate, long acuminate; lateral nerve 8-10. Flowers red, terminal, solitary, bractate. Sepals 4, broadly elliptic; petals 4, somewhat shorter and slightly oblique; stamens in 4 bundle; anther 1-celled; Ovary obovoid. Fruit obovoid, bright orange red.

Fl.: February- March & Fr.: June - July.

Occurrence: Not very frequent.

Vern. name: Rupohi Thekera (As.)

Use: Fruits eaten

Coll. No. J Sarma/746 Coll. Date: 13.8.17

Locality: Nameri Hati Gate

Garcinia pedunculaia Roxb., Fl. ind, 2:443. 1832; Hook. f. & Th. in Fl. Brit. Ind. 1: 269. 1874; Pram, Bengal Plants 1: 247.1903; Kanjilal *et al.*, FA 1:107.1934; Chowdhury *et al.*, Ass. Fl. 228. 2005.

A fairly large tree with short spreading branches. Bark thick, spongy, gum scanty. Leaves ovate or oblanceolate, rigid, midrib stout, base cuneate, petiole 2- 2.5 long. Male flower: pale green in few flowered terminal panicles and on stiff pedicel, each with a pair of bracts a little above the base. Sepals 0.7 cm across, orbicular, fleshy. Petals slightly longer than the sepals. Stamens numerous in a 4-cornered mass; anthers 2- celled but 4-angled. Female flower: solitary, larger than the male. Staminodes 20-30 in 4 bundles, connate below. Stigma peltate, spreading about 10 lobed. Fruit globose, fleshy. Seeds 8-10, reniform, enclosed by fleshy aril.

Fl.: September to April & Fr.: February to December.

Vern. name: Bor-thekera (As.)

Occurrence: Rare.

Use: Fruits eaten

Coll. No. J Sarma/215

Coll. Date: 23.5.2016

Locality: Jamuguri hat

Garcinia xanthochymus Hook. f. & Th. in Fl. Brit. Ind. 1: 269. 1874; Prain, Bengal Plants 1: 247. 1903; Kanjilal *et al.*, FA 1: 104. 1934; Chowdhury *et al.*, Ass. Fl. 228. 2005.

A small tree with green foliage; branchlets square and usually sulcate; bark dark brown, exuding pale green gum. Leaves dark green, 20- 40 cm x 5- 8 cm , narrowly oblong or oblong lanceolate, coriaceous, shining on both surfaces, lateral nerves irregular, base

cuneate, petiole ligulate. Flowers pentamerous, dull white. Male flowers: Sepals 5, orbicular, fleshy. Petals 5, double size of the sepals, orbicular, thin. Stamens in 5 fleshy bundles of 3-5; anthers 2-celled. Bisexual flowers: Sepals as in male flowers; petals ciliate; stamens as in males. Ovary usually 5-celled with a neck. Stigma 5-6 lobed, spreading. Fruit 2.5- 7.0 cm in diam., pointed, crowned by the persistent stigmatic lobes, green, golden yellow when ripe; seeds oblong.

Fl. March – May & Fr. October - February.

Vern. name: Tepor tenga/Tepol tenga (As.)

Occurrence: Rare.

Use: Fruits eaten

Coll. No. J Sarma/441 Coll. Date: 8.2.2015

Locality: Bhomoraguri RF

PLATE 2F

***Mesua* L.**

Mesua ferrea L., Sp. Pl. 515. 1753; Kost. in FC 1:106.1980; non sensu Anderson in Fl. Brit. Ind. 1: 277.1874; Kanjilal *et al.*, FA 1: 111. 1934. Chowdhury *et al.*, 191. 2005. 116 *M. ferrea* ssp. *thwaiesii* Vesque in DC., Monog. 8:632. 1893; Maheswari in BBSI 5:339.1963.

An evergreen handsome tree with a dense conical canopy, Leaves opposite, decussate, variable, lanceolate or narrowly elliptic-oblong, long acuminate, rounded or acute at base, generally covered with a wax like white powder underneath, red when tender. Flowers solitary, terminal or axillary, very fragrant; peduncles rust tomentose. Sepals 4 in 2 pairs, imbricate, valvate puberulous outside, persistent. Petals 4, pure white, cuneate, obovate to ob. Date, curled

and erose at the margins. Stamens many, forming a globose yellow mass in the centre of the flower; filaments very slender, anthers golden yellow. Ovary ovoid, 2-celled; style long, stigma peltate. Fruit ovoid, pointed, 1-celled, 1- 4-seeded, with persistent sepals. Seeds variously faceted.

Fl.: March - April & Fr.: June - October.

Occurrence: Cultivated/ common.

Vern. name: Nahor/ Nageswar (As.).

Coll. No. J Sarma/345 Coll. Date: 8.2.2015

Locality: Bhomoraguri RF

PLATE 4B

THEACEAE Mirb.

Bot. Reg. 2: sub t. 112. 1816.

(TERNSTROEMIACEAE)

India: 8 genera and 23 species; Study area: 2 genera and 5 species

Key to the genera

1a. Fruit indehiscent ; style 5 ----- *Pyrenaria*

1b. Fruit dehiscent; style 3-5 :

2a. Large or medium sized tree; seeds reniform, winged

----- *Schima*

2b. Shrub or small tree; seeds elliptic, not winged

----- *Camellia*

Camellia L.

Camellia sinensis (L.) O. Kuntze, Trudy Imp. S.-Peterburgsk. Bot. Sada 10: 195. 1887; Matthew, Rec. Bot. Surv. India 20:47. 1969; Purselove, Trap. Crops, Dicots 599. 1977; Balakrishnan, FJ. 1:92.1981. *Thea sinensis* L., Sp. Pl. 515.1753. var. *assamica* (Mast.) Kitamura in Act Phytotax. Geobot. 14:59. 1950; Chowdhury *et al.*,

191. 2005. *Camellia assamica* (Mast) W. Wight in Cure. Sci. 31:299.1962; *Camellia theiflora* Griff. Kanjilal *et al.*, FA. 1:122. 1934.

Large evergreen shrub or small trees ; stem and branches glabrous. Leaves elliptic-oblong to obovate, acuminate at apex, cuneate at base, serrulate to sinuate-serrate, glabrous above; lateral nerves 8-12; petioles ca. 2 mm long. Flowers axillary white, solitary or few together. Capsules ovoid, trigonous; seeds globose, brown.

Fl. & Fr.: December - September

Occurrence: Cultivated in the whole district. Monabari is the largest TE of Asia.

Vern. name: Sah goch (As.).

Coll. No. J Sarma/348 Coll. Date: 8.2.2015

Locality: Bhomoraguri RF

***Pyrenaria* Blume**

Key to the species

1a. Fruits with 5 stigmatic protuberances at apex

----- ***P. khasiana* var. *lakhimpurensis***

1b. Fruits without 5 stigmatic protuberances at apex

----- ***P. barringtonifolia***

Pyrenaria barringtonifolia (Griffith) Seem. in Bonplandia 7: 49. 1859; Dyer in Fl. Brit. Ind. 1: 290. 1874. *Eusynaxis barringtoniaefolia* Griffith, Not. Pl. Asiat. 4: 560. 1854 & Icon. Pl. Asiat. 4: t. 603. f. 1 - 3. 1854.

Shrubs or small trees, 5 - 8 m tall; stems glabrous; bark dark grey. Leaves 8 - 25 x 3 - 10 cm, spathulate, oblanceolate to elliptic, attenuate at base, rounded or truncate to abruptly acuminate at apex, strongly serrate, glabrous, coriaceous, midvein depressed above, raised beneath; petioles 5 - 15 mm long, glabrous. Flowers creamy yellow, axillary, solitary, ca 4 cm in diam., subsessile or with 2 - 3 mm long, glabrous pedicels; bracts 2 - 3, ca 3 mm long, orbicular. Sepals 5 - 6 x 5 - 10 mm long, broadly orbicular, densely pubescent outside, glabrous inside, deciduous. Petals 8 - 15 x 6 - 8 mm, more or less orbicular, densely pubescent outside, glabrous inside. Stamens 2 - 4 mm long, filaments connate at base. Ovary ca 2 mm long, densely pubescent; styles distinct. Fruits 2 - 3 x 1.5 - 3 cm, ovoid, thin walled, fleshy, longitudinally wrinkled, glabrous. Seeds ca 1.5 cm long, ellipsoid, glabrous.

Fl.: March – May & Fr.: October - February

Occurance : Extremely Rare

Vern. Name: Bon-madhuri, Janghali-cha (As.)

Special Note: This is the report of *P. barringtonifolia*, after about 20 years. The last collection was made by Deka 18030 (ASSAM!).

Coll. No. J Sarma/463 Coll. Date: 14.5.2016

Locality: Sonai Rupai WLS

PLATE 4A

Pyrenaria khasiana R.N. Paul var. *lakhimpurensis* N. Odyuo & D.K. Roy, *Taiwania* 62(1): 29–32, 2017.

Small tree. Young branchlets sparsely pubescent. Leaves oblanceolate to spathulate, leathery, serrate, glabrous above, midrib

raised below, depressed above, secondary veins 17–22, depressed above and raised below, base attenuate to cuneate, apex long acuminate; petioles sparsely pubescent in young. Flower axillary, solitary; pedicel silky villous, 3 × 2 mm; bracteoles 2, ovate, non-foliaceous, leathery, silky villous outside, glabrous inside, apex obtuse; sepals persistent, 7, ovate, orbicular to obovate, 0.5–1.5 × 0.7–1.2 cm, non-foliaceous, glabrous inside; petals 7, white, unequal, glabrous inside, apex rounded; stamens numerous, basally connate; filaments glabrous, to 1 cm long, outer whorl slightly adnate to petals; anther dorsifixed, bilobed; ovary 5-loculed; styles 5, free. Fruit subglobose, 2.5–3.5 × 2.3–3.2 cm, glabrous, apex crowned with 5 stigmatic protuberances, with persistent calyx at base. Seeds 5–7, 8–10 mm, hemispheric, occasionally 2 per locule; testa bony.

Fl.: February to May & Fr.: June to August.

Occurrence: Endemic to Assam. Extremely rare.

IUCN status: Recommended as Critically Endangered- B1B2 (a, b); C2a (i); D category. (J. Sarma *et al.*)

Special Note: This is a newly described subspecies and its new distribution is reported by Sarma *et al.*, after its type locality.

Coll. No. J Sarma/ 467 Coll. Date: 14.5.2016

Locality: Sonai Rupai WLS

PLATE 3(A-D)

Schima Reinw. ex Bl.

Schima wallichii (DC) Korthals, Bijdr. Temsr. In Temminck, Verh. Nat. Gesch. Bot. 143.1839-42; Dyer in Fl. Brit. Ind. 1:289. 1874; ssp. *waUkhii* Bloem. in Reinwardtia 2:164. 1952. Prain, Bengal Plants 1:249. 1903; Kanjilal *et al.*, FA. 1:119. 1934; Chowdhury *et al.*, Ass. Fl.

192.2005. *Gordonia wallichii* DC., Prodr.: 528. 1824. *Schima mollis*
Dyer in Fl. Brit. Ind. 1: 288. 1874.

A large evergreen tree. Leaves oblong or elliptic-lanceolate, acute or acuminate, entire, thinly coriaceous. Flowers white, scented, axillary, solitary. Sepals 5, imbricate, sub equal, orbicular or rounded, broader than long, margins ciliate. Petals 5, connate and silky pubescent outside towards the base. Stamens numerous, epipetalous. Ovary hairy towards the bottom. Fruit a 5-celled capsule.

Fl.: May- June & Fr.: December - February.

Occurrence: Fairly Common.

Vern. name: Noga Bhe (As.).

Uses: Used as timber

Coll. No. J Sarma/469 Coll. Date:14.5.2016

Locality: Sonai Rupai WLS

DIPTEROCARPACEAE Blume

Bijdr. Fl. Ned. Ind. 222. 1825.

India: 6 genera and 31 species; Study area: 1 genus and 1 species

Shorea Roxb. ex Gaertn

Shorea robusta Roxb. ex Gaertn. f., Suppl. Carp. 3 :48,1.186.1805;
Hook. f., Fl. Brit. Ind. 1:306. 1874; Kanjilal *et al.*, FA. 1:135. 1934;
Deb, FTS. 1. 360. 1981; Haridasan & Rao, For. Fl. Meghalaya
1:127.1985; Singh *et al.*, FM 1:227. 2002 .

large deciduous trees up to 50 m tall. Bark reddish brown. Leaves ovate-oblong, rounded at base, very shortly acuminate ending in an obtuse point, glabrous and shining, coriaceous when mature; lateral nerves 12 pairs, prominent beneath; petioles 2 - 3 cm long. Flowers yellow or creamy, sub-sessile, racemose panicles and racemes; calyx segments 2 mm long, ovate pubescent; petals lanceolate; stamens smaller than petals; ovary globose, pubescent. Fruit samara, ovoid; wings 5 of which 3 large and 2 small.

Fl. & Fr.: April – August.

Occurrence: Fairly common and cultivated as timber.

Vern. name: Sal (As.).

Uses: Used as timber

Coll. No. J Sarma/218 Coll. Date:9.5.2016

Locality: Helem

PLATE 4C

MALVACEAE Juss.

Gen. Pl. 271. 1789.

India: 17 genera and 88 species; Study area: 6 genera and 11 species

Key to the genera

1a. Fruit schizocarpe

2a. Bracteoles 0

3a. Carpels 5-10, single ovuled ----- **Sida**

3b. Carpels 5-20, 2 or more ovuled ----- **Abutilon**

2b. Bracteoles usually 5; stigma spreading, carpels 5 ----- **Urena**

1b. Fruit capsular

4a. Calyx spathaceous, 2-partite, caducous ----- **Abelmoschus**

4b. Calyx campanulate, 5- lobed or toothed, persistent:

5a. Seeds with hairy outgrowths ----- **Gossypium**

5b. Seeds without hairy outgrowths ----- **Hibiscus**

***Abelmoschus* Medicus**

Abelmoschus manihot (L.) Medikus ssp. ***tetraphyllus*** (Roxb. ex Horn.) Bors., Malvenfam. 46. 1787; Borssum Waalkes, Blurnea 14:95. 1966. Chowdhury *et al.*, Ass, Fl. 193. 2005. *Hibiscus manihot* L., Sp. Pl. 696. 1753; Hook, f., Fl. Brit. Ind. 1: 341. 1872; Gamble, Fl. Madras 1:97(69). 1915. *Hibiscus tetraphyllus* Roxb., Fl. Ind. 3:211.1832.

An undershrubs up to 2 m high; branchlets hispid. Leaves ovate, cordate at base, usually 3-7 lobed; lobes triangular, ovate - lanceolate, dentate to serrate; stipules filiform. Racemes terminal, basal flowers solitary; pedicel in flower 1-3 cm. Epicalyx segments 4-6, free, ovate- oblong. Calyx tubular, Petals obovate. Capsule oblong- ovoid.

Fl. & Fr.: October - February.

Occurrence: Not very common.

Vern. name: Kasturi bhendi (As.)

Coll. No. J Sarma/672

Coll. Date: 8.4.2017

Locality: Bhalukpong

***Abutilon* P. Miller**

Abutilon indicum (L.) Sweet, Hort. Brit. 54. 1827; Don. Gen. hist. 1: 504. 1831; Wight & Am., Prodr. fl. Ind. orient. 56. 1834; Hook, f., Fl.

Brit. Ind. 1:326. 1874; Chowdhury *et al.*, Ass. Fl. 193. 2005; *Sida indica* L., Cent. Pi. fl: 26.1756; Roxb., Fl. ind. 3:179.1832. Kanjilal *et al.*, FA. 1:140. 1934.

A perennial herb. Leaves chartaceous, minutely stellate hairy above, glaucous below, margin crenate -dentate, apex acute-acuminate; petiole 2-8 cm; stipules filiform. Flowers solitary; pedicel ca. 5 cm. Calyx tube ca. 4 mm; lobes 5, ovate, 4 mm, apex acuminate. Petals 5, yellow, obovate. Staminal column stellate hairy at base, glabrous above. Fruit schizocarp, globose, flat topped, black when ripe.

Fl.: November – January & Fr.: Whole year

Occurrence: Not very common.

Vern. name: Jhopa (As.)

Coll. No. J Sarma/321 Coll. Date: 13.9.2014

Locality: Singri Hill RF Hills RF.

***Gossypium* L.**

Gossypium herbaceum L., Sp. Pl. 693.1753; Masters in Fl. Brit. Ind. 1: 347.1875; Kanjilal *et al.*, FA. 1:145.1934; Chowdhury *et al.*, Ass. Fl. 193.2005; Rao et Verma in SI11:406.1969 (1972).

Shrub. Leaves 3-5 lobed, nearly glabrous; stipules ovate or lanceolate. Bracteoles as long as the capsules. Flowers yellow, generally with a purple centre. Capsule ovoid, 3-5 celled with 5-7 seeds in each cell, pendulous when open, presenting a striking appearance with the hanging balls of white cotton.

Fl.: August – October & Fr.: November- December.

Occurrence: Common/ cultivated for commercial cotton.

Vern. name: Kopah (As.)

Coll. No. J Sarma/468

Coll. Date: 23.7.2016

Locality: Khonamukh.

***Hibiscus* L.**

Key to the species

- 1a. Plant large shrub or small tree -----***H. mutabilis***
- 1b. Plant small shrub or large herb
 - 2a. Epicalyx consisting a bristly stalk supporting a leafy blade
-----***H. surattensis***
 - 2b. Epicalyx segments normal lanceolate
-----***H. rosa-sinensis***
 - 3a. Capsule Pyramidal :
 - 3b. Capsule ovoid -----***H. subdariffa***

***Hibiscus mutabilis* L., Sp. Pl. 694. 1753 ; Hook, f., Fl. Brit. Ind. 1 : 344. 1875; Kanjilal *et al.*, FA. 1 : 141. 1934.**

Small handsome trees. Leaves, palmately 3-7 lobed; petioles 6 - 13 cm long; stipules linear lanceolate, tomentose. Flowers solitary, axillary, terminal on 7.5 cm long pedicels or sub corymbose, white turning rose. Epicalyx segments 8-12; sepals accrescent, densely glandular hairy outer, persistent; petals in two whorls of 5 or more, stellate hairy outside, glabrous within; stamina column shorter than petals ; ovary 15 celled, cells 3 - many ovuled. Capsules subglobose; seeds reniform, brown.

Fl. & Fr.: October - February

Vern. name: Sthalpadma (As.)

Occurrence: Not very common/ cultivated as well as found in wild.

Coll. No. J Sarma/623 Coll. Date:4.2.17

Locality: Behali RF

Hibiscus rosa-sinensis L., Sp. Pl. 694. 1753; Roxb., Fl. ind. 3:194. 1832; Wight & Am., Prodr. fl. Ind. orient 49.1834; Hook, f., Fl. Brit. Ind. 1: 344.1874; Gamble, Fl. Madras 1: 99 (71). 1915; Kanjilal *et al.*, FA 1: 145. 1934.

An ornamental Shrubs. Leaves entire or variously lobed, shining, serrated. Flowers solitary, with prominent epicalyx. Calyx and corolla segments usually 5 each but the number of petals may be more due to modification of some stamens into petals. Stamens many, epipetalous, filaments form a tube around the carpels. Carpels five, united, stigmas free.

Fl. & Fr.: Almost Whole year.

Vern. name: Joba phul (As.)

Occurrence: Very common/ cultivated as garden flower.

Coll. No. J Sarma/96 Coll. Date: 12.3.2015

Locality: Napaam.

Hibiscus subderifa L., Sp.Pl. 695. 1753; Wight & Am., Prodr. fl. Ind. orient. 52. 1834; Hook, f., Fl. Brit. Ind. 1: 340. 1874; Gamble, Fl. Madras 1: 99(71). 1915. Chowdhury *et al.*, Ass. FL 193.2005.

Small shrub; branchlets purplish. Leaves palmately 3-5 lobed, lower leaves un-lobed; lobes oblong- lanceolate, glandular on midrib below, serrate, apex acute; petiole up to 4 cm; stipules linear, to 1

cm. Epicalyx segments 10, lanceolate. Calyx fleshy. Petals 5, pink with dark centre. Capsule ovoid, pubescent, beaked.

Fl.: November- February & Fr.: February- March

Vern. name: Tenga mora / Mesta tenga (As.)

Occurrence: Cultivated as vegetable/grows as wild.

Coll. No. J Sarma/261 Coll. Date: 6.2.2016

Locality: Garo Gaon

Hibiscus surattensis L., Sp. Pl. 696.1753; Hook. f, Fl. Brit. Ind. 1: 334. 1874; Kanjilal *et al.*, FA. 1. 144. 1934; Paul in Sharma *et al.*, Fl. India 3:327. 1993; Singh *et al.*, FM. 1: 234. 2002.

Small shrub, maximum up to 1.5 m high; stem armed with soft hairs. Leaves sub orbicular or ovate, lobes lanceolate, truncate; stipules foliaceous, dentate. Flowers axillary, solitary, pedicels 3-7 cm long; epicalyx segments consisting of a bristly stalk ; calyx campanulate; corolla yellow 3-5 cm long; ovary conical hairy. Capsule ovoid, covered with bristly white shiny hairs; seeds downy blackish brown.

Fl. & Fr.: September- February.

Occurrence: Uncommon.

Coll. No. J Sarma/273 Coll. Date: 7.2.2016

Locality: Smarna.

***Sida* L.**

Key to the species

1a. Leaves base obtuse

2a. Stipules longer than petiole ----- ***S. rhombifolia***

- 2b. Stipules shorter than petiole ----- *S. acuta*
 1b. Leaves base cordate -----*S. cordifolia*

Sida acuta Burm f., Fl. indica 147. 1768, emend. K. Schum. in C. Maritus, Fl. Bras. 2.3:326. 1891; Roxb., Fl.ind. 3:171. 1832; Wight & Am., Prodr. fl. Ind. orient.57. 1834; Chowdhury *et al.*, Ass. Fl. 194. 2005.

An undershrub; branches minutely stellate pubescent. Leaves oblong lanceolate or elliptic, basally 3-5 nerved, glabrescent, base obtuse, margin serrate, apex acuminate; stipules different in each pair. Flowers solitary, sometimes in a cluster. Calyx lobes 5, triangular, acuminate. Petals 5, pale yellow, obliquely ovate, emarginate, ciliate at base. Staminal column hispid. Ovary ovoid, 6 celled. Fruit a schizocarp.

Fir. & Fr.: Whole year

Occurrence: commonly found at roadsides

Vern. name: Sonborial (As.)

Coll. No. J Sarma/322 Coll. Date: 13.9.2014

Locality: Singri Hill RF

Sida cordifolia L., Sp. PL 684. 1753; Wight & Am., Prodr. fl. Ind. orient. 58. 1834; Roxb., Fl. ind. 3: 177; Hook, f., Fl. Brit. Ind. 1:324. 1874; Gamble, Fl. Madras 1: 89(64). 1915. Matthew, the Fl. Tam. Car. 1: 128. 1981; Chowdhury *et al.*, Ass. Fl. 194.2005.

Small shrub; branchlets tomentose, intermingled with long simple hairs. Leaves cordate or ovate, chartaceous, tomentose, base sub.

Cordate or rounded, margin serrate- crenate, apex acute-obtuse. Flowers single or sometimes in lax racemes. Calyx tube up to 5 mm, tomentose; lobes 5, ovate, 2 mm. Petals 5, yellow with a pink throat, oblique-rhomboid, ciliate at base. Staminal column about 4 mm, tomentose. Ovary spherical 10-celled. Schizocarp trigonous.

Fl. & Fr.: Whole year

Occurrence: commonly found at roadsides, waste lands.

Vern. name: Sonborial (As.)

Coll. No. J Sarma/601 Coll. Date: 22.10.2016

Locality: Charduar

Sida rhombifolia L., Sp. Pl. 684. 1753; Hook f., FL. BRIT. IND.. 1:323. 1874; Kanjilal *et al*, FA. 1:140. 1934; Deb, FTS. 1:301. 1981; Balakr. Fl. Jcwai 1: 97.1981; Haridasan & Rao, For. Fl. Meghalaya 1: 132. 1985; Paul in Sharma *et al*, Fl. India 3 :289. 1993.

Perennial herb; stems, petioles, pedicels covered with stellate hairs. Leaves ovate- blong, more orless rhomboid, entire towards base, serrate towards apex; stipules filiform hairy. Flowers axillary, solitary; corolla yellow to pale orange. Capsules flattened.

Fl. & Fr.: Whole year

Occurrence: Common.

Vern. name: Sonborial (As.)

Coll. No. J Sarma/202 Coll. Date:2.5.2016

Locality: Porowa

Urena L.

Urena lobata L., Sp.Pl. 692. 1753; Hook.f., FL. BRIT. IND.. 1: 329. 1874; Kanjilal *et al.*, FA. 1:141. 1934; Balakr. FI. Jowai 1: 96.1981; Haridasan & Rao, For. FI. Meghalaya 1:137. 1985; Paul in Sharma *et al.*, FI. India 3: 380. 1993 .

An undershrub upto 5 cm tall. Leaves very variable in shape, serrate at margins, hairy both surfaces; petioles 1-5 cm long; stipules lanceolate. Flowers pink with a darker centre; petals 5, tomentose outside; stamina tube cylindric. Schizocarp 5-7 mm across.

Fl. & Fr.: June - December.

Occurrence: Common.

Vern. name: Sokamora (As.)

Coll. No. J Sarma/397 Coll. Date: 23.4.206

Locality: Balipara

PLATE 4D

BOMBACACEAE Kunth

Malvac., Buttner., Tiliac. 5. 1822.

India: 3 genera and 3 species; 1 genus and 1 species

Bombax L.

Bombax ceiba L., Sp. Pl. 511. 1753; Robyns in Taxon 10: 160. 1961 & in Bull. Jard. Bot. Brux. 83:88, t. 3 1963. *B. malabaricum* DC., Prodr. 1:479.1824; Hook. f, Fl. Brit. Ind. 1:349. 1874; Nayar & Biswas in Sharma *et al.*, FI. India 3:398.1993; Kanjilal *et al.*, FA. 1:147. 1934.

A deciduous, tall tree-, branches horizontal, whorled, sharply prickled. Leaves 5-7-foliolate, 11-14 cm; leaflets elliptic, lanceolate or oblong, glabrous, 10-12 nerved; base euneate, subacute, margin entire, apex acuminate, or acute. Flowers 6-8 cm long, 10-15 cm across on leafless branches, solitary or paired or in clusters. Calyx tube copular or campanulate, glabrescent. Petals 5, blood red or light yellow, oblong or obovate, stellate pubescent without, puberulous within, rotund - obtuse. Receptacle 1.5 mm, glandular. Stamens I 4 whorls; two outer whorls 5- fascicled, with ca. 30 and 20 stamens; inner whorl longest, with 10 stamens; innermost with 5 stamens. Ovary ovoid, to 1x0.5 cm, 5 celled; ovules many per cell; style to 6 cm, glabrescent; stigma 5- lobulate. Capsule oblong, 5-valvular; seeds pyriform embedded within white silky fibres.

Fl. & Fr.: February – June.

Occurrence: Common in road side.

Vern. name: Simolu (As.)

Coll. No. J Sarma/399

Coll. Date:23.4.2016

Locality: Balipara

PLATE 4E

STERCULIACEAE Vent.

Parad. Lond. sub t. 69. 1807.

India: 19 genera and 68 species; Study area: 3 genera and 4 species

Key to the genera

1a. Flower unisexual

2a. Ovules 2 per cell:

2b. Ovules many per cell

----- *Sterculia*

1b. Flowers bisexual

3a Seeds not winged. Shrub ----- ***Abroma***

3b. Seeds winged. Tree ----- ***Pterospermum***

Abroma Jacq

Abroma augusta (L.) L.f., Suppl. Pl. 314. 1871; Hook. F., Fl. Brit. Ind. 1 : 375. 1874. *Theobroma augusta* L., Syst. Nat. ed. 12:233. 1770; Kanjilal *et al.*, FA. 1:156.1934; Deb, FTS. 1. 248. 981; Balakr. Fl. Jowai 1 : 102. 1981.

A big shrub; branches downy. Leaves ovate - lanceolate, ovate - oblong, acute or acuminate at apex, glabrescent above, repand - denticulate, tomentose beneath. Flowers leaf opposed, axillary peduncled. Capsules 3.5 - 4.5x 5.5-6.5 cm across, obpyramidal, 5 angled, truncate at apex, 5 valved. Seeds many.

Fl. & Fr.: May - February

Occurrence: Not very common.

Vern. name: *Bonkopahi/ Ulatkombal* (As.)

Coll. No. J Sarma/649 Coll. Date:11.11.17

Locality: Sengalimora

Pterospermum Schreber

Pterospermum acerifolium Wild., Sp. Pl. 3:729. 1801; Masters in Hook, f., Fl. Brit. Ind. 1:368. 1874; Kanjilal *et al.*, FA 1:157.1934; Chowdhury *et al.*, Ass. FL 195. 2005.

An evergreen tree with stellate-tomentose young parts. Leaves 15-30 x 12-26 cm, vary variable in size and shape, somewhat obliquely

obovate or orbicular, often lobed, entire or remotely toothed, glabrous and deep green above, grey or brownish tomentose beneath, petiole 8-24 cm, striate. Flowers solitary, fragrant; bracteoles multifid, deciduous. Calyx segments linear, very fleshy, brown tomentose outside, tufted villous along the middle. Petals a little shorter than the sepals, linear, white, and thin. Filaments filiform, glabrous, with a staminode, all forming a tube; anthers 1 cm. Ovary oblong, obscurely 5 angled; style simple, stigma club shaped, stillate tomentose towards the base. Capsule 5-celled, 5-angled. Seeds in two rows, rhomboid, compressed with a shining wing.

Fl.: April- June & Fr.: December- March.

Vern. name: Hatipoila, Mota-morulua (As.)

Occurrence: Not very common.

Coll. No. J Sarma/754 Coll. Date: 13.8.17

Locality: Nameri NP

PLATE 4F

***Sterculia* L.**

Key to the species

1a. Leaves simple, palmately lobed . Panicle short stiff

----- ***S. villosa***

1b. Leaves simple, usually not lobed. Panicle long ,drooping

----- ***S. coccinea***

Sterculia villosa Roxb. [Hort. Beng. 50. 1814, *nom. nud.*] ex Smith in Rees, Cycl. 34 : 16.1816; Roxb., Fl. Ind. 3:153.1832; Hook, f., Fl.Brit. Ind. 1:355.1874; Kanjilal *et al.*, FA. 1: 151. 1934; Haridasan & Rao,

For. Fl. Meghalaya 1 : 151. 1985; Malick in Sharma *et al.*, Fl. India 3 : 472. 1993.

A moderate sized deciduous tree. Bark grey outside, light red inside. Young parts, petiole, inflorescence brown tomentose with stellate and spreading hairs intermixed. Leaves crowded at the apex of the branchlets, simple, deeply 5-7 lobed, large, tender leaves light red; lobes oblong or ovate acuminate, glabrescent or covered with scattered stellate hairs above, tomentose beneath; petiole long, minutely tomentose; stipules lanceolate, acuminate, caducous. Flowers pale yellow, in crowded drooping panicles from the end of the shoots; male flowers more than females. Calyx campanulate, membranous, lobes short, acute, erect. Male flowers: staminal column with 10 anthers. Female flowers: ovary globose, stellately hairy, stamodes in a ring beneath the ovary. Follicles 2-5, reddish brown and tomentose outside, Seeds oblong, oily, with a shining black aril.

Fl.: March-April & Fr.: April-June.

Vern. name: Odal (As.)

Occurrence: Common.

Coll. No. J Sarma/756

Coll. Date: 13.8.17

Locality: Nameri NP

PLATE 5C

Sterculia coccinea Roxb. Hor. Beng. 50. 1814; Hook, f., Fl. Brit. Ind. 1:357.1874; Kanjilal *et al.*, FA. 1: 153. 1934; Roxb., Fl. Ind. 3:151.1832.

A shrub or small tree. Bark grey, green below. Leaves 4-12, oblanceolate, abruptly short, often bluntly; lateral nerve ca.12 either side of the strong mid rib. Panicles axillary or rarely supra-axillary with long peduncle. Flowers pale. Calyx tube very short,lobes very narrow, patently white hairy. Follicles scarlet, velvety outside, glabrous and bright red inside. Seeds ovoid, smooth.

Fl.: August-September & Fr.: April-May.

Vern. name: Nak sepeta (As.)

Occurrence: Not very Common.

Coll. No. J Sarma/ 473 Coll. Date: 14.5.2016

Locality: Sonai Rupai WLS

PLATE 5B

TILIACEAE Juss.

Gen. Pl. 289. 1789.

India: 8 genera and 53 species; Study area: 3 genera and 4 species

Key to the genera

1a. Trees or shrubs; fruit drupaceous

----- ***Grewia***

1b. Herbs or undershrubs; fruit capsular:

2a. Petals glandular at base; capsules prickly or bristly

----- ***Triumfetta***

2b. Petals not glandular; capsules unarmed

----- ***Corchorus***

Corchorus L.

Corchorus capsularis L., Sp. Pl. 529.1753; Roxb., Fl. ind. 2: 581, 1832; Wight & Am. Prodr., fl. Ind. orient. 73. 1834; Hook, f., Fl. Brit. Ind. 1:397.1874; Kanjilal *et al*, FA. 1:168. 1934; Matthew, FL Tam.

Car, 1: 158. 1981; Chowdhury *et al.*, Ass. Fl. 195. 2005.

A straight herb, branchlets glabrous. Leaves lanceolate, chartaceous, glabrous or pubescent along nerves, margin serrate, apex acuminate; stipules setaceous. Flowers ca. 8 mm across. Capsule subglobose, to 1 cm, not beaked, ridged, 5-valved; seeds smooth, ovoid, to 2 mm.

Occurrence: commonly cultivated during summer by farmers.

Vern. name: Mora pat (As.)

Coll. No. J Sarma/866

Coll. Date: 12.8.2017

Locality: Biswanath, Sotia

***Grewia* L.**

Key to the species

1a. Leaves softly tomentose; 5 nerved at base ----- ***G. asiatica***

1b. Leaves rough; 3 nerved at base ----- ***G. sapida***

Grewia asiatica L., Mant. Pl. 122. 1767; Masters in Fl. Brit. India 1: 386. 1874, excl. var. *vestita*. *G. subinaequalis* DC., Prodr. 1: 511. 1824; Dunn in Gamble Fl. Pres. Madras 18. 1915. *G. hainesiana* Hole in Ind. For. 43: 126. 1917.

A bushy shrub or small tree. Leaves broadly ovate or elliptic ovate, obscurely lobed, base rounded, acuminate or acute at apex, margins irregularly serrate; stipules subulate. Flowers in axillary, umbellate, 3-4 flowered cymes, 1.5 cm across, greenish brown. Drapes subglobose, 1 - 2 cm across, 2-4 lobed.

Fl. & Fr.: Whole year.

Occurrence: common in forests.

Coll. No. J Sarma/325 Coll. Date: 13.9.2014

Locality: Singri Hill RF

PLATE 5A

Grewia sapida Roxb., Fl ind. 2: 432. 1832; Praia, Bengal plants 1: 284. 1903; Kanjilal *et al.*, FA 1:164.1934; Chowdhury *et al.*, Ass. Fl. 196. 2005.

An horizontal undershrub. Leaves ovate, obovate, obovate-oblong or orbicular, usually doubly senate, sometimes lobed, apex rounded or broadly acute, pilose or scabrid above, softly pubescent beneath; base usually 5-nerved, oblique, petiole grey-shaggy, stipules subulate. Flowers yellow; peduncle 1.5-5.5 in each leaf-axil, hairy. Sepals reddish brown inside, oblong or oblanceolate. Petals yellow, elliptic, entire. Drupe obscurely lobed, hirsute.

Fl.: May-August & Fr.: November-February.

Occurrence: Common

Vern. name: Phuhura / Phubura (As.)

Coll. No. J Sarma/867 Coll. Date: 12.8.2017

Locality: Biswanath, Sotia

***Triumfetta* L.**

Triumfetta rhomboidea Jacq., Enum. syst pi. 22.1760; Hook, f., Fl. Brit. Ind. 1:395. 1874; Prain, Bengal plants 1: 285. 1903; Kanjilal *et al.*, 1: 168. 1934; Matthew, Fl. Tam. Car. 1: 176.1983; Chowdhury *et*

al., Ass. Fl. 196. 2005.

Herbaceous, branchlets stellate-pubescent. Lower leaves palmately lobed, upper ones rhomboid, chartaceous, stellatepubescent, base cuneate or truncate, margin 2-serrate, apex acuminate or acute; petiole to 5 cm, stipulate. Cymes leaf-opposed, bract linear. Flower terminal cyme. Sepals 5, oblong. Petals 5, yellow, obovate-oblong. Stamens 10-15, to 4 mm. Ovary spherical, 4-celled; stigma 2-4-fid. Capsule stellate-tomentose; seed 1 per cell.

Fl.: September – November & Fr: Whole year.

Occurrence: Common .

Vern. name: Soru agra (As.)

Coll. No. J Sarma/868

Coll. Date: 12.8.2017

Locality: Biswanath, Sotia

ELAEOCARPACEAE Juss.

Essai Propr. Méd. Pl. 87.1816

India: 3 genera and 33 species; Study area: 1genera and 2 species

Key to the species

1a. Leaves oblong-lanceolate to elliptic, minutely crenate serrate, petioles continuous. Drupe globose ----- ***E. sphaericus***

1b. Leaves ovate-elliptic; coarsely repand-serrate, petioles geniculate and swollen at apex. Drape elongated ---- ***E. floribundus***

Elaeocarpus floribundus Blume, Bijdr. 120.1825; Hook. f, Fl. Brit. Ind. 1:401.1874; Kanjilal *et al.*, FA. 1:173. 1934; Balakr. Fl. Jowai 1 : 106. 1981; Haridasan & Rao, For. Fl. Meghalaya 1:167.1985.

Tree, buds silky. Leaves ovate elliptic, bluntly acuminate, coarsely repandserrate, subcoriaceous, glabrous, blistered on both surfaces when dry, turning bright red before falling. Racemes 10- 16 cm long, from axills of fallen leaves; rachis minutely puberulous-glabrescent. Flowers white, 0.7 cm across. Sepals lanceolate, blistered outside when dry, scarcely keeled inside, thickened and tomentose at the margins. Petals 5, as long as the sepals, irregularly lacinate to varying depths into about 20- 40 filiform processes. Stamens 20-25, filaments very slender, anthers slender, slightly longer than the filaments. Fruit drupe, oblong, smooth, flesh slightly acidic; stone 3-celled .

Fl.: May - August & Fr: November- January.

Occurrence: Common/cultivated .

Vern. name: Jolfai (As.)

Uses : Used as timber & treated as holy plant in hindu religion

Coll. No. J Sarma/586 Coll. Date: 23.8.2016

Locality: Charduar

Elaeocarpus sphaericus (Gaertn.) K. Schum. in Pfamilien. 3(6):5. 1890; *Ganitrus sphericus* Gaertn., Fruct. 2:271. Pl. 139, 6. 1791; Prain, Bengal plants; Comer in GBS 10: 326. 1939; Merrill in JAA 32:196.1951; *Elaeocarpus ganitrus* Roxb. ex G. Don, Gen. Syst. 1:559. 1831; Roxb., Fl. ind. 1:433. 1832; Masters in Fl. Brit. Ind. 1:40. 1872; Kanjilal *et al.*, FA 1: 172. 1934; Chowdhury *et al.*, Ass. Fl. 197.2005.

Tree, young parts silky puberulous, bark of the trunk grayish brown with white blotches. Leaves oblonglanceolate or sometimes elliptic, acute or acuminate, minutely crenate serrate, almost glabrous, base

acute; petiole ca. 2 cm long. Inflorescence racemes, ca. 7cm long, often drooping, from axils of fallen leaves. Flowers white, nodding, silky. Sepals 0.5- 0.6 cm long, linear-lanceolate, acuminate, silky canescent outside. Petals cuneate-oblong, pubescent along the margins near the base. Stamens many, filaments very short, one anther lobe is slightly larger than the other and bear fine white bristles at the apex, torus pubescent, wrinkled. Ovary normally 5-celled, silky villous. Fruit a drupe, globose, deep blue and outside succulent when fully ripe; stone normally 5-celled, strongly tubercled and marked with longitudinal furrows and ridges.

Fl: May- June & Fr.: November - December.

Occurrence: Rare/ cultivated.

Vern. name: Rudrakhsa (As.)

Uses: Treated as holy plant in hindu religion

Coll. No. J Sarma/469 Coll. Date: 23.7.2016

Locality: Khonamukh

OXALIDACEAE R. Br.

Narr. Exped. Zaire 433. 1818.

India: 2 genera and 12 species; Study area: 1 genus and 2 species

***Oxalis* L.**

Key to the species

- 1a. Diffuse herb with stem. Leaves cauline ----- ***O. corniculata***
1b. stem less herb. Leaves redical ----- ***O. debilis***

Oxalis corniculata L., Sp. Pl. 435.1753; Hook, f., Fl. Brit. Ind. 1:436. 1874; Deb, FTS. 1: 306. 1981; Balakr. Fl. Jowai, 1:109. 1981; Manna in FL. India 4 : 242. 1997.

Diffuse herb, runner, branchlets creeping. Leaves palmately trifoliate on long petioles, ob. cordate, cuneate at base, emerginate at apex; stipules adnate to long petioles. Flowers sub-umbellate, 1-4 flowered on peduncles, axillary; sepals & petals imbricate, double the length of sepals. Capsules cylindrical, 5- valved; valves cohering to the axis.

Fl. & Fr.: February-December.

Occurrence: Very common in open fields.

Vern. name: Tengeshi (As.)

Uses: Eaten as vegetable

Coll. No. J Sarma/ 192 Coll. Date: 22.5.2015

Locality: Sonabheel

Oxalis debilis H. B. K. var. ***corymbosa*** (DC.) Lour, in AMBG 67:840.1980; Chowdhury *et al.*, Ass. Fl. 198. 2005. *Oxalis corymbosa* DC., Prodr. 1:696.1824; Fyson, Fl. s. Ind. hill stat. 75.1932; Veldk. in Steenis, Fl Males. 1.7:159.1971.

Good looking weeds of shady places. Bulb conical. Leaves digitately 3- foliate, leaflets 3 – 4 x 2 - 3 cm, chartaceous, pilose, base cuneate, margin entire, apex emerginate; petiole up to 22 cm. Flowers rose, striate.

Fl.: January to April & Fr.: Whole year.

Occurrence: Common.

Vern. name: Bor tengesi sak (As)

Coll. No. J Sarma/219 Coll. Date: 10.7.2016

Locality: Naduar

PLATE 5D

AVERRHOACEAE Hutch.

Fam. Fl. Pl., Dicot. (ed. 2) 356. 1959.

India: 2 species ; Study area : 1 species recorded.

Averrhoa L.

Averrhoa carambola L., Sp. PL 428. 1753; Roxb., Fl. ind. 2: 450. 1832; Wight. & Am. Prodr., fl. Ind. orient. 141. 1834; Hook, f., Fl. Brit. Ind. 1: 439.1874; Gamble, Fl. Madras 1: 33(95). 1915; Kanjilal *et al.*, FA. 1: 192. 1934; Matthew, Fl. Tam. Car. 1:193.1983; Chowdhury *et al.*, Ass. Fl. 198. 2005.

Medium sized tree, bark rusty brown. Leaves with 5-11 leaflets, alternate to sub-opposite, rhomboid- lanceolate, acuminate, membranous, glabrous brown, pubescent along the midrib and nerves beneath; petioles ca. 0.5 cm long; rachis pubescent. Flowers purplish; sepals half the length of petals, ovary pubescent. Fruits 5-ribbed, yellow when ripe, acidic; seeds arillate.

Fl.: May- August & Fr.- March onwards. Sometimes Fl. & Fr. found
Whole year.

Occurrence: Common.

Vern. name: Kordoi (As.)

Uses: Fruit eaten

Coll. No. J Sarma/488 Coll. Date: 6.8.2016

Locality: Balipukhuri

BALSAMINACEAE A. Rich.

Dict. Class. Hist. Nat. 173. 1822.

India: 2 genera and 203 species; Study area: 1 genus and 1 species

Impatiens L.

Impatiens balsamina L., Sp. Pl. 938. 1753; Wight & Am. Prodr., fl. Ind. orient. 135.1834; Hook, f., Fl. Brit. Ind. 1:453. 1874; Matthew, Fl. Tam. Car. 1:195. 1983; B. D. Sharma (edt.) FI 2:123.1993; Chowdhury *et al.*, Ass. Fl. 198. 2005.

Succulent herb; branchlets glabrescent. Leaves alternate, linear-lanceolate or elliptic, 4- 6 x 1-3 cm, chartaceous, sparsely pubescent, margin serrate, apex acuminate; petiole c. 5 mm; pedicel 1-2 cm. Sepals in two rows- lateral oblong or lanceolate, 3 mm; lower sepal 9x6 mm; spur 3 cm, curved. Petals rose; lateral united petals 1.5- 2x1- 1.5 c. Stamens 5; filaments 3 mm; anthers 1mm. Ovary 5-celed; style 1 mm. capsule oblong or ellipsoid; seeds ovoid, 2 mm, tubercled.

Fl. & Fr.: March - September.

Occurrence: Common in wastelands/ low lands.

Vern. name: Demdeuka (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/521

Coll. Date: 17.9.2016

Locality: Pithakhowa

RUTACEAE Juss.

Gen. Pl. 296. 1789.

India: 27 genera and 33 species; Study area: 6 genera and 10 species

Key to the genera

- 1a. Flower usually polygamous ----- **Zanthoxylum**
- 1b. Flower generally bisexual
 - 2a. Plants Unarmed
 - 3a. Leaves 1-5, rarely 7 –foliate. style persistent
----- **Glycosmis**
 - 3b. Leaves imperipinate. Style deciduous usually joined to the top of the ovary:
 - 4a. Petals imbricate. Ovary linear 2 celled -- **Murraya**
 - 4b. Petals valvate. Ovary 4-5 celled ---- **Micromelum**
 - 2b Plants mostly armed
 - 5a. Petioles winged; leaves 1 - foliate ---- **Citrus**
 - 5b. Petioles not winged; leaves 3-5 foliate --- **Aegle**

Aegle Corr.

Aegle marmelos (L.) Corr. in Trans. Linn. Soc. 5 : 223. 1880; Hook. f, Fl. Brit. Ind. 1 : 516. 1875; Kanjilal *et al.*, FA. 1:215. 1936; Rao *et Rabba*, BOBSI. 8 :299. 1996; Deb, Fl. Trip. St. 1: 434, 1981; Nair & Nayar in Hajra *et al.*, Fl. India 4 : 264. 1997; Singh *et al.*, FM. 1: 299. 2002; Matthew, Fl. Tam. Car. 1: 199. 1983; Chowdhury *et al.*, Ass. Fl. 109, 2005.

Medium sized, armed, deciduous tree; branches ascending. Leaves pinnately tri foliate, petioles ca. 2 cm long, pubescent; leaflets sessile, ovate lanceolate, acuminate, glabrous. Flowers yellowish-

white, regular, bisexual, fragrant; calyx 5- lobed, deciduous ; petals 4-5, imbricate with oily glands; stamens 30-60; ovary 8-15 celled, biseriate. Berries globose, large, pulp sweet, thick, orange coloured with adhesive clear mucus; seeds compressed.

Fl.: March – May & Fr.: March – June

Occurrence: Common.

Vern. name: Bel (As.)

Uses: Fruits eaten directly, the plant is treated as holy in hindu religion

Coll. No. J Sarma/493 Coll. Date: 13.8.2016

Locality: Sonabheel

***Citrus* L.**

Key to the species :

1a. Petiole not or narrowly winged

2a. Petiolar wings ob. Date; fruits 10-20 cm across

----- ***C. maxima***

2b. petiolar wings oblong - obovate; fruits 8 cm across

----- ***C. medica***

1b. Petiole broadly winged

3a. Bushy shrub ----- ***C. aurantifolia***

3b. Often a big tree ----- ***C. hystrix***

Citrus aurantifolia (Christm. & Panz.) Swingle in Jour. Wash. Acad. Sci. 3 :465. 1913; Nair &Nayar in Hajra *et al.*, Fl. India 4:278. 1997. *C. acida* Roxb., FL, India 3 : 390. 1832. *C. medica* L. var. *acida* (Roxb.) Hook, fi, Fl. Brit. Ind.. 1: 515. 1875. *Kajinemu* (As.)

Small bushy shrub; branchlets slim, angular when young, with sharp spines. Leaves elliptic - oval, glabrous, gland dotted, obtusely acute at apex, crenate along margins. Inflorescence axillary racemes, 2-7 flowered; flowers whitish in buds; calyx cupulate, acute, glandular; petals oblong, acute; stamens 20 - 28, anthers yellowish; ovary depressed globose. Fruit oblong, ovoid or sub-globose, smooth, pitted, glandular, glossy; seeds ovoid.

Fl. & Fr.: Whole year.

Occurrence: Common.

Vern. name: Kajinemu (As.)

Coll. No. J Sarma/501 Coll. Date: 17.9.2016

Locality: Thelamara

Citrus hystrix DC. Cat. Pl. Horti Monsp. 19, 97. 1813; Hook. f, Fl. Brit. Ind. 1 : 515. 1875; Kanjilal *et al.*, FA. 1:214. 1936.

A medium sized tree; stems sometime fluted at base; branchlets compressed and angled. Bark grey or black very thin. Leaflets ovate elliptic or lanceolate on petioles which are winged. Flower white or light purplish, axillary, solitary or in a short cyme. Calyx small with deltoid teeth. Petal 4, obovate or oblanceolate. Stamens 20-25, filaments free, stout, glabrous. Ovary globose, glabrous. Fruit 15-20 celled, rugose outside with large oil glands; juice very acidic.

Fl.: March - May & Fr.: September- November.

Occurrence: Not very Common.

Coll. No. J Sarma/757 Coll. Date: 13.8.17

Locality: Nameri NP

Citrus maxima (Burn.) Merr. Interpr. Herb. Amboin. 46. 1917; Scora & Nicolson in Taxon 35:592.1986. *Aurantium maximum* Burm. in Rumph. Herb. Amboin. 16. 1755. *Citrus aurantium* L. var. *documama* L., Sp. Pl. ed. 2,2 : 1101. 1763, nom. illeg. *C. documana* Syst.ed.12 : 508.1767; Hook. f, Fl. Brit. Ind. 1 : 516. 1875; Kanjilal *et al.*, FA .1 :215. 1936.

Well-known small armed tree, spines slender not so sharp, young parts pubescent. Leaflets 5-15 x 2.5- 6 cm, oblong or ovate-oblong, crenate, pubescent along the midrib beneath; petiole broadly winged, obovate or oblanceolate in shape. Flowers white, sweet scented. Stamens ca. 25; style short, stigma capitate. Fruit 15- 20 cm in diameter, globose or broadly pyriform, yellow when ripe; vesicles of pulp large, loose, fluid sour, rind thick, spongy, white inside.

Fl. & Fr.: Whole year.

Occurrence: Common.

Vern. name: Rabab tenga (As.)

Coll. No. J Sarma/856 Coll. Date: 25.12.2016

Locality: Goroimari

Citrus medica L., Sp. PL 782. 1753. Hook, f, Fl. Brit. Ind. Fl. Brit. Ind. 1:515. 1875; Gamble, Fl. Madras1:161(115). 1915; Kanjilal *et al.*, FA. 1: 213. 1934; Matthew, Fl. Tam. Car. 1: 202.1983.

A small bushy shrub; spines erect, axillary, upto 3 cm long, wingless or slightly winged or flat; leafblades elliptic ovate or oblong

lanceolate, 5 - 12x2.5 cm, base narrowed or cuneate, obtuse at apex, crenate serrate along margins, glabrous. Inflorescence axillary, solitary racemes. Flowers sweet scented, 15-18 mm across, pink or purplish white; calyx 4-5 lobed, truncate; petals oblanceolate. Fruits ovoid - oblong, yellow when ripe; seeds smooth.

Fl. & Fr.: Whole year.

Occurrence: Common.

Vern. name: Jora Tenga (As.)

Coll. No. J Sarma/502 Coll. Date: 17.9.216

Locality: Thelamara

Glycosmis Correa

Glycosmis angustifolia Lindl. ex Wright & Am. Prodr. 1 : 93.1834; Nair & Nayar in Hajra *et al.*, Fl. India 4 : 333. 1997. *G. arborea* (Roxb.) DC., Prodr. 1: 538. 1824; Deb, FTS. :438. 1981; Haridason & Rao, For. Fl. Meghalaya 1:184.1985; *G. pentaphylla* (Retz.) DC., Prodr. 1 : 538. 1824; Singh *et al.*, FM. 1 : 312. 2002. *G. pentaphylla*, auct. non DC., 1824; Hook, f., Fl. Brit. Ind. 1 : 449. 1875; Kanjilal *et al.*, FA. 1 : 205. 1936.

Evergreen bushy shrubs. Leaves imparipinnate, 3-5 foliate; leaflets ovate lanceolate, short acuminate, crenulate, chartaceous, 5.0 - 14.0x2.5 - 5.5 cm; petiolules 0.5 cm long. Flowers regular bisexual, pentamerous. Sepals ovate-rotund, margins ciliate. Petals obovate-elliptic, glandular. Stamens glabrous; 3 -4 mm, usually with a dorsal gland at the connective. Ovary 2-2.5 mm, 5-celled, style indistinct, stigma flat. Berries sub-globose, whitish, 1- seeded.

Fl. & Fr.: November - February.

Occurrence: Common in wild.

Vern. name: Hengena poka (As.)

Coll. No. J Sarma/659 Coll. Date:12.11.17

Locality: Sengalijan

***Micromelum* Bl.**

Micromelum minutum (Forst f.) Wt. *et* A. Prodr. 1: 448. 1834; Jain *et* Hajra BBS! 17:81,1975; Chowdhury *et al.*, Ass. Fl. 199. 2005. *Limonia minuta* Forstf., Fl. Ind. Austr. Prodr. 33, 1784. *Micromelum pubescens* Bl., Bijdr. 128, 1825; Hook. f., Fl. Brit. Ind. 1: 501.1875; Kanjilal *et al.*, FA. 1:208.1934.

Handsome small tree with thin rough bark. *Leaves* compound, 20- 50 cm long, rachis terete, pubescent; leaflets 7-15, alternate, obliquely ovate-lanceolate, thinly coriaceous, glabrous above, tomentose or pubescent beneath. Flower dull white, strong scented in corymbosely decomposed panicle of tomentose cyme; Calyx truncate with white triangular lobe; Petals 5, valvate, oblong; stamens 10, alternately long and short, ovary usually 5 celled. Fruit a dry berry.

Fl.: December- February & Fr.: March - April.

Occurrence: Common in wild.

Vern. name: Podra guti/Hila guti/Gobor huti/Sagl ladi (As.)

Coll. No. J Sarma/ 471 Coll. Date:14.5.2016

Locality: Sonai Rupai WLS

PLATE 5E

Murraya Koen. ex L.

Key to the species

1a. An evergreen shrub or small tree. Leaflets 3-9. Ripe fruit red

----- ***M. paniculata***

1b. A deciduous shrub. Leaflets 9-25. Ripe fruit black

----- ***M. koenigii***

Murraya koenigii (L.) Spreng., Syst. Veg. 2 : 315. 1926; Hook, f., Fl. Brit. Ind. 1 : 503. 1875. *Bergera koenigii* L., Mant. Pl. Alt. 563. 1771.; Kanjilal *et al.*, FA. 1: 208. 1936. Nair & Nayar in Hajra *et al.*, Fl. India 4 : 351. 1997.

A deciduous shrub, odorous, branchlets lenticelled, pubescent. Leaves imparipinnate, rachis pubescent; leaflets 9-25, alternate, obliquely ovate lanceolate, acuminate, crenate serrate, pubescent beneath; petiolules very short. Flowers white in terminal corymbose cymes panicles; sepals small, acute, 5 - lobed, triangular, pubescent; petals 5, oblong, valvate; stamens 10, filaments subulate. Fruits apiculate, 2- seeded, black when ripe.

Fl. & Fr.: February – May

Occurrence: Common in households.

Vern. name: Narasingha (As.)

Uses: Leaves eaten

Coll. No. J Sarma/522 Coll. Date: 19.7.2016

Locality: Dharikati

Murraya paniculata (L.) Jack., Malay. Misc. 1 : 31. 1820. *Chalcas paniculata* L., Mant. Pl. 68. 1767. *M. exotica* L., Mant. Pl. Alt. 563.

1771 (Murraea); Deb, FTS. 1 : 440. 1981; Balakr. Fl. Jowai 1 :120. 1981; Nair & Nayar in Hajra *et al.*, Fl. India 4 : 352. 1997; Singh *et al.*, FM. 1: 314. 2002 ; Hook. f., Fl. Brit. Ind. 1 : 502. 1875; Kanjilal *et al.*, FA. 1 : 207. 1936.

Very handsome shrub or small tree, bark corky outside. Leaf rachis glabrate; leaflets obliquely rhomboid, few, bluntly acuminate with notched tip, symmetrical, dark green, shining above. Flower dull white, few per inflorescence, milky white, sweet scented, sepals minute, acute pubescent, petals oblong lanceolate, ovary linear 2 celled. Fruit berries, deep orange when ripe.

Fl. & Fr.: September- November.

Occurrence: Common in households/cultivated.

Vern. name: Kaminiphul (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/651 Coll. Date:20.8.2017

Locality: Beseria

***Zanthoxylum* L.**

Zanthoxylum oxyphyllum Edgw. Trans. Linn. Soc. London 20(1): 42-43, 1886; Kanjilal *et al.*, FA. 1 : 201. 1936.

First a slender erect shrub then scrambling on trees, very aromatic, glabrous, prickles generally hooked. Leaves rachis armed with prickles beneath. Leaflets strongly aromatic, variable in size and shape, opposite and alternate. Flowers 4 merous; pedicel slender. Petals obtuse imbricate, ripe carpels 2-4.

Fl.: April- May & Fr.: September- November.

Occurrence: Not very common.

Vern. name: Mezenga/ Jabrang(As.)

Uses: Leaves eaten

Coll. No. J Sarma/755 Coll. Date: 13.8.17

Locality: Nameri NP

MELIACEAE Juss.

Gen. Pl. 263. 1789.

India: 19 genera and 70 species; Study area: 5 genera and 5 species

Key to the genera

1a. Ovules many per cell; seeds winged:

2a. Filaments connate into a cylindrical tube; Capsule 3 celled

-----***Chukrassia***

2b. Filaments free; Capsule 5 celled

-----***Toona***

1b. Ovules 1-2 in each cell; seeds not winged:

3a. Fruit drupaceous; leaflets serrated:

4a. Leaves pinnate

----- ***Azadirachta***

4b. Leaves 2-3 pinnate

-----***Melia***

3b. Fruit capsular; leaflets entire

----- ***Dysoxylum***

Azadirachta A. H. L. Jussieu

Azadirachta indica A. Juss., Mem. Mus. Hist. Nat. 19:221. t. 2. f. 5. 1832; Wight & Am. Prdr. Fl. Ind. orient.118. 1834; Wight, Icon. pi. Ind. orient, t.17. 1838; Matthew, Fl. Tam. Car. 1: 234.1983; Chowdhury *et al.* Ass. Fl. 201.2005. ***Melia azadirachta*** L. Sp. Pl. 385. 1753; Roxb. Fl. ind. 2: 394. 1832; Hook. f. Fl. Brit. Ind. 1:544.1875.

A big semi-evergreen Tree. Leaves odd- or even pinnate; leaflets 5- 7 pairs, subopposite, oblong-lanceolate, falcate, inequilateral, subcoriaceous, base oblique, margin serrate, apex acuminate; petiole petiolule 2 mm. panicles axillary, bracteole scaly. Flowers pentamerous, bisexual. Calyx-lobes 5, ovate, connate at base. Petals 5, white, free, longobovate, 5x1.5 mm, attenuate at base, imbricate. Disc absent. Stamens 10, anthers slightly exerted, opposite to lobes. Ovary tri-celled; ovules 2 per cell, collateral; style to 3 mm; stigma terete, 3-lobed. Drupe oblong-ovoid; seed one, ellipsoid.

Fl.: March – April & Fr.: April- June.

Occurrence: Very common.

Vern. name: Mohaneem(As.)

Uses : Used as timber

Coll. No. J Sarma/962 Coll. Date: 9.11.2016

Locality: Beseria

Chukrasia A.H.L. Jussieu

Chukrasia tabularis Adr. Juss., Bull. Sci. Nat. Geol. 23: 241. 1830; Wight & Am. Prodr., fl. Ind. orient. 123. 1834; Wight, Hb. Ind. Bot. t. 56. 1840; Hook. f, Fl. Brit. Ind. 1: 568. 1875; Gamble, Fl. Madras 1:186 (133). 1915; Chowdhury *et al.*, Ass. Fl. 201.2005. *Chickrassia tabularis* Kanjilal *et al.*, FA 1:241.1934.

A semi-evergreen giant tree with an extensive crown. Leaves even-pinnate; leaflets 5-pairs, sub-opposite, ovate-lanceolate, coriaceous, glabrous above, rusty below, margin entire, apex acuminate. Petiole to 5 cm, petiolule to 1 cm. Panicles terminal. Flowers 4- or 5-merous,

bisexual. Calyx lobes 5, ovate, pubescent. Petals 5, cream, oblong, obovate or spatulate, pubescent. Disc obscure. Staminal tube terete, with short crenate lobes. Stamens 10; anthers exerted, linear, to 2 mm. Ovary stipitate, ovoid, 4-celled, pubescent, ovules many per cell, 2-seriate. Seeds numerous, thin, broadly winged at base.

Fl. & Fr.: April -June.

Occurrence: not very common

Vern. name: Bogi poma (As.)

Uses : Used as timber

Coll. No. J Sarma/869 Coll. Date: 12.8.2017

Locality: Biswanath

***Dysoxylum* BL.**

Dysoxylum binectariferum (Roxb.) Hook, f., 1: 546. 1875; Praia, Bengal Plants 1: 315.1903; Kanjilal *et al.*, FA 1:232.1934; Chowdhury *et al.*, Ass. Fl. 201.2005.

A tree, young shoots minutely pubescent. Leaves 25- 35cm long, leaflets 6-8, alternate, obliquely ovate-oblong, sharply acuminate, entire or distantly toothed, glabrous, dark green. Flowers in panicles, dirty-white, minute, 4- merous. Calyx cup shaped. Petals valvate outside. Ovary with small hairs. Capsule globose, base narrow, smooth, pale-yellow at first but turning deep orange, 4-celled, 40 seeded; seeds shining purple with a large yellow hilum; aril white.

Fl.: April- May & Fr.: September- December.

Occurrence: Not very frequently.

Vern. name: Bandardima, Gendheli-Poma (As.)

Coll. No. J Sarma/756

Coll. Date: 13.8.17

Locality: Nameri NP

PLATE 6A

***Melia* L.**

Melia azedarach L., Sp. Pl. 384. 1753; Roxb., Fl. ind. 2:395. 1832; Wight & Am. Prodr., fl. Ind.orient.117.1834; Wight, Icon Pl. hid. orient. 1.201601839; Hook, f., Fl. Brit. Ind. 1; 544.1875; Kanjilal *et al.*, FA 1:228.1934 ; Matthew, Fl. Tam. Car. 1: 237.1983;Chowdhury *et al.*, Ass. Fl. 201.2005.

Usually a small deciduous tree. Bark blakish with close vertical fissures outside. Leaves 2- or 3- pinnate with 3-5 secondary rachis; leaflets up to 5 pairs, opposite, ovate-obovate or lanceolate, 4-6 x 1-4 cm, chartaceous, tomentose, base oblique, cuneate, margin serrate, apex acuminate; petiole to 14 cm; petiolule 1 cm. Panicles axillary. Flowers lilac blue in numerous axillary cyme. Petals 5, lanceolate - obovate, glabrescent, white tinged with purple. Staminal tube purple, 7 mm, puberulous, striate, 10-toothed. Stamens 10- 12; anthers not exserted. Ovary ovoid, 1 mm, 5- celled; ovules 2 per cell; style attenuate. Drupe oblong, seed 1.

Fl.: January – March & Fr.: Ripening by August.

Occurrence: Fairly common.

Vern. name: Ghora neem (As.)

Coll. No. J Sarma/885

Coll. Date: 27.7.2017

Locality: Nagsankar

Toona (Endlicher) M. J. Roemer

Toona ciliata Roemer, Fam. 1. Hesper. 139. 1846; Matthew, Fl. Tam. Car. 1: 240.1983; Chowdhury *et al.*, Ass. Fl. 201. 2005. *Cedrela toona* Roxb. ex Rottler, Ges. Naturf. Freunde Berlin Neue Schriften 4: 198. 1803; Wight & Am. Prodr., fl. Ind. orient. 124.1834; Wight, Icon. pi. Ind. orient, t. 161. 1839; Hook, f., Fl. Brit. Ind. 1: 568. 1875; Kanjilal *et al.*, FA. 1:242.1934.

A large handsome deciduous tree. Bark grey, pinkish red inside with sweet smell. Leaves even-pinnate, leaflets 6 - 9 pairs, subopposite, oblong lanceolate, thin coriaceous, glabrous, base oblique, cuneate, margin antiresubundulate, apex acuminate. Panicles terminal or axillary. Flowers white, sweet fragrant, penta-merous, bisexual. Calyx-lobes 5, ovate, ciliate. Petals 5, white, oblong, base attenuate, ciliate, imbricate. Disc thick, 5-lobed, pubescent Stamens 5, free, inserted on top of the disc; filaments subulate, anthers oblong, versatile. Ovary ovoid, pubescent, 5-celled; ovules 8 - 12 per cell, 2-seriate, pendulous; style short, stigma capitate. Capsule 3x1.5 cm, 5-valved; seeds tan brown, very light, winged at both ends.

Fl.: January – March & Fr.: February- November.

Occurrence: Fairly common.

Vern. name: Poma (As.)

Uses: Used as timber

Coll. No. J Sarma/625 Coll. Date:4.2.17

Locality: Behali RF

PLATE 5F

RHAMNACEAE Juss.

Gen. Pl. 376–377. 1789.

India: 3 genera and 29 species; Study area: 1 genus 2 species

Zizyphus Miller

Key to the species

- 1a. Flowers in fascicled; petals present ---- ***Z. mauritiana***
1b. Flowers in peduncled cymes; petals absent ----- ***Z. rugosa***

Zizyphus mauritiana Lam., Encycl. 3:319. 1789; Chowdhury *et al.*, Ass. Fl. 204. 2005. *Z. jujuba* (L.) Gaertner, Fruct. sem. pi. 1: 203. 1788, non Miller 1768; Roxb., Fl. ind. 1: 608. 1832; Hook, f., Fl. Brit. Ind. 1: 632. 1875; Kanjilal *et al.*, FA. 1: 279. 1934; Plain, Bengal plants 1:333.1903; Matthew, Fl. Tam. Car. 1:271.1983.

A small tree; branches spiny; young parts rusty tomentose; almost evergreen. Leaves very variable, obliquely elliptic ovate or sub-orbicular, sub-acute, entire or serrulate, glabrous above, rusty tomentose beneath, shining above; petioles 0.5 - 1.0 cm long, densely tomentose; prickles 1 or 2. Cyme axillary, sub sessile, greenish yellow; calyx lobes triangular, glabrous within; petals clawed; styles 2, united at the middle. Drupes globose or elipsoidal, orange yellow; stone 2 celled tubercled.

Fl.: September – November & Fr.: December- February.

Occurrence: Fairly common.

Vern. name: Bogori (As.)

Uses: Fruit eaten , fruit treated as holy in hindu religion

Coll. No. J Sarma/893

Coll. Date:28.7.2016

Locality: Kunderbari

Zizyphus rugosa Lamk., Encycl. 3:319. 1789 ; Hook, f., Fl. Brit. Ind. 1 : 636. 1875 ; Prain, Beng. Pl. 334. 1903; Kanjilal *et al.*, FA. 1 : 282. 1936 ; Rao *et Verma* in BOBSI 11 (3 & 4) : 407 (1969) 1972.

Small armed deciduous tree, young parts generally rusty tomentose, bark dark grey. Leaves 5.0-12.5x3.2-6.2 cm, sub orbicular-ovate, elliptic, closely serrulate, sub-acute, sub - acute at the base, dark green and glabrous above, densely grey or rusty beneath, petiole 1.0-1.5 cm long. Cymes arranged in long terminal panicle which is often 30 cm in length, 0.5 across, yellowish green, calyx lobe ovate orbicular, membranous, rusty tomentose outside; petals 0; disk angled, thin hairy; ovary 2 celled, hairy, style 2. Drupes long, globose or pyriform, 1 - seeded, stone crustaceous.

Fl.: March- April & Fr.: June- July.

Occurrence: Not very common.

Vern. name: Bon Bogori (As.)

Uses: fruit treated as holy in hindu religion

Coll. No. J Sarma/462 Coll. Date: 7.5.2016

Locality: Hudupara

VITACEAE Juss.

Gen. Pl. 267. 1789.

India: 8 genera and 63 species; Study area: 2 genera and 3 species

Key to the genera

1a. Flowers polygamous

2a. Inflorescence usually bearing tendrils ; stigma simple :

2b. Inflorescence without tendrils ; stigma 4 lobed

----- *Tetrastigma*

1b. Flowers hermaphrodite:

3a. Leaves usually simple. Fruit 1 seeded ----- *Cissus*

3b. Leaves tri foliate. Fruit 2-4 seeded -- *Cayratia*

Cayratia A. L. Jussieu

Cayratia trifolia (L.) Domin in Bibl. Bot. 89. 371.1927; Chowdhury *et al*, Ass. Fl. 204.2005. *Vitis trifolia* L., Sp. Pl. 1:203.1753. *Vitis carnos*a (Roxb.) Wall., Cat. 206. n. 6018.1831-32; Lawson in Fl. Brit. Ind. 1:654.1875.

A climber with soft stem; young parts pubescent, shots striate. Tendrils usually branched. Leaves usually tri-foliate, sometimes 2- or 1- foliate by reduction; petiole 2-10 cm long, stipules scarious. Leaflets terminal being largest, lateral smaller, usually oblique, sometimes lobed, ovate-elliptic, acute, base cuneate or rounded, coarsely toothed. Inflorescence leaf opposed or axillary, long peduncled, compound. Flowers white, umbellately cymose, the peduncle equalling the petiole. Sepals 4. Petals 4, Stamens 4, inserted below the margins of disk, anthers free. Style conspicuous. Berry turbinate, fleshy, 2- 4 seeded.

Fl.: September – November & Fr.: January- February

Occurrence: Not very common.

Vern. name: Nal Tenga (As.)

Coll. No. J Sarma/ 157 Coll. Date: 23.4.2016

Locality: Burha Chapori

Cissus L.

Cissus quadrangularis L., Syst. Nat. ed. 12. 2 : 124. 1767 & Mant. Pl. 39. 1767; Shetty & Singh, Fl. India 5 : 288. 2000. *Vitis quadrangularis* (L.) Wallich ex Wight, Cat. 26. 1833.

Ramblers; branches quadrangular with angles usually winged, succulent. Tendrils stout, simple. Leaves ovate to reniform, 2-6x2-5 cm, lobed, acute to obtuse at apex, truncate to cordate at base, subentire to dentate at margins, glabrous; petioles 0.5 -1 cm long ; stipules broadly ovate, obtuse 4x2 mm. Inflorescence umbellate cymes, 3-4 cm long; peduncles 2 cm long. Flowers ca. 0.4-0.6 cm across in axillary cymes. Sepals 4. Petals 4, at first connivent, afterwards free. Stamens 4, filaments slender. Disk adnate to the base of the ovary. Style slender, ovary 2-celled. Fruit berry like, globose, succulent, red when ripe, usually 1-seeded.

Fl. & Fr.: June - December.

Occurrence: Common/cultivated as ornamental and medicinal.

Vern. name: Harjora (As.)

Coll. No. J Sarma/741 Coll. Date: 16.3.2017

Locality: Kolibari

Tetrastigma (Miq.) Planch

Tetrastigma bracteolatum (Wall.) Planch. In DC., Monog. Phan. 5:428. 1887; Chowdhury *et al*, Ass. Fl. 204.2005. *Vitis bracteolata* Wall, in Roxb., Fl. ind. 2:483.1824; Prain, Bengal Plants 1:339.1903; Kanjilal *et al*, FA 1:296.1934.

A slender vine with reddish woody stem. Leaves compound, 3 - foliate, common petiole leaflets terminal larger, ovate-oblong. Flowers regular, polygamious in axillary 2 - 3 - chotomous

corymbose cymes; inflorescence as long as or longer than petiole; calyx 4 - lobed; petal 4; stamen 4, reduced in female, ndisk hypogynous; ovary 2 - celled, cells 2 - ovuled, style short, stigma 4 - lobed. Berry globose, black.

Fl.: September – November & Fr.: January- February

Occurrence: Not frequent.

Coll. No. J Sarma/390 Coll. Date: 22.12.2014

Locality: Singri Hill

LEEACEAE Dumort.

Anal. Fam. Pl. 21, 27. 1829.

India: 11 Species ; Study area: 2 species

Leea D. van Royen ex L.

Key to the species

1a. Stem, branches, peduncles and petioles with crisped wings

----- ***L. asiatica***

1b. Plants not with crisped wings; leaves 2-3 pinnate

----- ***L. indica***

Leea asiatica (L.) Ridsdale in Manilal. Bot. Hist. Hort. Malab. 189. 1980; N. P. Sing (edt), FI 5:336. 2000; Chowdhury *et al.*, Ass. FI. 205.2005. *Phytolacca asiatica* L., Sp. Pl. 1: 474. 1753. *Leea crispa* L., Syst. Nat. ed. 12, 2: 627. 1767; Ridsdale in Blumea 22:88. 1974; Willd. spec. i. 1177; Roxb., FI. ind. 1:220. 1832; Prain, Bengal Plants 1: 340 1903; Kanjilal *et al.*, FA 1:305.1934.

Annual, under-shrubs or stragglers, grows from a perennial rootstock. Stem and leaf rachis with crisped wings, young parts pubescent. Leaves compound, leaflets 5, 10-15 x 3.5-8.0 cm, oblong-lanceolate, apex acuminate, margin dentate-serrate, base rounded. Corymbose 3-5 cm long, axillary, solitary or paired. Flowers greenish white or pale yellow. Berries depressed - globular.

Fl. & Fr.: May – December.

Occurrence: Common.

Vern. name: Ou lota(As.)

Coll. No. J Sarma/247 Coll. Date:10.9.2016

Locality: Kolamati

Leea indica (Burm. f.) Merr., Philipp. J. Sci. 14: 245. 1919; Matthew, Fl. Tam. Car. 1: 287. 1983; Chowdhury *et al.*, Ass. Fl. 205.2005. *Staphylea indica* Burm. f., Fl. Ind. 75. t. 23. f. 2. 1768. *Leea sambucina* Willd., Sp. Pl. 1:117. 1798, nom. illegit; Roxb., Fl. ind. 1:657.1832; Hook, f., Fl. Brit. Ind. 1:666.1875 ; Prain, Bengal Plants 1: 340. 1903; Kanjilal *et al.*, FA 1:307.1934. *L. staphylea* Roxb., Fl. ind. 2:471.1824, nom. illegit.; Wight & Am. Prodr., fl. Ind. orient. 132.1834.

Small shrub with branchlets puberulous. Leaves 2-3-pinnate; leaflets odd-pinnate, 2-5 paired, opposite, oblong-lanceolate, ovate; thin-coriaceous, mid nerve prominent below, glabrous above, base obtuse-subacute, margin dentate-serrate, apex acuminate; petiole 4-10 cm; stipule amplexicaul, adnate to petiole, deciduous. Cymes lateral or leaf-opposed, corymbose, divaricate; bracts deciduous. Calyx-tube campanulate, pubescent without; lobes 5, triangular.

Petals 5, greenish-white, ovate, about 2.5 mm, spreading. Staminal tube 5-lobed, retuse. Stamens 5. Ovary 6-celled; ovule 1 per cell, erect; style short, stigma capitate. Berry globose, depressed; pyrenes 5 or 6, small, 1-seeded.

Fl. : April- October & Fr.: Whole year.

Occurrence: Common Common.

Vern. name: Kukura thengia(As.)

Coll. No. J Sarma/690 Coll. Date: 15.3.17

Locality: Nameri NP

PLATE 6B

SAPINDACEAE Juss.

Gen. Pl. 246. 1789.

India: 18 genera and 37 species; Study area: 3 genera and 3 species

Key to the genera

- 1a. Climbing herb with tendrils ----- ***Cardiospermum***
- 1b. Erect trees or shrubs:
 - 2a. Fruit muricated, arillate ----- ***Litchi***
 - 2b. Fruit not muricated exarillate ----- ***Sapindns***

***Cardiospermum* L.**

Cardiospermum halicacabum L., Sp. Pl. 366. 1753; Hiem. in Hook, f., Fl. Brit. Ind. 1: 670. 875. *C. microcarpum* Kunth, Nov. Gen. et Sp. Pl. 5:104. 1821; Kanjilal *et al.*, FA. 1 :313. 1936; Singh in Hajra *et al.*, Fl. India 5 : 356. 2000.

A thin wiry climbing herb with sulcate branches. Leaves alternate, bi ternate, deltoid in outline. Flowers very small, axillary, white. Male flower: outer sepals sub-rbicular, to 1 mm; inner ones oblong-obovate, 2.5 m. Petals 2+ 2, white; upper ones blong, to 3.5 mm, basal scale to 2 mm; lower ones oblong, 2.5 mm, basal scale to 1 mm, apical crests puberulous. Stamens 8; filaments 1.5-2 mm, pilose. Bisexual flower: tamens 8; filaments 1-1.5 m, densely pilose. Ovary oblong, 2.5 mm, 3-celled, pubescent;ovule per cell; stigma shortly 3-fid, sessile. Capsule sharply 3-lobed, not bloated, winged at angles, pubescent.

Fl. & Fr.: November - March.

Occurrence: Common.

Vern. name: Kopal futa(As.)

Coll. No. J Sarma/274 Coll. Date: 7.2.2018

Locality: Smarna

***Litchi* Sonn.**

Litchi chinensis Sonner, Yoy. Ind. 2 :230.t. 129. 1782. *Nephelium litchi* Cambess. in Mem. Mus. Hist. Nat. 18 : 30. 1829; Hook .f., Fl. Brit. Ind. 1 : 687. 1875; Deb, FTS. 1 : 458.1881; Balakr., Fl. Jowai 1 : 142. 1981; Haridasan & Rao, For. Fl. Meghalaya 1 : 258. 1985.; Kanjilal *et al.*, FA. 1 : 323. 1936.

Medium sized tree. Leaflets 4-8, oblong-ovate or lanceolate, entire or undulate margin. Flowers minute, greenish, 2-3 mm, petals absent; stamens exserted. Fruits ellipsoid 3.5 x 1.8 cm; aril white; seeds brown, shining, smooth, 1.

Fl. &Fr.: February - August.

Occurrence: Common. Cultivated in garden.

Vern. name: Lesu(As.)

Coll. No. J Sarma/587 Coll. Date: 23.8.2016

Locality: Charduar

Sapindus L.

Sapindus mukorossii Gaertn., Fruct. Sem. Pl. i. 342.t.70 (IK); Hook, f., Fl. Brit. Ind. 1: 683.1875; Prain, Bengal Plants 1: 344. 1903; Kanjilal *et al.*, FA. 1 :320. 1934; Chowdhury *et al.*, Ass. Fl. 206.2005.

A small deciduous tree; bark dark greenish brown. Leaves long, paripinnate; generally alternate; common petiole narrowly bordered. Leaflets 10-20. Inflorescence a compound terminal panicle, 30 cm or more in length with pubescent branches, Flowers polygamous; calyx lobes unequal; petals 5 ; stamens 8, inserted at the centre of the annular disk; ovary 3 cornered. Fruit a globose fleshy 1 seeded drupe.

Fl. & Fr. : May - October.

Occurrence: Not very Common.

Vern. name: Monisal (As.)

Uses: Bark eaten

Coll. No. J Sarma/470 Coll. Date: 23.7.2016

Locality: Khonamukh

HIPPOCASTANACEAE A. Rich.

Bot. Med. 680. 1823.

India: 2 species recorded : Study area: 1 species recorded

Aesculus L.

Aesculus assamica Griff., Notul. iv. 540. (IK); Chowdhury *et al.*, Ass.

Fl. 206.2005. *A. punduana* Wall. Kanjilal *et al.*, FA 1: 313.1934.

A middle-sized semi-evergreen tree with scaly buds. Leaves opposite, exstipulate, digitate; Petiole 16- 30 cm long, terete, glabrescent. Leaflets 5-7, gradually smaller from the terminal, oblanceolate, acuminate, finely serrulate, subcoriaceous, glabrous; base acute; petiolules flattened above. Panicles up to 60 cm long, dun-pubescent when young; pedicels gradually shorter upward. Calyx tubular, lobes 5, imbricate. Petals 4, white, unequal, externally pubescent, often with a yellow spot at the base. Stamens usually 7, free, much exserted. Disc unilateral. Ovary tri-celled, brown, ovoid or obovoid. Capsule 5-8 cm long, loculieidal, valves 2-3 in each cell. Seed long, 1 in each cell.

Fl.: January- March & Fr.: April- July

Occurrence: Common in semi evergreen forests.

Vern. name: Raman bih (As.)

Coll. No. J Sarma/904 Coll. Date:14.5.2016

Locality: Sonai Rupai WLS

PLATE 6C

ANACARDIACEAE R. Br.

Narr. Exped. Zaire 431. 1818.

India: 23 genera and 68 species; Study area: 4 genera and 4 species

Key to the genera

1a. Stone 1-celled, 1-seeded, more or less compressed:

2a. Leaves simple:

3a. Receptacle of fruit enlarged and fleshy -----***Semecarpus***

3b. Receptacle of fruit not enlarged -----***Mangifera***

2b. Leaves compound, imparipinnat ----- ***Lannea***

1b. Stone 1-5-celled, not compressed, pericarp fleshy. Leaves

imparipinnate ----- ***Spondias***

Lannea A. Rich.

Lannea coromandelica (Hout.)Merr., J. Arnold. Arbor. 19:353. 1938; Matthew, Fl. Tam. Car.1:307.1983; Chowdhury *et al.*, Ass. Fl. 207. 2005; Kanjilal *et al.*, FA, 1: 338.1934; Hook, f. Fl. Brit. Ind 2: 29. 1876.

A small to middle sized deciduous tree. Bark thick, grey or greyish black. Young part deciduous, almost stellate pubescent. Leaves crowded at the end of the gbranches, alternate, imparipinnate. Flowers small, yellowish green, generally diaeceous, male usually longer and compound , female simple. Dupe long, red while ripe.

Fl.: March- May & Fr.: April- July

Occurrence: Common.

Vern. name: Jia (As.)

Coll. No. J Sarma/97

Coll. Date: 12.3.2015

Locality: Napaam

***Mangifera* L.**

Mangifera indica L., Sp. Pl. 200. 1753; Roxb., Fl. ind. 1:641. 1832; Wight & Am. Prodr., fl. Ind. orient. 170. 1834; Hook, f., Fl. Brit. Ind. 2: 13. 1876; Kanjilal *et al.*, 1:335. 1934; Matthew, Fl. Tam. Car. 1: 308.1983. Chowdhury *et al.*, Ass. FL 207.2005.

Talla large evergreen tree with rough thick bark. Leaves oblong or elliptic-lanceolate, 15-30x4.5-7 cm, coriaceous, base cuneate, margin entire, apex acuminate, petiole up to 3 cm, pulvinus. Flowers in terminal panicles, peduncle axes divaricate, long conical in outline. Male flower: fertile stamen solitary, staminodes 4. Bisexual flower: Calyx-lobes 5, ovate. Petals 5, cream coloured, 5 mm, with glandular ridges, imbricate. Disc cupular, 4-5-lobed. Stamens 5, inserted inside the disc, fertile stamens 2, filaments free, staminodes 3-4, apically gland tipped. Ovary 1-celled, sessile, obliquely seated. Drupe ovoid-oblong.

Fl.: January to March & Fr.: Ripening by June- July

Occurrence: Very Common/ cultivated as fruit tree.

Vern. name: Aam (As.)

Uses : Used as timber ; Fruit is eaten; leaves treated as holy for many rituals

Coll. No. J Sarma/391

Coll. Date: 22.12.2014

Locality: Singri

***Semecarpus* L.**

Semecarpus anacardium L. f., Suppl. Pl. 182. 1781; Roxb., Fl. ind. 2:83. 1832; Wight & Am. Prodr., fl. Ind. orient. 168. 1834; Hook, f., Fl.,

Brit. Ind. 2:30.1876; Kanjilal *et al.*, 1:333. 1934; Rao *et Rabha* BBSI 8:299.1966; Deb, FTS. 1:465. 198; Matthew, Fl. Tam. Car. 1:310.1983.

Moderate sized deciduous trees with milky latex and dark brown and blakish bark. Leaves simple, alternate, elliptic-oblong or ovate, sub-acute or rounded at both ends, scabrid or glabrate above, crowded; petioles stout, 2.5-5.0 cm long. Panicles terminal. Flowers unisexual, sometimes bisexual. Male flower: 6-8 mm across. Calyx-lobes 5, valvate. Petals 5, greenish, 3 mm, imbricate. Disc annular, lobed. Stamens 10, fertile, free. Pistillode hairy. Bisexual flower: Ovary 1-celled, styles 3, free. Drupe globose-ovoid, reniform, 2-3 x2.5-3 cm, hypocarp fleshy.

Fl: July-September & Fr.: December - March

Occurrence: Very Common/ cultivated as fruit tree.

Vern. name: Bhela/ Bor bhela (As.)

Uses : Used as timber

Coll. No. J Sarma/102

Coll. Date: 16.6.2015

Locality: Nameri

***Spondias* L.**

Spondias pinnata (L.f.) Kurz, Prelim. Rep. forest Pegu. 1875, App. A. 44 & B. 42; Airy Shaw & Forman, KewBull. 21:8.1967; *Mangifera pinnata* (L.f.) Suppl. pi. 156. 1781. *Spondias mangifera* Wild., Sp. pi. 2:751.1799; Roxb., Fl. ind. 2: 451. 1832; Hook, f., Fl. Brit. Ind. 2: 42. 1876; Kanjilal *et al.*, FA 1: 340. 1934.

Middle sized deciduous tree having aromatic smell. Leaves odd-pinnate, with grey -brown bark; leaflets opposite, 3-6 pairs, oblong-obovate, coriaceous, base obtuse-subacute, always entire, apex acuminate. Flowers bisexual or unisexual. Male flower: 5 mm across. Calyx lobes 5, caduceus. Petals 5, yellow, ovate, valvate, 2 mm. disc copular, 10-erentate. Stamens 10, inserted below disc, filaments 1mm, free; pisillode with 5-fid styles. Bisexual', ovary 5-celed; 4-6 carpels, which are free, cormivent. Drupe oblong-ovoid.

Fl: February - March, Fr.: Maturing by June onwards

Occurrence: Very Common.

Vern. name: Amora (As.)

Uses: Fruit eaten

Coll. No. J Sarma/886 Coll. Date:27.7.2017

Locality: Nagsankar

MORINGACEAE Martinov

Tekhno-Bot. Slovar. 404. 1820.

India: 1 genus and 2 species; Staudy area: 1 species recorded.

Moringa Adans.

Moringa oleifera Lamk. Eneycl. Meth. Bot. 1 : 398. 1785. *M. ptreygosperma* Gaertn. Fruct. 2 : 314. 1791; Hook.f., Fl. Brit. Ind. 2 : 45. 1876; Kanjilal *et al.*, FA. 1 : 342. 1936 ; Haridasan & Rao, For Fl. Meghalaya 1 : 279. 1985; Singh *et al.*, FM. 1 : 422. 2002.

A middle sized tree with thick, whitish, rough bark. Leaves tri-pinnate; 30- 50 cm long, petiole sheathing at the base; opposite; pinnule 6-9 pairs, opposite; the uppermost pair 1-foliate; a hairy

gland is present between each pair of pinnae and pinnule. Leaflets 0.5- 2 cm long, ovate or elliptic, entire, apically rotund, nerves obscure. Flowers 2.5 cm across, strongly honey scented. Sepals petaloid, linear, lanceolate, reflexed. Petals linear, spatulate, white with yellow dots near base. Filaments villous. Ovary hairy. Fruit capsule, long, 3-gonous, longitudinally ribbed. Seeds winged along the comers.

Fl.: January – February & Fr.: February- April

Occurrence: Very Common.

Vern. name: Sajina (As.)

Uses: Ffruit eaten

Coll. No. J Sarma/348 Coll. Date:2.5.2015

Locality: Ghoramara

PLATE 6D

PAPILIONACEAE Giseke

Prae. Ord. Nat. Pl. 415. 1792.

India: about 100 genera and 748 species; Study area: 13 genera and 21 species

Key to the genera :

1a. Leaves 1-3 foliate

2a. Plant herb or undershrub

3a. Keel petal beaked distantly; pods turgid ----- ***Crotalaria***

3b. Keel petal not beaked; pods not turgid

4a. Bracts attractive, coloured, papery ----- ***Flemingia***

4b. Bracts green, not so attractive

5a. Pods twisted up inside the calyx ----- ***Uraria***

5b. Pods not twisted up inside the calyx ----- ***Desmodium***

- 2b. Plant tree, shrub or large climber
 - 6a. Keel exceeding the wing and the standard; pods covered with irritant hairs ----- ***Mucuna***
 - 6b. Standard exceeding the keel and wings; pods without irritant hairs ----- ***Erythrina***
- 1b. Leaves pinnately compound
 - 7a. Plant herb or undershrub
 - 8a. Stipules long, auricled; flowers yellow --- ***Aeschynomene***
 - 8b. Stipules smaller, deltoid; flowers pink creamy ----- ***Tephrosia***
 - 7b. Plant tree, shrub or large climber
 - 9a. Leaves paripinnate
 - 10a. Pods long slender, twisted; petal long clawed ----- ***Sesbania***
 - 10b. Pods oblong not twisted; petals shortly clawed ----- ***Abrus***
 - 9b. Leaves imparipinnate
 - 11a. Pod 1-seeded
 - 12a. Flowers large showy upto 6 cm, orange red ----- ***Butea***
 - 12b. Flowers smaller about 1.2cm, white or purplish ----- ***Pongamia***
 - 11b. Pods 1-many seeded
 - 13a. Calyx unequal, lobed; ovary sessile
 - 14a. Pods with serpentine curvature; seeds 6-10:
 - 14b. Pods without any curvature; seeds 1-4 ----- ***Dalbergia***
 - 13b. Calyx equal, tubular; ovary stipitate ----- ***Clitoria***

Abrus Adans.

Abrus precatorius L., Syst. Nat. ed. 12:472.1767; Hook.f., Fl. Brit. Ind..2:175.1876; Kanjilal *et al.*, FA. 2: 62.1938; Deb, FTS. 1:143.1981.

A handsome twining shrub. Leaves stipules long, subulate. Leaflets 20 - 40, oblong ligulate, minutely apiculate, membranous, glabrous or thinly silky beneath. Flowers reddish or dull white, clustered in dense pedunculated racemes; peduncle often leaf bearing; pedicels very short; calyx 0.2 - 0.3 cm long, truncate, thinly silky; corolla 0.7 - 1.2 cm long, standard ovate or acute narrowed to a short claw, wings oblong, falcate and shorter than the keel. Pod 3-5 seeded, oblong with a sharp deflexed beak, thinly pubescent, turgid, thinly septate between the seeds ; seeds generally two thirds scarlet and the rest jet - black, sometimes wholly white, rarely wholly black.

Fl. & Fr.: May - December.

Vern. name: Latumoni(As.)

Occurrence: Common.

Coll. No. J Sarma/579 Coll. Date: 21.5.2016

Locality: Tezpur

Aeschynomene L.

Aeschynomene aspera L., Sp. PL 713. 1753; Wight & Am., Prodr. fl. Ind. orient. 219. 1834; Hook, f., Fl. Brit. Ind. 2:152.1876; Prain, Bengal Plants 1:418. 1903; Kanjilal *et al.*, FA. 2:38. 1938; Matthew, Fl. Tam. Car. 1: 334.1983; Chowdhury *et al.*, Ass. Fl. 208. 2005.

A small stout herb or undershrub with greenish berk. Leaves 7-15 cm long, stipules auricled, deciduous. Leaflets 30-35 pairs, oblong or linear, single-nerved. Racemes up to 3 cm, peduncles hispid, lax flowered and often branched. Flowers 1.5 cm across. Calyx tube hispid, supported by a pair of hairy bracteoles; upper lobes 2mm, lower one 3.5 mm. Corolla yellow, standard 1.2 x 1.5 cm; wings 8.5 x 4 mm; keels 1.8-2 x 0.8-1 cm, hirsute without. Staminal sheath 7 mm, anthers ovoid. Ovary 1cm, tomentose; ovule indefinite; style 6mm. pod 4.5-5.5 cm long; articles 4-8, glabrous, echinate over seeds, indented along both margins.

Fl. & Fr.: Whole year.

Vern. name: Kuhila (As.)

Occurrence: Common.

Coll. No. J Sarma/652 Coll. Date: 20.8.2017

Locality: Beseria

Butea J. Koenig ex Roxb.

Butea monosperma (Lam.) Taubert in Engl. Nat. Pflanzenfam. 3(3): 366. 1894; Blatter *et al.*, Beautiful Indian Trees (ed 2) 12. 1954; Matthew, Fl. Tam. Car. 1:344. 1983; Chowdhury *et al.*, Ass. Fl. 208. 2005. *Butea frondosa* J. Koenig ex Roxb., Asiat. Res. 3:469. 1792; Hook, f., Fl. Brit. Ind. 2:194. 1876; Prain, Bengal Plants 1:401. 1903; Kanjilal *et al.*, FA 2:73.1938.

A handsome deciduous trees, berk rough; branchlets densely tomentose. Leaflets coriaceous, glabrous above, base cuneate, margin entire, somewhat shining above, apex obtuse, retuse.

Racemes axillary, up to 40 cm long; flowers clustered at the nodes of rachis, about 6 cm across. Calyx-tube velvety; cup shaped, fleshy, upper lobes connate, 5 mm; lower one deltoid, smaller than upper. Corolla bright orange red; standard lanceolate, silky pubescent without, clawed; wings falcate, adnate to keel; keels incurved, beaked. Staminal sheath 6 cm, thick, curved; filaments 2 cm. Style 4 cm, incurved. Pod ligulate, firm, pendulous, 14- 16x4-5 cm.

Fl.: February- April & Fr.: March onwards

Vern. name: Polas (As.)

Occurrence: Not very Common in Sonitpur.

Uses: treated as holy in hindu religion

Coll. No. J Sarma/340 Coll. Date:20.12.2014

Locality: Singri

PLATE 6F

***Clitoria* L.**

Clitoria ternatea L., Sp. Pl. 753, 1753; Hook, f., Fl. Brit. Ind.2:20S, 1876; Rao *et* Verma., Bui. Bot. Sur. Ind. 11 (3 and 4): 497, 1972; Kanjilal *et al.*, FA. 2 : 87.1938; Chowdhury *et al.*, Ass. Fl. 114, 2005.

Beautiful annual twiner. Leaves 5-7 foliate; leaflets ovate, obtuse, glabrous, sub-coriaceous, emerginate, 2.5-5.0 cm long; lateral petiole 0.3 cm, terminal about 0.8 cm long. Flowers solitary, axillary on stout pedicel, white or deep blue or blue centred; bracteoles foliaceous, persistent; calyx tubular, toothed; petals unequal; ovary stipitate; styles incurved, oblong, slightly curved, beaked, dehiscing from apex to base. Seeds 7-11, quadrate, brown.

Fl. & Fr.: Generally whole year.

Vern. name: Aparajita(As.)

Occurrence: Common households.

Uses: Treated as holy plant in hindu religion

Coll. No. J Sarma/523 Coll. Date: 16.9.2017

Locality: Bali Pukhuri

***Crotalaria* L.**

Key to the species

1a. Low Herbaceous or under-shrubs; leaves simple:

2a. Annuals. Leaves linear obovate ----- ***C. sessiliflora***

2b. Middle sized Perennials. Leaves obovate-oblong

----- ***C. juncea***

1b. Plants under-shrubs or shrubby; leaves 3-foliolate.pods

cylindrical, stalked, glabrous ----- ***C. pallida***

Crotalaria juncea L., Sp. Pl. 714. 1753; Roxb., Fl. ind. 3: 259. 1832;
Hook, f, Fl. Brit. Ind. 2:79. 1876; Prain, Bengal Plants 1:374. 1903;
Kanjilal *et al.*, FA. 2: 14. 1938; Matthew, Fl. Tam. Car. 1;373.1983;
Chowdhury *et al.*, Ass. Fl. 209.2005.

A shrub of height ca. 5-6 cm Leaves linear to obovate-oblong, obtuse or sub-acute, sub-coriaceous, covered with silky hairs, petiole very short, stipules minute or absent. Racemes simple, terminal. Corolla bright yellow, glabrous, slightly exserted. Pod 2.5- 3 cm long, rusty valvate. Seeds 10-15, brown.

Fl.: December- February & Fr.: March- May.

Vern. name: Junjuni(As.)

Occurrence: Common.

Coll. No. J Sarma/814

Coll. Date: 4.3.2017

Locality: Doangbari

Crotalaria pallida Aiton, Hort. Kew. 3: 20.1739; Deb, FTS. 1:153.1981; Matthew, Fl. Tam. Car. 1:358. 1983; Chowdhury *et al.*, Ass. Fl. 209. 2005. *C. striata* DC., Prodr. 2: 131.1825; Hook, f., Fl. Brit. Ind. 2: 84.1876. exel. Syn. Kanjilal *et al.*, FA. 2: 16.1938.

A low shrub, somewhat gregarious in habit. Branches sulcate, obscurely silky. Leaflets obovate. glaucous-beneath; petioles ca. 4 cm; Petiolules 1-2 mm, woly. Racemes terminal. Corolla twice as long as calyx, bright yellow, reddish-brown stripped, ovary densely pubescent, ca. 6 mm long; style pubescent on inner side. Pods oblong.

Fl. & Fr.: October – December.

Vern. name: Junjuni/ Ghanta karna(As.)

Occurrence: Common.

Coll. No. J Sarma/443

Coll. Date: 14.3.2015

Locality: Tumuki

Crotalaria sessiliflora L., Sp. PL 716. 1753; Roxb., FL ind. 3: 259. 1832; Hook. f., FL. BRIT. IND. 2:82. 1876; Prain, Bengal Plants 1:375. 1903; Kanjilal *et al.*, FA. 2: 12. 1938; Chowdhury *et al.*, Ass. Fl. 209.2005.

A robust perennial herb. Leaves simple, linear lanceolate, narrowed at both ends, somewhat hirsute above, thinly silky pilose

underneath, stipules setaceous, minute. Flowers in long racemes. Bracts and bracteoles persistent. Calyx lobes unequal, deeply divided, densely silky, acrescent in fruit. Corolla bluish-white, not exserted. Pod oblong, glabrous, 10-15-seeded.

Fl.: August- September & Fr.: October- November.

Occurrence: Not Common.

Coll. No. J Sarma/589 Coll. Date: 23.8.2016

Locality: Charduar

***Dalbergia* L. f.**

Dalbergia sisoo Roxb., Fl. ind. 3:323. 1832; Hook, f., Fl. Brit. Ind. 2:231. 1876; Prain, Bengal Plants 1:411. 1903; Kanjilal *et al.*, FA 2;100. 1938; Matthew, Fl. Tam. Car. 1:386.1983 ; Chowdhury *et al.*, Ass. Fl. 209.2005.

Ordinarily a medium sized deciduous tree, sometimes a huge tree. Leaves 9.5 - 22 cm long, common petiole zigzag; stipules caducous; leaflets 3-5, distinctly alternate, ovate-obovate, orbicular or rhomboid, abruptly acuminate, caducous. Flowers 0.5 - 0.6 cm long in cymes or racemes, 2.5 - 3.7 cm long, cymose racemes; calyx downy, about half of the length of flowers, teeth short; corolla yellowish white, standard with a long claw; stamens 9 united in a sheath; ovary pubescent, style short, stigma large. Pod 5-7.5 x 0.7-1 cm strap shaped mostly 1-seeded less often 2-3 seeded ; seeds 5 cm long, kidney shaped, flat.

Fl. & Fr.: May- February.

Vern. name: Sisu(As.)

Occurrence: Common.

Uses : Used as timber

Coll. No. J Sarma/027 Coll. Date: 5.9.2014

Locality: TU campus.

PLATE 7A

Desmodium Desv.

Key to the species

1a. Leaves mono- foliate

2a. Herb or undershrub; leaves ovate elliptic - *D. laxiflorum*

2b. Shrub; leaves broadly ovate - *D. gangeticum*

1b. Leaves tri- foliate

3a. Large shrub -- *D. triangularae*

3b. Ascending herb or undershrub

4a. Leaflets large up to 1.6 cm; petiole longer

----- *D. heterophyllum*

4b. Leaflets shorter only up to 0.5 cm; petiole shorter

----- *D. triflorum*

Desmodium gangeticum (L.) DC., Prodr. 2:327. 1825; Baker in Hook, f., Fl. Brit. Ind. 2:158. 1876; Kanjilal *et al.*, FA. 2 : 55. 1938 ; Deb, FTS. 1 : 16L 1981 ; Singh *et al.*, FM. 1: 458.2002; *Hedysarum gangeticum* L., Sp. Pl. 746. 1753.

A sub erect undershrub up to 1.2 m tall; stems angular; branches clothed with adpressed white hairs. Leaves mono- foliate, common petiole stout, herbaceous; leaflets narrowly elliptic base rounded,

acute or acuminate at apex, glabrous above, puberulous beneath; lateral nerves 9 or 10 pairs; petioles 1-2.5 cm long; stipules 0.7 cm long. Racemes 11-25 cm long, axillary and mostly terminal, rachis and pedicels puberulous; bracts subulate; calyx teeth lanceolate longer than the tube; corolla purplish- white. Pods usually clothed with hooked hairs.

Fl. & Fr.: July -December.

Occurrence: Common.

Coll. No. J Sarma/105. Coll. Date: 16.6.2015

Locality: Nameri NP

Desmodium triflorum (L.) DC., Prodr. 2:334.1825; Hook, f., FL. BRIT. IND. 2:173.1876; Prain, Bengal Plants 1:424. 1903; Kanjilal *et al.*, FA 2:60. 1938; Matthew, FI Tam. Car. 1:399. 1983; Chowdhury *et al.*, Ass. Fl. 210. 2005. *Hedysarum triflorum* L., Sp.Pl. 749.1753; Roxb., Fl. ind. 3:353.1832.

A much branched trailing perennial herb, branchlets elongate, pilose. Leaves tri-foliolate, to 6 mm; leaflets laterals equilateral, ovate, truncate, glabrous above, pubescent below; base cuneate, margin entire, apex obtuse-retuse; stipules obliquely ovate, 4 mm; stipels minute. Flowers very small, white or purple, 3 mm across, 3-5 in a cluster. Calyx-tube 5-lobed, upper lobes 1 mm, lower 2 mm. Corolla pink to violet; standard 3mm,; wings 2 mm; keel 4 mm. Staminal-sheath 4 mm. Stamens 9 +1. Ovary 4 mm; style 2, incurved. Pod somewhat curved, lower margin deeply indented, upper entire.

Fl.: Peak in Winter Fr.: Whole year

Occurrence: Common in grass lands.

Coll. No. J Sarma/158 Coll. Date:23.4.2016

Locality: Burha Chapori

Desmodium heterophyllum (Willd.) DC., Prodr.2:334.1825; Hook. f, Fl. Brit. Ind. 2:173.1876; Kanjilal *et al.*, FA. 2:61. 1938 ; Ohashi in Hara, Fl. E. Himal. 150. 1966. *Hedysarum heterophyllum* Willd. Sp.Pl. 3:1201. 1803.

A caespitose, small annual trailing herb, copiously branched stem clothed with dense hair. Leaves tri - foliate; rachis 0.7-1.2 cm, pubescent; stipules caudate, acuminate, persistent; leaflets oblong-ovate to elliptic, obtuse, emerginate, chartaceous, glabrous above, pubescent beneath, 1.0-2.0 cm long. Flowers solitary, axillary or in lax racemes, terminating the branches, purple; bracts deciduous; calyx teeth long, setaceous; corolla exserted, shortly clawed, standard petal distinctly blotched with blue at base; stamens (9)+1 included in the keels; ovary sessile, densely pubescent. Pods much indented, glabrescent, as long as broad; seeds reddish-black.

Fl. & Fr. :July- January.

Occurrence: Common in grass lands.

Coll. No. J Sarma/819 Coll. Date: 9.4.2017

Locality: Aambagan

Desmodium laxiflorum DC., Prodr. 2 : 335. 1825; Baker in Hook. f., Fl. Brit. Ind. 2:164.1876; Kanjilal *et al.*, FA. 2:48.1938; Fischer in Rec. Bot. Surv. India 12(2):90.1938; Balakr.Fl. Jowai 1:158.1981; Deb, FTS. 1:163.1981.

An erect under shrub; branches angled. Leaves 3-foliolate, 5.5x3.5 cm, ovate- elliptic, base rounded or cuneate, apex acute, puberulous both side, lateral nerves 5 pairs; petioles 2-4 cm long. Racemes 8-32 cm long, axillary, terminal and lax flowered. Flowers fascicled; bracts minute, lanceolate; calyx villous; corolla purplish pink. Pods falcate, densely pubescent with hooked hairs.

Fl. & Fr.: June - December.

Occurrence: Common.

Coll. No. J Sarma/891 Coll. Date: 27.7.2017

Locality: Kusumtola

Desmodium triangularae (Retz.) Merr., Jour. Am. Arb. 23 : 170. 1942; Balakr. Fl. Jowai 1 : 156. 1981; Singh *et al.*, FM. 1 : 469. 2002. *Hedysarum triangulare* Retz., Obs. Bot. 3 : 40. 1783. *H. cephalotes* Roxb., Fl. India 3 : 360. 1832. *Desmodium cephalotes* (Roxb.) Wallich ex Wight. & Am., Prodr. 224.1834; Hook, f., Fl. Brit. Ind. 2 :161. 1876; Kanjilal *et al.*, FA. 2 : 46. 1938.

Erect shrub, with grey bark upto 2 m tall; branches zig-zag. Leaves 3- foliate; leaf-lets oblong elliptic to lanceolate, 5-14x4.5-7 cm, acute at both ends, green glabrous above, densely grey-silky beneath; lateral nerves 8-12 pairs, prominent beneath, stipules ovate. Flowers in axillary umbels, generally solitary; peduncles upto 1cm long; corolla white or yellowish red. Pods indented along both suturs; seeds 2x3 mm.

Fl. & Fr.: May - December.

Occurrence: Common.

Vern. Name: Bon landu (As.)

Coll. No. J Sarma/817 Coll. Date:5.3.2017

Locality: Hatigate

***Erythrina* L.**

Erythrina stricta Roxb., Fl. Ind . 3 : 251 . 1832 ; Wight & Am. , prodr . fl . Ind . orient 260 . 1934 . Hook , f . , Fl. Brit. Ind. BI 2 : 189 . 1876 ; Prain , Bengal Plants 1:398.1903; Kanjilal *et al.*, FA 2 : 70 . 1938 .

A large tree with an arresting appearance when in bloom, bark with prickles. Leaves with 3 leaflets, common petiole 7 - 17 cm long, rhomboid orbicular or ovate, shortly acuminate, shining above, glaucous, petiolules upto 1 cm long. Racemes horizontal, secund; bracts caducous; calyx spathaceous, 1.3 cm long; petals scarlet, standard 3.7 - 5 cm, ovate or obovate, keel: 1.9 - 2.4 cm light greenish; wings: minute reddish. Pod 10 - 20 cm long, spindle shaped, sharply pointed; seeds 2-3, kidney shaped, reddish brown or purplish.

Fl. & Fr.: March - October.

Occurrence: Common.

Vern. Name: Modar (As.)

Coll. No. J Sarma/262 Coll. Date: 6.2.2018

Locality: Garo Gaon

Flemingia Roxb. ex. W. Aiton et. W.T. Alton

Flemingia strobilifera (L). R. Br. in Alton f., Hort. Kew. ed 2(4): 350. 1812; Hook, f., Fl. Brit. Ind. 2: 227. 1876 (incl. var. bracteata and fruticulosa); Kanjilal *et al.*, Fl. Ass. 2: 88. 1938; Balak, FJ. 1: 165. 1981; Mathew, Fl. Tam. Car. 1:408. 1983; Chowdhury *et al.*, Ass. Fl. 211. 2005. *Hedysarum strobiliferum* L., Sp. pi. 764, 1735. *Moughania strobilifera* (L). J. St. Hill. ex. Kuntze., Revis. gen. pi. 1: 199. 1891.

A bushy shrubs. Branches velvety tomentose, terete, more or less. Leaves 1-foliolate, oblong to ovate lanceolate. acute or acuminate, base rounded or sub caudate, glabrescent above, silky pubescent and gland dotted beneath, margin entire, apex acuminate; stipules 5-10 mm., linear. Racemes simple or branched, flexuous. Flowers ca. 1 cm., purplish, first in 3-4 flowered cymes hidden in the axils of large kidney shaped conduplicate bracts. Calyx-tube ca. 2 cm. Corolla exserted, white; standard obovate; wings oblong, smaller than standard; keels incurved. Staminal sheath ca 6 mm. Ovary sessile, woolly, style 6 mm. Pods oblong, 0.7- 1.2x0.6- 0.7 cm, densely pubescent, enclosed by bracts, 2-seeded.

Fl.: February-October & Fr.: April.-December.

Occurrence: Rare.

Vernacular name: Makhiotee (As.)

Uses: Used in Bihu celebration

Coll. No. J Sarma/473 Coll. Date: 14.5.2016

Locality: Sonai Rupai WLS

PLATE 6E

Mucuna Adanson

Mucuna pruriens (L.) DC., Prodr. 2:405. 1825; Hook, f., FL. BRIT. IND. 2:187. 1876; Prain, Bengal Plants 1:400. 1903; Matthew, Fl. Tam. Car. 1: 435. 1983; Chowdhury *et al.*, Ass. Fl. 212. 2005. *Dolichos pruriens* L., Herb. amb. 23. 1754. *Mucuna prurita* Hook., J. bot. Kew gard. Misc. 2: 348.1 .13. 1830, nom. superfl.; Kanjilal *et al.*, FA. 2:69.1938.

A twining annual climber with silvery pubescent stems in young stage., branchlets downy-pubescent. Leaves tri foliate, pinnate-compound; leaflets ovate-rhomboid, terminal; laterals 10 x7 cm, thin, coriaceous, adpressed white-pubescent, base obtuse- subacute or truncate, margin entire, glabrescent above, apex acute, mucronate. Racemes to 10 cm; peduncle 5 cm. flowers 4 cm long. Calyx 2 lipped with irritating bristles; upper lobes 5 mm, lower one 7 mm. Corolla dark-purplish; standard ovate, 2.5x1.5 cm; wings 3x1 cm; keels 4x0.5 cm. Staminal sheath 2.5 cm, filaments 4 mm. Ovary 1 cm. style 3.5 cm. Pods curved at base and apex, S-shaped, longitudinally ribbed, covered with dense pale brown bristles.

Fl.: January- March & Fr.: April - June

Occurrence: Very common.

Vernacular name: Bandor-kekowa (As.)

Coll. No. J Sarma/673

Coll. Date: 8.4.2017

Locality: Bhalukpong

Pongamia L.

Pongamia pinnata (L.) Pierre, Fl. For . Cochinch. Sub. 1385. 1899.
Cytises pinnatus L., Sp. Pl. 741. 1753; Hook, f., Fl. Brit. Ind. 3:239.
1874; Kanjilal *et al.*, FA . 2:109. 1938.

Small or medium sized tree with spreading branches. Leaves imparipinnate; common petiols terete, stipules caducous; leaflets, opposite rarely alternate, 5-7, ovate- elliptic, acuminate, glabrous, coriaceous, green above, pale beneath, 5-0-7-0 x 2.8-3.5 cm; petiolules 0.5cm long. Racemes axillary, simple, peduncled. calyx sub- truncate, campanulate; corolla much exerted, purplish, wings connate with keel; stamens monadelphous, anthers versatile; ovary many ovuled. Pods obliquely oblong,woody, compressed; seeds reniform, white, streated with brown.

Fl.: May- June & Fr.: December – February.

Occurrence: Common.

Vernicular name: Karach (As.)

Coll. No. J Sarma/820 Coll. Date: 9.4.2017

Locality: Borghat

***Sesbania* L.**

Key to species:

1a. Small tree. Flowers white; Petal not appendaged

----- ***S. grandiflora***

1b. Shrub. Flowers dark brown to purple; Petal appendaged

----- ***S. sesban***

Sesbania grandiflora (L.) Poir. in Lam., Encycl. 7: 127. 1806; Hook, f., Fl. Brit. Ind. 2:115. 1876; Prain, Bengal Plants 1: 404. 1903;

Matthew, Fl. Tam. Car. 1: 458. 1983; Chowdhury *et al.*, Ass. Fl. 213. 2005; Patiri and Borah, Wild. Ed. Pl. Assam 40. 2007. *Robinia grandiflora* L., Sp. pi. 722.1753. *Agati grandiflora* (L.) Desv., J. B ot (Desvaux) 3:120.1814.

A small tree with pubescent branchlets. Leaves up to 30 cm ; leaflets generally 25-30 pairs, oblong, 1-3.5x0.5- 1 cm, chartaceous, pubescent, base obtuse, margin entire, apex emerginate; stipules lanceolate, 1 cm. Racemes 3-5-flowered. Flowers ca. 5-6 cm across, 10-12 cm long, pendulous. Calyx-tube ca. 2cm, triangular. Corolla white or off-white; reflexed, not appendaged; wings 10x2.5 cm; keels 11 x3.5 cm. Staminal sheath to 12 cm; filaments 1.5 cm. Ovary about ca. 6-8 cm. Pods ca. 60 cm, 5-6 mm across, margins thick; seeds ca. 30, to 8mm.

Fl.: December- April &Fr.: January - March

Ocurrance: Found in low lying areas.

Vern. name: Bok phul (As.)

Coll. No. J Sarma/029 Coll. Date: 5.9.2014

Locality: TU campus

Sesbania sesban (L.) Merr., Philip. Jou. Sci. 7:235. 1912; Deb, FTS. 1:185. 1981; Matthew, FL Tam. Car. 1:458. 1983; Chowdhury *et al.*, Ass. Fl.213,2005.; Patiri and Borah, Wild. Ed. PL Assam 41. 2007. *Aeschynomene sesban* L., Sp. Pl. 714. 1753. *Sesbania aegyptiaca* Poir. in Lamk., Encycl. 7:128, 1806; Hook, f., Fl. Brit. Ind. 2:114,1876; Kanjilal *et al.*, FA. 2:32.1938.

A quite growing soft wooded short lived shrubs, stems and rachis sometimes prickly. Pinna oblong, inequilateral, deciduous; tepals minute or absent. Racemes axillary, bracts and bracteoles caducous.

Calyx campanulate, long. Corolla exerted; petals with long claws; dark brown to purple. Ovary glabrous, linear, stipitae. Pods torulose, many seeded; seeds transversely oblong, estrophiolate.

Fl.: August – September & Fr.: October-April.

Occurrence: Common.

Vernicular name: Joyontiphul (As.)

Coll. No. J Sarma/869 Coll. Date: 12.8.2017

Locality: Sotia

***Tephrosia* Pers.**

Tephrosia purpurea (L.) Pers., Syn. Pl. 2:329, 1807; Hook, f., Fl. Brit. Ind.. 2:112.1876; Kanjilal *et al.*, FA. 2:31.1938; Chowdhury *et al.*, Ass. Fl. 213.2005.

A suberect diffuse perennial; branchlets terete; leaflets opposite, mucronate, oblong-elliptic or lanceolate, obovate, closely parallel nerved; stipules obscure, filiform. Racemes axillary, solitary, paired or leaf opposed, lax flowered, purplish. Calyx lobes lanceolate-setaceous, campanulate. Petals clawed. Stamens 10 (9+1). Ovary sessile; style glabrous or pubescent. Pods straight, thinly pubescent.

Fl. & Fr. September-January

Occurrence: Common.

Vernicular name: Bon nil (As.)

Coll. No. J Sarma/883 Coll. Date:27.7.2017

Locality: Nagsankar

Uraria Desv.

Uraria crinita (L.,) Desv. ex DC., Prodr.2:324. 1825 ; Hook, f., Fl. Brit. Ind. 2:155. 1876; Kanjilal *et al.*, FA. 2 :40.1938; Deb, FTS. 1:188. 1981; Balakr. Fl. Jowai 1: 155. 1981; Singh *et al.*, FM. 1:501. 2002. *Hedysarum crinitum* L. Mant. 1:102. 1767.

A shrub; stems stout, striate. Leaves ca. 12-22 cm long, 3-7 foliate; petioles 6-14 cm long; leaflets oblong, acute to sub acute, base round, acute to mucronate at apex, coriaceous, glabrous above, strongly net-veined and hairy along the nerves beneath; petioles 2 mm long. Racemes 6-30 cm long, terminal, simple, hairy; bracts ciliate; corolla purple, delicately veined. Pods compressed, opaque joined; seeds orbicular.

Fl. & Fr.: October- April.

Occurrence: Common in high lands.

Coll. No. J Sarma/815 Coll. Date: 5.3.2017

Locality: Doangbari

CAESALPINIACEAE R. Br.

Voy. Terra Austral. 2: 551. 1814.

India: about 23 genera and 80 species; Study area: 6 genera and 16 species

Key to the genera

1a. Leaves 1- foliate usually of two connate leaflets ----- ***Bauhinia***

1b. Leaves pinnate

2a. Leaves 2-pinnate

- 3a. Flowers in diffuse corymbose racemes ----- **Delonix**
- 3b. Flowers in elongate corymbose racemes -- **Caesalpinia**
- 2b. Leaves 1-pinnate
 - 4a. Petal absent ----- **Saraca**
 - 4b. Petal distinct
 - 5a. Petals 3, stamens only 3 perfect -- **Tamarindus**
 - 5b. Petals 5
 - 6a. Trees ----- **Cassia**
 - 6b. Shrubs or undershrubs ----- **Senna**

***Bauhinia* L.**

Key to the species

- 1a. Plants trees or shrubs:
 - 2a. Fertile stamens 3; buds sharply angled ----- **B. purpurea**
 - 2b. Fertile stamens usually 5; buds not angled - **B. variegata**
- 1b. Plant large climbers:
 - 3a. Branches flat; twisted in alternate directions ----- **B. scandens**
 - 3b. Branches not flat, not twisted ----- **B. vahlii**

***Bauhinia purpurea* L.**, Sp. Pl. 375.1753; Roxb., Fl. ind. 2;320.1832; Wight & Am., Prodr. fl. Ind. orient. 296.1834; Hook, f., Fl. Brit. Ind. 2:284.1876; Prain, Bengal Plants 1: 441. 1903; Kanjilal *et al.*, FA 2: 141. 1938; BSI, Mat. Fl. Aruna. Pr. 1:393.1996; Chowdhury *et al.*, Ass. Fl. 214.2005.

A moderate sized tree with greenish bark, branches warty, young part pubescent. Leaves oblong, 5.5-11.5 x 6-12 cm; leaflets connate about half way, thin and rough, sometimes lobes overlapping, thin coriaceous, 9-11-nerved, base sub-cordate, entire; petiole up to 3

cm. Flowers 6-8 cm across in few flowered terminal racemes, rose purple; pedicels ca. 2.5 cm; bract ovate. Calyx tomentose, tube turbinate, apex 2- cleft Petals 5, rose-pink, narrow at base, entire, obtuse. Stamens usually 3 fertile, filaments to 2.5 cm. Ovary compressed, grooved; ovules many; style terminal, stigma capitate, pod oblong, 15- 25 cm long, slightly falcate, flat, greenish-purple, pubescent along the suture. Seeds 12-15, flattened, dark-brown, smooth.

Fl.: September-January & Fr.: January- March

Occurrence: Common.

Vernacular name: Ronga-kanchan/ Ronga- kotra (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/111 Coll. Date: 16.6.2015

Locality: Nameri NP

PLATE 7C

Bauhinia scandens L. var. ***horsfieldii*** (Miq.) Ohasi in Hara *et al*, Enum. Fl. Pl. Nep. 2:108. 1979; BSI, Mat. Fl. Aruna. Pr. 1:393. 1996; Chowdhury *et al*, Ass. Fl. 214. 2005. *Lasiboma horsfieldii* Miq., Fl. Ind. Bat. 1(1):71. 1855. *Bauhinia anguina* Roxb., Pl. Corom. 3:82. t. 285. 1819 & Fl. ind. 2: 319. 1832; Baker in Hook .f, Fl. Brit. Ind. 2:284.1878; Kanjiial *et al*, FA 2:147.1938.

A large climber with flat ribbon like stem; branchlets terete, tendrils few. Leaves broadly ovate, entire in old plants, deeply lobed, sometimes almost to the base; in young plants and copious shoots the lobes acuminate or caudate; glabrous, chartaceous; base cordate 5-7- nerved. Flowers very small, arranged in terminal panicles;

bracts minute, subulate. Calyx tube very short, limb 5-cleft. Petals obovate, clawed, white, puberulous. Fertile stamens 3. Ovary stipulate, glabrous. Pod 2.5- 3.5 cm long, indehiscent, obliquely oblong, often ending in a recurved tip, thin, flat, glabrous, 1-2- seeded.

Fl. & Fr.: November- December.

Occurrence: Not very common.

Vernacular name: Deo jokhola (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/121 Coll. Date: 16.6.2015

Locality: Nameri NP

Bauhinia vahlii Wight & Am., Prodr. fl. Ind. orient. 297.1834; Baker in Hook, f, Fl. Brit. Ins. 2:279.1878; Prain, Bengal Plants 1:441.1903; Kanjiial *et al.*, FA 2: 142.1938; BSI, Mat. Fl. Aruna. Pr. 1:394.1996; Chowdhury *et al.*, Ass. Fl. 214.2005.

A huge climber with, often irregularly fluted stem; branchlets often ending with a pair of tendrils; young parts, petioles, and leaf beneath are densely rusty. Leaves variable in size, usually 11- 30 cm across, cleft through about a third of the length; lobes obtuse, rounded, thin but tough, glabrescent above, downy beneath; petiole 7-15 cm long, swollen at both the ends; stipules ovate oblong, obtuse. Flowers 3- 5 cm across, white or cream coloured, in terminal woolly corymbs or corymbose racemes; pedicels 2.5- 6 cm long, densely tomentose; bracts linear; bracteoles linear, small. Calyx-tube 5- toothed, irregularly spitted, reflexed lobes. Petals 2- 3 cm long, obovate or oblanceolate, silky-pubescent outside; margins crisped, glabrous.

Fertile stamens 3. Ovary densely wooly. Pod 13.5- 30 cm long, flat, woody, rusty, velvety.

Fl.: April- June & Fr.: Winter.

Occurrence: Not very common.

Vernicular name: Nak Kati lewa (As.)

Coll. No. J Sarma/ 475 Coll. Date: 14.5.2016

Locality: Sonai Rupai WLS

Bauhinia variegata L., Sp. Pl. 375.1753; Roxb., Fl. ind. 2.319.1832; Hook, f., Fl. Brit. Ind 2:284. 1878; Kanjilal *et al.*, FA 2:140. 1938; Matthew, Fl. Tam. Car. 1:487.1983; Chowdhury *et al.*, Ass. Fl. 214.2005.

A medium sized tree with grey bark. Leaves ovate, usually deeply cordate, 11-15-nerved, thinly coriaceous, glabrous, dull green above and grey glaucous beneath, cleft through about a quarter or one third of the length; petioles about 4 cm; stipules triangular. Panicles usually terminal on leafless shoots. Flowers large pure white or pink, bract and bracteoles very small, pedicels short. Calyx covered with some what grey and sticky pubescent, tube about 2 cm long, slender; limb spatheaceous, 5-toothed at the apex. Petals 5, about 4 cm long, obovate or ovate-oblong, base clawed with distinct midrib and veins, glabrous; 4 white or pink and one variegated. Stamens typically 5, rarely less, filaments incurved. Ovary with along stipe, pubescent; ovules many. Pod oblong, 15- 22 cm long, hard, flat, glabrous, prominently veined, slightly falcate, dehiscent. Seeds 10-15.

Fl.: February- April Fr.: Rainy season.

Occurrence: Very common.

Vernacular name: Boga Kanchan/kotra (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/132 Coll. Date: 16.3.2016

Locality: Nameri NP

PLATE 7D

Caesalpinia L.

Key to the species:

- | | |
|-------------------------------|---------------------------|
| 1a. Armed straggler or liana | ----- <i>C. bonduc</i> |
| 1b. Unarmed shrub. Ornamental | --- <i>C. pulcherrima</i> |

Caesalpinia bonduc (L.) Roxb., Fl. ind. 2: 362,1832. emend. Dandy et Exell, J. Bot. 76, 179, 1938; Hook, f., Fl. Brit. Ind. 2: 254.1878. Deb, FTS, 1: 115, 198; Matthew, Fl. Tam. Car. 1:488. 1983; Chowdhury *et al.*, Ass. Fl. 214. 2005. *Guilandinia bonduc* L., Sp. Pl. 381, 1753. *C. crista* L., Sp. Pl. 380, 1735, p.p.; Kanjilal *et al.*, FA. 2: 120, 1938. *C. bonducella* (L.) Fleming, Asiat. Res. 11: 159, 1810.

A stragling, scandent prickly shrubs, branches downy. Leaves ca. 30-50 cm long, stipule large; pinnae 4-8 pairs; leaflets 6-10 pairs; elliptic-oblong, obtuse, mucronate, 1.5- 3.0x1-2 cm; stipules foliaceous, pinnate or lobbed. Racemes long, supra axillary, terminal. Flowers yellow, ca. 1.5 cm across. Pods oblong-obovoid, beaked; prickles straight, dense. Seeds 1 or 3, ca. 8x6 cm, shining.

Fl.: July- August & Fr.: January-March.

Occurrence: Common.

Vern. Name : Leta guti (As.)

Coll. No. J Sarma/871 Coll. Date: 12.8.2017

Locality: Biswanath

Caesalpinia pulcherrima (L.) Sw., Obs. Bot 166. 1791; Hook, f., Fl. Brit. Ind. 2:255. 1878; Kanjilal *et al.*, FA 2:122. 1938; Matthew, Fl. Tam. Car. 1:493. 1983; Chowdhury *et al.*, Ass. FL 215. 2005. *Poinciana pulcherrima* L., Sp. Pl. 380. 1753; Roxb., FL ind. 2:355.1832.

A handsome branchy shrub. Leaves 6-9 pairs of pinna, leaflets 8-12 pairs. Flowers orange or yellow in elongate terminal axillary racemes, pedicel articulate. Petals 4, sub equal. Pod compressed.

Fl. & Fr.: Rainy seasons.

Occurrence: Common.

Vern. Name : Radha chura (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/742 Coll. Date: 15.3.2017

Locality: Kolibari

***Cassia* L.**

Key to the species

1a Flowers yellow in lax raceme or panicle:

2a Leaflets 4-8 pairs, oblong-broadly ovate. Raceme drooping

----- ***C. fistula***

2b. Leaflets 7-10 pairs, ovate-oblong. Panicle corymbose

----- ***C. siamea***

1b. Flowers pink in corymbose raceme or panicle.

3a Raceme erect:

3b. Raceme not erect ----- *C. nodosa*

Cassia fistula L., Sp. Pl. 'ill. 1753; Hook.f., Fl. Brit. Ind. 2 : 261. 1878; Kanjilal *et al.*, FA. 2 : 128. 1938; Deb, FTS. 1 : 118. 1981; Haridasan & Rao, For. Fl. Meghalaya 1 : 319. 1985.

A middle sized tree with adpressed pubescent young shoots. Leaf rachis 20-40 cm long, puberulous; leaflets 3-8 pairs, ovate, opposite, elliptic oblong, 4-12x3-7.5 cm, acute to acuminate at apex, base cuneate, glabrous; stipules deciduous, pubescent, minute. Racemes axillary, drooping upto 50 cm long. Flowers attractive dark yellow. Pods terete, 20-55x2-2.5 cm, brownish black, glossy, many seeded.

Fl. & Fr. :April - February.

Occurrence: Common.

Vern. Name: Sonaru (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/211 Coll. Date:2.5.2016

Locality: Nikamul

Cassia nodosa Buch,- Ham. ex Roxb. Fl. ind, 2:336.1832; Kanjilal *et al.*, FA 2:128. 1938; Chowdhury *et al.*, Ass. Fl. 215.2005. Rao *et Vermain* BOBSI 11 (3&4):407.1972.

A small to middle sized tree with horizontal and drooping branches. Leaves 20- 30 cm long; leaflets 10-12 pairs, lowest usually smaller, elliptic-oblong to oblonglanceolate, often bluntly rounded. Flowers bright pink, in clusters or panicles from old nodes. Calyx pubescent, reddish. Petals unequal, sub-oblong to obovate with distinct midrib. Stamens 10, filaments yellow, 3 longer with swellings about the middle and hairy anthers, 4 shorter with spurred anthers, 3 incurved with apparently sterile anthers. Pods long, compressed, woody, transversely ribbed.

Fl. & Fr.: May- June.

Occurrence: Common.

Vern. Name: Bandor lathi (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/137 Coll. Date: 16.3.2016

Locality: Nameri NP

Cassia siamea Lam., Encycl. 1:648. 1785; Hook, f., Fl. Brit. Ind. 2:264. 1878; Matthew, Fl. Tam. Car. 1:508. 1983; Chowdhury *et al.*, Ass. Fl. 215. 2005. *C. florida* Vahl, Symb. Bot. 3:57. 1794; Wight & Am., Prodr. fl. Ind. orient. 288. 1834.

A handsome tree up to ca. 15 m high; branchlets glabrescent. Leaves ca. 15-20 cm; leaflets 7-10 pairs, oblong, ovate, coriaceous, glabrous above, pilose below; stipules subulate, caducous. Panicles terminal, corymbose; bracteolate. Flowers 3 cm across. Calyx-lobes 5, ovate; outer 2 smaller, 4mm; inner 3 larger, 7 mm. Petals 5, ovate-elliptic, yellow, clawed. Stamens 10; upper 3 staminodes; of antheriferous 7 lower 2 large, one medium, other 4 short. Ovary

sessile, deeply grooved, pubescent; ovules many. Pod strap-shaped, flat, long-stipitate, compressed, woody. Seeds 20-30, longitudinal.

Fl. & Fr.: Almost Whole year.

Occurrence: Common in road side.

Uses: Used as ornamental plant

Coll. No. J Sarma/498 Coll. Date: 13.8.2016

Locality: Sonabheel

***Delonix* Rafinesque**

Delonix regia (Bojer) Raf., Fl. Tell. 2:92.1836; Blatter et al., Beautiful Indian Trees (ed. 2) 52. 1954; Matthew, Fl. Tam. Car. 1:512. 1983; Chowdhury *et al.*, Ass. Fl. 215. 2005. *Poiticiana regia* Bojer ex Hook, in Curtis, Bot. Mag. T. 2884. 1829; Hook, f., Fl. Brit. Ind. 2:260.1878; Kanjilal *et al.*, FA 2:137.1938.

A large soft wooded fast growing tree with spreading crown. Leaves large, feathery, 2-pinnate; pinnae 11-18 pairs; stipules pectinate. Flowers gorgeous scarlet and orange; petals 5 cm or more long, orbicular with a long claw. Pod 30-60 cm long, flat, woody.

Fl.: April- June & Fr.: May onwards

Occurrence: Common. Planted as avenue plants.

Vern. Name: Krishna chura (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/031 Coll. Date: 3.4.2014

Locality: TU campus.

PLATE 7E

***Saraca* L.**

3b. Undershrub. Leaflets more than 3 pairs:

4a. Leaflets 4-5 pairs, oblong-lanceolate; foetid:

4b. Leaflets 6-12 pairs, narrow lanceolate, not foetid ----- *C. sophora*

1b. Leaf rachis without glands. Valves of pod with projecting wings ----- *C. alata*

Senna alata (L.) Roxb., Fl. Ind. 2:349. 1832. *Cassia alata* L., Sp. Pl. 1:378. 1753; Hook. f., Fl. Brit. India 2:264. 1878; Gamble, Fl. Pres. Madras 1:404. 1919; Kanjilal *et al.*, Fl. Assam 2:133. 1938; H.J. Chowdhery *et al.* in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:397. 1996; Chauhan in Singh *et al.*, Fl. Manipur 1:329. 2000; Pullaiah and Ramamurthy, Fl. East. Ghats 2001; Singh in Singh *et al.*, Fl. Mizoram 1:514. 2002..

A soft wooded shrub with thick downy branches. Leaflet opposite, 5-14 pairs, oblong or obovate-elliptic, glabrous, rounded, retuse and apiculate at apex, base unequal sided; stipules auricled, acuminate. Raceme spiciform, terminal, 20-30 cm long, long peduncled. Flowers bright yellow, 1-2 cm across; bract orange. Pods compressed, about 16x1.5 cm, dehiscing along the ventral suture; seed deltoid-rhombic.

Fl.: September-November Fr.: October – February

Occurrence: Common.

Vern. Name: Hoilda-phul / Kharpat (As.)

Coll. No. J Sarma/505 Coll. Date: 17.9.2016

Locality: Thelamara

PLATE 7F

Senna hirsuta (L.) Irwin & Barneby, *Phytologia* 44: 499. 1979. *Cassia hirsuta* L., *Sp. Pl.* 1:378. 1753; Baker in Hook. f., *Fl. Brit. India* 2:263. 1878; Gamble, *Fl. Pres. Madras* 1:401; 1919; Kanjilal *et al.*, *Fl. Assam* 2:131. 1938; Pullaiah and Ramamurthy, *Fl. East. Ghats* 2:27. 2001.

A highly branched undershrub, all parts hirsute with dense spreading hairs, stem deeply ribbed. Leaves compound, paripinnate, petiolate, spiral, pulvinous; leaflets subsessile to shortly petiolate, ovate to broad lanceolate, base obtuse, apex acuminate, densely pubescent on both surfaces, entire pinnately veined, lateral nerves opposite to alternate up to 8-9 on either half, oblique, open. Rachis up to 11 cm long, densely pubescent, striate. Flowers in groups of 1-4 deeply yellow on short peduncles, crowded at the ends of shoots. Calyx persistent, petals yellow. Pods 6-12x0.3-3.5 cm across, slender flattened, grooved, densely villous.

Fl. & Fr.: October-January.

Occurrence: Not very Common.

Vern. Name: Medelua (As.)

Coll. No. J Sarma/145 Coll. Date:16.3.2016

Locality: Nameri NP

Senna sophera (L.) Roxb., *Fl. India* 2:347. 1832. *Cassia sophera* L., *Sp. Pl.* 1:379. 1753; Baker in Hook. f., *Fl. Brit. India* 2:262. 1878; Gamble, *Fl. Pres. Madras* 1:402. 1919; Kanjilal *et al.*, *Fl. Assam* 2:130. 1938; C.E.C. Fischer in *Rec. Bot. Surv. India* 12(2):91. 1938; Deb, *Fl. Tripura* 1:120. 1981; Pullaiah and Ramamurthy, *Fl. East. Ghats* 2:41. 2001; Singh in Singh *et al.*, *Fl. Mizoram* 1:518. 2002.

An undershrubs. Leaf rachis 7-20 cm long, grooved, with a conical gland at base; leaflets 1.5-5.0x0.6-2.0 cm, acute or acuminate, lanceolate, glabrous above, unequal at base, glaucous beneath. Racemes corymbose, about 3 cm long. Flowers bright yellow, 2-3 cm across. Ovary hirsute. Pods subterete.

Fl.: June-August & Fr.: October-December.

Occurrence: Common in road side.

Vern. Name: Medelua (As.)

Coll. No. J Sarma/ 423

Coll. Date:7.2.2015

Locality: Bhomoraguri RF

Senna tora (L.)Roxb., Fl. India 2:340.1832. *Cassia tora* L., Sp. Pl. 1:376. 1753; Baker in Hook. f., Fl. Brit. India 2:263. 1878; Gamble, Fl. Pres. Madras 1:401. 1919; Kanjilal *et al.*, Fl. Assam 2:131. 1938; Deb, Fl. Tripura 1:120. 1981; H.J. Chowdhery *et al.*, in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:400. 1996; Chauhan in Singh *et al.*, Fl. Manipur 1:333. 2000; Pullaiah and Ramamurthy, Fl. East. Ghats 2:46. 2001; Singh in Singh *et al.*, Fl. Mizoram 1:520. 2002.

Annual herb; stems woody below. Leaf-rachis 3-4 cm long; pubescent, grooved with 2 subulate gland in between two lower pairs of leaflet; stipules linear; leaflets 3-pairs, gradually bigger from lower to upper pair, obovate, glabrous above, pubescent beneath, apex rounded; foliar glands between the lowest pair of leaflets. Flowers in corymbose racemes, golden yellow. Stamens 7; staminodes 3. Ovary pubescent. Pods compressed, sub-tetragonous, 20-30 seeded, obscurely septate between seeds, glabrous; seeds oblong.

Fl.: June-August & Fr.: Winter.

Occurrence: Common in road side.

Vern. Name: Soru-medeluwa (As.)

Coll. No. J Sarma/159 Coll. Date: 23.4.2016

Locality: Burha Chapori

PLATE 8A

***Tamarindus* L.**

Tamarindus indica L., Sp. Pl. 34. 1753; Roxb. Fl. Ind. 3 :215. 1832;
Hook, f., Fl. Brit. Ind. 2 : 293.1878 ; Kanjilal *et al.*, FA. 2 : 135.1938;
Ohashi in Hara, Fl. E. Himal. 164.1966.

A large gorgeous evergreen tree. Branchlets lenticellate. Leaves 5-7.5 cm long, even pinnate, leaflets 10-20 pairs, 1-1.7x0.3 - 0.5 cm, linear oblong, petiolules minute. Flower pale yellow or creamy. Racemes lax, terminal, few flowered upto 10 cm long; calyx segments lanceolate; petals streaked with red; stamens monadelphous, only 3 perfect; ovary stipitate, stalk adnate to the calyx tube. Pod indehiscent, 7.5-20x2.5 cm usually curved, pericarp crustaceous.

Fl. & Fr.: April - February.

Occurrence: Common.

Vern. Name: Teteli(As.)

Coll. No. J Sarma/212 Coll. Date:2.5.2016

Locality: Baroholia

MIMOSACEAE R. Br.

Voy. Terra Austral. 2: 551. 1814.

India: about 15 genera and 72 species; Study area: 6 genera and 7 species

Key to the genera

1a. Androecium definite usually 8-20

2a. Flowers spicate; anthers having apical gland

3a. Large climber with largest pods:

3b. Erect tree, smaller pods ----- ***Adenanthera***

2b. Flowers in heads, anthers deprived of apical gland

4a. Unarmed tree, pod not dehiscing into 1-seeded joints

5a. Leaves 2-pinnate; stamens 10 ----- ***Parkia***

5b. Leaves 1-pinnate; stamens 20 ----- ***Samanea***

4b. Armed herb or shrub, pod dehiscing into 1-seeded joints

----- ***Mimosa***

1b. Androecium indefinite

6a. Androecium free ----- ***Acacia***

6b. Androecium monadelphous ----- ***Albizia***

***Acacia* Mill.**

Acacia auriculiformis Cunn. Ex Benth. in Hook. Jour. Bot. Kew. Gard. His. Soc. 1 : 377. 1842.

A middle sized tree with pendent branches. Leaves 2-pinnate; young rachis with leaflets sub sessile, glabrous, membranous, linear-lanceolate, in age rachis modified to falcately oblong-phyllode with distinct nerves, thickly coriaceous 5.0 - 16.0 x 0.2- 2.8 cm. Flowers in cylindrical spikes; spikes 2 with short peduncles arisen at the axil of

phyllode, bright yellow, fragrant; bracts 2 on peduncle; calyx 5-lobed, campanulate; petals 5 connate below; stamens numerous, far exerted; ovary 2- many ovuled, style filiform. Pods twisted with undulate margins ; seeds black.

Fl. & Fr.: February – May

Occurrence: Common. Planted as avenue plants.

Coll. No. J Sarma/043 Coll. Date: 5.5.2014

Locality: TU campus.

***Adenanthera* L.**

***Adenanthera pavonina* L.**, Sp. Pl. 384. 1753 ; Hook, f., Fl. Brit. Ind. 2 :287. 1878 ; Kanjilal *et al.*, FA. 2 : 150. 1938 ; Deb, FTS. 1 : 128. 1981.

A middle sized to large unarmed deciduous tree. Leaves 2-pinnate, rachis usually 20-35 cm long; pinnae 3-6 pairs, 7.5-15 cm long; leaflets 6-16, 2-5x 1-2.5 cm oblong to ovate-oblong or elliptic-oblong, alternate, apex obtuse, petiolules 0.2-0.3 cm long in axillary short peduncled racemes upto 17.5 cm long in terminal panicles; pedicels little shorter than the flowers in length, pubescent; bracts miniature, caducous; calyx minute; corolla pale yellow, equal, connate at the base, acute; stamens 10, free, anthers with deciduous glands; ovary sessile, style filiform, stigma capitate. Pod flat, much curved, valves spirally much twisted when opening; seeds 8-15 bright scarlet about 0.5-0.6 cm long, bi-convex on either side.

Fl. & Fr.: March- October.

Occurrence: Common. Planted as avenue plants/ shade tree.

Vern. Name: Ku chandan(As.)

Coll. No. J Sarma/215

Coll. Date: 12.5.2016

Locality: Adabari TE.

Albizia Durazzini

Key to the species

1a. Pinnae 1 pair; leaflets not more than 3 pairs ----- ***A. lucidior***

1b. Pinnae 2-6 pairs; leaflets more than 3 pairs:

2a. Flowers sessile, in paniculate heads ----- ***A. procera***

2b. Flowers pedicilate, in short corymbose racemes or heads

----- ***A. lebbek***

Albizia lebbek (L.) Benth. in Hook., Lond. J. Bot. 3:87. 1844; Hook, f., Fl. Brit. Ind. 2;298. 1878; Prain, Bengal Plants 1:461.1903; Kanjilal *et al.*, FA 2:165; Matthew, Fl. Tam. Car. :538.1983; Chowdhury *et al.*, Ass. Fl. 216.2005.

A huge deciduous tree with a spreading crown, bark dark brown. Pinnae glandular, 2-5 pairs, stipels minute. Leaflets 3-10 pairs, obovate or oblong, pale green, base unequal. Flowers greenish-white. Calyx short toothed. Corolla funnel shaped. Stamens long, fading to yellowish with a green terminal portion. Pod 15- 30 cm long, pale, straw coloured, finely reticulate.

Fl.: May- June & Fr.: Winter.

Occurrence: Common. Planted in tea gardens.

Vern. Name: Siris(As.)

Uses : Used as timber

Coll. No. J Sarma/495

Coll. Date: 13.8.2016

Locality: Sonabheel TE.

Albizia lucidior (Steud.) Nielson in Adansonia 19:222. 1979. *Inga lucidior* Steud. Norn. Bot. ed. 2: 810. 1840; Prain, D. Bengal Plants 1:461. 1903; Kanjilal *et al.*, FA 2:162. 1938; Chowdhury *et al.*, Ass. Fl. 216. 2005. *A. lucida* Baker in Hook. f. Fl. Brit. Ind. 2:299.1878. *Mimosa lucida* Roxb. Fl. ind. 2:544.1832.

A middle sized tree with horizontally wrinkled and warty branches. Young part brown silky. Rachis with a large cup shaped gland at the base and sometimes another near the top. Pinnae usually one pair. Leaflets 2, sometimes 3, terminal pair usually largest oblong-lanceolate or oblanceolate, base almost rounded, glossy-dark green above, pale beneath. Heads small, peduncled. Calyx campanulate, puberulous in mature flowers. Corolla silky outside. Stamens numerous, pale yellow. Pods 15- 25 cm long, attenuated at both ends, deep brown, reticulated, flexible at length, dehiscent. Seeds 6-8, orbicular.

Fl.: March – May & Fr.: Generally October- December.

Occurrence: Common in wild also planted in tea gardens.

Vern. Name: Moj, Micha-goch, Moj-koroi (As.)

Uses : Used as timber

Coll. No. J Sarma/916

Coll. Date: 12..11.2017

Locality: Dhekiajuli TE.

Albizia procera (Roxb.) Benth. in Hook., Lond, J. Bot. 3:89. 1844; Baker in Hook. f, Fl. Brit. Ind. 2:299. 1878; Praia, Bengal Plants

1:461. 1903; Kanjilal *et al.*, FA 2:163. 1938; Chowdhury *et al.*, Ass. Fl. 216. 2005. *Mimosa procera* Roxb., Corom. Pl. 2:12.1.121.1878.

A tall sub-decuedous tree with smooth yellowish-grey bark outside. Leaf rachis with a large basal gland; pinnae 2-6 pairs, often with glands between the upper 1-2 pairs of leaflets; leaflets 6-16 pairs, oblique or rhomboid-oblong, obtuse, silvery when young. Flowers sessile, yellowish-white. Calyx tubular. Corolla ca. 0.5 cm long. Stamens 1cm long, filaments yellowish. Pods 10- 20 cm long, glabrous, reddish-brown, flexible. Seeds 6-12.

Fl.: Summer & Fr.: Winter .

Occurrence: Common . Planted in tea gardens.

Uses : Used as timber

Coll. No. J Sarma/917 Coll. Date: 12.11.2017

Locality: Dhekiajuli TE.

***Mimosa* L.**

Mimosa pudica L., Sp. pi. 518. 1753; Roxb., Fl ind. 2:564. 1832; Hook, f., Fl. Brit. Ind. 2:291. 1878; Prain, Bengal Plants 1:456. 1903; Kanjilal *et al.*, FA 2:152. 1938; Chowdhury *et al.*, Ass. Fl. 216.2005.

A straggling and spreading deciduous sub-shrub; stem and branches prickly and clothed with bristles. Leaves very sensitive; pinnae 4, digitately arranged; stipules linearlanceolate with bristly edges; leaflets 12-20 pairs, about 0.8 cm long, obliquely narrow oblong, acute, ndersurface adpressed. Heads on slender axillary peduncles, covered with spreading bristles. Petals 4, pink. Stamens 4, filaments about 6 mm. ovary subsessile, globose, style 6 m. Pods clustered, flat, with weak prikles on the sutures. Seeds 2-5, compressed, ovoid.

Fl.: July – November & Fr.: November – December.

Occurrence: Common in wild .

Vern. Name: Lajuki-lota, Nilaji-bon (As.).

Coll. No. J Sarma/98 Coll. Date: 13.3.2015

Locality: Napaam

PLATE 8B

Samanea Merr. in Philip.

Samanea saman (Jacq.) Merr. in Jour. Wash. Acad. Sci. 6:47. 1916.

Mimosa saman Jacq. Fragm. 15, t. 8. 1800. *Inga saman* Willd., Sp. Pl. 4 : 1024. 1806. *Pithecellobium saman* Benth. in Jour. Bot. 3:101. 1844 ; Deb, FTS. 1 : 137. 1981.

A showy huge tree with spreading crown. Leaves 2-pinnate; rachis with a gland between each pair of leaf-lets; pinnae 3-7 pairs; leaflets 2-10 pairs, opposite, ovate-oblong, obtuse, shining above, 3.5-4.5x1.5-2.0 cm. Flowers in solitary globose head, pinkish; calyx 5-lobed, pubescent outside; petals 5-lobed, yellowish, silky; stamens 20, pinkish connate; ovary many ovuled, style filiform, stigma capitate. Pods sessile, indehiscent with thickened suture.

Fl. & Fr.: February- Aug.

Occurrence: Common.

Vern. Name: Bilati siris (As.).

Coll. No. J Sarma/044 Coll. Date: 5.5.2014

Locality: TU Campus.

PLATE 8C

CRASSULACEAE J. St.-Hil.

Expos. Fam. Nat. 2: 123. 1805.

India: 6 genera and 69 species; Study area: 1 genus and 1 species

Kalanchoe Adans.

Kalanchoe pinnata (Lamk.) Pers. Syn. 446.1805; Baker in van Steenis, Fl. Males. 1.4 : 129. 1951. *Cotyledon pinnata* Lamk. Diet. 2 : 141. 1786. *Bryophyllum pinnatum* (Lamk.) Oken, Allg. Naturgesch. 3 : 1996.

Strong herb, branching at the base, nodes swollen. Leaves variable from simple to 7 foliate, obtuse, crenate, ovate oblong, thickly fleshy, bordered with purple; petiole semi - amplexicaul, detached leaves produce young plants from the margins. Flowers in paniced cymes; calyx strongly tinted with purple; corolla green in the lower half, red in the upper half; filaments pinkish upward; hypogynous yellow scales adhering at the base to the ovary.

Fl. &Fr.: September - February.

Occurrence: Common.

Vern. Name: Pategaja, Dupartenga (As.).

Coll. No. J Sarma/215 Coll. Date: 2.5.2016

Locality: Kekorapool.

DROSERACEAE Salisb.

Parad. Lond., ad t. 95. 1808.

Drosera L.

Drosera burmanii Vahl., Symb. Bot. 3:50. 1794; Roxb., Fl. ind. 2:113. 1832; Wight & Am. Prodr., f t Ind. orient. 34. 1834; Hook. F., Fl. Brit.

Ind. 2:424. 1878; Prain, Bengal plants 1:472.1903; Kanjilal *et al.*, FA 2; 234.1938; Chowdhury *et al.*, Ass. Fl. 218. 2005.

A small insectivorous, acaulescent herb. Leaves 0.5- 1.5 cm with red, all radical- rosulate, spatulate, clothed with curious gland-tipped tentacles; petioles flat; stipules scarious, scape 5-10 cm long, rachis purplish, glabrous. Calyx-lobes 5, oblong, obtuse. Petals 5, pinkish or whitish, ca. 5-6 mm. Stamens 5, filaments 3.5- 4 mm. Ovary ovoid, tri-celled; ovules 2 per cell; styles 5. Capsule 5-valved. Seeds many, black, minute.

Fl. & Fr.: January- February

Occurrence: Very Rare.

Vern. Name: Rod mukuta (As.).

Coll. No. J Sarma/184 Coll. Date: 16.3.2016

Locality: Nameri NP.

RHIZOPHORACEAE Pers.

Syn. Pl. 2:2. 1806. nom. cons.

India about 3 species ; Study area: 1 species recorded.

Carallia brachiata (Lour.)Merr., in Phillip. J. Sci. 15:249. 1985; Deb, Fl. Tripura 1:376. 1981; H.J. Chowdhery *et al.*, in Hajra *et al.*, Materials for the Fl. Arunachal Pradesh 1:463. 1996; Singh in Singh *et al.*, Fl. Mizoram 1:571. 2002; Pullaiah *et al.*, Fl. East. Ghats 3:16. 2007. *Carallia integerrima* DC., 159 Prodr. 3:33. 1828; Hook. f., Fl. Brit. India 2:439. 1879; Gamble, Fl. Pres. Madras 1:456. 1919; Kanjilal *et al.*, Fl. Assam 2:241. 1938.

Tree; bark dark brown. Leaves opposite, 9-11 x 6-7 cm, obovate, apex obtuse, base attenuate, coriaceous, nerves indistinct; stipule interpetiolar, ovate. Flowers in axillary resinous, peduncled cymes with dichotomous branches; sepals 8, ovate, acute; petals 8, smaller, reddish, orbicular; stamens 16; ovary 4- celled. Drupes 1-seeded, glabrous.

Fl.: December-February & Fr.: January-April.

Occurrence: Occasional in semi-evergreen forests.

Coll. No. J Sarma/222 Coll. Date: 16.3.2016

Locality: Nameri NP.

COMBRETACEAE R. Br.

Prodr. 351. 1810.

India: 6 genera and 32 species; Study area: 2 genera and 5 species

Key to the species

1a. Tree. Leaves alternate. Fruit not winged ----- ***Terminalia***

1b. Scandent shrubs. Leaves oposite. Fruit winged

2a. Petals small, calys limb not long ----- ***Combretum***

2b. Petals conspicuous, calys limb long ----- ***Quisqualis***

***Gombretum* LoeflL**

Combretum acuminatum Roxb., Fl. ind. 2:225. 1832; Hook, f., Fl. Brit. Ind. 2: 457. 1878; Prain, Bengal Plants 1:483. 1903; Kanjilal *et al.*, 2: 252. 1938; Chowdhury *et al.*, 219.2005.

A large woody climber, young parts puberulous. Leaves opposite, ovate or elliptic, oblong-lanceolate, acuminate, coriaceous, glabrous along the midrib; lateral nerves 10-15 on either side; base subcordate or acute. Spikes axillary and forming leafy panicles at the ends of branches, bracteoles small, caduceous. Flowers 4-merous. Calyx dotted with minute round scales; campanulate; teeth erect, acute. Petals narrowly oblanceolate, acute. Fruit 2.5-5 cm long, 1- 1.3 cm broad, narrowly ellipsoid-narrowed at either end, bluntly 4-ridged, fluted between the ridges, brown.

Fl.: February- March & Fr.: till July

Occurrence: More or less common in hill slopes.

Vern. Name: Nahor lota (As.).

Coll. No. J Sarma/ 425 Coll. Date: 7.2.2015

Locality: Bhomoraguri RF.

***Quisqualis* L .**

Quisqualis indica L., Sp. PL (ed. 2.) 1:556. 1762; Roxb., Fl. ind. 2:427. 1832; Hook, f., Fl. Brit. Ind. 2:459. 1878; Kanjilal *et al*, FA 2: 256. 1938; Chowdhury *et al*, Ass. Fl. 219.2005.

A huge scandent shrub. Leaves elliptic-acuminate, pubescent. Flowers 5-merous, highly scented, at first white and then turning red. Calyx limb slender. Ornamentally planted in the homesteads and sometimes running wild.

Fl.: May-August

Occurrence: Common.

Vern. Name: Malati/Madhabi lota (As.).

Coll. No. J Sarma/439

Coll. Date: 8.2.2015

Locality: Chandmari.

***Terminalia* L.**

Key to the species

1a. Drups winged. Spikes paniced ----- ***T. arjuna***

1b. Drups not winged. Spikes simple:

2a. Leaves apieally clustered. Drupes globose ---- ***T. bellirica***

2b. Leaves sub-opposite. Drupes not globose ---- ***T. chebula***

Terminalia arjuna (DC.) Wight & Arn., Prodr., fl. Ind. orient. 314. 1834; Hook, f., Fl. Brit. Ind. 2:447. 1878; Prain, Bengal Plants 1: 481. 1903; Chowdhury *et al.*, Ass. Fl. 219. 2005. *Pentaptera arjuna* Roxb. ex DC., prodr. 3:14,1828; Roxb., Fl. ind. 2:438.1832.

A deciduous big tree with pubescent branchlets. Leaves alternate or sub-opposite, oblong or obovate-oblanceolate, thick-coriaceous, nerves 15-18 pairs, glabrous, base obtuse-sub cordate, margin crenate-serrate, apex obtuse; petiole having 2 glands close to the base of the blade. Spikes axillary, in panicles, peduncle to 5 cm. Flowers ca. 4 cm across. Calyx-tube ca. 2 mm, pubescent, lobes 5, triangular, cream coloured. Stamens 10; filaments 3-4 mm. Ovary ovoid, 1-celled. Drupe 5-angled, 5- equal winged.

Fl.: April-July & Fr.: June onwards.

Occurrence: Common.

Vern. Name: Aijun goch (As.)

Uses: bark eaten

Coll. No. J Sarma/661

Coll. Date: 12.11.2017

Locality: Sengalijan.

PLATE 8D

Terminalia bellirica (Gaertn.) Roxb. Pl. Corom. 2 : 54. t. 198. 1798 ;
Cl. in Hook.f., Fl. Brit. Ind. 2 : 445. 1878; Kanjilal *et al.*, FA. 2 : 243.
1938; Rao et Rabha, BOBSI 8 : 299. 1966; Deb, FTS. 1 : 384 1981;
Balakr. Fl. Jowai 1:581. 2002.

Large deciduous large tree some time buttressed. Leaves alternate, clustered at the end of the branches, elliptic or elliptic oblong, apiculate, sub coriaceous, narrowed towards the base, puberulous on young, glabrous on maturity, lateral nerves prominent beneath. Flowers lower bisexual, upper male, in slender drooping spikes at the axil of the leaves in new shoots, foetid smelling, greenish yellow; calyx 5 lobed, campanulate, hairy out side; petals 0; stamens 10,2 seriate; ovary inferior, 2 - celled, hairy. Drupes globose, abruptly narrowed to a short stalk; seeds solitary.

Fl. & Fr.: April - December.

Occurrence: Common.

Vern. Name: Bhomora (As.)

Uses: Fruit eaten

Coll. No. J Sarma/444

Coll. Date: 14.3.2015

Locality: Tumuki.

Terminalia chebula Retz., Obs. Bot. 5:3 L 1788; Roxb., PL
Coromandel 1.197.1805 & Fl. ind. 2:433. 1832; Hook, f., FL. BRIT.
IND. 2:446. 1878; Prain, Bengal Plants 1: 481. 1903; Kanjilal *et al.*,

Callistemon R. Br.

Callistemon citrinus (Curtis) Stapf. in Bot. Mag. 150.t. 9050. 1925; Mathew, EFKP. 104.1969. *Metrosideros citrina* Curtis in Bot. Mag. t. 260. 1794. *Callistemon lanceolatus* DC., Prodr. 3 : 223. 1828.

Ever green shrubs or small tree; bark, fissured ; branches drooping. Leaves alternate, coriaceous, pubescent, linear-lanceolate, acute, light green above whitish beneath. Spikes terminal, bottle brush like. Flowers crimson, sessile; stamens many, exserted. Capsules truncate at apex.

Occurrence: Common. Cultivated as ornamental plants.

Vern. Name: Bottle brass (As.)

Coll. No. J Sarma/912 Coll. Date: 11.11.2017

Locality: Podum pukhuri

Eucalyptus L.

Eucalyptus maculata Hook., Icon. Pl. t. 619. 1844; Kahjilal *et al.*, FA. 2:286. 1938; Matthew, Fl. Tam. Car. 1:589.1983; Chowdhury *et al.*, Ass. Fl. 219.2005.

Very tall tree with smooth bark due to decortication of older barks. Leaves 10-15 cm long, lanceolate. Flowers usually in 3-flowered umbels, arranged in panicles: operculum hemispheric. Stamens opening by slits. Fruit ovoid.

Occurrence: Common.

Vern. Name: Eucaliptus (As.)

Coll. No. J Sarma/345 Coll. Date:2.5.2015

Locality: Ghoramara.

PLATE 8E

Psidium L

Psidium guajava L., Sp. Pl. 470. 1753; Hook, f., FL. BRIT. IND. 2:468. 1878; Prate, Bengal Plants 1:487. 1903; Kanjilal *et al.*, FA 2: 287. 1938; Matthew, Fl. Tam. Car. 1:593. 1983; Chowdhury *et al.*, Ass. Fl. 220.2005.

A small semi-evergreen tree with pinkish brown barks exfoliating in small pieces giving the stem a smooth appearance. Leaves opposite, oblong or elliptic-oblong, entire, glabrous above, pubescent beneath, aromatic and pellucid dotted. Flowers in axillary panicles, sometime solitary, pedunculate. Calyx urceolate, lower portion adnate to the ovary, upper portion free and irregularly lobed. Petals free. Stamens many, exserted. Berry globose or pyriform, varying in size and shape. Seeds numerous, immersed in a pleasantly flavoured sweet pulp.

Fl. & Fr.: Whole year.

Occurrence: Common.

Vern. Name: Madhuri-am (As.).

Uses: Fruits eaten

Coll. No. J Sarma/351

Coll. Date: 2.5.2015

Locality: Ghoramara.

Syzygium Gaertn.

Key to the species

1a. Flowers larger about 3.7 cm across, pedicelled ----- *S. jambos*

1b. Flowers smaller about 0.5 cm across, sessile

- 2a. Berry globose or ellipsoid, not curved ----- *S. fruticosa*
2b. Berry oblong or ellipsoid, usually curved ----- *S. cumini*

Syzygium cumini (L.) Skeels, U.S. Dept. Agr. Bur. Pl. Industr. Bull. 248:25. 1912; Matthew, Fl. Tam. Car. 1:94. 1983; Chowdhury *et al.*, Ass. Fl. 220. 2005. *Myrtus cumini* L., Sp. Pl. 471. 1753. *Eugenia jambolana* Lamk., Encycl. 3:1981789; Kanjilal *et al.*, FA. 2:278.1938.

A large vergreen tree with light grey or brown bark. Leaves variable in size and shape, elliptic-oblong or ovate, acuminate, acute or subobtuse, narrowed to the base, smooth, glossy when young. Flowers greenish-white, pedicillate, ca. 1 cm in across, scented. Calyx broad turbinate, with a truncate or very obscurely lobed limb and pedicel like solid basal portion. Petals dirty white, calyptrate, sub-orbicular, dotted with large pellucid glands. Berry variable in size and shape, usually up to 2.5 cm or more long, oblong or ellipsoid, often somewhat curved, black, juicy and shining when ripe, crowned with cup like limb of the calyx. Seed usually one.

Fl.: April- May & Fr.: June- July

Occurrence: Common.

Vern. Name: Kola Jamun (As.).

Uses: Fruit eaten

Coll. No. J Sarma/818

Coll. Date: 5.3.2017

Locality: Hatigate

PLATE 8F

Syzygium fruticosum DC., Prodr. 3 :260.1828 ; Bennet, Fl. Howrah 264. 1979. *Eugenia fruticosum* Roxb., Fl. Ind. 2 :487.1832 ; Duthie in Hook, f., Fl. Brit. Ind. 2 :499. 1878 ; Kanjilal *et al.*, FA. 2 : 279. 1938,

Glabrous shrub or small tree. Leaves elliptic to elliptic-oblong, gradually acuminate, base cuneate or acute. Cymes paniced, usually trichotomous, 4-angled branches. Flowers small, sessile, bracteoles minute. Calyx turbinate, limb truncate or very obscurely 4-lobed. Petals white, calyptrate, sometimes free. Berry 0.5- 0.7 cm long, globose or ellipsoid.

Fl.: March-April & Fr.: May- June

Occurrence: Common.

Vern. Name: Kathiya jamu (As.)

Coll. No. J Sarma/666 Coll. Date: 15.3.17

Locality: Nameri NP

Syzygium jambos (L.) Alst. in Trimen, Handb. Fl. Cylon 6 : 115. 1931; Haridasan & Rao, For. Fl. Meghalaya 1: 397.1985. *Eugenia jambos* L., Sp. Pl. 470. 1753; Hook.f., Fl. Brit. Ind. 2 : 474. 1878; Kanjilal *et al.*, FA. 2 : 266. 1938.

Medium sized tree. Leaves opposite, simple, lanceolate acuminate, coriaceous, gland dotted midrib distinct beneath, exstipulate, 14.0 - 18.0x2.5 - 4.0 cm; petioles 0.7 cm long. Flowers in terminal raceme like cyme, large, white; calyx 4 lobed, turbinate; petals 4, free; stamens numerous, long white; ovary inferior. Berries globose or pyriform, yellowish white, crowned by calyx lobes; seed 1.

Fl. & Fr.: March - August.

Occurrence: Common as well as cultivated.

Vern. Name: Boga jamu (As.)

Uses: Fruit eaten

Coll. No. J Sarma/ 245

Coll. Date: 5.2.2016

Locality: Nameri NP

LECYTHIDACEAE A. Rich.

Dict. Class. Hist. Nat. 9: 259. 1825.

India: 3 genera and 8 species; Study area: 1 genus and 1 species

Careya Roxb.

Careya arborea Roxb., Pl. Coromendal t. 218.1811 & Fl. ind. 2:638.1832; Wight & Am. Prodr. fl. Ind. orient. 334.1834; Hook, f., Fl. Brit. Ind. 2:511.1879; Prain, Bengal Plants 1:492.1903; Kanjilal *et al.*, FA 2:288.1938.

A moderate sized deciduous, brownish-red inside. Leaves alternate, large, obovate or oblanceolate, shortly acuminate or obtuse; base narrowed to a short margined petiole, crenulate-denticulate, lateral nerves 10-15, looping near the margins; turns red or purple before falling. Flowers in stiff terminal spikes, 7- 10 cm across, with an unpleasant smell, white or pink; bracts 3, unequal, central elliptic. Calyx about ca. 2.5 cm long; calyx-tube eampanulate, not produced beyond the ovary; lobes 4. Petals 4, white, caduceus, about 5 cm long, imbricate, elliptic. Stamens numerous in several series; filaments up to 7 cm long, gradually longer outwards; innermost and outermost series without anthers. Ovary inferior, 4-celed; ovules

numerous, in 2 series in axile placentae. Berry ca. 7 cm in across, globose or ovoid; seeds numerous, immersed in pulp.

Fl.: April- May & Fr.: July

Occurrence: Not very common.

Vern. Name: Pani bhela/ Kumbhi(As.)

Coll. No. J Sarma/691 Coll. Date: 22.4.17

Locality: Bhalukpong.

BARRINGTONIACEAE DC. ex F. Rudolphi

Syst. Orb. Veg.56. 1830.

India: 5 species recorded; Study area: 1 species recorded

Barringtonia Forst.

Barringtonia acutangula Gaertn. Fruct. sem. pl. 2:97, t. 101. 1790;
Hook. f., Fl. Brit. Ind. 2 : 508. 1878; Kanjilal *et al.*, FA. 2 : 289. 1938.

A sm all to medium sized tree. Bark dark grey almost black. Leaves alternate, crowded at the end of the branches, obovate to oblanceolate, apex rounded, minutely denticulate; lateral nerve distinct. Flower in long peduncles, deep red, drooping, glabrous racemes. Pedicel long, bract oblong. Calyx tube funne shaped, not produced beyond the ovary. Petals 4, rounded, equalling the tube. Stamens in several series, red, connate below. Ovary inferior, 2 celled. Fruit oblong, angular, bluntly.

Fl. & Fr.: October-December.

Occurrence: Rare. Important mangrove plant, very rare in NE region.

Vern. Name: Hijal (As.)

Coll. No. J Sarma/161 Coll. Date:23.4.2016

Locality: Burha Chapori WLS

PLATE 9A

MELASTOMATACEAE Juss.

Gen. Pl. 328. 1789.

India: 11 genus and 70 species; Study area: 2 genera and 2 species

Key to the genera :

1a. Stamens equal; capsule opening by apical pore ----- ***Osbeckia***

1b. Stamens unequal; capsule bursting irregularly --- ***Melastoma***

Melastoma L.

Melastoma malabathricum L., Sp. Pl. 390.1753; Hook, f., FL. BRIT. IND.. 2 : 523. 1878; Kanjilal *et al.*, FA. 2 :279. 1938; Deb, FTS. 1: 388. 1981; Balakr. FI. Jowai 1:202. 1981; Haridasan & Rao, For. FI. Meghaleaya 1 : 407. 1985; Singh *et al.*, FM. 1 : 597. 2002.

A handsome tall bushy shrub; young parts adpressed bristly. Leaves opposite, simple, elliptic, lanceolate or oblong lanceolate, hairy, strigose, acuminate, and adpressed pubescent beneath, petioles strigose. Flowers in clusters at the end of brances, generally mauve purple; bracts enclosing the buds; calyx 4 lobed densely covered with brown serrulate scales; petals 4; stamens 8, unequal; ovary 4-5 celled, ovules numerous. Fruits truncate pulpy.

Fl. & Fr.: Whole year.

Occurrence: Cpmmon.

Vern. Name: Futuki/Futukola/Futkoli (As.)

Coll. No. J Sarma/ 643 Coll. Date: 25.6.2017

Locality: Sonai Rupai

PLATE 9B

***Osbeckia* L.**

Osbeckia nepalensis Hook. f., Fl. Brit. Ind.. 2: 525.1879; Praia, Bengal Plants 1: 516, 1903; Kanjilal *et al.*, FA. 2: 295.1938; Chowdhury *et al.*, Ass. Fl. 221.2005.

A small shrub. Leaves oblong-lanceolate to lanceolate, broadly acute to shortly acuminate; base broadly cordate to rounded, 5- nerved, pubescent on both surfaces with rather harsh hairs, petioles very short. Flowers white, 5-merous, in compound corymbose cymes, terminal and sometimes from upper axils; bracts more than 1 cm long, ovate or elliptic, ciliate along the margins. Calyx with persistent scales, fringed with bristles, rim deciduous, lobes 1 cm, broadly lanceolate, glabrous, ciliate along the margins. Petals 1.5 cm long, broadly obovate, usually with a few cilia at the apex. Stamens 10, filaments dilated in the middle; apex constricted and crowned by a rim, anthers attenuated to a pointed tip. Fruit about 1.3 cm long, free portion of the fruiting calyx very short; apex of the capsule slightly protruding beyond the rim.

Fl. & Fr.: April - November, sometimes through out the year.

Occurrence: Common.

Vern. name: Boga phutkola, Bogi-phutuki (As.)

Coll. No. J Sarma/ 633

Coll. Date: 25.06.2017

Locality: Gelgeli

LYTHRACEAE J. St.-Hil.

Expos. Fam. Nat. 2: 175. 1805.

India: 8 species and 58 species; Study area: 5 genera and 6 species

Key to the genera

1a. Herbs.

2a. Petals absent ----- ***Ammania***

2b. Petals present

3a. sepals and petals 4 each ----- ***Rotala***

3b. sepals and petals 6 each ----- ***Cuphea***

1b. Trees. Leaves not sessile;

4a. Flower 4-merous. Stamens 8 ----- ***Lawsonia***

4b. Flower 6-merous. Stamens many ----- ***Lagerstroemia***

***Ammannia* L.**

Ammania baccifera L., Sp. Pl. 120.1753; Hook.f., Fl. Brit. Ind. 2:569.1879; Kanjilal *et al.*, FA. 2: 316.1938; Fischer in Rec. Bot. Surv. India 12 (2) 96. 1938; Singh *et al.*, FM. 1:610.2002.

Annual erect herb, upto 45 cm high. Leaves opposite, occasionally alternate, oblong to elliptic lanceolate, base cuneate, apex acute, entire; petioles absent. Dichasial cymose, compact, flowers axillary in dense clusters on stem; calyx tube 2 mm long; petals absent. Capsules globose, deep black.

Fl. & Fr.: December - April.

Occurrence: Common.

Coll. No. J Sarma/873

Coll. Date: 12.8.2017

Locality: Biswanath

Cuphea R. Br.

Cuphea balsamona Cham, et Schl., *Linnaea* 2: 363, 1827; Jain *et* Hajra BBSI 17: 82, 1975.

A small woody herb. Stems and lower surface of leaves covered with purplish glandular hairs. Leaves ovate-elliptic, 1.5 - 3 x 0.6 - 1.5 cm, subsessile. Flowers ca. 0.5 - 0.7 cm long, purple. Sepals connate to form a tubular calyx. Calyx tube ribbed, glandular pubescent. Petals spreading. Stamens 11 at the neck of the calyx tube, included. Ovary oblong; style short. Fruit an ellipsoid capsule.

Fl. & Fr. : March - September.

Occurrence: Frequent.

Coll. No. J Sarma/825

Coll. Date: 9.5.2017

Locality: Agnigarh .

Lagerstroemia L.

Key to the species

1a. Small tree or Shrub

----- ***L. indica***

1b. Huge tree

----- ***L. speciosa***

Lagerstroemia indica L., *Syst. ed* 10.1076. 1759; Hook, f., *Fl. Brit. Ind.* 2: 575.1879; Kanjilal *et al.*, *FA.* 2 : 312. 1938; Haridasan & Rao, *For. Fl. Meghalaya* 1 : 414. 1985; Singh *et al.*, *FM.* 1 : 612. 2002.

A handsome small tree. Leaves alternate oblong or obovate or obovate orbicular, 7-15x5-9 cm, base rounded, acute or sub obtuse at apex, glabrous on both sides, entire; lateral nerves 16 pairs or more. Panicle ca. 30 cm long, sub pyramidal; flowers ca. 2-4 cm across, attractive, mauve purple. Capsules spherical, obconic upto 2 cm across.

Fl. & Fr.: April - December.

Occurrence: Common.

Vern. name: Ajar/ Parul (As.)

Coll. No. J Sarma/829 Coll. Date: 9.5.2017

Locality: Baroholia

Lagerstroemia speciosa (Linn.) Pers., Syn. 2:72. 1807. Bailey, l.c. 1775; Furtado & Montien, l.c. 264.

A handsome huge tree up to 20 m. tall. Leaves oval or elliptic, obtuse to acute, petiole 5-9 mm long. Panicles ca. 14-35.5 cm long. Epicalyx minute, thick. Sepals 7-8 mm long, 4.5-5 mm broad, in fruit spreading, woody. Petals broad, claw 5-6 mm. Ovary ac. 6 mm in diameter. Capsule 1.7-2 cm in diameter, rugose.

Fl.: May-July. Fr.: April-July.

Occurrence: Common.

Vern. name: Ajar (As.)

Uses : Used as timber

Coll. No. J Sarma/269 Coll. Date:8.2.2016

Locality: Misamari

PLATE 9C

Lawsonia L.

Lawsonia inermis L., Sp. Pl. 349. 1753; Roxb., Fl. Ind. 2:258. 1832; Prain, Bengal Plants 1: 502.1903; Matthew, Fl. Tam. Car. 1:609.1983; Chowdhury *et al.*, Ass. Fl. 222.2005. *Lawsonia alba* Lam., Encycl. 3:106.1789; Hook, f., Fl. Brit. Ind. 2:573.1879.

A large shrub with spine tipped branchlets. Leaves decussate, obovate-elliptic, entire, acute. Panicles terminal, cymose. Flowers tetra-merous. Petals 4, yellowish. Stamens 8, inserted in rim of calyx-tube. Ovary 4-celled, ovules unspecified per cell.

Occurrence: Common. Cultivated.

Vern. name: Jetuka (As.)

Coll. No. J Sarma/271

Coll. Date: 12.2.2016

Locality: Murhateteli

Rotala L.

Rotala rotundifolia (Roxb.) Kochne in Bot. Jahrb. 1:175. 1880; Singh *et al.*, FM.l. 615. 2002; *Ammannia rotundifolia* Roxb., Fl. Ind. 1:446. 1820; Hook, f., Fl. Brit. Ind. 2:566. 1879.

Erect small herb with rooting at lower nodes. Leaves opposite, entire, sessile or subsessile, or in terminal spikes, small, pinkish; bracteoles 2; calyx membranous, campanulate orbicular, exstipulate. Flowers sessile, axillary, solitary, larger than broad; petals alternating calyx lobes; stamens not exerted; ovary cells many ovuled in axile placentae. Fruits septicidal, 4-valved.

Fl. & Fr.: October- May

Occurrence: Common.

Coll. No. J Sarma/326

Coll. Date: 13.9.2014

Locality: Singri Hill RF

SONNERATIACEAE Engl.

Nat. Pflanzenfam. 1: 261. 1897.

India: 2 genera and 4 species; Study area: 1 genus and 1 species

Duabanga Buch.-Ham.

Duabanga grandiflora (Roxb. ex DC.) Walp., Repert 2:114. 1843; Chowdhury *et al.*, Ass. Fl. 222. 2005. *Lagerstroemia grandiflora* Roxb., ex DC., Mem. Soc. Hist Nat. Geneve 32:84. 1826. *Duabanga sonneratioides* Buch.-Ham. in Trans, Linn. Soc. 17:177-178.1835; Clarke in Fl. Brit. Ind. 2:579.1879; Kanjilal *et al.*, FA 2:312.1938.

Huge tree with drooping branchlets with rough, grey bark. Leaves opposite, distichous, red when young, oblong or ovate-oblong, cordate, coriaceous, shortly acuminate, glabrous. Flowers 5- 7.5 cm across, with an unpleasant smell in glabrous compound terminal corymbs. Calyx cup-shaped, persistent, deeply 6-8-lobed, thick, spreading. Petals creamy white, falling of early with the stamens, about 2.5 cm long, clawed, margins erose. Stamens numerous, filaments exserted. Ovary adnate to the calyx at its base, 4-8-celled; ovules numerous. Capsule coriaceous, about 6.3 cm across, loculicidally splitting into 4-8-valves; seeds minute.

Fl.: February- March & Fr.: April- July

Occurrence: Common.

Vern. name: Khokon/ Hokol (As.)

Uses: Used as timber

Coll. No. J Sarma/ 249

Coll. Date: 5.2.2016

Locality: Nameri NP

PLATE 9D

PUNICACEAE Bercht. & J. Presl

Přir. Rostlin 2(94): [378]. 1825.

***Punica* L.**

Punica granatum L., Sp. Pl. 472. 1753; Hook.f, Fl. Brit. Ind. 2 : 581.

1879; Kanjilal *et al.*, 2:315. 1938 ; Singh *et al.*, FM. 1 : 617. 2002.

Small deciduous tree or shrub. Leaves opposite, simple, ovate - lanceolate or oblong - lanceolate, entire, glabrous, exstipulate, narrowed at the base, 2.5 - 5.0 cm long. Flowers on the tops of axillary shoots, bisexual, attractive crimson; calyx 5-7 lobed, persistent; petals 5-7 alternating calyx lobes; stamens indefinite; ovary inferior of several carpels in 2 rows, style filiform, stigma capitate. Fruit a balausta, globose, crowned by persistent calyx limbs; seeds many, angled, juicy, red.

Fl. & Fr.: January - August.

Occurrence: Common. Cultivated.

Vern. name: Dalim (As.)

Coll. No. J Sarma/273

Coll. Date: 13.2.2016

Locality: Prashanti

ONAGRACEAE Juss.

Gen. Pl. 317-318. 1789.

India: 4 genera and 40 species; Study area: 1 genus and 2 species

***Ludwigia* L.**

Key to the species

- 1a. Aquatic. Stems floating with aerophores -----***L. adscendens***
1b. Terrestrial. Stem erect without winged -----***L. perrenis***

Ludwigia adscendens (L.) Hara, J. Jap. Bot. 28. 291. 1953; Matthew, Fl. Tam. Car. 1:621. 1983; Chowdhury *et al.*, Ass. Fl. 223. 2005. *Jussiaea adscendens* L., Mant. Pl. 69. 1767. *J. repens* L., Sp. Pl. 388. 1753, non Forester; Roxb., Fl. ind. 2:401. 1832; Hook, f., Fl. Brit. Ind. 2:587.1879.

Floating aquatic herb. Leaves alternate, oblong to elliptic, hartaceous, glossy above, glabrous, base attenuate, margin entire, apex obtuse. Flowers ca. 4 cm across, peduncle about 2.5 cm, bracteolate. Calyx-tube 5 lobed, deltoid. Petals 5, cream with a yellow blotch inside, obovate. Stamens 10, filaments subequal; epipetalous and free. Ovary 5-celed; ovules many. Capsule terete, thick-walled, 10-ribbed, glabrous; seeds 1-seriate, embedded in endocarp.

Fl. & Fr.: Whole year

Occurrence: Common in aquatic body.

Coll. No. J Sarma/203 Coll. Date: 2.5.2016

Locality: Porowa(Mora bhoroli)

Ludwigia perennis L., Sp. Pl. 119.1753; Matthew, Fl. Tam. Car. 1:623. 1983; Chowdhury *et al.*, Ass. Fl. 223. 2005. *L. parviflora* Roxb.,

Fl. ind. 1: 440. 1820: Hook, f., Fl. Brit. Ind. 2: 588. 1879; Prain, Bengal Plants 1:507. 1903; Deb, FTS. 2:179. 1983.

Small annual herbs, young branches pubescent. Leaves base connate, glabrous. Calyx lobes 4, lanceolate, ca. 3.7 mm long, glabrous. Corolla 4, ca. 3 mm long. Ovary 4 celled; stigma globose. Capsules ca. 1 cm long, thin walled, glabrous.

Fl. & Fr.: August- September.

Occurrence: Not very frequent.

Coll. No. J Sarma/465 Coll. Date: 7.5.2016

Locality: Hudupara

TRAPACEAE Dumort.

Anal. Fam. Pl. 36, 39. 1829.

India: 1 genus and 1 species; Study area: 1 species in study area

Trapa L.

Trapa natans L. var. ***bispinosa*** (Roxb.) Makino in linuma, Somoko-Dzusetzu "ed. 3", 1:137. 1907; Chowdhury *et al.*, Ass. Fl. 223. 2005. *Trapa bispinosa* Roxb., PL Coromandel. 3: t. 234. 1815; Clarke in Fl. Brit. Ind. 2:590.1879; Prain, Bengal Plants 1:508. 1903; Kanjilal *et al.*, FA 2:319.1938.

An aquatic floating herb. Leaves dimorphic; submerged leaves opposite, pinnately segmented; floating leaves in rosettes, broadly rhomboid. Flowers few, white, close to the surface of water, pedicels short. Calyx hairy, half superior, two of the lobes enlarging and spinescent in fruits. Stamens 4. Fruit single seeded, hard, obovoid

with a short beak and two lateral sharp spines dark brown or black when ripe.

Fl. & Fr: October - March.

Occurrence: Frequent.

Vern. Name : Bor singori / Paniphal (As.)

Coll. No. J Sarma/227 Coll. Date:15.2.2016

Locality: Hajara pukhuri

PASSIFLORACEAE Juss. ex Roussel

Fl. Calvados (ed. 2) (ed. 2) 334. 1806.

India: 2 genera and 28 species; Study area: 1 genus and 2 species

***Passiflora* L.**

Key to the species

1a. Flowers violet; bracteoles not pinnatifid ----***P. adenophylla***

1b. Flowers greenish white; bracteoles much pinnatifid ---***P. foetida***

Passiflora adenophylla Mast, in Fl. Bras. xiii. 1. 568 ; Kanjilal *et al.*,
FA. 2 : 323. 1938.

Slender but fairly extensive climber. Leaves pale green, tri-lobed; mucronate, membranous, entire base retuse, 5-nerved; petioles 3.0 cm long; stipules leafy, large, auricled at base. Flowers solitary, attractive violet, pendulous with 3 leafy bracteoles near top; sepals 5; petals 5, purplish-blue; stamens - 5; ovary superior, ovules many in 3 parietal placentae. Fruits baccate, numerous seeded.

Fl. & Fr.: August - December.

Occurrence: Frequent.

Vern. Name : Sankha Chakra Gada Padma (As.)

Coll. No. J Sarma/229 Coll. Date: 13.2.2016

Locality: Ouguri

Passiflora foetida L., Sp. Pl. 959. 1753; Kanjilal *et al.*, FA, 2: 322. 1938; Matthew, Fl. Tam. Car. 1:630.1983; Chowdhury *et al.*, Ass. Fl. 223. 2005.

A slender climbing shrub. Leaves usually 3 lobed to halfway, suborbicular-ovate, appressed glandular-pubescent, base. Cordate, margin subentire to ciliate, apex acute; stipules sub-reniform, deeply cleft into glandular processes. Flowers about 4 cm across, greenish white, axillary, often solitary; bract and bracteoles 2-3 cm, deeply pinnatisect, glandular - pubescent. Calyx tube short, saucer shaped, lobes ovate-lanceolate. Petals slightly shorter than the calyx lobes. Androgynophore 4-6 mm. Ovary globose. Fruit berry, subglobose, approximately 4 cm across.

Fl. : July –September & Fr.: October

Occurrence: Not very frequent.

Vern. Name : Jalmewa lota (As.)

Uses: Fruits eaten

Coll. No. J Sarma/ 255 Coll. Date: 5.2.2016

Locality: Nameri NP

CARICACEAE Dumort.

Anal. Fam. Pl.37, 42. 1829.

India: 1 species; Study area: 1 species recorded.

***Carica* L.**

Carica papaya L., Sp. Pl. 1036. 1753; Hook, f., Fl. Brit. Ind. 2:599. 1879; Purseglove. Trop. Crops, Dicots 45. 1977; Matthew, Fl. Tam. Car. 1:632. 1983; Chowdhury *et al.*, Ass. Fl. 223. 2005.

A very common vegetable plant usually planted near habitations. Leaves large with long, hollow petiole, latex milky. Sometimes staminate inflorescence axes up to 1 m. Flowers creamy-white with a peak during November to March. Fruiting all over the year.

Occurrence: Very frequent.

Vern. Name : Aamita (As.)

Coll. No. J Sarma/580

Coll. Date: 21.5.2016

Locality: Tezpur

CUCURBITACEAE Juss.

Gen. Pl. 393–394. 1789

India: 34 genera and 109 species; Study area: 8 genera and 10 species

Key to the genera:

1a. Tendrils branched:

2a. Petals fimbriate, white:

3a. Fruit globose, flesh hard ----- ***Hodgsonia***

3b. Fruit elongated or ellipsoid, flesh not hard - ***Trichosanthes***

2b. Petals entire, yellow or greenish-yellow:

4a. Flowers solitary:

- 5a. Flowers yellow. Calyx-lobes lanceolate ---- **Benincasa**
- 5b. Flowers white. Calyx-lobes linear ----- **Lagenaria**
- 4b. Flowers not all solitary; males in racemes ----- **Luffa**
- 1b. Tendrils simple:
 - 6a. Calyx-tube closed at base by scales ----- **Momordica**
 - 6b. Calyx-tube without scales:
 - 7a. Male flower solitary ----- **Coccinia**
 - 7b. Male flowers in clusters or racemes ----- **Cucumis**

Benincasa G. Savi

Benincasa hispida (Thunb.) Cogn. in A. & C. DC., Mongr. Phan. 3: 513. 1881; Chakravorty, Rec. Bot. Surv. India 17: 84. 1959; Purselove, Trap, Crops, Dicots 101. 1977; Chowdhury *et al.*, Ass. Fl. 223. 2005. *Cucurbita hispida* Thunb., Fl. Jap. 322. 1784. *Benincasa cerifera* Savi, Bibilot. Ital. (Milan) 9:158. 1818; Hook. f. Fl. Brit. Ind. 2:616.1879.

Annual climber with hairs. Leaves large, cordate, 5 lobed, hairy; tendrils 2-3 fid; petioles 0.5 cm long. Flowers polygamous on the same plant, axillary, solitary, bright yellow; bracts absent; calyx 5 lobed; petals 5; stamens 4 in bundles in male flowers, in female flowers typically rudimentary. Fruit a pepo, large fleshy, oblong pubescent turning white at maturity; seeds many, oblong.

Fl. & Fr.: Summer

Occurrence: Very Common. Cultivated as vegetable.

Vern. Name : Komora (As.)

Coll. No. J Sarma/231

Coll. Date:2.3.2016

Locality: Majorgaon

Coccinia R. Wight et Amott.

Coccinia grandis (L) Voigt. Hort. Suburb. Calc. 59, 1845; Chak., F. F. Ind. 2:24, 1982; Chowdhury *et al.*, Ass. Fl. 224. 2005. *Bryonia grandis* L., Mant. Pl. 1:126. 1767. *Cephalandra indica* Naud., Ann. Sci. Nat. Ser. 5:16.1869; Clarke in Hook, f., Fl. Brit. Ind. 2:621,1879; Kanjilal *et al.*, FA. 2:329,1938.

Climbing herb, tendril simple. Leaves about 5-8 cm in diameter, palmatifid, 3-5 angled, . Dorsal, papillose, sericeous. Flowers all solitary, axillary, dioecious, white, moderately large. Calyx tube campanulate, short; corolla campanulate, about halfway down; stamens 3, 1-2 celled. Female: calyx and corolla as in male, ovary oblong, stigma 3, bifid. Fruits smooth, bright scarlet when ripe.

Fl. & Fr.: June – September

Occurrence: Common.

Vern. Name : Belipoka (As.)

Uses: Fruit eaten

Coll. No. J Sarma/328

Coll. Date: 14.9.2014

Locality: Singri Hill RF

Cucumis L.

Cucumis melo L., Sp. Pl. 1011. 1753; Roxb., fl. ind. 3:720. 1832; Hook, f., Fl. Brit. Ind. 2:620. 1879; Purselove, Trop. Crops, Dicots 110. 1977; Matthew, Fl. Tam. Car. 1:641.1983; Chowdhury *et al.*, Ass. Fl. 224.2005.

Cultivates for its delicious fruit, which is eaten fresh when ripe, usually with milk. Ripe fruit has a peculiar smell spreading almost to 100 m from which it can be easily identified and located amidst grasses.

Vern. name: Bangi, Siral, Phuti (As.)

Coll. No. J Sarma/484 Coll. Date:26.7.2016

Locality: Khonamukh

Cucumis sativus L., Sp. PL 1012.1753; Roxb., Fl. ind. 3:720. 1832; Hook, f., Fl. Brit. Ind. 2: 620. 1879; Purselove, Trap. Crops, Dicots 114. 1977; Matthew, Fl. Tam. Car. 1:642.1983; Chowdhury *et al.*, Ass. Fl. 224.2005.

Cultivates for its fruits which are eaten fresh as well as cooked.

Vern. name: Tiyanh (As.)

Coll. No. J Sarma/485 Coll. Date: 26.7.2016

Locality: Khunamukh

Hodgsonia Hook.f., et Thompson

Hodgsonia macrocarpa (Blume) Cong, in DC., Monog. Phan. 3:349.1881; Haridasan & Rao, For. Fl. Meghalaya 1:420. 1985; Singh *et al.*, FM. 1:629. 2002. *Hodgsonia heteroclita* Hook.f., Fl. Brit. Ind. & Thomson in Prodr. Linn. Soc. 2:257. 1853; Hook, f., Fl. Brit. Ind. 2 : 606. 1879; Kanjilal *et al.*, FA. 2:326. 1938.

Climber with robust stem. Leaves palmately tri-lobed, 15-35 cm across, petioles 3-6 cm long; tendrils healthy, bifid. Male flowers in

racemes, peduncles 6 - 20 cm long, bracteate. Female flowers solitary, peduncles short. Fruit reddish brown, 12 grooved.

Fl. & Fr.: February- August

Occurance : Common

Vern. name: Theboulata (As.)

Coll. No. J Sarma/479 Coll. Date: 14.5.2016

Locality: Sonai Rupai

***Lagenaria* Ser.**

Lagenaria siceraria (Molena) Standl, in Publ. Field. Mus. Nat. Hist. Bot. 3:435.1930; Haridasan & Rao, For. Fl. Meghalaya 1 :224. 1985; Singh *et al.*, FM. 1:640. 2002. *Cucurbita siceraria* Molina, Sagg. Storia. Nat. Chile 133. 1782; *Lagenaria vulgaris* Seringe in Mem. Soc. Phys. Hist Nat. Geneva 3 (1) :25.1825; Hook.f., Fl. Brit. Ind. 2:613. 1879.

Climber or trailing herb, profusely branched, pubescent throughout. Leaves suborbicular, cordate; petiole apex bi-glandular; tendrils usually bi-fid. Flowers monoecious, solitary, white. Male flowers: solitary, axillary; pedicels as long as or longer than petioles; stamens 3. Female flowers : ovary densely villous, long. Fruit bottle shaped or various.

Fl. & Fr.: October-March.

Occurance: Common. Cultivated as vegetable.

Vern. Name: Jati-lau, Pani-lau (As.)

Coll. No. J Sarma/475

Coll. Date: 23.7.2016

Locality: Khonamukh

***Luffa* Mill.**

Luffa acutangula (L.)Roxb., Fl. Ind. 3 : 713.1832 ;C1. in Hook, f., Fl. Brit. Ind. 2 : 615. 1879; Kanjilal *et al.*, FA. 2 : 331. 1938. *Cucumis acutangula* L., Sp. PI. 1011. 1753.

Annual climbing herb; stems 5-angular. Leaves orbicular, 5-7 angled, gland dotted, base cordate; petioles angular; tendrils usually 3-fid. Flowers monoecious, yellow. Male flowers in axillary racemes; calyx 5-lobed; petals 5, ob-ovate; stamens 5 free. Female flowers solitary; calyx and corolla as in male; ovary ribbed, placentas 3, style columnar, stigma 3-lobed. Fruit clavateoblong, acutely 10-ribbed.

Fl. &Fr.: April- August

Occurance : Common

Vern. NameL : Jika(As.)

Uses: As vegeatble

Coll. No. J Sarma/472

Coll. Date:23.7.2016

Locality: Khonamukh

***Momordica* L.**

Key to the species :

1a. Leaves reniform; tendril simple ----- ***M. charantia***

1b. Leaves ovate; tendril filiform ----- ***M. dioica***

Momordica charantia L., Sp. Pl. 1009. 1753; Hook, f., Fl. Brit. Ind. 2 : 616. 1879; Kanjilal *et al.*, FA. 2 : 330. 1938; Deb, FTS. 1 : 263. 1981; Singh *et al.*, FM. 1 : 633. 2002.

Highly branched climbers with tomentose stems. Leaves reniform or sub orbicular, both surfaces glabrous, deeply 5-7 lobed; lobes sinuate dentate; petioles upto 7 cm long, thin; tendrils simple, pubescent. Male flowers yellow, solitary, peduncles glabrous. Female flowers yellow, bracteate. Fruit oblong, 6 - 19 cm long, large, muricate - tuberculate, trivalved, dehiscing apically; seeds compressed, tridentate at ends, sculptured on the surface.

Fl. & Fr.: April - December

Occurance : Common

Vern. NameL : Teeta kerela (As.)

Coll. No. J Sarma/474 Coll. Date: 23.7.2016

Locality: Khonamukh

Momordica dioica Roxb. ex Willd., Sp. PL 4 : 605. 1805; Cl. in Hook, f., Fl. Brit. Ind. 2: 617. 1879; Kanjilal *et al.*, FA. 2 : 330. 1938; Balakr. Fl. Jowai 1 : 214. 1981; Haridasan & Rao, For. Fl. Meghalaya 1.424. 1985; Deb & Dutta in Jour. Econ. Tax. Bot. 10 (1): 38. 1987; Singh *et al.*, FM. 1 : 635. 2002.

Profusely branched dioecious perennial climbers; roots tuberous. Leaves ovate, 4-10x3-7 cm, base emerginate, mucronate at apex, membranous, entire or variously lobed with undulate or denticulate margins; tendrils simple, filiform. Male flowers: solitary, yellowish white, peduncles upto 15 cm long, bracteate. Female flowers

ebracteate, ovary ovoid. Fruit 3 - 6x2 - 4 cm, papillose, seeds; pale yellow, ovoid, emerginate.

Fl. & Fr.: May - October

Occurance : Common. Cultivated as vegetable.

Vern. NameL : Bhat - Kerela (As.)

Coll. No. J Sarma/475 Coll. Date: 23.7.2016

Locality: Khonamukh

***Trichosanthes* L.**

Key to the species:

1a. Leaves lobed:

2a. Fruit ellipsoid or globose; orange streaked

----- ***T. tricuspidata***

2b. Fruit long elongate, fusiform; long white streaked

----- ***T. anguina***

1b. Leaves not lobed

----- ***T. dioica***

Trichosanthes anguina L., Sp. Pl. 1008. 1753; Kanjilal et al, FA 2:329. 1938; Chowdhury *et al.*, Ass. Fl. 224.2005.

Vine with suborbicular, often 5-lobed or angular leaves. Fruit long, elongate, cylindrical and fusiform, at first glaucous green, streaked with white ultimately bright orange.

Fl. & Fr.: May - October.

Occurance : Common. Cultivated as vegetable.

Vern. NameL : Dhunduli, Nilaji (As.)

Coll. No. J Sarma/479 Coll. Date: 24.7.2016

Locality: Khonamukh

Trichosanthes dioica Roxb., Fl. ind. 3:702. 1832; Kanjilal *et al*, FA 2:329. 1938; Chowdhury *et al*, Ass. Fl. 224.2005.

Vine with perennial root stock with scabrous stem. Leaves cordate, acute, sinuate-dentate, not lobed, nor angular. Fruit oblong, nearly spherical or somewhat ovoid-fisiform with light green stripes, red when ripe.

Occurance : Common. Cultivated as vegetable.

Vern. NameL : Potol (As.)

Coll. No. J Sarma/480 Coll. Date: 24.7.2016

Locality: Khonamukh

Trichosanthes tricuspidata Lour., Fl. Cochinch. 589. 1790; Matthew, Fl. Tam. Car. 1: 653.1983; Chowdhury *et al*, Ass. Fl. 224. 2005. *T. palmata* Roxb., Fl. ind. 3:704. 1832; Hook, f., Fl. Brit. Ind. 2:606.1879; Kanjilal *et al*, FA 2:329.1938.

A vine; branchlets glabrescent at length. Leaves polymorphic, ovate or suborbicular, usually palmately 3-7-lobed; lobes acuminate or acute; base scabrid, cordate, margin distantly denticulate; tendrils 3 or 2-fid; cystoliths present in mature leaves. Male flower: flowers in racemes, bracts obovate. Calyx-tube 3 cm, glabrous, lobes lanceolate. Corolla white, petals ovate, 2 cm long. Stamens 3; filaments short, anthers about 1 cm, ciliate. Female flower: flowers solitary;

ebracteate. Calyx-tube 1.5 cm. Petals involute, 2 cm. Ovary globose. Fruit ellipsoid or globose, at first red with orange streaks, ultimately deep red; pericarp thick, rough; seeds many, packed in grayish-brown pulp.

Fl.: July- September Fr.: October- November

Occurance : Common in wild.

Vern. name: Koa-bhaturi (As.)

Coll. No. J Sarma/487 Coll. Date:27.7.2016

Locality: Bhoroli

CACTACEAE Juss.

Gen. Pl. 310. 1789.

India: 2 genera and 5 species; Study area: 1 genus and 1 species

Opuntia P. Miller

Opuntia vulgaris Mill., Gard. Diet. ed. 8. 1:1768; bennet, Fl. Howrah 253. 1979; Chowdhury *et al.*, Ass. Fl. 225.2005. *Opuntia monacantha* (Willd.) Haw., Suppl. PL Succ. Fl. 1819; Kanjilal *et al.*, FA 2:336.1834.

Large succulent shrub with dark green spiny joints; areoles densely woolly; spines 1-3 per areole, very unequal, brown tipped. Leaves subulate or absent. Perianth many; outer tepals yellow, shaded pink; inner ones yellow. Stamens many. Berry obovoid.

Fl.: May- August.

Occurance Common.

Vern. name: Sagar-phena (As.).

Coll. No. J Sarma/492 Coll. Date: 3.8.2016

Locality: Dekeri gaon

MOLLUGINACEAE Bartl.

Beitr. Bot. 2: 158. 1825.

India: 15 genera and 150 species; Study area: 1 genus and 1 species

***Mollugo* L.**

Mollugo pentaphylla L., Sp. Pl. 89, 1753; Backer in FM 4: 268, 1951; Kanjilal *et al.*, FA, 2 : 337, 1938; *M. strictata* L., Sp. Pl. ed 2: 131, 1762; Cl. in Hook. f. Fl. Brit. Ind. 2: 663, 1879.

Slender erect herb, glabrous. Leaves very variable, alternate, falsely whorled; small, narrow-lanceolate, ca. 1.5 - 2.5 x 0.2 - 0.3 cm across, glabrous. Flowers ca. 0.2 cm in diameter, greenish white. Sepals 5, persistent. Petals absent. Stamens 5. opposite to sepals. Carpels connate in a globose ovary, ovules many. Fruit a globose capsule.

Fl. & Fr. : March - September.

Occurrence : Common

Coll. No. J Sarma/826 Coll. Date:9.5.2017

Locality: Agnigarh hill.

APIACEAE Lindl.

Intr. Nat. Syst. Bot. (ed. 2)21. 1836.

India: 275 genera and 2850 species; Study area: 5 genera and 5 species

Key to the genera

- 1a. Umbels simple, Leaves simple
 - 2a. Leaves reniform, undivided, not spinous
 - 3a. Flowers greenish white, ----- ***Hydrocotyle***
 - 3b. Flowers purplish red, ----- ***Centella***
 - 2b. Leaves oblong, spinous, toothed ----- ***Eryngium***
- 1b. Umbels compound, Leaves compound
 - 4a. Schizocarps dorsally compressed ----- ***Oenanthe***
 - 4b. Schizocarps globose ----- ***Coriandrum***

***Centella* L.**

Centella asiatica (L.) Urban in Mart. Bras. 1 (1) :287.t.78.f. 1. 1879; Deb, FTS. 2: 192. 1983; Balakr. Fl. Jowai 1:218. 1981; Singh et al, FM.I :660.2002. *Hydrocotyl asiatica* L.,Sp.Pl. 234. 1753; Cl. in Hook.f., Fl. Brit. Ind. 2:669. 1879; Kanjilal *et al*, FA.2:340. 1938.

Prostrate herb with perennial root-stock, rooting at nodes. Leaves rosettes, orbicular-reniform 1-4.5 cm across, base cordate, margins crenate-dentate, petioles 1.5-12 cm long. Umbels simple with 2 ovate-lanceolate, cordate bracts; flowers purplish red 3- 7 per umbel, sessile or subsessile; calyx 5 lobed, triangular; petals 5, ovate, acute or obtuse. Fruits laterally compressed, dorsal ribs 7-9.

Fl. & Fr.: April - December.

Occurance Common.

Vern. name: Barmanimuni (As.).

Uses: Whole plant eaten as vegetable, highly medicinal.

Coll. No. J Sarma/828

Coll. Date: 9.5.2017

Locality: Agnigarh

***Coriandrum* L.**

Coriandrum sativum L., Sp.Pl. 256.1753; Hook.f, Fl. Brit. Ind.. 2:217. 1879; Prain, Beng. Pl. 540. 1903; Deb, FTS. 2 :193. 1983.

Annual delicate herb, much branched, foetid. Leaves pinnately decomposed; leaf-lets ovate, lanceolate or linear; petioles short. Umbels ca. 3 cm across; peduncles up to 4 cm long. Flowers small, white or purple in unequal compound umbels with 5-10 rays; bracts absent; bracteoles few, filiform; calyx teeth, small, acute; petals ovoid, white. Fruit globose, with 4 secondary ridges on each mericarp.

Fl. & Fr.: December - March.

Occurance Common. Cultivated in whole India.

Vern. name: Dhania (As.)

Coll. No. J Sarma/903

Coll. Date: 4.11.2017

Locality: Dekargaon

***Eryngium* L.**

Eryngium foetidum L., Sp. Pl. 233. 1753; Kanjilal *et al.*, FA 2: 340 .1938; Chowdhury *et al.*, Ass. Fl. 226.2005.

A very aromatic erect perennial herb, glabrous. Leaves basal leaves whorled, oblong-lanceolate, alternate at base, spinous-toothed;

cauline leaves deeply dentate. Inflorescence capitulum arranged in umbels; bracts spinulose, stellate. Flowers white. Fruits ellipsoid, seeds semi-terete. Commonly growing in wild; occasionally cultivated.

Fl. & Fl.: April to July

Vern. name: Man-dhania(As.)

Occurrence Common. Cultivated.

Uses: Leaves used as vegetable

Coll. No. J Sarma/106 Coll. Date: 21. 4.2015

Locality: Napaam

***Hydrocotyle* L.**

Hydrocotyle sibthorpioides Lamk., Encyl. 3: 153. 1789; Deb, FTS. 2:2: 196. 1983. *H rotundifolia* DC., Prodr. 4: 64. 1830; Hook, f., Fl. Brit. Ind, 2: 668. 1879. Kanjilal *et al.*, FA. 2: 340.1938; Chowdhury *et al.*, Ass. Fl. 226. 2005.

A small diffuse prostrate herbs, creeping with stolons. Leaves hispid, lobed or sub entire; petioles 2-10 cm long. Umbels few flowered, peduncles very short; bracts minute. Flowers sub sessile, 8-10 per umbel. Fruits broadly orbicular. Ca. 0.2 mm across.

Fl. & Fl.: March-April; sometimes whole year.

Occurrence: Common.

Vern. Name: Saru Manimuni (As.)

Coll. No. J Sarma/702 Coll. Date:2.2.2015

Locality: TU campus .

***Oenanthe* L.**

Oenanthe javonica (Blume) DC. Prodr. 4:138. 1830; Singh et al, FM. 1:665. 2002; *Oenanthe stolonifera* Wallich ex DC., Prodr. 4:138.1830; Hook.f., Fl. Brit. Ind. 2:696.1879; Kanjilal *et al.*, FA. 2: 341. 1938.

A small perennial, marshy, stoloniferous herbs, rooting at nodes. Leaves 1-2 pinnate, 3-5 cm long; rachis and petiole sheathing, petioles 8 cm long; leaflets elliptic, rosettes, serrate or rhomboid. Umbels terminal, compound; peduncles upto 18 cm long; flowers white. Fruits elliptic, sub-quadrate, ridged.

Fl. & Fr.: March- October.

Occurrence: Not very Common.

Uses: Flower eaten

Coll. No. J Sarma/884 Coll. Date:27.7.2017

Locality: Nagsankar.

ARALIACEAE Juss.

Gen. Pl. 217. 1789.

India: 18 genera and 62 species; Study area: 2 genera and 2 species

Key to the genera

1a. Trees. Leaves tripinnate. ----- ***Heteropanax***

1b. Shrubs or stragglers. Leaves digitate or palmately lobed or angled. Flowers in paniced umbels. ----- ***Schefflera***

Heteropanax Seem.

Heteropanax fragrans (Roxb. ex DC.) Seem., Fl. Vitis. 114. 1865; Clarke in Hook, f., Fl. Brit. Ind. 2:734. 1879; Kanjilal *et al.*, FA 2:356. 1938; Chowdhury *et al.*, 226. 2005. *Panax fragrans* Roxb. ex DC. Prodr. 4:254.1830; Roxb., Fl. ind. 2:76.1832.

Small soft wooded small evergreen tree. Leaves tri-pinnate, rarely tetra-pinnate; dilate at the base; leaflets about 7- 14x3- 7.5 cm, elliptic-ovate or lanceolate, short acuminate, entire; base narrowed and unequal; glabrous; sub-coriaceous. Flowers small, polygamous, yellow, fragrant, sub-sessile, racemed on the branches of an enormous panicle; flowers and inflorescence covered with more or less rusty, stellate scurf of tomentum. Bracts small, concave. Calyx turbinate. Petals 5, valvate. Stamens 5, spreading. Ovary bi-celled; styles 2, distinct, persistent and recurved in fruit. Fruit compressed.

Fl.: December- January & Fr.: March- April

Occurrence: Common.

Vern. name: Keseru, Koronda, Karangiya (As.)

Coll. No. J Sarma/832 Coll. Date:9.5.2017

Locality: Bamumgaon.

Schefflera J.R. forster et J.G.A. Forster

Schefflera venulosa (W. & A.) Haims in Pfamilien. 3(8):39. 1894; Maheswari in BBSI 2:376. 1960; Chowdhury *et al.*, Ass. FL 227. 2005. *Paratropia venulosa* W. & A., Prodr. 337. 1834. *Heptapleurum venulosum* Seem, in J. Bot. 3:80. 1865; Clarke in Fl. Brit. Ind. 2:729.1879; Kanjilal *et al.*, FA 2:353.1938.

Soft wooded climber, often epiphytic. Barks conspicuously lenticellate. Leaves digitate, petiole terete, stipules connate; leaflets elliptic-oblong to lanceolate, entire, coriaceous, glabrous, shining above. Flowers small, polygamous, racemosely arranged on a much branched terminal panicle; rachis purplish; bracts woolly covering the umbellules. Petals 5, ovate-oblong, acute. Fruit 5-ridged, yellow when ripe.

Fl.: March- April & Fr.: October- November.

Occurrence: Common.

Vern. name: Jakhini-lota, Dhobai-lota (As.)

Coll. No. J Sarma/426 Coll. Date: 7.2.2015

Locality: Bhomoraguri RF.

PLATE 9E

ALANGIACEAE DC.

Prodr. 3: 203. 1828.

(Cornaceae)

India: 5 species; Study area: 1 species

***Alangium* Lam.**

Alangium chinense (Lour.) Harms in Ber. Deuts. Bot. Ges. 15:24. 1897; Mukerjee in BBSI 10:331. 1968; Chowdhury *et al.*, Ass. Fl. 227. 2005. *Stylidium chinense* Lour., Fl. Cochinch. 1:221. 1790. *Marlea begoniaefolia* Roxb., Cor. Pl. 3:80. t. 203. 1819; Clarke in Fl. Brit. Ind. 2:743. 1879. *Alangium begoniaefolia* Roxb., in Kanjilal *et al.*, FA. 2:368.1938.

A small struggling tree. Leaves simple, alternate, bifarious, ovate-acuminate, angled; base usually oblique, cuneate or deeply cordate. Flowers white or creamy, bracteate, in axillary cymes. Calyx minutely toothed. Petals 6-8, strap-shaped, puberulous. Stamens as many as and alternating with the petals; filaments short, covered with silky hairs. Ovary 2-celled. Drupe ovoid, dark purple when ripe, obscurely ribbed, about 0.5 cm long, crowned by calyx limb; stone 2-celled, 2-seeded.

Fl.: March- June & Fr.: June- September.

Occurance : Common in wild.

Vern. name: Chikamarulia, Chagali gach, Boga marulia (As.)

Coll. No. J Sarma/626 Coll. Date: 4.2.17

Locality: Behali RF.

PLATE 9F

GAMOPETALAE

RUBIACEAE Juss.

Gen. Pl. 196. 1789.

India: 116 genera and 695 species: Study area: 12 genera and 14 species

Key to the genera

1a. Flowers in dense globose heads. Trees ----- ***Neolamarckia***

1b. Flowers not in dense globose heads. Herbs, shrubs or climber

2a. Ovules numerous

3a Capsules 2 or 4-celled or cocci. Calyx segments equal

----- ***Hedyotis***

3b. Fruit a berry or drupaceous. One calyx segment enlarged

----- ***Mussaenda***

- 2b. Ovules few in each cell
- 4a Ovary one celled ----- **Gardenia**
- 4b. Ovary one to many celled:
- 5a. Corolla lobes valvate
- 6a. Armed plants ----- **Meyna**
- 6b. Unarmed plants
- 7a. Leaves foetid ----- **Paederia**
- 7b. Leaves not foetid
- 8a. Stem round, cylindrical ----- **Morinda**
- 8b. Stem angular
- 9a Flowers 3-merous; ovary 3-celled ---- **Richardia**
- 9b. Flowers 4-merous; ovary 2-4-celled -- **Borreria**
- 5b. Corolla lobes twisted
- 10a. Inflorescence terminal, corymbose
- 11a. Leaves coriaceous; stipules interpetiolar ----- **Ixora**
- 11b. Leaves membranous; stipules intrapetiolar -- **Pavetta**
- 10b. Inflorescence axillary, fascicled or solitary ----- **Coffea**

***Neolamarckia* Bosser**

Neolamarckia cadamba (Roxb.) Bosser Bull. Mus. Natl. Hist. Nat., B, Adansonia 6: 247 1984; *Anthocephalus chinensis* (Lamk.) Rich, ex Walp., Repert. 2:491. 1843; Hajra and Jain, Bot. Kaz. Man. 115.1978; Chowdhury *et al.*, Ass. Fa. 227.2005. *Cephalanthus chinensis* Lamk., Encycl. 1:678. 1875. *Anthocephalus cadamba* (Roxb.) Miq., Fl. Ind. Bat. 2:135.1856; Hook, f., Fl. Brit. Ind. 3:23.1880; Kanjilal *et al.*, FA 3:18.1939.

A large handsome deciduous tree; stem straight; branches horizontal, almost whorled. Leaves ovate, elliptic-oblong, coriaceous, shining or glabrous above, pubescent beneath, acuminate; stipule caduceus, linear-lanceolate. Flowers 5-merous, small, orange coloured, united by the confluent calyx-tube in dense terminal solitary peduncled globose heads. Calyx segments 5, imbricate, persistent. Corolla funnel-shaped, lobes 5, imbricate. Stamens 5, inserted on the throat of corolla. Ovary 4-celled above, 2-celled below. Pseudocarp large, fleshy, orange coloured. Seeds minute, angular, not winged.

Fl.: February- May & Fr: May- October

Occurance : Common.

Vern. name: Kadam(As.)

Coll. No. J Sarma/591 Coll. Date: 23.8.2016

Locality: Charduwar

Borreria G. F. W. Mayer

Borreria articularis (L. f.) F. N. Will, in Bull. Herb. Briss. 'Ser' 2. 5: 956.1905. *Spermococa articularis* L. f., Suppl. 119,1781, excel. Syn. Rumph. S. hispida L., Sp. Pl. 102.1753; Hook, f., Fl. Brit. Ind. 3: 200. 1881; Deb, FTS. 2: 83. 1983. *Borreria hispida* (L.) K. Schum., P familien. 4 (4): 144.1891 non spruce ex.l K. Schum 1838; Kanjilal *et al.*, FA. 3:93.1939.

A procumbent scabrid, hispid herb, ca. 50 cm high, sometimes straggling. Leaves elliptic, acute, 1.5- 3.5 x 0.8- 2.0 cm. Flowers whorled. Calyx hispid. Corolla 4-5 mm long, white or blue. Stamens

4. Ovary 2 celled, hispid. Capsules sub globose ca. 4-6 mm septifirugal.

Fl.: July- October & Fr.: September- December.

Occurance : Common

Vern. name: Gahori bon (As.)

Coll. No. J Sarma/329 Coll. Date: 20.12.2014

Locality: Singri Hill RF

***Coffea* L.**

Key to the species

1a Flowers in many flowered fascicles ----- ***C. arabica***

1b. Flowers in few flowered fascicle ----- ***C. benghalensis***

Coffea arabica L., Sp. Pl. 172. 1753; Kanjilal *et al.*, FA 3:74. 1939; BSI, Mat. Fl. Aruna Pr. 1:569.1996; Chowdhury *et al.*, Ass. Fl. 228.2005.

An evergreen shrub with spreading branchlets. Leaves bifarious, elliptic to ovate-oblong, glabrous. Flowers in axillary cymes. Corolla funnel-shaped. Drupe purple when ripe.

Fl.: & Fr.: March - October

Occurance: Cultivated commercially.

Coll. No. J Sarma/317 Coll. Date: 6.5.2016

Locality: Helem.

Coffea benghalensis Hayne ex Roem. & Schult., Schet Syst. Veg. 5:200. 1819; Roxb., Fl. ind. ed. Carey & Wall. 1:540. 1820; Hook, f., Fl.

Brit. Ind. 3:75.1939; Kanjilal *et al.*, FA 3:75.1939; Chowdhury *et al.*,
Ass. Fl. 228. 2005.

Deciduous shrub, with slender branches. Leaves elliptic or broadly ovate, acute or acuminate, entire, membranous, glabrous. Flowers appearing with the leaves usually, sometimes before appearing leaves; white, fragrant; solitary or 1-3 together, axillary or at the ends of small branchlets. Calyx truncate, teeth minute. Corolla salver-shaped; tube short, twisted in bud. Anthers dorsifixed. Drupe subglobose or ovoid.

Fl.: February- March and sometimes Whole year & Fr.: October -
December.

Occurrence: Common in wild.

Vern. name: Chagoli phul (As.)

Coll. No. J Sarma/ 258 Coll. Date: 5.2.2016

Locality: Nameri NP

PLATE 10D

***Gardenia* J. Ellis**

Gardenia campanulata Roxb., FI Ind. 1:710.1832; Hook, f., Fl. Brit.
Ind.. 3:118.1880; Kanjilal *et al.*, FA. 3:54. 1939.

A large shrub with spinescent abortive branches with puberulous shoots. Leaves opposite or ternate, oblanceolate or elliptic - ovate, entire, acuminate, coriaceous, glabrous, base narrowed to a short petiole; petioles ca. 0.9 cm long; stipules deciduous. Flowers dimorphic, creamy yellow. Male flowers fascicled. Bisexual flowers solitary. Calyx of 5 male flowers urn - shaped; corolla 5 - lobed, campanulate; stamens as many as corolla, 5 lobed; ovary single -

celled, stigma deeply 5 - lobed. Fruits sub globose, ellipsoid, 5 - angled; seeds many.

Fl. & Fr.: March - November.

Occurrence: Common. Cultivated as ornamental.

Vern. name: Gandharaj (As.)

Coll. No. J Sarma/347 Coll. Date: 2.5.2015

Locality: Ghoramari

***Hedyotis* L.**

Hedyotis corymbosa (L) Lamk., Tabl. Encycl. Meth. 1: 272.1792; Balak, FJ. 1: 245. 1981; Deb, FTS. 2: 54. 1983. *Oldenlandia corymbosa* L., Sp. Pl. 119, 1753. Hook. f, Fl. Brit. Ind. 3:64.1880; Rao *et* Rabha, BBSI. 8: 300.1966.

Profusely branched diffuse annual herb, almost glabrous. Leaves elliptic, lanceolate to linear, acute, sub sessile 10-30x 1-6 mm. stipules membranous, shortly bristly. Cymes corymbose; peduncles solitary or paired, ca. 1 cm. Flowers 1-4, 2-3 mm across, white or purple tinged; pedicels ca. 0.5 cm long. Capsules sub-globose 1- 2 mm across.

Fl. & Fr.: August-November.

Occurrence: Common.

Coll. No. J Sarma/428 Coll. Date: 7.2.2015

Locality: Bhomoraguri RF.

***Ixora* L.**

Key to the species :

1a. Flowers white

----- ***I. acuminata***

1b. Flowers scarlet red

----- *I. coccinea*

Ixora acuminata Roxb., Hort. Beng. 10.1814 , nom nud. & Fl. Ind. 1:383.1920 ; Hook, f., FL. BRIT. IND.. 3:137. 1880 ; Kanjilal *et al.*, FA. 3 : 68:1939 ; Deb, FTS. 2:60. 1983 ; Haridasan & Rao, For. Fl. Maghalaya 2 :479. 1987.

Shrub or an undershrub. Leaves large very variable, oblong - obovate, coriaceous, acuminate at apex, cuneate at base, 8 - 25 x 5 - 10 cm. Flowers white, sessile in terminal corymbose cymes; calyx lobes deep purple; petals white, tube slender. Fruit ellipsoid or oblong.

Fl. & Fr.: May – October.

Occurrence: Common in wild.

Uses: Used as ornamental plant

Coll. No. J Sarma/674 Coll. Date: 10.9.2016

Locality: Sonai Rupai WLS

Ixora coccinea L., Sp. Pl. 110. 1753; Hook.f., Fl. Brit. Ind. 3 : 145. 1880; Prain, Beng. Pl. 571. 1903; Gamble, FPM. 631. 1921. *I. grandiflora* Ker. in Bot. Reg. 394. t. 154. 1816; *I. obovata* Heyne in Roth, Nov. Pl. Sp. 90.1821. *I. bandhuca* Roxb. Hort.Beng.10.1814 & Fl. Ind. 1 : 376. 1820.

Shrub. Leaves sessile or subsessile, oblong lanceolate, apiculate, cordate at base, 5.5 - 8.0 x 2.5 - 4.0 cm. Flowers on short pedunculate cymes, scarlet red; bracts and bracteoles subulate; calyx 4 - lobed, triangular, shorter than the ovary; corolla 4 - lobed, lobes ovate;

stamens 4, alternating the corolla lobes; ovary 2 - celled, cells 1 - ovuled. Drupes globose, fleshy, crowned by the calyx lobes.

Fl. & Fr.: September - January.

Occurrence: Common. Ornamental plant.

Vern. name: Rongiyal phul (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/836

Coll. Date: 7.5.2017

Locality: Murha teteli

Meyna Robins.

Meyna spinosa Roxb. ex Link., Jahrb. Gewachsk. 3:32. 1820; Robyns in Bull. Jard. Bot. Brux. 11:230. 1928.; Chowdhury *et al.*, Ass. Fl. 230. 2005. *Vengueria spinosa* Roxb., Fl. ind. 2:172.1824; Hook, f., Fl. Brit. Ind. 3:136.1880pp .

A deciduous small tree; spinous, spines supra-axillary, small, branched. Leaves opposite or ternate, entire, ovate-elliptic, acute or bluntly acuminate, membranous, glabrous; stipules connate, caudate from a broad base. Flowers greenish-white, on short peduncled cymes, axillary. Calyx 5-toothed. Corolla valvate in bud, throat woolly; lobes spreading. Stamens sub-sessile; anthers exerted. Ovary generally 5-celled; stigma lobed; ovules pendulous, solitary. Fruit a fleshy drupe, yellowish when ripe, with 3-5 woody pyrenes; seeds albuminous.

Fl.: April- May & Fr.: June-September

Occurrence: Not very common.

Vernacular name: Moina gach, Kotkora (As.)

Coll. No. J Sarma/485 Coll. Date: 10.9.2016

Locality: Sonai Rupai WLS

***Morinda* L.**

Morinda angustifolia Roxb., Pl. Corom. 3(2): t. 237. 1815; Hook, f., Fl. Brit. Ind. 3:156. 1880; Kanjilal *et al.*, FA 3:79.1939; Chowdhury *et al.*, 230.2005.

A large shrub or small tree. Leaves lanceolate or oblanceolate, entire, long acuminate, membranous, more or less puberulous with upper surface glabrescent. Flowers fragrant, usually 5-merous, in axillary or leaf-opposed pedunculate globose heads, ultimately elongating in fruits. Calyx obscurely toothed. Corolla slaver-shaped. Fruit turbinate.

Fl.: January- May & Fr.: June- September.

Occurrence: Common.

Vern. name: Ashu gach, Akal bih, Daru-haridra (As.)

Coll. No. J Sarma/487 Coll. Date: 10.9.2016

Locality: Sonai Rupai WLS

***Mussaenda* L.**

Key to the species

1a. Calyx teeth deciduous

----- ***M. glabra***

1b. Calys teeth persistent

----- ***M. roxburghii***

Mussaenda glabra Vahl., Symb. Bot. 3:38.1790; Hook. f, Fl. Brit. Ind. 3:90.1880; Kanjilal *et al.*, FA 3:44.1939; Chowdhury *et al.*, Ass. Fl. 230.2005.

A large scandent often climbing shrub. Leaves elliptic to oblong-lanceolate, acuminate, coriaceous, glabrous or puberulous on nerves. Flowers in dense terminal puberulous cymes. Calyx campanulate, teeth subulate, deciduous; petaloid segment enlarged, white or sometimes tinged with green, nerves prominent. Corolla pubescent, lobes as long as broad, yellow. Berry globose, glabrous.

Fl.: March- May & Fr.: June - December.

Occurrence: Rare.

Vern. name: Sona rupa(As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/246 Coll. Date: 10.9.2016

Locality: Sonai Rupai WLS

PLATE 10A

Mussaenda roxburghii Hook. F., FL. BRIT. IND.. 3:87.1880 ; Kanjilal *et al.*, FA. 3 : 40. 1939 ;Balakr. FL Jowai 1: 236. 1981; Deb, FTS. 2 : 69. 1983 ; Haridasan & Rao, For. FL Meghalaya 2:491. 1987; Choudhuiry in Singh *et al.*, FM. 1:706. 2002.

Large erect shrub. Leaves simple opposite, oblonglanceolate or elliptic lanceolate, entire, acuminate, midrib strigose beneath;

petioles stout, ca. 0.5 - 2.5 cm long; stipules apex 2-furcate. Flowers in corymbose cymes, deep orange coloured; calyx 5 lobed, filiform, outer surface hairy; corolla 5 lobed, orange coloured inside, dirty white out side, apex filiform; stamens 5; ovary in ferior, 2 - celled, cells many ovuled, stigma 2. Barries ellipsoid, oblong, crowned by the calyx lobes.

Fl. & Fr.: May - January.

Occurrence: Found in undisturbed forest.

Vern. name: Sorai bali(As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/489 Coll. Date: 10.9.2016

Locality: Sonai Rupai WLS

PLATE 10B

***Paederia* L.**

Paederia foetida L., Mant. Pl. 1:52.1767; Kanjilal *et al.*, FA 3:77.1939; Chowdhury *et al.*, Ass. Fl. 231. 2005.

A slender climber, generally winding anti-clockwise. Leaves opposite, elliptic-ovate, oblong-ovate or lanceolate, entire, membranous, glabrous, extreamly scented while smached. Flowers grayish purple, with reddish-purple mouth, in axillary or terminal cymose panicles. Corolla funnel-shaped. Fruit ellipsoid, reddish, compressed; pyrenes with a broad wing.

Fl.: July- October & Fr: Winter

Occurrence: Common.

Vern. name: Bhedai lota, Paduri lewa (As.)

Uses: Leaves used as vegetable, highly medicinal

Coll. No. J Sarma/627 Coll. Date: 4.2.17

Locality: Behali RF

***Pavetta* L.**

Pavetta crassicaulis Bremek. in Fedde Repert. 37:112. 1934 & 47:25. 1939; Santapau & Merchant in BBSI 3:109.1961; Chowdhury *et al.*, Ass. Fl. 231.2005. *P. indica* sensu Hook, f., Fl. Brit. Ind. 3:150.1880; Kanjilal *et al.*, FA 3:72.1939.

A large deciduous spreading shrub. Leaves rather variable, elliptic-ovate to lanceolate, obtuse, acute or acuminate, pubescent or glabrous. Flowers white, fragrant, in terminal and lateral corymbose panicles. Calyx pubescent, lobes 4, short. Corolla salver-shaped; tube long, slender. Stamens 4, on the mouth of the corolla, filaments short. Fruit globose, glossy.

Fl.: February-March & Fr.: April onwards

Occurrence: Rare.

Vern. name: Sam Soku, Gobor-sita, Gobor-hitha (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/492 Coll. Date: 10.9.2016

Locality: Sonai Rupai WLS

PLATE 10C

ASTERACEAE Bercht. & J. Presl

Prir. Rostlin 254. 1820.

(Compositae)

India: 167 genera and 900 species; Study area: 19 genera and 22 species

Key to the genera :

1a. Plant herbs or climbers

2a. Leaves opposite

3a. Pappus of 5-awned scales ----- ***Ageratum***

3b. Pappus filiform and slender hairs

4a. Capitulum sessile ----- ***Syndrella***

4b. Capitulum stalked

5a. Capitulum white

6a. Capitulum homogamous ----- ***Mikania***

6b. Capitulum heterogamous ----- ***Eclipta***

5b. Capitulum pale yellow or yellow

7a. Pappus absent ----- ***Enhydra***

7b. Pappus of 1 - 3 weak bristles

8a. Achenes ciliate at angles

8b. Achenes pubescent ----- ***Wedelia***

2b. Leaves alternate

9a. Plants aromatic ----- ***Blumea***

9b. Plants not aromatic

10a. Pappus united to form a short tube with fimbriate mouth

----- ***Grangea***

10b. Pappus free or absent

11a. Plants woolly

12a. Capitula in leafless corymbose clusters

---- ***Pseudognaphalium***

12b. Capitula in leafy spikes ----- ***Gnaphalium***

11b. Plant pubescent

13a. Capitulum drooping ----- ***Crassocephalum***

- 13b. Capitulum erect
 - 14a. Fruits covered with hooked spines ----- ***Xanthium***
 - 14b. Fruits not covered with spines
 - 15a. Capitulum solitary ----- ***Tridax***
 - 15b. Capitulum in lax inflorescence
 - 16a. Plant with milky latex; florets yellow
 - ***Emilia***
 - 16b. Plant without latex; florets violet or white
 - 17a. Bracts foliaceous ----- ***Elephantopus***
 - 17b. Bracts not foliaceous
 - 18a. Heads homogamous; ----- ***Ethulia***
 - 18b. Heads heterogamous; ----- ***Parthenium***
- 1b. Plant shrubs or herbaceous
 - 19a. Pappus long, copious ----- ***Vernonia***
 - 19b. Pappus usually setose ----- ***Eupatorium***

***Ageratum* L.**

Key to the species:

- 1a. Flower heads white or pale-blue; flowers < 1 cm
 - ***A. conyzoides***
- 1b. Flower heads pink or white, fluffy; flowers 1 cm
 - ***A. houstonianum***

Ageratum conyzoides L., Sp. Pl. 893.1753; Hook, f., Fl. Brit. Ind. 3: 243. 1881; Hajra and Jain, Bot. Kaz. Man. 124.1978; Chowdhury *et al.*, Ass. Fl. 232.2005.

An erect annual herb, 30-60 cm tall or some times more, branches hairy. Stem woody to fleshy; green or purplish. Leaves broadly

ovate; crenate. Head ca. 0.5 – 1 cm across, white or very pale blue or very faintly pinkish purple, fragrant; discoid, in terminal corymbs. Pappus of 5 scales. Achenes angled black.

Fl. & Fr.: Almost Whole year.

Occurrence: Very common

Vern. Name: Gandheli Bon (As.)

Coll. No. J Sarma/855 Coll. Date: 25.12.2016

Locality: Goroimari

PLATE 11A

Ageratum houstonianum Mill., Gard. Diet. ed. 8. n. 2. 1768;
Chowdhury *et al.*, Ass. Fl. 232. 2005.

An erect gregarious herb, hairy; stem purplish or purplish-green. Leaves hairy, ovate- long, acuminate or acute, margin serrate. Heads larger than *A. conyzoides*, fluffy, pinkish usually, sometimes white. Flowers about 1.2 cm long, pink. Achenes ribbed.

Fl. & Fr.: Almost Whole year.

Occurrence: Very common

Vern. Name: Gandheli Bon (As.)

Coll. No. J Sarma/441 Coll. Date: 8.2.2015

Locality: Chandmari

***Blumea* DC.**

Key to the species

1a. Corolla purplish

----- ***B. lacera***

1b. Corolla yellow

----- ***B. fistulosa***

Blumea lacera (Burm. f.) DC., in Wight, Contrib. Bot. Ind. 14:1834; Hook, f., Fl. Brit. Ind. 3:263.1881; Kanjilal *et al.*, FA 3:111. 1939; Deb, FTS. 2:206. 1983; Hajra and Jain, Bot. Kaz. Man. 127. 1978; Chowdhury *et al.*, Ass. FL 233. 2005. *Conyza laccera* Burm. f, Fl. ind. 180. t. 59 f. 1, 1768. *Blumea subcapitata* DC. Prodr. 5:439, 1836; Hook, f., Fl. Brit. Ind. 3:216.1881.

A slender very variable herb, villous or glandular, very aromatic. Leaves obovate or elliptic-obovate, coarsely or doubly toothed, obtuse, densely white, silky beneath. Heads small, ca. 7 mm across. Involucral bracts linear-acuminate, more or less hairy. Receptacle glabrous. Corolla purplish. Fruit grey-brown, sub-tetragonus, minutely pubescent or glabrescent. Pappus white.

Fl: August-December Fr.: April- May

Occurrence: Common

Coll. No. J Sarma/838 Coll. Date: 9.6.2017

Locality: Vairabi

Blumea fistulosa (Roxb.) Kurz. in J. Asiat. Soc. Beng. 46(2) : 187, 1877; Jain et Hajra BBSI 17:83, 1975; *Conyza fistulosa* Roxb., Fl. had. 3:429, 1832; *Blumea glomerata* DC. in Wight Contrib. Bot Ind. 15, 1834; Hook. f. in Fl. Brit. Ind. 3: 262, 1881; Kanjilal *et al.* , Fl. As. 3: 113, 1939.

An erect slender herb, much branched. Stems pubescent or villous. Lower leaves lyrate-pinnatifid or obovate-serrate, upper oblongincised, 4.5 - 7.5 x 1- 2.5 cm. Heads in small, sessile axillary

clusters, ca. 0.5 cm in diameter. Involucre of bracts subulate, lanceolate. Receptacle pubescent. Corolla yellow, lobes of hermaphrodite flowers pubescent. Achenes 8 - 10 ribbed, glabrous or hairy.

Fl.: & Fr.: February - May

Occurrence: Common

Coll. No. J Sarma/839 Coll. Date:12.6.2017

Locality: Nikamul

***Crassocephalum* Moench**

Crassocephalum crepidioides (Benth.) Moore in J. Bot. 50: 211. 1912; Jain and Hajra, B B SI17 (1-4):83. 1975; Nair & Srinivasan in J. Econ. Tax. Bot. 3:289. 1982; Hajra and Jain, Bot. Kaz. Man. 127. 1978; Chowdhury *et al.*, Ass. Fl. 234. 2005. *Gynura crepidioides* Benth., in Hook., Niger Fl. 438. 1849. *Erechthites valerianaefolia* DC., Prodr. (DC.) 6:295.1838.

Annual, soft stemmed, hairy herb. Leaves alternate, 10- 20x5-8 cm, margin irregularly lobed, with bad smell when braished. Inflorescence terminal, rarely axillary, head about 5 mm width, homogamous. Flowers all disc. Calyx pappus, long. Petals 4. Stamens 4. Stigma redish. Achene with white pappus.

Fl.: & Fr.: Winter

Occurrence: Common

Coll. No. J Sarma/705 Coll. Date: 2.2.2015

Locality: TU campus

PLATE 11B

Eclipta L.

Eclipta prostrata (L.) L. Mant: P1.2: 286.1771; Chaudhury in Hajra et al., Fl. Ind. 12: 381. 1995. *Verbesina prostrata* L., Sp. Pl.902.1753. *Eclipta alba* (L.) Hassk., Pl. Jav. Rar. 528. 1848; Hook. f., Fl. Brit. Ind. 3:304.1881 ; Kanjilal et al., FA. 3:117.1939 ; Deb FTS. 2: 214.1983; Deb & Dutta in Jour. Econ. Tax. Bot. 10:41.1987; Singh et al., FM. 1 :766. 2002.

A diffuse, erect, much branched strigosely hirsute herb; stem erect or procumbent, ca. 30-40 cm tall, branched. Leaves opposite, short petioled, linear, elliptic or oblong - lanceolate, 10 x 2 cm, acute - acuminate. Heads sub-globose, 1.5 cm across, solitary, axillary and terminal; florets white. Achenes narrow, compressed; pappus obsolete.

Fl. & Fr. : September - December.

Occurrence: Common

Vern. Name: Kehraj (As.)

Coll. No. J Sarma/ 963 Coll. Date: 13.09.2017

Locality: TU campus

Elephantopus L.

Elephantopus scaber L., Sp. Pl. 814. 1753; Hook, f., Fl. Brit. Ind.. 3: 336. 1881; Kanjilal et al., FA. 3:107,1939; Chowdhury et al., Ass. Fl. 234. 2005.

A stiff, perianial, scabrous, rigid herbs, ca. 10-15 cm. prostrate stem seally bearing crowded roots. Leaves sessile in ragideal apex. Leaves on flowering branches few, alternate or none. Heads homogamous, glomerate, terminal on long dichotomous rigid peduncles. Imolucreal bracts 3, leafy cordate with broad base acute apes. Flowers white or publish. Pappus of 5- scalled, achenes angled, brown. Fruit truncate, brown, ribbed.

Fl. & Fr.: December- January

Occurrence: Common

Vern. Name: Hostipoda (As.)

Coll. No. J Sarma/603 Coll. Date: 22.10.2016

Locality: Charduwar

***Emilia* Cass.**

Emilia sonchifolia (L.) D.C. in Fl. Brit. Ind, 3: 336.1881; Kanjilal *et al.*, FA. 3: 120. 1939; Panigrahi *et Kar.* BBSI, 8 (3-4): 232.1966; Chowdhury *et al.*, Ass. FI. 234. 2005.

A slender about glabrous, annual herb, ca. 20 cm tall. Leaves ovate with long base \pm 6x3 cm, entire or serrate; upper ones pinnified. Heads small, few flowered, rosy, pappus white, copious.

Fl. & Fr.: July- January.

Occurrence: Common

Vern. Name: Hostipoda (As.)

Coll. No. J Sarma/662 Coll. Date:12.11.2017

Locality: Sengalijan

Enhydra Lour.

Enhydra fluctuens Lour.Fl. Cochinch. 511.1790; Hook. f, Fl. Brit. Ind.. 3:304.1881; Kanjilal *et al.*, FA.3:126.1939; Deb, FTS. 2:215.1983 ; Uniyal in Hajra *et al.*, Fl. hid. 12:384.1995.

A succulent, slender, glabrous, annual herb with ascending branches, rooting at nodes. Leaves simple, oblong, obovate serrate. Head terminal, sub sessile, heterogamous, pale yellow or yellow; ray florets ligulate. Achenes compressed.

Fl. & Fr.: February - August.

Occurrence: Common in marshy places.

Vern. Name: Helochi (As.)

Coll. No. J Sarma/204 Coll. Date: 2.5.2016

Locality: Porowa.

Ethulia L., f.

Ethulia megacephla Sch.-Bip. inZoll. Syst. Verz.Ind. Arch. 119.1854; Miq. PL Jungh. 495. 1854 ; FL Ser. 4 : 34. 1988. *E. conyzoides* Zoll. in Nat. Gen. Arch. Merrt. Ind. 2 : 224. 1845 non L. *E. conyzoides* L.f., Decas Pl. 1.1.1762; Hajra *et al.*, Fl.India 13.335.1995.

An erect herb up to ca. 70 cm high; stem ribbed, terete. Leaves lanceolate - oblong, narrow at both ends, dentate, 5-12x4 cm. Heads terminal, corymbose, glandular, many flowered, 5-7 mm wide, violet, homogamous.

Fl. & Fr.: January - November.

Occurrence: Common.

Coll. No. J Sarma/201 Coll. Date: 2.5.2016

Locality: Porowa.

***Eupatorium* L.**

Eupatorium odoratum L., Syst. ed. 10:1205.1759 ; Hook. f., Fl. Brit. Ind.3:244. 1881; C.E.C. Fisher in Rec. Bot. Surv. India 12 : 105.1938 ; Deb, FTS .2:218. 1983 ; Haridashan & Rao , For.Fl. Meghalaya 2:522.1987 ; Uniyal in Hajra *et al.*, FI Ind. 12: 354. 1995 ; Singh *et al.*, FM. 1:771.2002. *Chromolana odorata* (L.) King and Robinson in Phytologia 20: 204. 1970; Kanjilal *et al.*, FA. 3:108.1939.

An erect odorous common shrub upto 3m tall, stem much branched. Leaves opposite, deltoid-ovate or lanceolate, cuneate at base, margin serrate or entire. Heads in corymbs terminating the branches; florets whitish purple. Achenes small. Pappus white hairy. Stamen syngenesious. Ovary inferior.

Fl. & Fr.: October – April or Whole year.

Occurrence: Very Common.

Vern. Name: Gendheli bon(As.)

Coll. No. J Sarma/894 Coll. Date:28.7.2016

Locality: Kunderbari.

***Gnaphalium* L.**

Gnaphalium polycaulon Pers., Syn. 2:421. 1807. *G. indicum* auct. non L.: Hook, f., Fl. Brit. Ind. 3:289.1881. Chowdhury *et al.*, Ass. Fl. 235.2005.

A slender gorgeous Herb of about ca. 60 cm high. All parts covered with long hairs. Leaves simple, 4-8 cm x 1.5- 2.5 cm, oblanceolate, obtuse at apex, slender at base. Heads in axillary corymbs; yellow or pinkish yellow. Corolla lobes 4, hairy, Achenes tubercled.

Fl. & Fr.: March- April.

Occurrence: Common

Vern. Name: Kopahi bon (As.)

Coll. No. J Sarma/897 Coll. Date:29.7.2016

Locality: Kumargaon

***Grangea* Adans.**

Grangea maderaspatana (L.) Poir. in Lamk, Encycl. (Suppl. 2) 825. 1812; Hook.f., Fl. Brit. Ind. 13: 247.1881 ; Prain , Beng. Pl. 593.1903 ; Deb, FTS .2:221.1983; Uniyal in Hajra *et al.*, Fl. had. 13:89.1995
Artimisia maderspatana L., Sp . Pl. 849.1753.

Prostrate, spreading herb forming patches. Leaves upto 7 cm long, sinuately pinnatifid with 2 pairs of opposite lobes, coarsely serrate-dentate at margins, pubescent on both sides. Heads yellow, solitary, globose; pappus short tube with fimbriate mouth.

Fl. & Fr.: February - December.

Occurrence: Almost common

Coll. No. J Sarma/899 Coll. Date: 28.2016

Locality: Komarchuburi

***Mikania* Willd.**

Mikania micrantha Kunth. in Contrib. Gray. Herb. 104 : 65.1934.
var. *indica*, Kitamura in Hara, Fl. E. Himal. 341. 1966 . *M. scandens*
Wild, sensu C.B. Clarke, Camp. Ind. 34,1876; Hook.f., Fl. Brit. Ind.
3:244. 1881; Prain, Beng. PL 592. 1903.

A gregarious climber. Leaves opposite, ovate- cordate. Heads small, homogamous, 4 - flowered, racemose, involucre oblong, receptacle narrow, naked; calyx annular of connate hairs; corolla white, campanulate, 5 - fid. Stamens syngeneceous, anthers appendiculate with obtuse base, 0.2 cm long, style with long acute arms. Stigma bifid, ovary inferior. Cypsella truncate, 5-angled, pappus many, connate at the base.

Fl. & Fr.: Jun - January.

Occurrence: Common and a invasive species.

Vern. Name: Germany lota, Indira lota (As.)

Coll. No. J Sarma/ 297 Coll. Date:12.11.2015

Locality: Balipukhuri

***Parthenium* L.**

Parthenium hysterophorum L., Sp. Pl. 988. 1753; Rao., J. Bombay Nat. Hist. Soc. 54:283.1956; Rao. J., Indian Bot. Soc. 58:44.1979; Chowdhury *et al.*, Ass. Fl. 235. 2005.

An erect, stout, white-puberulous aggressive herbs. Leaves alternate, irregularly and pinnately dissected, 2-3 x 3-5 cm. Capitula 4-7 cm across, heterogamous, cream-white in axillary or terminal leafy panicles; involucre campanulate, phyllaries 2-seriate, 5 in each series, outer flowers falcate of female florets, each associated with a pair of male or neuter florets. Inner florets male; peltate or apeltate. Stamens 5, filaments short, anther linear with prolonged knob like connections. Pappus absent, disc also florets of 2 strongly reflexed bristle in ray florets.

Fl. & Fr.: Whole year.

Occurrence: Common in road side and a invasive species.

Vern. Name: Parthanium (As.)

Coll. No. J Sarma/923 Coll. Date: 14.11.2017

Locality: Kekorapool.

PLATE 11C

***Pseudognaphalium* Hillard *et* Burt.**

Pseudognaphalium luteo-album (L.) Hillard *et* Burt., J. Linn. Soc. 82 : 206, 1981; *Gnaphalium luteo-album* L., Sp. Pl. 851, 1753; Hook. f. in Fl. Brit. Ind. 3 : 288, 1881; Deb. FTS 2 : 220, 1983.

A very variable annual herb. Stems woolly, normally corymbosely branched above. Leaves 2.5-5 x 0.5-0.9 cm across, sessile, oblong spatulate, obtuse, upper leaves lanceolate, half amplexicaul. Heads ca. 0.3 cm in diameter, shining yellow; involucre of bracts oblong. Achenes tubercled or with minute curved bristles.

Fl. & Fr. : March - August.

Occurrence : Common.

Vern. Name: Kopahi bon (As.)

Coll. No. J Sarma/858 Coll. Date: 25.12.2016

Locality: Goroimari .

***Sonchus* L.**

Sonchus oleraceus L., Sp. Pl. 794.1753; Hook, f., Fl. Brit. Ind. 3:414.1881; Hajra and Jain, Bot. Kaz. Man. 132.1978; Chowdhury *et al.*, Ass. Fl. 235. 2005.

An annual, glandular milky herb of ca. 50-80 cm tall, with creeping rootstock. Leaves obovate - lanceolate, 10-17 x 1.5-3.5 cm, rounded to acute at apex, amplexicaul at base with auricles, frequently pinnatifid. Heads in corymbs. Ray florets bright yellow. Achenes ribbed.

Fl. & Fr.: September- February.

Occurrence: Common in road side.

Coll. No. J Sarma/705 Coll. Date: 2.2.2015

Locality: TU campus.

***Spilanthes* Jacq.**

Spilanthes paniculata Wallich ex DC. Prodr. 5:625.1836 ; Joseph , Fl.Nongpoh 162.1981; Chowdhury in Hajra *et al.* , FLInd. 12:410.1995 ; Singh et al , FM. 1.791.2002. *S. acmella* wax. paniculata (DC.) Clarke, Comp.Ind. 139.1876 ; Hook, f., Fl. Brit. Ind. 3:307.1881; Kanjilal *et al.*, FA.3:118.1939

A trailing herb. Leaves ca. 1.2-5x1.2-2.5 cm, opposite, triangular, ovate or lanceolate, faintly serrate, acute. Heads bright yellow, solitary; bracts biseriate; receptacle elongate ; pappus absent or of 2-3 bristles; anther base truncate; style arms long truncate. Receptacles elongate, pales enclosing the folowers. Fruit compressed. Pappus absent.

Fl. & Fr.: Winter.

Occurrence: Common in road side.

Vern. name: Moha vringaraj (As.)

Uses: As vegenatble , medicinal

Coll. No. J Sarma/705 Coll. Date: 5.3.2015

Locality: TU campus.

***Syndrella* Gaertn.**

Syndrella nodiflora (L.) Gaertn., Fruct. 2: 456. t. 171; Hook, f., Fl. Brit. Ind. 3: 308. 1881; Rao *et* Rabha, BBSI. 8: 300. 1966; Jain *et* Hajra, BBSI. 17: 83.1975; Balak., FJ. 1: 258.1981; Chowdhury *et al.*, Ass. Fl. 236.2005. *Verbesina nodiflora* L., Cent. PL 1: 28.1755.

Erect ,appressed, pillose, annuals, ca. 30 cm high, pubescent all over. Leaves ovate-lanceolate, serrulated, acute, ca. 5-12 x 3-5 cm

petiolate. Heads solitary, axillary, yellow; involucre campanulate. Stamens 5; anthers linear, sagittate.

Fl. & Fr.: October-March.

Occurrence: Common.

Coll. No. J Sarma/879 Coll. Date: 12.8.2017

Locality: Biswanath ghat.

***Tridax* L.**

Tridax procumbens L., Sp. Pl. 900. 1753; Hook, f., Fl. Brit. Ind. 3: 311. 1881; Chowdhury *et al.*, Ass. Fl. 236.2005; Uniyal in Hajra *et al.*, Fl. India 12 : 418. 1995.

A terrestrial perennial, herb about 10-45 cm height. Leaves cauline, opposite-decussate, acute, serrated, reticulate, finely pubescent. Head heterogamous, pale yellowish. Involucre bracts hirsute 5-lobed, green. Ray florets: Zygomorphie, pistillate, epigynous, yellowish. Pappus numerous, white. Disc florets: at the central part of the head, actinomorphic hermaphrodite, bracteate, ca. 0.5 cm long, white; pappus hairy numerous, 0.3 cm long, white. Corolla 5-lobed, united. Androecium epipetalous with 5 syngeneisous stamens, 0.3 cm long. Gynoecium bi-stigmate, style long, 0.5 cm long; superior ovary unilocular, central placentation.

Fl. & Fr.: November- March.

Occurrence: More or less common

Coll. No. J Sarma/264 Coll. Date: 5.2.2016

Locality: Nameri.

PLATE 11D

Vernonia cinerea (L.) Lers. in Linnaea 4: 291. 1829; Hook, f., Fl. Brit. Ind. 3: 233. 1881; Kanjilal *et al.*, FA. 3: 104. 1939; Deb, FTS. 2: 229. 1983. var *cinerea* Jain et Hajra, BBSI. 17: 83, 1975; Chowdhury *et al.*, Ass. Fl. 236.2005. *Conyza cinerea* L., Sp. Pl. 862,17531.

A frequent small annual herbs. Capitula ca. 20 flowered. Achenes terete, not angled or ribbed; pappus of hairs, bi-serriate, outer row minute.

Fl. & Fr.: March- October

Occurrence: Common.

Coll. No. J Sarma/ 302 Coll. Date: 25.09.2016

Locality: Upper Dekeri.

Wedelia N.J. Jacq.

Wedelia chinensis (Osborn) Merr. in Philipp. Jour. Sci. 12 : 111. 1917 ; Deb, FTS. 2 : 230. 1983; Uniyal in Hajra *et al.*, Fl. India 12 : 424. 1995. *Solidhago chinensis* Osborn, Dagb. Ostind. Resa 241. 1757. *Wedelia calendulacea* Less., Syn. Comp. 222. 1832; Hook, f., Fl. Brit. Ind. 3: 306. 1881.

Procumbent herbs or ascending upto 1 m high, rooting at the lower nodes; stems pubescent. Leaves spatulate oblanceolate, acute, 5-12x3-5 cm, shortly appressed hairy on both the surfaces, subpetiolate Heads yellow, solitary or terminal, 1.5 cm across;

involucral bracts in 2 series; ray florets few; disc florets compressed.
Pappus minute.

Fl. & Fr.: Whole year.

Vern. name: Vringaraj (As.)

Occurrence: Common. Cultivated.

Coll. No. J Sarma/924 Coll. Date:15.11.2017

Locality: Parbati nagar.

***Xanthium* L.**

Xanthium strumarium L., Sp. Pl. 987.1753; Hook.f., Fl. Brit. Ind. 3:303.1881; Kanjilal *et al.*, FA. 3:116.1939; Chowdhury *et al.*, Ass. Fl. 236.2005.

A coarse annual; hispidilose or strigilose. Leaves ca. 2.5- 10.5 cm long and as broad, broadly triangular-ovate or sub-orbicular, often lobed, acute, scabrid or hispid. Flowers unisexual in axillary heads. Female flower, involucre burr-like, covered with hooked spines. Male flower: heads at the tops of inflorescences; anthers exerted. Cypsela enclosed in the hardened cells of utricle. Pappus absent.

Fl.: January- March & Fr.: April

Vern. name: Ogora (As.)

Occurrence: Common.

Coll. No. J Sarma/653 Coll. Date: 20.8.2017

Locality: Beseria.

CAMPANULACEAE Juss.

Gen. Pl. 163. 1789.

India: 12 genera and 52 species; Study area: 1 genus and 1 species

Wahlenbergia Schrad.

Wahlenbergia marginata (Thunb.) DC., Mon. Camp. 143, 1830; *Campanula marginata* Thunb., Fl. Jap. 89, 1784; *Wahlenbergia gracilis* DC., Mon. Camp. 142, 1830; Cl. in Hook. f. Fl. Brit. Ind.. 3: 429, 1882.

Small slender herb ca. 10 - 35 cm high, branched from the base, glabrous. Leaves alternate, linear, ca. 1.5 - 6.5 x 0.3 - 1 cm across, distantly serrated, sub-acute. Flowers ca. 0.8 x 0.6 cm, on terminal panicles. Peduncle ca. 2.5 - 20 cm long, glabrous or nearly so. Petals 5, connate in a campanulate corolla, deeply divided into broad oblong lobes, bluish. Stamens 5, free from the corolla. Carpels connate in an inferior, turbinate, 2-3 celled ovary, many ovuled, style cylindrical, stigma of 3 narrow lobes. Capsule, ca. 0.7 cm long.

Fl. : February – April & Fr. : April - May.

Occurance : Common.

Coll. No. J Sarma/656 Coll. Date: 21.8.2017

Locality: Morabharali.

PLUMBAGINACEAE Juss.

Gen. Pl. 92. 1789.

India: 6 genera and 8 species ; Study area: 1 genus and 1 species

Plumbago L.

Plumbago zeylanica L., Sp. Pl. 151. 1753; Kanjilal *et al.*, FA 3:158. 1939; IUCN, Nepal. Nat. Reg. Medi. Aro. Plants. 54.2004; Chowdhury *et al.*, Ass. Fl. 237.2005.

An undershrub with glabrous small herbaceous branchlets. Leaves ovate-acute, entire, base cuneate. Flowers white, subsessile in glandular pubescent terminal or axillary spicate racemes; lower bracts leafy; bracteoles ovate-acuminate, shorter than calyx. Calyx free, tubular, covered with shortly stalked glands, persistent. Corolla hypocrateriform; lobes oblong, apiculate. Filaments of stamens equaling corolla lobes, anthers purple. Capsule oblong, apiculate, splitting upwards into 5-valves.

Fl. & Fr.: Whole year

Vern. name: Agiyasitta (As.).

Occurrence: Rare.

Coll. No. J Sarma/269 Coll. Date: 5.2.2016

Locality: Nameri.

PRIMULACEAE Batsch ex Borkh.

Bot. Wörterb. 2: 240. 1797.

Anagalis Turnef.

Anagalis arvensis L. var. *caerulea* (L.) Gouan, Fl. Monspel. 29, 1765; Burt. In NRBGE 28: 185, 1968; *A. Caerulea* L., Amoen. Acad. 4. 479, 1759; *A. arvensis* sensu Hook f. in Fl. Brit. Ind. 3: 506, 1882.

An annual herb ca. 35 cm tall. Stem slender, quadriangled branched from the base. Leaves sessile, ca. 1.5 x 1 cm, ovate cordate or lanceolate, opposite and whorled, sub-acute. Flowers ca. 0.5 x 0.7 cm, axillary solitary. Sepals ca. 0.4 cm long, narrow lanceolate, acuminate, connate in a 5 - partite calyx. Petals 5, connate in a rotate 5 - partite corolla, ca. 0.4 cm long, reddish at the base. Stamens 5, adnate to corolla tube, filament villous. Carpels ca. 0.2 cm, connate in a globose ovary, style filiform, ovules many. Fruit a globose circumscissile capsule, ca. 0.4 x 0.3 cm across; seeds many.

Fl. & Fr. : February - May

Occurrence : Almost Common.

Coll. No. J Sarma/ 657 Coll. Date: 22.8.2017

Locality: Bindukuri.

MYRSINACEAE R. Br.

Prodr. 532-533. 1810.

India: 10 genera and 108 species; Study area: 2 genera and 2 species

Key to the genera

1a. Fruits many seeded. Ovary half inferior ----- **Maesa**

1b. Fruits 1 seeded. Ovary free ----- **Ardisia**

Ardisia paniculata Roxb. Fl. Ind. t. 580.1832 ; Hock, f., Fl. Brit. Ind. 3: 519.1882 ; Gamble, Man. Ind.Timb.441.1902 ; Brandis, Ind. Trees 419. 1906 ; Kanjilal *et al.*, FA. 3 : 181. 1939; Balakr. Fl. Jowai 1:292.1981; Haridasan and Rao, For. Fl. Meghalaya 2:553.1987.

A small sized tree, upto 4.5 m tall; stems fleshy. Leaves ca. 14-32x5-14cm, whorled at tip, oblanceolate, apex acute or acuminate, base

cuneate, glabrous in both sides, margins entire; lateral nerves 12-18 pairs. Panicles terminal upto 35cm long; peduncles stout, reddish black; flowers reddish pink, 1 -1.5 cm across. Fruit longitudinally ribbed,
0.25-0.7 cm in diameter

Fl. & Fr.: March - December.

Vern. name: Saul dhuwa (As.).

Occurrence: Rare.

Coll. No. J Sarma/ 405 Coll. Date: 25.06.2016

Locality: Sonai Rupai WLS

Maesa Forsk.

Maesa indica (Roxb.) A. DC. in Trans Linn. Soc. Lond. 17:134.1834; Clarke in Fl. Brit. Ind. 3:509. 1882; Kanjilal *et al.*, FA 3:162. 1939; Chowdhury *et al.*, Ass. FL 238. 2005. *Baeobotrys indica* Roxb., Fl. ind. 2:230.1824.

A shrub or small tree with grayish-green bark. Leaves elliptic-lanceolate or elliptic-oblong, acute or acuminate, remotely or coarsely toothed, glabrous. Flowers white, scented, axillary racemes. Calyx minute. Corolla about ca. 4 mm across, lobes imbricate. Stamens 5, filaments short, anthers brown, dorsifixed. Ovary half-inferior, ovules many; style short, persistent in fruit, obscurely lobed. Berries small, pinkish-white, succulent when ripe.

Fl.: December-March & Fr.: June-July

Vern. name: Sesu/Seketia (As.).

Occurrence: Rare.

Coll. No. J Sarma/ 407 Coll. Date: 26.6.2016

Locality: Sonai Rupai WLS

PLATE 12A

SAPOTACEAE Juss.

Gen. Pl. 151. 1789.

India: 10 genera and 28 species; Study area: 2 genera and 2 species

Key to the genera

la. Leaves elliptic, acuminate. Fruits ellipsoid ----- *Mimusops*

lb. Leaves elliptic, oblanceolate, acuminate. Fruit globose
----- *Manilkara*

Manilkara Adans.

Manilkara zapota (L.) van Royen in Blumea 7:410.1953; Moore & Steam in Taxon 16:383. 1967; Chowdhury *et al.*, Ass. Fl. 238. 2005. *Achras zapota* L., Sp. Pl. 2:1190.1753; Clarke in Fl. Brit. Ind. 3:534.1882.

An evergreen small tree, trunk and branches rusty, with milky juice. Leaves whorled at the apex of branches, elliptic, oblanceolate, coriaceous. Fruits rusty-grey when young, yellowish when ripe, ca 8 cm across, fleshy with sweet scent. Fruits about 8 cm long, globose, testa crustaceous.

Fl.& Fr.: winter.

Vern. name: Sopeta (As.).

Occurrence: Common. Cultivated.

Coll. No. J Sarma/745 Coll. Date:15.3.2017

Locality: Kolibari.

***Mimusops* L.**

Mimusops elengi L., Sp. PL 349.1753; Hook.f., Fl. Brit. Ind. 3: 548.1882; Kanjilal *et al.*, FA. 3:197.1939; Haridasan & Rao, For. Fl. Meghalaya 2:265.1987.

A large handsome evergreen tree; young parts rusty pubescent . Leaves elliptic, acuminate, chartaceous, glabrous, shining, base rounded or acme, ca. 9.0-12.0 x 4.0-5.3 cm; petioles ca. 1.5 cm long. Flowers solitary or fascicled, creamy white , fragrant; calyx 6- lobed; corolla 24- lobed, lobes in 2 rows, lanceolate; stamens 8; staminodes 8, fimbriate; ovary 6-8 celled, cells 1- ovuled, style subulate. Berries ellipsoid, orange yellow; seeds solitary, compressed, brown.

Fl. & Fr.: May - December.

Vern. name: Bokul (As.).

Occurrence: Common.

Uses: treated as holy in hindu religion

Coll. No. J Sarma/393 Coll. Date: 22.12.2014

Locality: Singri .

PLATE 12B

EBENACEAE Gürke

Nat. Pflanzenfam. 4(1): 153. 1891.

India: 1 genus and 44 species; Study area: 1 genus and 1 species

***Diospyros* L.**

Diospyros malabarica (Desr.) Kostel, Alleg. Med. Pharm. Fl. 3:1099. 1834; Balakr. Fl. Jowai 1:296.1981; Haridasan & Rao, For. Fl. Meghalaya 2: 571. 1971; *Garcinia malabarica* Desr. in Lamk. Encycl. Meth. 3: 701.1792; *Diospyros embryopteris* Pers. Syn. 2: 624. 1807; Hook. f. , Fl. Brit. Ind.. 3: 556. 1882; Kanjilal *et al*, FA. 3:201. 1939.

A middle sized handsome evergreen tree upto 15 m tall with an umbrella like crown; bark blackish with white patches. Leaves 5-24 x 2.5 - 6.5cm. oblong- elliptic or oblong or oblong, lanceolate, obtuse or acute, base rounded, glabrous, , pale beneath, coriaceous. Male flowers- Cymes rusty, pubescent; Female flowers- solitary, creamy white; corolla tube glabrous in male and pubescent in female. Berries sub-globose, 4.6 cm across, orange - yellow.

Fl. & Fr.: October – July.

Vern. name: Kendu (As.)

Occurrence: More or less common.

Coll. No. J Sarma/381 Coll. Date: 21.4.2015

Locality: Dikorai.

OLEACEAE Hoffmanns. & Link

Fl. Portug. 1: 62. 1809.

India: 10 genera and 85 species; Study area: 2 genera and 2 species

Key to the genera

1a. Plant shrub. Fruit baccate ----- ***Jasminum***

1b. Plant small tree. Fruit 2 valved compressed capsule
----- ***Nyctanthes***

***Jasminum* L.**

Jasminum samboc (L.) Ait, Hort. Kew 1:8. 1785 Cl., in Hook, f., Fl. Brit. Ind. 3: 591. 1882; Pram, Beng. Pl. 659. 1903; Heinig, Enum. 724. 1907; Haines. Bot. Bih. Or. 623. 1922; Gamble, FPM. 788. 1923; Kanjilal *et al.*, FA3:225. 1939; *Nyctanthes samboc* L. Sp. PL 6.1753. *Jasminum blancoi* Hassk. Lamk., l.c. 212; *Jasminum fragrans* Salisb., Prodr. 12, 1796. *J. samboc* Roxb., Hort. Beng. 3.1814, nom. nud. & Fl. nud. 1:87.1820.

An evergreen erect shrub some what climbing, pubescent. Leaves simple, opposite, ovate, entire, glabrous above, pubescent below, petiole short, pubescent, 2 - 4.2x 1-2.1 cm. Flowers white, axillary in cymes, very fragrant; calyx segments 6-8, pubescent, tube very short, spreading, entire, imbricate; corolla tube long, 2 cm long, salver shaped, white; ovary 2-locular, 2 ovules in each cell; style cylindrical, stigmas 2-fid. Fruit black, globose, berry.

Fl. & Fr.: September - December.

Vern. name: Khoricajai (As.)

Occurrence: Common. Cultivated.

Uses: Used as ornamental plant

Coll. No. J Sarma/496 Coll. Date:13.8.2016

Locality: Sonabheel.

***Nyctanthes* L.**

Nyctanthes arbor-tristis L., Sp. Pl. 6. 1753; Hook, f., Fl. Brit. Ind. 3: 603. 1882 ; Prain, Beng. Pl. 660. 1903; Kanjilal *et al.*, FA. 3: 234.

1939; Deb, FTS. 2:112. 1983; Haridasan & Rao, For. Fl. Meghalaya 2: 597. 1987. Sewali (As.)

Small tree, with drooping quadrangular branchlets. Leaves opposite, 7.5 -14.5 x 3.5 -9.5 cm, ovate, acuminate, entire or toothed, scabrid; petiole short. Flowers sweetly scented, sessile in bracteate heads, disposed in terminal trichotomous-cymes; peduncles quadrangular; bract elliptic, pubescent; calyx funnel shaped, pubescent; corolla salver shaped, tube orange red, lobes white, 5-8, twisted; anthers at the throat of the corolla; ovary 2-celled with 1 ovule in each cell. Capsules orbicular, compressed, mucronate, leathery.

Fl. & Fr.: September - February.

Vern. name: Sewali (As.)

Occurrence: Common. Cultivated.

Uses: Flower eaten

Coll. No. J Sarma/489

Coll. Date: 6.8.2016

Locality: Balipukhuri.

APOCYNACEAE Juss.

Gen. Pl. 143-144. 1789.

India: 29 genera and 60 species; Study area: 11 genus and 12 species

Key to the genera

1a Trees or small trees:

2a. Leaves alternate or scattered. Seeds winged ----- ***Plumeria***

2b. Leaves opposite or whorled. Seeds not winged

3a Seeds comose:

4a. Leaves whorled. Flowers greenish-white, in compact
panicled cymes. Large tree

----- ***Alstonia***

- 4b. Leaves opposite. Flowers white, in lax corymbose cymes.
 Small Trees -----**Holarrhena**
- 3b. Seeds with woody mesocarp, separating into 2 valves
 -----**Cascabela**
- 4a. Anther more or less exserted. Corolla salver shaped, crimson
 -----**Wrightia**
- 4b. Anther included. Corolla campanulate, white -----**Beaumontia**
- 1b. Shrubs, undershrubs or scandent shrubs:
 5a Leaves whorled:
 6a. Scandent shrub. Corolla yellow. Ovary 1-celled--**Allamanda**
 6b. Shrubs or under shrubs. Corolla other coloured. Ovary 2-
 celled:
 7a. Fruit drupaceous. Under shrub or shrubs -----**Rauvolfia**
 7b. Fruit follicles, connate. Erect shrub -----**Nerium**
- 5b. Leaves opposite:
 8a. Seeds truncate. Under shrub -----**Catharanthus**
 8b. Seeds in an orange coloured aril. Erect shrub
 ---**Tabernaemontana**

***Allamanda* L.**

Allamanda cathartica L., Mant. Pl. Altera. 214. 1771; Kanjilal *et al.*, FA 3:247. 1939; Chowdhury *et al.*, Ass. Fl. 241.2005.

An unarmed scandent shrub. Leaves whorled, mostly quartemate, oblanceolate, subsessile. Flowers yellow in axillary paniced cymes. Corolla about 5 cm long, tube cylindrical. Fruit spiny.

Fl. April- May & Fr.: July-October.

Vern. name: Lota korobi (As.)

Occurrence: Common. Cultivated.

Coll. No. J Sarma/708 Coll. Date: 5.3.2015

Locality: TU campus.

Alstonia R. Br.

Alstonia scholaris (L.) R. Br. in Mem. Wem. Nat. Hist. S. 1:75. 1811 (preprint 1810); Kanjilal *et al.*, 3:253. 1939; Chowdhury *et al.*, 241. 2005. *Echites scholaris* L., Mant. Pl. 1:53.1767.

Tall handsome evergreen tree with white latex; branches whorled; bark grey with large horizontal lenticel-bar and light vertical fissures. Leaves in whorls of 4-7. Flowers greenish white in pubescent paniced cymes, highly scented. Calyx small 5-fid. Corolla constricted in the middle. Stamens attached to the corolla tube. Ovary villous of thwo distinct carpels; ovules many, stigma 2-fid. Fruit a pair of follicles, green.

Fl.: Oetober-November & Fr.: January-June.

Vern. name: Saitan/Sotiona (As.)

Occurrence: Common.

Coll. No. J Sarma/216 Coll. Date:2.5.2016

Locality: Kekorapool.

Beaumontia Wall.

Beaumontia grandiflora Wall. Tent. Fl. Napal. 1: 15–16, pl. 7. 1824; Hook. f, Fl. Brit. Ind. 3 : 600. 1882; Kanjilal *et al.*, 3:262. 1939.

A large stout woody Climber. Leaves opposite, elliptic-oblong, glabrous or tomeutose beneath. Flower white, very large, attractive,

in terminal cyme. calyx-lobea 1-2 in. long, 5 partrite, corolla between tubular and bell-shaped much shorter than the tube. Stamens adnate to the tip of the tube. Carpels 2, connate. Fruit thick woody. Seeds compressed.

Fl.: Rainy seasons & Fr.: Winter.

Occurrence: Rare.

Uses: As ornamental plant

Coll. No. J Sarma/278 Coll. Date: 5.2.2016

Locality: Nameri NP.

PLATE 12C

***Cascabela* Rafin.**

Cascabela thevetia (L.) Lipp. Feddes. Report. 91 : 52.1980. *Cerbera thevetia* L. Sp. PL 209. 1753. *C. peruviana* Pers. Syn. Pl. 1: 267. 1809; *Thevetia nerifolia* Juss. ex. Stend, Nom. Bot. (ed. 2) 2:680. 1841 ; Kanjilal *et al.*, FA. 3: 257. 1939. *T peruviana* (Pers) Merr. Philip. Jour. Sci. 9 : 130. 1914; Jain et Hajra, BOBSI17. 83. 1975; Deb, FTS. 2 : 23. 1983.

An evergreen small tree upto 8 m tall. Leaves linear - lanceolate, acute, glossy, margins recurved, ca. 12 x 1 cm; lateral nerves upto 20 pairs; petioles ca. 1 cm. Cymes few flowered; flowers 5 cm across, corolla bright yellow, funnel- shaped, tube 4 cm long, lobes 5. Drupes 3 cm across, few seeded; mericarps breaking into 2 valves; pericarp fleshy, green.

Fl. & Fr.: Whole year.

Vern. name: Korobi (As.)

Occurrence: Common. Cultivated.

Coll. No. J Sarma/219 Coll. Date:2.5.2016

Locality: Da parbatia.

***Catharanthus* G. Bon.**

Catharanthus roseus (L.) G. Don, Gen. Syst. 4:95. 1838, Sant. inBOBSI. 3 (1): 15. 1961. *Vinca rosea* L., Syst. Nat. ed. 10. 944. 1759; Hook. f., Fl. Brit. Ind. 3: 640. 1882; Kanjilal *et al.*, FA. 3:252.1939.

A perennial glabrous, evergreen, under-shrubs. Leaves oblong of elliptic-ovate, obtusely stipulate, acute or cunneate at base, glossy; lateral nerves about 10-12 pairs; petioles about 1 cm. Flowers ca. 3-4 cm across. Corolla tube cylindrical, narrow, about 3 cm long; lobes 5, obtusely apiculate, white or deep rose; style slender, about 3 cm.

Fl. & Fr.: Whole year.

Vern. name: Nayantora (As.)

Occurrence: Common. Cultivated.

Uses: Used as ornamental plant

Coll. No. J Sarma/904 Coll. Date: 4.11.2017

Locality: Dekargaon.

***Holarrhena* R.Br.**

Holarrhena antidysenterica (Roth,) DC. Prodr. 8 : 413 . 1844; Hook. f, Fl. Brit. Ind. 3 : 664. 1882; Kanjilal *et al.*, FA. 3 :254. 1939 Rao *et* Rabha, BOBSI3 :300.1966; Deb, FTS. 2:16. 1983; Balakr. Fl. Jowai 2:310. 1983; Haridason & Rao, For. Fl. Meghalaya 2: 602. 1987. *H. pubescent* (Buch. - Ham.) Wallich ex G. Don, Gen. Syst. 4:78. 1838 .

Small deciduous tree with white latex. Leaves opposite, elliptic - lanceolate, obovate, apex acuminate, base rounded sometime acute, glabrous above, glabrescent beneath; calyx ciliate; corolla neck hairy; stamens sub- sessile; ovary 1- celled, ovules numerous. Fruit of 2 follicles, cylindrical; seeds many, silky hairy.

Fl. & Fr.: April - December.

Vern. name: Dudhkuri (As.)

Occurrence: Not very common.

Coll. No. J Sarma/321 Coll. Date:24.4.2016

Locality: Aambagan.

***Nerium* L.**

Nerium indicum Mill., Gard. Diet. ed. 8, no. 2, 1786; Chowdhury *et al.*, Ass. Fl. 241. 2005. *N. odorum* Soland. in A it, Hort. Kew. 1:297. 1789; Hook. f, Fl. Brit. Ind. 3:655. 1882; Kanjilal *et al.*, FA 3:260.1939.

An erect attractive evergreen shrub. Leaves habitually temate, tapering at both ends, glossy green above, pale beneath. Flowers sweet fragrant, usually rosy in terminal cymes. Corolla funnel-shaped, hairy inside. Stamens at the top of the corolla tube. Ovary of two distinct carpel. Follicles connate.

Fl.: April- June & Fr.: Cold season.

Vern. name: Rakta-korobi (As.)

Occurrence: Common. Cultivated.

Uses: Used as ornamental plant

Coll. No. J Sarma/323 Coll. Date: 24.4.2016

Locality: Dheragaon.

***Plumeria* L.**

Key to the species

- 1a. Flower white ----- ***P. alba***
1b. Flower Red ----- ***P. rubra***

***Plumeria alba* L.**; Chowdhury *et al.*, Ass. FI. 241. 2005.

Small deciduous tree with whitish flowers cultivated for ornamental purposes.

Vern. name: Boga -gulanch (As.)

Occurrence: Common. Cultivated.

Uses: Used as ornamental plant

Coll. No. J Sarma/922 Coll. Date: 16.12.2017

Locality: Dadhara.

Plumeria rubra* L. var. *acutifolia (Poir.) Bailey; Chowdhury *et al.*, Ass. FI. 241. 2005. *P. acuminata* Roxb., FI. ind. 2:20.1832.

Small deciduous tree with heavily branched, bark corky. Leaves oblanceolate, fleshy. Flower purplish-red flowers, cultivated for ornamental purposes.

Vern. name: Ronga -gulanch (As.)

Occurrence: Common. Cultivated.

Uses: Used as ornamental plant

Coll. No. J Sarma/923 Coll. Date: 16.12.2017

Locality: Mazgaon.

***Rauwolfia* L.**

Rauwolfia serpentina (L.) Benth ex Kurz, For. Fl. Br. Burma 2:171. 1877; Hook, f., Fl. Brit. Ind.. 3: 632.1882; Jain & Hajra, BBSI 17(1-4):83. 1975; Kanjilal *et al.*, FA. 3:251. 1939; Chowdhury *et al.*, Ass. Fl. 241. 2005. *Ophioxylon serpentinum* L., Sp. Pl. 1043.1753.

An erect evergreen undershrub, ca. 65 cm high. Leaves simple, whorled, ca. 13 x 3 cm, oblong-lanceolate, acute or acuminate, glabrous, dark glossy green above, pale beneath, base tapering. Flowers ca. 1 - 2 cm long, in terminal or axillary compact corymbose cymes, pedicels very short. Calyx glabrous, segments lanceolate, red. Corolla tube pinkish, often curved; lobes small, white. Carpels slightly connate. Fruits didynamous or solitary, 0.6 cm across, pointed, smooth, black when ripe.

Fl.: April- October & Fr.: July- January

Vern. name: Sarpagandha (As.)

Occurrence: Very Rare.

Coll. No. J Sarma/332 Coll. Date: 20.12.2014

Locality: Singri Hill RF.

***Tabernaemontana* L.**

Tabernaemontana divaricata (L.) R. Br. in RLS. Syst. 4: 427.1819; Balak., FJ. 2: 311.1983; Chowdhury *et al.*, Ass. Fl. 241. 2005. *Nerium divericatum* L., Sp. pi. 209. 1753. *N. coconarium* Jacq., Coll. 1: 138. 1786. *T. coronaria* (Jacq) Wild., Enum. Hort. Bertol 275.1809; Hook, f., Fl. Brit. Ind. 3: 646.1882; Kanjilal *et al.*, FA. 3:255.1939.

Handsome evergreen bushy shrubs. Leaves elliptic, elliptic-oblong, acute or acuminate. Cymes axillary or terminal, often flowers solitary, white, turning yellowish. Calyx usually glandular. Corolla lobes imbricating to the left tube- dilated above the middle. Follicle 1-many seeded, fleshy.

Fl. & Fr.: Whole year.

Occurrence: Common.

Vern. Name: Kathanda phul (As.).

Uses: Used as ornamental plant

Coll. No. J Sarma/924 Coll. Date:16.12.2017

Locality: Mazgaon.

***Wrightia* Br.**

Wrightia coccinea (Lodd.) Sims, 53: , pl. 2696. 1826., Hook, f., Fl. Brit. Ind. 3: 654.1882; Kanjilal *et al.*, FA. 3:259.1939.

A handsome tree with greyish bark. Leaves 2 forious, drooping, elliptic, elliptic-lanceolate sometime elliptic-oblong. Flower about 3.5 cm across, scarlet in few flowered terminal cyme. Calyx segments rounded. Corolla across, crimson red. Seeds compressed, tips naked.

Fl.: May-June & Fr.: Winter.

Occurrence: Very rare.

Coll. No. J Sarma/693 Coll. Date: 22.4.2017

Locality: Bhalukpong river side.

PLATE 12D

ASCLEPIADACEAE Borkh.

Bot. Wörterb. 1: 31. 1797.

India: 39 genera and 196 species; Study area: 3 genera and 3 species

Key to the genera

1a. Pollen masses solitary in each cell

2a. Coronal processes spathulate

2b. Coronal processes spreading ----- ***Calotropis***

1b. Pollen masses erect, rarely horizontal

3a. Corolla minute, urceolate. Coronal scales membranous

----- ***Dischidia***

3b. Corolla rotate. Corona very large ----- ***Hoya***

Calotropis R.Br.

Calotropis gigantea (L.) R. Br. Hortus Kew. ed. 2. (Ait.) 2:78. 1811; Kanjilal *et al.*, FA 3:282.1939 ; Hook. f, Fl. Brit. Ind. 4:17 .1883; Deb, FTS 2:30,1983; Chowdhury *et al.*, 242.2005.

A large erect shrub, occasionally like a small tree, with milky latex. Bark deeply cracked. Young parts and under surface of leaves tomentose. Leaves sub-sessile, ovate, thick and fleshy, with a powdery mass, apex acuminate or obtuse. Flowers in umbellate or racemose pedunculate cymes. Calyx glandular within. Corolla of 5-scales radiating from the staminal column, lavender lilac or bluish-purple. Anther tips membranous, inflexed. Style apex 5-angled or lobed. Follicles short, recurved, turgid. Seeds ovate.

Fl. & Fr.: Whole year.

Occurrence: Common.

Vern. Name: Aakon/Aakanda (As.).

Coll. No. J Sarma/163

Coll. Date: 23.4.2016

Locality: Burhachapori.

Dischidia R. Br.

Dischidia nummularia R. Br., Prodr. 461. 1810; Hook.f., Fl. Brit.

India 4: 49. 1883.

Glabrous herb. Stems slender, twining to ca. 1.5 m; internodes longer than leaves. Petiole ca. 1-2 mm; leaf blade orbicular, ca. 7-10 mm in diam.; lateral veins obsolete. Sepals ovate. Corolla white or yellowish-white; lobes ovate-triangular, ca. 1 × 0.5 mm, thickened at middle. Corona lobes anchor-shaped, shorter than gynostegium, stalked, widely divergent, pendulous. Apical membrane of anthers ovate-triangular; pollinia oblong. Stigma head discoid, mucronate at apex. Follicles lanceolate, ca. 4 cm × 5 mm.

Fl. Mar-June & Fr. June-September.

Occurance More or less common

Coll. No. J Sarma/282

Coll. Date: 5.2.2016

Locality: Nameri NP.

Hoya R. Br.

Hoya parasitica Wall, ex G. Don, Prodr. 130. 1825; Hook, f., Fl. Brit.

Ind. 4: 57. 1882; Kanjilal *et al.*, 3:305.1939; Chowdhury *et al.*, 242. 2005.

Epiphytic creeping shrub. Branches stout, glabrous. Leaves oblong-elliptic or ovate-elliptic or lanceolate, acute or acuminate, fleshy, indistinctly nerved, base round or obtuse. Flowers showy, waxy, white, faintly scented with a pink or purplish centre in dense

umbellate-cymes. Calyx oblong-obtuse. Corolla lobes inflexed, glabrous; corona pinkish-brown, lobes long. Seeds minute.

Fl.: March- April & Fr.: June- July

Occurrence: Not Common.

Vern. Name: Lohom pat/Sagol jiva (As.).

Uses: Used as ornamental plant

Coll. No. J Sarma/694 Coll. Date: 22.4.2017

Locality: Bhalukpong Jia Bharali side.

MENYANTHACEAE Dumort.

Anal. Fam. Pl.20, 25. 1829.

India: 1 genus and 6 species; Study area: 1 genus and 1 species

Nymphoides O. Kuntze

Nymphoides hydrophyllum (Lour.) O. Kuntze, Rev. Gen. Pl. 2:429. 1891; Chowdhury *et al.*, Ass. Fl. 244. 2005. *Menyanthus hydrophyllum* Lour., Fl. Cochinch. 105. 1790. *Limnanthemum cristatum* (Roxb.) Griseb., Gen. Sp. gent. 342. 1838; Clarke in Fl. Brit. Ind. 4:131. 1883; Prain, Bengal Plants 2:709. 1903; Kanjilal *et al.*, FA 3:326.1939.

An aquatic herbs. Stem floating, rooting at the nodes petiole like. Leaves orbicular, deeply cordate. Flowers dimorphic in dense clusters, white, yellow towards base of the corolla within. Corolla lobes entire, fold down the middle. Seeds somewhat scabrous.

Fl.: April- May & Fr.: June-August.

Occurrence: More or less Common.

Vern. Name: Pani Seuli/ Pani kola (As.).

Coll. No. J Sarma/324 Coll. Date:26.4.2016

Locality: Hajara Pukhuri.

HYDROPHYLLACEAE R. Br.

Bot. Reg. 242. 1817.

India: 1 genus and 1 species; Study area: 1 genus and 1 species

***Hydrolea* L.**

Hydrolea zeylenica (L.) Vahl, Syn. Bot. 2: 46. 1791; Hook .f, Fl. Brit. Ind. 4: 133. 1883; Kanjilal *et al.*, FA. 3: 328. 1939; Deb, FTS. 2:310. 1983; Backer in van Steenis, FI.Males. 1(3): 207.1951. *Nama zeylenica* L., Sp. Pl. 226. 1753.

A rigorous swamp weed generally found in rice field. Leaves simple, lanceolate-acuminate, variable in shape, glabrous, membranous, ca. 3.0- 5.5 x 0.5- 0.8 cm; petioles short. Flowers regular, solitary, axillary or in racemes or panicles, bluish violet; bracts narrow; calyx 5- lobed, hairy; corolla 5- lobed, campanulate, imbricate ; stamens 5, adnate with the corolla tube, filaments filiform, lilac , anthers oblong, sagitate; ovary 2- celled, cell many ovuled, styles 2. Capsules ovoid, 4- valved; seeds minute.

Fl. & Fr.: September - December.

Occurrence: Common.

Vern. Name: Lehetibon (As.)

Coll. No. J Sarma/927 Coll. Date: 16.12.2017

Locality: Saikia Chuburi.

BORAGINACEAE Juss.

Gen. Pl. 128. 1789.

India: 35 genera and 137 species; Staudy area: 2 genera and 2 species

Key to the genera

1a. Calyx teeth accrescent in fruit. Style terminal ----- ***Cordia***

1b. Calyx teeth not accrescent in fruit. Style simple ----- ***Ehretia***

***Cordia* L.**

Cordia dichotoma Forst. f., prodr. 18. 1786; Kanjilal *et al.*, FA 3: 330. 1939; Chowdhury *et al.*, Ass. Fl. 244. 2005. *C. myxa* Sensus Clarke in Fl. Brit. Ind. 4:136. 1883.

A deciduous tree with drooping branches and long bole. Leaves variable, broad-ovate, orbicular or elliptic - oblong, entire, acute or acuminate, coriaceous. Flowers generally white, fragrant in corymbose or paniced cymes. Calyx accrescent. Corolla tube hairy inside. Fruit conical while young, yellowish and glossy when ripe, ovoid, single- seeded, filled with a viscid sweetish pulp.

Fl.: March- April & Fr.: June- August.

Occurrence: Common.

Vern. name: Kotra, Bowal, Gobarkhuta (As.)

Coll. No. J Sarma/412 Coll. Date: 23.4.2016

Locality: Balipara.

***Ehretia* L.**

Ehretia acuminata R. Br. var. ***serrata*** (Roxb.) Johns, in JAA 32:23. 1951; Chowdhury *et al.*, 244. 2005. *E. serrata* Roxb., Fl. ind. 2:340. 1824. *E. acuminata* sensu Clarke in Fl. Brit. Ind. 4:141.1883; Kanjilal *et al.*, FA 3: 333.1939.

A large tree with fluted stems and grey, vertically fissured, long fibrous bark. Leaves elliptic, elliptic-oblong, acuminate, acute, sharply serrate, chartaceous, glabrescent. Flowers white with an unpleasant smell, in terminal dense pyramidal panicle. Calyx small, ciliate. Corolla tube short. Drupe small, ca. 0.3- 0.4 cm in diameter, ellipsoid with bi-celled pyrenes, 4-seeded.

Fl. & Fr.: February- April.

Occurrence: Common.

Coll. No. J Sarma/638 Coll. Date: 19.8.17

Locality: Behali RF.

HELIOTROPACEAE Schrad.

Commentat. Soc. Regiae Sci. Gott. Recent. 4: 192. 1819.

India: 18 species and Study area: 1 species

Heliotropium L.

Heliotropium indicum L., Sp. Pl. 129. 1753; Clarice in Fl. Brit. Ind. 4: 152. 1883; Prain, Bengal Plants 2:716.1903; Chowdhury *et al.*, Ass. Fl. 245.2005.

A diffuse annual herb. Leaves ovate-elliptic, dark green above, pale green beneath, rough hairy, sub-serrate. Flowers in scorpioid cymes. Calyx lobes narrow, fruit not enveloped; spikes persistently

bracteate. Petals white. Fruit separating into two nutlike, 2-seeded pyrenes.

Fl.& Fr.: April- June.

Occurrence: Common.

Vern. name: Hati-sur(As.)

Coll. No. J Sarma/285 Coll. Date: 5.2.2016

Locality: Nameri NP.

CONVOLVULACEAE Juss.

Gen. Pl. 132. 1789.

India: 20 genera and 158 species; Study area 4 genera and 12 species

Key to the genera

1a. Corolla tube usually not uniformly enlarged from base to apex.

Pollen grains spinulose:

2a. Fruit dehiscent. Ovary generally 1-3-celled ----- ***Ipomoea***

2b. Fruit indehiscent. Ovary 4-celled ----- ***Argyreia***

1b. Corolla tube usually uniformly enlarged from base to apex.

Pollen grains not spinulose:

3a Small herbs ----- ***Evolvulus***

3b. Spreading climbers ----- ***Merremia***

Argyreia Lour.

Argyreia nervosa (Burm. f.) Bojer., Hort. Maurit. 224. 1837; Kanjilal *et al.* F A . 3: 342.1939; Jain and Hajra, BBSI 17: 83. 1975; Chowdhury *et al.*, Ass. Fl. 245. 2005. *Convolvulus nervosus* Burm. f., Fl. Ind. 48. 1768; *Argyreia speciosa* (L.f) Sweet, Hort. Brit 289, 1827; Hook, f., Fl. Brit. Ind. 4: 184, 1883;

A large woody climber. Leaves ca. 18x20 cm, acute, cordate, sub-orbicular, coriaceous, lateral nerves 8-12 on either side. Peduncles ca. 3 cm long. Bracts numerous, ovate acute, wooly beneath. Calyx elliptic oblong. Corolla purplish white.

Fl. & Fr.: July- October.

Occurrence: Common.

Coll. No. J Sarma/881 Coll. Date: 12.8.2017

Locality: Biswanath.

***Evolvulus* L.**

Evolvulus nummularius (L.) L., Sp. Pl. ed. 2: 391. 1762; Prain, Bengal Plants 2: 725. 1903; Chowdhury *et al.*, Ass. Fl. 245. 2005. *E. nummularius* L., Sp. Pl. 157.1753.

Prostrate herbs with perennial roots. Leaves distichous, rounded at base, petiolate, pilose beneath, apex emerginate. Flowers ca. 0.3-0.4 cm long, in short peduncled cymes, white. Bracts hairy. Calyx 5. connate, hairy at the margin. Corolla 5, funnel shaped, 0.4-0.5 cm long. Stamens- 5, epipetalous, shorter than corolla tube. Ovary 2-celled, styles 2; 2-clefts. Fruits 4 seeded.

Fl. & Fr.: Whole year.

Occurrence: Almost Common.

Coll. No. J Sarma/335 Coll. Date: 20.12.2014

Locality: Singri Hill RF.

***Ipomoea* L.**

Key to the species

- 1a. Erect Sub-shrub -- *I. cornea* ssp. *fstulosa*
- 1b. Climbing or trailing herbs:
- 2b. Stem branches hairy
- 2b. Stem and branches glabrous ----- *I. obscura*
- 3a. Leaves lobed or entire
- 4a. Flowers campanulate, not scarlet
- 5a. Ovary 4 celled ----- *I. batatas*
- 5b. Ovary 2 celled:
- 6a. Leaves unequally 5-7 lobed ----- *I. cairica*
- 6b. Leaves hastate or . Date ----- *I. aquatica*
- 4b. Flowers funnel shaped, scarlet ----- *I. hederifolia*
- 3b. Leaves deeply pinnatifid ----- *I. quamoclit*

Ipomoea aquatica Forst., Fl. Aeg. Arab. 44. 1775 ; *I. reptans* Poir in Lamk. Encycl. Suppl. 3 :460 ,1814; Hook. f., Fl. Brit. Ind. 4 : 210. 1883; Kanjilal *et al.*, FA. 3 : 348. 1939.

A glabrous aquatic herb with milky juice ; stem fistular, floating, rooting at the nodes. Leaves variable, linear to ovate, truncate, cordate, sagittate at the base, ca. 8.0 - 10.0 cm long; petioles 4 - 5 cm long. Flowers in cymes, whitish pink with violet center; sepals 5, corolla 5 - lobed , funnel shaped ; stamens 5; disk annular; ovary 2 celled, cells 2 - ovuled, style 1, filiform. Capsules ovoid; seeds 4 or 2.

Fl. & Fr.: October - February.

Occurrence: Almost Common.

Vern. Name: Kolmou (As.)

Uses: Used as vegetable

Coll. No. J Sarma/154

Coll. Date: 23.4.2016

Locality: Parbatia.

Ipomoea batatas (L.) Lam., Tabl. Encycl. 1:465. 1792; Prain, Bengal Plants 2:735. 1903; Kanjilal *et al.*, FA 3:347.1939; Chowdhury *et al.*, Ass. Fl. 245.2005.

A prostrate annual trailing with milky juice and storage root tubers. Leaves ovate cordate, more or less lobed. Flower purples. Commonly cultivated for its edible tubers which are eaten fresh, cooked and simply boiled.

Occurrence: Almost Common.

Vern. Name: Mitha alu, Gorla alu (As.)

Coll. No. J Sarma/265 Coll. Date: 6.2.2018

Locality: Garo gaon.

Ipomoea cairica (L.) Sweet, Host. Brit. 287. 1827 ; Kanjilal *et al.*, FA. 3 : 349. 1939. *Convolvulus caricus* L. Syst. ed. 10. 922.1759. *Ipomoea palmata* Forssk. Fl. Arb. 43 : 1775; Hook. f., Fl. Brit. Ind. 4 : 214. 1883.

An exclusive climber. Leaf generally sub pedately 7 lobed, unequal, elliptic to obovate 5-7, ovate - lanceolate, laterals gradually smaller, membranous, glabrous, ribs prominent; petiole ca. 6 cm long. Flowers in lax cymes, purplish; peduncles 3 cm long, 3 flowered; calyx campanulate, 6 mm long ; corolla 5 cm long, funnel form, purple pink ; stamens distinctly unequal, 2 cm long, anthers brown, filaments pink; ovary 1 mm diameter, style 1.5 cm long, filiform, stigmas 2, globose.

Fl. & Fr. : April - October.

Occurance : Common

Coll. No. J Sarma/156 Coll. Date:25.4.2016

Locality: Upper Dekeri Gaon.

Ipomoea carnea* ssp. *fistulosa (Mart, ex Choisy) Austin., Taxon. 26: 237.1977. *I. fistulosa* Mart. ex. Choisy in DC. Prodr. 9:349. 1845 & Fl. Gorakh. 212. 1976; Chowdhury *et al.*, Ass. Fl. 245.2005. Deb, FTS. 2:258.1983

Shrubby with fistular stem, milky juice present. Leaves 4- 13 x 1-5 cm ovate to oblong, acuminate, cordate. Flowers 5-6 cm long, large, pink. Sepals sub- equal. Stamens 5; filaments hairy at base. Carpel 1. Capsules ovoid.

Fl. & Fr.: September- December.

Occurrence: Common.

Vem. Name.: Bor Kolmou, Bih-kolmou (As.).

Coll. No. J Sarma/598 Coll. Date: 23.8.2016

Locality: Charduar.

Ipomoea hederifolia L., Syst. Nat. ed. 10. 925. 1759:O'Donell in Lilloa 29.45. 1959 ; Deb, FTS. 2:259. 1983. *I. angulate* Lamk. Encycl. 1:464.1791; *Quamoclit phoenicea* (Roxb.) Choisy in Mem. Soc. Phys. Geneva 6: 433. 1836; Hook, f., Fl. Brit. Ind. 4. 199. 1883; Prain, Beng. Pl. 737. 1903; Kanjilal *et al.*, FA. 3: 350. 1939.

A herbaceous climber with contorted stem. Leaves petiolate, ovate, cordate, acuminate, entire, sometime acutely lobed, angular

glabrous. Inflorescence axillary and terminal, cymose; bracts minute; sepals oblong-rhomboid, obtuse or truncate at the apex and with a large awn below the top; corolla glabrous, salver shaped, scarlet, tube 3-4 cm long, slightly curved; stamens exerted, glabrous; ovary glabrous, style exerted. Capsules, glabrous, 4-celled; seeds 4, densely pubescent, black.

Fl. & Fr.: July - December.

Occurrence: Common.

Coll. No. J Sarma/155 Coll. Date: 23.4.2016

Locality: Gereki.

Ipomoea obscura (L.)Ker-Gawl. in. Bot. Reg. 3: t. 239.1817; Hook. f., Fl. Brit. Ind. 4:207.1883; *Convolvulus obscura* L., Sp. Pl. 2 : 220.1762 ; Roxb. Fl. Ind. 2: 52. 1824.

Large twiner. Leaves ovate- cordate, acuminate, about 4 cm across; petioles ca. 3.5 cm long. Flowers generally solitary or in long peduncled axillary, few flowered cymes, cream yellow. Capsules conical; seeds faintly pubescent.

Fl.& Fr.: October - January.

Occurrence: Almost Common.

Coll. No. J Sarma/919 Coll. Date: 12.11.2017

Locality: Near Sirajuli.

Ipomoea pes-tigridis L. Sp. Pl. 1: 162. 1753; Hook, f., Fl. Brit. Ind. 4 : 204. 1883.

Annual herbs, axial parts hispid and spreading. Leaf blade circular or transversely elliptic in outline, palmately divided; segments 5-9, elliptic or oblong, tapered at both ends, tightly pubescent, apex mucronate. Inflorescences capitate, few flowered; bracts hirsute; outer involucral bracts oblong to linear-oblong, 2-2.5 cm; inner bracts smaller. Pedicel obsolete. Sepals lanceolate, slightly unequal. Corolla white, funnelform. Stamens included; filaments glabrous. Stigma bi-lobed. Seeds ellipsoid.

Fl. & Fr.: October - January.

Occurrence: Almost Common.

Vern. name: Sial lota (As.)

Coll. No. J Sarma/710 Coll. Date: 4.5.2015

Locality: TU campus.

PLATE 12E

Ipomoea quamoclit L., Sp. Pl. 159.1753 ; Hook, f., Fl. Brit. Ind. 4 : 199. 1883 ; Oostr. in van Steenis, Fl-Males. 1.4(4): 482.1953; *Quamoclit pennata* Boj Kanjilal *et al.*, FA.3: 350.1939; Rao & Verma in BOBSI 11 (3&4) : 409.1972 ; Deb, FTS. 2:261. 1983.

A graceful slender climber. Leaves ovate oblong, pinnati- partite with 10-18 pairs filiform patent segments. Flowers in axillary cymes, often bright red; bracts deltoid; calyx 5- lobed, lobes unequal; corolla 5-lobed, salver shaped; stamens 5, exerted, filaments hairy at base; ovary 4- celled, cells 1- ovuled, stigma 2. Capsules 4 - celled, 4- valved; seeds 4, black.

Fl. & Fr.: July - October.

Occurrence: Almost Common.

Vern. name: Kunja lota (As.)

Coll. No. J Sarma/712

Coll. Date: 5.5.2015

Locality: TU campus.

Merremia Denns.in sehliiss. ex Endl.

Key to the species

1a. Corolla white ----- ***M. umbella***

1b. Corolla pale yellow ----- ***M. vitifolia***

Merremia umbellata (L.) Hall, f., Engl. Bot. Jahrb. 16: 552.1893; Kanjilal *et al.*, FA. 3 : 356. 1939 ; Rao et Verma in BOBSI. 11 (3 & 4): 409. (1969) 1972. *Convolvulus umbellata* L., Sp. Pl. 155. 1753; *Ipomoea cymosa* (Desr.) Roem. & Schult., Syst. 4 : 421. 1819; Hook, f., Fl. Brit. Ind. 4 : 211. 1883.

An extremely variable scandent, pubescent. Leaves ovate, oblong-lanceolate, ovate acuminate, petioles ca. 1.0 - 1.5 cm long, pubescent, lateral nerve prominent. Flowers 3 - 6 in axillary umbellate cymes, white; calyx 5 - lobed, aristate; corolla 5 - lobed, funnel shaped, pubescent, white; stamens 5. Capsules globose, hairy.

Fl. & Fr.: March- June.

Occurrence: Common.

Vern. name: Gorja loti, Kolia lota (As.)

Coll. No. J Sarma/286

Coll. Date: 5.2.2016

Locality: Nameri NP.

PLATE 12F, 13A

Merremia vitifolia (Burm. f.) Bl., Bijdr. 709. 1826; Clarke in Hook, f., Fl. Brit. Ind. 4:213. 1883; Prain, Bengal Plants 2:730. 10903; Kanjilal *et al.*, t FA 3:357. 1939; Chowdhury *et al.*, Ass. Fl. 246. 2005.

An widespread twinner, fully hairy. Leaves sub-orbicular sometimes broadly ovate, typically palmately 5-7-lobed, deeply cordate, toothed, more hairy above than beneath. Inflorescence few flowered cymes, pedunculate, hairy. Calyx segments hairy, accrescent in fruit. Corolla pale yellow or purplish, glabrous. Capsule globose, usually 4-seeded. Seeds blackish.

Fl. : January- March & Fr.: May-August.

Occurrence: Not very Rare.

Vern. name: Digi-lewa (As.)

Coll. No. J Sarma/289 Coll. Date: 5.2.2016

Locality: Nameri NP.

PLATE 13B

CUSCUTACEAE Dumort.

Anal. Fam. Pl. 20, 25. 1829.

India: 1 genus and 7 species; Study area: 1 species

***Cuscuta* L.**

Cuscuta reflexa Roxb. Corom. Pl. 2:3. 1.104.1798; Cl.in Hook.f., Fl. Brit. Ind. 4: 226. 1883; Pram, Beng. Pl. 723.1903; Kanjilal *et al.*, FA.3: 362.1939; Deb, FTS. 2: 311. 1983; Haridasan & Rao, For. Fl. Meghalaya 2 : 646.1987. *C. hookeri* Sweet, Hort. Brit. ed. 2. 373. 1830. *C. santapau* Benerji & Das in Jour. Am. Arb. 46:87.1965.

Yellowish green glabrous twing parasite climber, highly invasive. Flowers sessile or very shortly pedicelled, white, waxy; calyx deeply 5- partite, orbicular; corolla campanulate, 5-lobed; scales episepalous; stamens 5; ovary bi-celled, cells 2- ovuled, style single. Capsules globose conical; seeds 4 or less, black.

Fl. & Fr.: October-January.

Occurrence: Very common. Invasive.

Vern. name: Akasilota/Rabon nari (As.)

Coll. No. J Sarma/641 Coll. Date: 19.8.17

Locality: Behali RF.

SOLANACEAE Juss.

Gen. Pl. 124. 1789.

India: 24 genera and 108 species; Study area: 7 genera and 14 species

Key to the genera

1a. Embryo curved

2a. Ovary 2 locular

3a. Calyx enlarged in fruit ----- ***Physalis***

3b. Calyx not greatly enlarged in fruit

4a. Flowers 1-3, axillary. Filaments longer than the anthers

----- ***Capsicum***

4b. Flowers cymose, usually extra-axillary. Filaments

shorter than the anthers:

5a. Anthers dehiscing by longitudinal slits -***Lycopersicon***

5b. Anthers dehiscing by apical pores ----- ***Solanum***

2b. Ovary 4 locular ----- ***Datura***

1b. Embryo straight

6a. Fruit baccate

----- *Cestrum*

6b. Fruit capsular

----- *Nicotianum*

Cestrum L.

Cestrum nocturnum L., Sp. Pl. 191. 1753 ; Kanjilal *et al.*, FA. 3: 374. 1939; Deb, FTS. 2 : 237. 1983 ; Haridasan & Rao, For. Fl. Meghalaya 2 : 649. 1987.

A straggling shrubs. Leaves alternate, simple ovate - oblong or elliptic, acuminate, glabrous, lanceolate, petiole distinct. Flowers very fragrant, greenish white to cream coloured, extremely fragrant at night, sessile; corolla lobes erect or spreading; stamens 5, filaments denticulate; ovary 2 celled. Fruit berry.

Fl. & Fr.: March - October.

Occurrence: Common. Cultivated.

Vern. name: Hashnahana (As.)

Coll. No. J Sarma/243

Coll. Date: 22.5.2016

Locality: Barikachuburi.

Capsicum L.

Capsicum sonitpurensis J. Sarma & G. Dutta, Bangladesh J. Plant Taxon. 24(2): 215-218, 2017 (December). [**sp. nov.**]

Perennial shrubs, up to 120 cm tall. Roots terete, ca. 5 – 13 mm diam. Stems up to 15 cm long, branched, glabrate, slightly woody with age. Leaves opposite, ovate to lanceolate, apex acute-acuminate, base attenuate, margins entire, undulate; leaf lamina

ca.6-12× 3-6 cm. Venation reticulate, uncostate, surface glabrescent, base narrowed, margin entire. Petiole ca. 2.0-4.5 cm. Flowers complete, white or off-white, 2.0-3.2 cm long, bracteate, pedicellate. Floral bracts small 0.2-0.4 cm, persistent; pedicels ca. 2-3 cm long, greenish, jointed at the middle, nodding in flower, cylindric. Sepals 5, cup-shaped, undulate, 2-3 × 3 mm. Petals rotate, campanulate, salver or trumpet-shaped; lobes 5, usually equal; plicate or valvate in bud. Stamens 5, 3-4 mm long, epipetalous, alternating with the corolla lobes, sometimes didynamous and unequal, attached to the base of the corolla tube or higher up. Carpels white, 3.0-3.5 mm long. Ovary superior, oblique, 2-4 locular; placentation axile. Fruit a many-seeded berry, ca. 6-9 cm long, surface uneven, smooth, light green, reddish black at maturity. Seeds white, compressed, reniform to discoid, 220-240 per fruit.

Fl.: May- August & Fr.: July-November.

Occurrence: Cultivated from wild.

Coll. No. J Sarma/ 394 A, B, C, D (Holotype) Coll. Date: 21.11.2015

Locality: Balipara.

PLATE 15 (A-K)

A few species of *Capsicum* are cultivated in the study area:

***Capsicum annuum* L.**

Vern. name: Jolokia (As.)

***C. annuum* L. var. *gtabriusculum* (Dunal) Heiser f. Pickers**

Vern. name: Kola jolokia (As.)

***C. frutescens* L.**

Vern. name: Firingi jolokia, Pahari jola (As.)

***C. chinensis* L.**

Vern. name: Vut jolokia (As.)

***Datura* L.**

***Datura stramonium* L.**, Sp. Pl. 179.1753; Clarke in Fl. Brit. Ind. 4:242.1883; Kanjilal *et al.*, FA 3:373. 1939; Chowdhury *et al.*, Ass. Fl. 247. 2005. *Datura stramonium* var. *tatula* (L.) Clarke in Fl. Brit. Ind. 4:242.1883; Prain, Bengal Plants 2:751.1903.

A rough annual herb. Leaves mostly variable in size, ovate-acute, sinuate, obtusely lobed, sparingly hairy on the nerves beneath. Calyx tubular, 5-angled, large, drooping generally. Corolla usually purple, or white, lobes acuminate. Capsule prickly, usually erect.

Fl. & Fr.: Winter.

Occurrence: Almost common.

Vern. name: Dhatura (As.), Dhutra (Beng.)

Coll. No. J Sarma/415 Coll. Date: 7.4.2016

Locality: Maithan.

***Lycopersicon* Mill.**

***Lycopersicon esculentum* Mill.**, Gard. Diet. ed. 8. n. 2. 1768; Clarke in Fl. Brit. Ind. 4:237. 1883; Chowdhury *et al.*, Ass. Fl. 247. 2005. Kanjilal *et al.*, FA 3:372.1939.

A cultivated pubescent herb. Leaves irregularly pinnate. Flower yellowish in few flowered cyme. Fruits fleshy berry, eaten as vegetable, etc.

Fl. & Fr.: Whole year.

Occurrence: Common. Cultivated.

Vern. name: Bilahi (As.)

Coll. No. J Sarma/416 Coll. Date: 8.4.2016

Locality: Khona mukh.

***Nicotiana* L.**

Nicotiana plumbaginifolia Viv., Elench. Pl. (Viviani) 26. 1802; Prain., Bengal Plants 2:752. 1903; Kanjilal *et al.*, FA 3 : 374. 1939; Chowdhury *et al.*, Ass. Fl. 247. 2005.

A hairy annual herbaceous weed. Stem slender, leafy. Leaves sessile, radicle, oblong-lanceolate to obovate-spathulate, entire or undulate, glabrescent. Flowers whitish in terminal racemes. Calyx 5 lobbed long, segments linear-lanceolate. Corolla salver-shaped, white. Capsule 1 cm long, ovate, glabrous. Seeds minutely rugose.

Fl. & Fr.: March- July.

Occurrence: Frequent.

Vern. name: Ulu-lai (As.)

Coll. No. J Sarma/417 Coll. Date:8.4.2016

Locality: Gahpur.

***Physalis* L.**

Physalis minima L., Sp. Pl. 183 . 1753 ; Cl.in Hook f., Fl. Brit. Ind. 4:238. 1883 ; Deb, FTS. 2:242. 1930. *P minima* var. *indica* (Lamk.) Hook, f., Fl. Brit. Ind. 4:238.1883. *P. indica* Lamk. Encycl. 2 : 102. 1786.

Small pubescent annual. Leaves alternate, ovate, toothed, ovate-entire, sinuate or shallowly lobed, acute or acuminate. Calyx faintly angular, nerves purplish, veins prominent. Flowers solitary yellowish; calyx 5 - lobed, enlarged and subglobose in fruit; corolla 5 - lobed, lobes short; stamens 5, inserted near the corolla base; ovary 2 - celled, seated on a large disk. Berries globose, hidden by the enlarged calyx.

Fl. & Fr.: June - March.

Occurrence: Frequent.

Vern. name: Kapalphuta (As.)

Coll. No. J Sarma/466 Coll. Date: 7.5.2016

Locality: Hudupara.

PLATE 13C

***Solanum* L.**

Key to species:

1a. Generally Unarmed. Calyx not enlarged in fruit:

2a. Roots mixed with tubers. Leaves pinnatifid:

2b. Roots not mixed with tubers. Leaves sinuately lobed

----- ***S. nigrum***

1b. Armed with prickles. Calyx enlarged in fruit:

3a. Flowers blue. Berry globose or elongated:

- 4a. Leaves serrate or obtusely lobed ----- *S. anguivi*
 4b. Leaves pinnatifid ----- *S. surattense*
 3b. Flowers white. Berry globose ----- *S. torvum*

Solanum anguivi Lamk., Encycl. 2:23. 1793; Chowdhury *et al.*, 247. 2005. Deb, FIS. 1: 47. 1980 et 2: 245. 1983; Balak., F. J. 2: 331. 1983. *S. indicum* auct. non L., Clarke in Fl. Brit. Ind. 4:234.1883; Kanjilal *et al.*, FA 3:369.1939.

A shrub with curved prickles; young parts herbaceous, thickly stellate-tomentose. Bark smooth, plae brown. Leaves ovate or oblong, serrate or obtusely lobed; grey and dirty tomentose beneath. Flowers bluish-purple, across, in extra-axillary cymes; pedicel and peduncle often prickly. Calyx ca. 0.5 cm long, stellate-pubescent outside, habitually prickly. Corolla ca. 0.8 cm long, tomentose outside. Stamens 0.5 cm long, alternate the corolla lobes; filament short; anthers yellow. Style hairy, stigma bi-lobed. Berry globose, smooth, yellow to reddish yellow.

Fl.: September – November & Fr.: winter.

Occurrence: More or less common.

Vern. name: Tit-bhekuri, Tita-bhekuri, Bhekuri, Bhot-bengena (As.)

Uses: Fruit eaten

Coll. No. J Sarma/486

Coll. Date: 6.8.2016

Locality: Balipukhuri.

Solanum nigrum L., Sp. Pl. 186. 1753 ; Hook.f., Fl. Brit. Ind. 4:229. 1883 ; Kanjilal *et al.*, FA. 3 : 366. 1939; Deb, FTS. 2 : 247. 1983 ; Balakr. Fl. Jowai 2 : 332. 1983.

A suffrutescent annual herb. Leaves ovate oblong or ovate lanceolate, entire, sinuate or lobed, acute or acuminate. Flower white to off-white, small in umbellate cyme, long peduncled; calyx 5 toothed; corolla 5 lobed, rotate, glabrous; stamens , alternating the petals; ovary glabrous. Berry globose black when ripe.

Fl. & Fr.: November - March.

Occurrence: More or less common.

Vern. name: Pokmow (As.)

Uses: Fruit eaten

Coll. No. J Sarma/491 Coll. Date: 7.8.2016

Locality: Solmara.

Solanum surattense Burm. f., Fl. Ind. 57.1768; Venkatareddi in B B SI11:209.1969; Chowdhury *et al.*, Ass. Fl. 248. 2005. *S. xanthocarpum* Schard. & Wendle., Sert. 1:8. t. 2.1795; Clarke in Fl. Brit. Ind. 4: 236.1886; Kanjilal *et al.*, FA 3:371.1939.

A perennial herb having straight prickles. Leaves pinnatifid, with straight prickles on both surfaces. Flowers deep blue, in few flowered cymes. Calyx lobes recurved, scarcely accrescent. Berry globose, about 2.5 cm in dia., variegated or green when young, yellow when ripe.

Fl. & Fr.: December- February.

Occurrence: Rare.

Vern. name: Birkuli tita, Kantakari (As.)

Coll. No. J Sarma/905 Coll. Date: 4.11.2017

Locality: Dekargaon Rail Station.

Solanum torvum Swartz., Prodr. 47.1768; Clarke in Hook, f., Fl. Brit. Ind. 4:234.1883; Kanjilal *et al.*, FA 3:369.1939; Chowdhury *et al.*, Ass. Fl. 248.2005.

A armed shrub, sparsely stellate pubescent. Leaves ca. 5- 15 cm x ca. 3.2- 12.5 cm, ovate, serrate, sometimes lobed, shortly acuminate, sparsely stellatepubescent above, more closely beneath. Flowers bright white, ca. 1.7- 2.5 cm across, in dense lateral extra axillary cymes. Calyx unarmed, abruptly apiculate. Corolla stellate pubescent outside; lobes spreading, linear, oblong or lanceolate. Berry globose, seated on a persistent calyx.

Fl. & Fr.: September- October.

Occurrence: Not very common.

Vern. name: Hati-bhekuri, Bhit- tita (As.).

Uses: Fruit eaten

Coll. No. J Sarma/278 Coll. Date: 7.2.2016

Locality: Smarna.

PLATE 13D

SCROPHULARIACEAE Juss.

Gen. Pl. 117–118. 1789.

India: About 220 genera and 3000 species; Study area: 8 genera and 8 species

Key to the genera :

1a. Under shrub, stem base woody; flower actinomorphic

----- ***Scoparia***

- 1b. Herbs, stem herbaceous; flower zygomorphic.
- 2a. Leaves simple, sessile or sub-sessile, entire -----**Bacopa**
- 2b. Leaves simple or pinnetisect, petioled to sub sessile, serrated
- 3a. Calyx winged or keeled -----**Torenia**
- 3b. Calyx not winged nor keeled
- 4a. Anther cells separate
- 5a. Capsules 2- valved ----- **Macardonia**
- 5b. Capsules 4 - valved ----- **Limnophila**
- 4b. Anther cells confluent or contiguous
- 6a. Stamens 2; calyx 4 lobed ----- **Veronica**
- 6b. Stamens 4; calyx 5 lobed
- 7a. Capsules loculicidal ----- **Mazus**
- 7b. Capsules septicidal ----- **Lindernia**

***Bacopa* Aub.**

Bacopa monnieri (L.) Pennel in Proc. Acad. Nat. Sci. Phil. 98: 94. 1946; Deb, FTS. 2: 269. 1983; *Herpestis monniera* H.B.K. Nov. Gen. Sp. 2 : 366. 1818; Hook, f., Fl. Brit. Ind. 4 : 272. 1884; Chatterjee et Bharadw. in Bull. Bot. Soc. Beng. 9 (2) : 133. 1955. *Gratiola monnieri* L. Syst. ed. 10: 851. 1759. *Bramia indica* Lamk. Encycl. 1: 459. 1785 ; Gamble, FPM. 952. 1923.

A delicate prostrate, creeping, herbs, rooting at the nodes. Leaves simple, opposite, decussate, obovate - oblong or spatulate, generally sessile or sub - sessile. Flowers axillary, solitary, pedicelled, bracteolate; calyx 5 - partite; corolla 5 lobed, campanulate, purple or white; stamens 4, didynamous. Capsule ovoid.

Fl. & Fr.: Throughout the year.

Occurrence: Not very common.

Vern. name: Brahmi (As.)

Coll. No. J Sarma/244 Coll. Date: 22.5.2016

Locality: Deka chuburi.

Limnophila R.Br.

Limnophila heterophylla (Roxb.) Benth., Scroph. Ind. 25. 1835; Hook, f., Fl. Brit. Ind. 4:270.1884; Chowdhury *et al.*, 248. 2005. *Columnea heterophylla* Roxb., Fl. ind. 3: 97.1832. *L. heterophylla* var. *reflexa* (Benth.) Hook. f., Fl. Brit. Ind. 4:270.1884.

A common attractive aquatic herb. Leaves with 3-5 nerves running from the base to the apex, lower leaves whorled, the two uppermost usually opposite, crenulate, lowest submerged multifid with capillary segments. Flowers sessile, pedicel very short; sometimes the uppermost flowers in a leafy spike. Calyx lobes ovate, acuminate.

Fl. & Fr.: August- September.

Occurrence: Almost Common.

Vern. name: Sial-bhobora, Khar-bon (As.)

Uses: Eaten by tribal communities

Coll. No. J Sarma/406 Coll. Date: 23.4.2016

Locality: Balipara.

Lindernia Allioni

Lindernia crustacea (L.) F. Muell., Cens. Austral. Pl. 97. 1832; Pennell, Scroph. West. Himal. 29.1943; Chowdhury *et al.*, Ass. Fl.

249. 2005. *Capraria Crustacea* L., Mant. 87. 1767. *Vandellia Crustacea* Benth., Scroph. Ind. 35. 1835; Hook, f., Fl. Brit. Ind. 4: 279. 1884.

A diffuse herb with angular stem. Leaves opposite, ovate, triangular, acuminate, serrate, crenate, glabrous or sparsely hairy. Flowers axillary passinto terminal; Calyx lobes in fruit short, slightly exceeding the capsule. Capsule ovate-oblong.

Fl. & Fr.: March- June.

Occurrence: Rare.

Vern. name: Kanchi-deria bon.(As.).

Coll. No. J Sarma/895 Coll. Date: 28.7.2016

Locality: Kunderbari.

Macardonia Ruiz. *et* Pavon

Macardonia procumbens (Miller) Small, Fl. South East US. 1065. 1903 ; D. Arcy in ' AMBG. 66 : 240.1979. *Erinus procumbens* Miller, Gard. Diet ed. 8 No. 6, 1768. *Herpestis chamaedryodides* H.B.K., Nov. Gen. Sp. 2 : 369, 1818 ; *Macardonia dianthera* (Sw) Mill., Field Mus. Nat. Hist. Bot. Ser. 2:98,1900.

Small delicate herb, ca. 25 cm high, stem 4 - angled. Leaves sessile, opposite, ovate, lanceolate, acute, serrate, ca. 1.0 cm long. Flowers bracteate, bright yellow, calyx 5- lobed; corolla 2 - lipped; stamens 4; ovary 2 - celled, cells many ovuled. Capsules 2- valved.

Fl. & Fr.: May - September.

Occurrence: Not very common.

Coll. No. J Sarma/663 Coll. Date: 12.11.2017

Locality: Singlimari.

***Mazus* Lour.**

Mazus pumilus (Bunn, f.) Steenis in Nova Guinea n. sect. 9:31.1958; Chowdhury *et al.*, Ass. Fl. 249. 2005. *M. rokus* Lour., Fl. Cochinch. 385. 1790; Hook, f., Fl. Brit. Ind. 4:259.1884; Kanjilal *et al.*, FA. 3: 377. 1939. *M. japonicus* (Thunb.) O. Kuntze, Rev. Gen. 462.1891.

A small prostrate herb, branches angled. Leaves opposite, mostly radical, margin serrated, base cordate or round, almost sessile. Flowers in terminal racemes or solitary, long pedicelled. Calyx lobes leafy, covering fruit. Corolla white with violet base outside. Capsule loculicidal.

Fl. & Fr.: August- September.

Occurrence: Not very common.

Vern. name: Mou-supohi (As.).

Coll. No. J Sarma/717 Coll. Date:5.5.2015

Locality: TU campus.

PLATE 13E

***Scoparia* L.**

Scoparia dulcis L., Sp. Pl. 116. 1753; Hook, f., Fl. Brit. Ind. 4:289. 1884; Kanjilal *et al.*, FA 3:380.1939; Rao et Rabha, BBSI 8:300.1983; Jain et Hajra, BBSI 17:83.1975; Chowdhury *et al.*, Ass. Fl. 249.2005.

A branching erect annual herb, stems terete below, quadrangular. Leaves simple, opposite, ca. 2.3 cm long, cranate, sessile or subsessile. Flowers in axillary fascicles. Calyx imbricate in bud. Corolla white, throat densely bearded. Capsules about 3 cm across, small, orbicular, brown.

Fl.: May – July & Fr.: July -October

Occurrence: Almost common.

Vern. name: Madhumehari, Bon-chini (As.),

Coll. No. J Sarma/ 296 Coll. Date: 15.4.2015

Locality: TU campus.

***Torenia* L.**

Torenia diffusa D. Don, Prodr. 86. 1825; Chowdhury *et al.*, Ass. Fl. 250.2005. *T vagarn* Roxb., Fl. Ind. 3: 96. 11832; Hook, f., Fl. Brit. Ind. 4:277. 1884.

A decumbent herb, glabrous. Leaves shortly petiolate. Flowers axillary, solitary at the end of the branches. Calyx keeled. Corolla bilabiate. Stamens didynamous; longer pair of the filaments toothed. Carpels connate in a 2-celled ovary, style slender. Capsule septicidal.

Fl.: August- December.

Occurrence: Not very common.

Coll. No. J Sarma/816 Coll. Date: 5.3.2017

Locality: Doangbari.

***Veronica* L.**

Veronica anagalis-aquatica L., Sp.Pl. 12. 1753 ; Hook, f., Fl. Brit. Ind. 4:293. 1884; Penn. Acad. Nat. Sci. Philad. Monogr. 5: 89. 1943.

Small annual straight herb, glabrous. Leaves ca. 1.5-2.5 x 0.5- 0.7 cm, oblong, serrate, sub-acute, sessile. Flowers in terminal lax racemes; sepals 4; corolla rotate, tube short, white; stamens 2, exserted; carpels connate, ovules many per cell. Capsules 2- grooved.

Fl. & Fr.: March - July.

Occurrence: Not very common.

Coll. No. J Sarma/182 Coll. Date: 10.9.2016

Locality: Hatibandha.

LENTIBULARIACEAE Rich.

Fl. Paris (ed. fol.) 1: 23. 1808.

India: 2 genera and 30 species; Study area: 1 genus and 1 species

Utricularia L.

Utricularia exoleta R. Br., Prodr. 430. 1810; Clarke in Fl. Brit. Ind. 4:329. 1884; Prain, Bengal Plants 2:781. 1903. *U gibba* ssp. *exoleta* (R. Br.) Taylor, Mitt. Bot. Staat. Munchen 4:101.1961; Chowdhury *et al.*, Ass. Fl. 250. 2005.

Prostrate aquatic herb, habitually free floating. Leaves often submerged, divided into capillary segments and mostly interspersed with bladders. Flowers 1-3, ca. 0.5 cm across, bright yellow; peduncles with few obscure scales, slender; spur of corolla longer than the lower lip. Capsule globose.

Fl.: September- October

Occurrence: Almost Rare

Vern. name: Jhanji (As.)

Coll. No. J Sarma/522 Coll. Date: 17.9.2016

Locality: Near Bihaguri.

GESNERIACEAE Rich. & Juss.

Essai Propr. Méd. Pl., ed. 2. 192. 1816.

India: 20 genera and 110 species; 1 species recorded

Aeschynanthus radicans Jack Trans. Linn. Soc. London 14(1): 43.
1823

An epiphyte or lithophyte growing to ca. 1.5 m tall. Leaves green, leanthery ca. 4–8 cm long, ovate to lanceolate, opposite or whorled. Flowers terminal, tubular, ca. 5-7.5 cm long, upper lobes shorter than the lower, usually with scarlet with yellow throats.

Fl.: April –May.

Occurrence: Almost Rare

Coll. No. J Sarma/695 Coll. Date: 22.4.2017

Locality: Bhalukpong.

PLATE 13F

BIGNONIACEAE Juss.

Gen. Pl. 137. 1789.

India: 20 genera and 37 species; Study area: 3 genera and 3 species

Key to the genera

1a. Leaves pinnate:

2a. Leaves bi pinnate; flowers campanulate, orange

----- ***Spathodia***

2b. Leaves 2-3 pinnate; flowers fleshy, yellow purple

----- ***Oroxylum***

1b. Leaves simple

----- ***Crescentia***

***Crescentia* L.**

Crescentia kujete L., Sp. Pl. 626. 1753; Kanjilal *et al.*, FA 3:406. 1939; Chowdhury *et al.*, Ass. Fl. 251. 2005.

A deciduous, rare, small tree. Leaves ca. 15 cm long and ca. 6.2 width, simple, alternate, clustered, nearly sessile. Flowers greenish-white in clusters on old stem. Corolla campanulate with dull purple lines. Fruit berry, large, globose, baccate, gourd-like. Seeds without any wing.

Fl.: November. Fr.: April- May.

Occurrence: Rare.

Vern. Name: Bel lau, Bilati-bel (As.)

Coll. No. J Sarma/107 Coll. Date: 22.4.2015

Locality: Napaam.

***Oroxylum* Vent**

Oroxylum indicum (L.) Vent, Dec. Gen. Nov. 8. 1808; Benth. ex Kurz, Forest Fl. Burma 2: 237. 1877; Kanjilal *et al.*, FA 3:401. 1939; Jain

and Hajra, B B S I17 (1-4): 83.1975; Chowdhury *et al.*, Ass. Fl. 251.2005.

Small tree with few branches and open crown. Bark soft light. Leaves opposite, ternately bipinnate. Leaflets ca. 7.5- 10 cm long. Flowers large, fleshy, purplish, in long terminal lax racemes. Calyx ca. 2.5 x 1.5 cm, scarcely toothed, fleshy or coriaceous. Corolla campanulate, tubes green outside, 5-7.5 cm long and across, lobes dark red, imbricate. Stamens 5, all fertile. Disc prominent. Ovary compressed, ovules numerous, many seriate. Capsule scabbard like, woody. Seeds surrounded with a broad hyaline wing.

Fl.: June- August & Fr.: August - February

Occurrence: Common.

Vern. name: Ding-dinga, Bhat-ghila, Kharoi khanada, Tokuna (As.)

Coll. No. J Sarma/292 Coll. Date: 5.2.2016

Locality: Nameri NP.

PLATE 14B

***Spathodea* Beauv.**

Spathodea campanulata Beauv. Fl. Owar.Ben. 1:47X27.1804; DC. Prodr. 9:208.1845; Merr. Enum. philip. Fl. P1.3:447.1923 ; Chatteijee in Bull. Bot. Soc. Beng. 2:78.1948; Deb, FTS.2:96.1983.

Evergreen large trees with light grey branches. Leaves opposite, imparipinnate, 30-45 cm long; leaflets 7-19, ovate, lanceolate, 5-10 x 2.5-5 cm across, entire, mostly acuminate, pubescent beneath, petioles short. Flowers terminal, campanulate, orange, 9-13 x 4-6

cm long; stamens 4, exserted. Fruit capsule c36 x 4 cm, woody; seeds winged.

Fl. & Fr.: May - February.

Occurrence: Rare.

Vern. name: Rudra polas (As.)

Coll. No. J Sarma/ 499 Coll. Date: 25.6.2016

Locality: Kolamati.

DATISACEAE Dumort.

Anal. Fam. Pl. 13, 14. 1829.

Tetrameles R. Br.

Tetrameles nudiflora R. Br. in Penh. & Clapp. Narr. Trav. Africa 230 1826; Prain, Bengal Plants 1:530. 1903; Kanjilal *et al.*, FA 2: 335. 1938; Chowdhury *et al.*, Ass. FL 225.2005.

A very tall, huge deciduous tree with buttresses near base; barks grayish-white, marked with horizontal wrinkles. Leaves broadly or sub-orbicular, ovate-acuminate, irregularly toothed, paler and softly pubescent beneath. Flowers dioecious, appearing before the leaves in many flowered pubescent racemes or panicles at the ends of the branches or axils of fallen leaves, small, pale yellow. Male flowers : sub-sessile in fasciculate panicles up to 25 cm long. Calyx-tube very short, lobes 4. Petals 0. Stamens 4, opposite to the calyx lobes. Pistillode 0. Female flowers: sessile in numerous pendulous spicate, sometimes branched racemes. Calyx-tube adnate to the ovary; teeth 4, short. Ovary 1-celled, 8- ribbed; ovules many on 4 parietal

Andrographis paniculata (Burm.f.) Wall, ex Nees in Wall . Pl. Asiat. Rar. 3: 116.1832; Cl. in Hook.f., Fl. Brit. Ind. 4: 501. 1884; Prain, Beng.Pl. 809.1903; Kanjilal *et al*, FA. 3: 440.1939; Deb, FTS. 2: 285.1983; Balakr. Fl. Jowai 2: 358.1983 ; Santapau, Acanthac. Bom. 50. 1951. *Justicea paniculata*. Burm.f.,Fl. Ind. 9. 1768.

An erect herb, profusely branched , stems quadrangular. Leaves subsessile ca. 3.5 - 6.5 x 1.2-3 cm, lanceolate or linear lanceolate , acute at both ends. Flowers bluish purple in terminal and axillary racemose panicle; calyx 5- lobed; corolla 2- lipped; stamens 2; ovary hairy, 2 - celled. Capsule linear - oblong, 1.5 cm long.

Fl. & Fr.: Whole year.

Occurrence: Rare.

Vern. name: Kalmegh (As.)

Coll. No. J Sarma/305 Coll. Date: 30.5.2016

Locality: Nameri NP.

PLATE 14A

***Dicliptera* A. Juss.**

Dicliptera roxburghiana Nees in Wall .PL Asiat.Rar.3:111.1832; Hook.f., Fl. Brit. Ind. 4.-555.1885; Prain, Beng. Pl.822.1903; Kanjilal *et al*, FA.3.451.1939.

Herb upto 30 cm tall. Leaves 4-10 x 1.5-4.5 cm, elliptic or lanceolate, acuminate, glabrescent above, pubescent beneath; petiole short or long. Flowers pinkish, in axillary pedunculate cymes; calyx lobes linear, 0.7 cm long ; corolla tube narrow, 1 cm long, limb white with

brown spots; anthers 2; ovary 2-celled. Capsule clavate with solid base.

Fl. & Fr. : October - March.

Occurrence: Almost common.

Coll. No. J Sarma/ 678 Coll. Date: 15.3.2017

Locality: Nameri NP.

***Justicia* L.**

Key to the species:

1a. Flowers in terminal spikes. Plants sub-shrubs:

2a. Leaves lanceolate, glabrous. Corolla white with purple spot inside ----- ***J. gendarussa***

2b. Leaves elliptic, pubescent. Corolla white, throat with 2 purple lines ----- ***J. adhatoda***

1b. Flowers in panicles. Herbs.

3a. Bracts elliptic, subscute, broad ----- ***J. japonica***

3b. Bracts linear-lanceolate, hairy, smaller than above ----- ***J. procumbens***

Justicia adhatoda L., Sp. Pl. 1:15. 1753; Chowdhury *et al.*, Ass. Fl. 253. 2005. *Adhatoda zeylanica* Medicus in Hist. Comm. Acad. Theod. Palat. 6 Phys. 393. 1790. *A. vasica* Nees in PAR 3:103. 1832; Clarke in Fl. Brit. Ind. 4:540. 1885; Kanjilal *et al.*, F A 3:455.1939.

Erect evergreen foetid shrubs, stem densely appressed- pubescent on young parts. Leaves elliptic or lanceolate to oblong, acuminate, entire or undulate, pubescent, petiole long. Flowers in long

peduncled spikes. Bracts obovate- elliptic, apiculate, appressed hairy. Bracteoles lanceolate- oblong. Calyx hairy, deeply 5-fid. Corolla white, tube hairy outside with short basal portion; throat usually with 2 lines of purple or yellow leaves, upper lip curved, notched at apex. Stamens 2, filaments hairy at base. Ovary hairy, ovules 2 in each cell. Capsule clavate, pubescent.

Fir & Frt.: December- April.

Occurrence: Common

Vern. name: Boga-bahak, Bahak-tita (As.)

Uses: Eaten as vegetable. Highly medicinal

Coll. No. J Sarma/183 Coll. Date:10.9.2016

Locality: Aambagan.

Justicia gendarussa Burm., Fl. Ind. 10. 1768; Clarke in Hook, f., Fl. Brit. Ind. 4:532. 1884; Kanjilal *et al.*, 454.1939; Chowdhury *et al.*, 253.2005.

An erect undershrub. Stem green, smooth, nodes swollen, branching opposite-alternate. Leaves lanceolate, acuminate, undulate or crenulate, pubescent when young, glabrous on maturity. Flowers in interrupted spikes habitually forming terminal panicles. Bracts linear. Calyx segments linear. Corolla white with purple spot inside. Capsule ca. 1.2 cm long, glabrous.

Fl. & Fr.: February- May.

Occurrence: Almost Common.

Vern. name: Tita Bahak, Bishalya-karani (As.).

Coll. No. J Sarma/663 Coll. Date: 12.11.2017

Locality: Sengalijan.

Justicia japonica Thunb., Fl. Jap. 20.1784; Chowdhury et al., 253. 2005. *J. simplex* D. Don., Prodr. 188. 1825; Clarke in Fl. Brit. Ind. 4: 539. 1885; Kanjilal et al., FA 3:455. 1939.

A slender diffuse herb, stems and branches tetragonal with swollen nodes. Leaves petioled; ovate, sometimes elliptic. Flowers in dense axillary and terminal spikes; 1-4 cm long. Bracts as long as the calyx, elliptic, hairy, margins ciliated with jointed hairs. Corolla purple, hairy outside, tube equaling the limb. Filaments hairy at their insertion. Apex of the ovary and bare of the style is hairy, seed rugose.

Fl. & Fr.: January - May.

Occurrence: Common.

Coll. No. J Sarma/421 Coll. Date: 12.1.2015

Locality: Barua chuburi.

Justicia procumbens L., Sp. PL 15. 1753; Kanjilal et al., 455. 1939; Chowdhury et al., 253. 2005.

A small diffuse herb. Leaves variable, opposite, elliptic or lanceolate, pubescent. Bracts linear, hispid, lanceolate, hairy. Calyx segments 5, linear. Corolla tubular, petals 5, connate, pale violet.

Fl.: October- December.

Occurrence: Rare

Coll. No. J Sarma/423 Coll. Date: 12.1.2015

Locality: Kanaklata Park.

***Lepidagathis* Willd.**

Lepidagathis incurva Buch.-Ham. ex D. Don, Prodr. 119.1825: Kanjilal *et al.*, FA.3: 451.1939; Jain et Hajra, BOBSI17 (1-4): 83.1975; Deb, FTS.2:293.1983; Balakr. Fl. Jowai.2:360.1983; Yamazaki in Hara, Fl. E. Himal. 303. 1966. *L. hyalina* Nees in Wall .Pl. Asiat. Rar.3:95.1832; Cl. In Hook.f., Fl. Brit. Ind.4:521.1835.

Small herb with expanding stems. Leaves ovate or oblong lanceolate, acute or obtuse, entire, ca. 5-12 x 2-4 cm , base ccuneate; petioles 0.5 - 2.5 cm long. Spikes 2-4.5 cm in terminal clusters; bracts ovate-acuminate, ca. 8-12 mm long, awned, densely imbricating into 4-rowed spikes; calyx lobes ciliate; corolla 0.6 cm long white with brown streaks. Capsules glabrous, ca. 0.5 cm long, pale yellow, double -seeded.

Fl. & Fr. : November - April.

Occurrence: Not very common.

Coll. No. J Sarma/168 Coll. Date: 23.4.2016

Locality: Burhachapori.

***Phlogacanthus* Nees ex Walt**

Key to the species

1a. Petiole long. Inflorescence short, corolla light rosy

----- ***P. curviflorus***

1b. Petiole short. Inflorescence long, corolla orange

----- ***P. thyrsiflorus***

Phlogacanthus curviflorus (Wall.) Nees, Pl. Asiat. Rar. 3: 99. 1832; Kanjilal *et al.*, FA.3: 442.1939; Hook.f., Fl. Brit. Ind.4:511.1835.

A erect shrub. Leaves ovate or elliptic (often unequal), acute or acuminate, entire, undulate, glabrous when mature. Inflorescence long, densely pubescent. Calyx teeth linear, long. Corolla light rose or pink. Seeds many, compressed, lenticular, glabrous.

Fl.: October - November & Fr. : November - April.

Occurrence: Rare .

Uses: Flower eaten

Coll. No. J Sarma/696 Coll. Date: 22.4.2017

Locality: Bhalukpong.

Phlogacanthus thyrsiflorus Nees in Wall. Pl. Asiat. Rar. 3:99.1832; Cl. in Hook.f., Fl. Brit. Ind. 4:512.1835; Kanjilal *et al.*, FA.3:443.1939; Deb, FTS.2:296.1983; Balakr. Fl. Jowai2: 360.1983; Haridasan & Rao, For. Fl. Meghalaya 2: 665.1987. *Justicia thyrsiflora* Roxb. Fl. Ind. 111.1820.

Evergreen shrub with quadrangular stem. Leaves large, 14-35 x 7-9 cm, opposite, petiolate, elliptic-lanceolate, pubescent, lateral nerves often 7- 8 pairs. Flowers brick - red, stout in terminal panicles ; calyx 5- lobed; corolla 2 lipped; stamens 2; ovary 2-celled, cells 5-many ovuled. Capsules long.

Fl. & Fr.: December - April.

Occurrence: Rare .

Vernicular name: Titabahok or Rangabahok (As.)

Uses: Flower eaten

Coll. No. J Sarma/318 Coll. Date: 30.5.2016

Locality: Nameri NP.

PLATE 14C

***Strobilanthes* Blume.**

Strobilanthes cusia (Nees) Kuntze, Revis. Gen. Pl. 2: 499. 1891.

A tall herbs, erect, branched. Stems glabrous or minutely brown puberulent. Petiole 0.5-7 cm; leaf blade elliptic to ovate, 4-20 × 2-9 cm, abaxially minutely puberulent along veins, abaxially paler green, secondary veins 7-9 on each side of midvein, base attenuate, margin serrate, apex acute. Inflorescences terminal or axillary. Calyx accrescent to ca. 2.5 cm in fruit, minutely puberulent, 5-lobed almost to base. Corolla blue, 3.5-5 cm, straight to slightly bent. Stamens 4, included; filaments glabrous, shorter pair ca. 3 mm, longer pair ca. 7 mm. Seeds ovate in outline.

Fl. July-February & Fr. December-February.

Occurrence: Rare .

Vernicular name: Jayanti Phul (As.)

Coll. No. J Sarma/ 322 Coll. Date: 30.5.2016

Locality: Nameri NP.

PLATE 16A

THUNBERGIACEAE Lilja

Skånes Fora, ed. 2 979. 1870.

India: 1 genus and 10 species; Study area: 1 genus and 2 species

Key to the species :

1a. Leaves 3-5 nerved; flowers orange red ----- ***T. coccinea***

1b. Leaves 5-7 nerved; flowers bluish ----- ***T. grandiflora***

Thunbergia coccinea Wall. Tent.Fl.Nep. 1:49.58.t.37,1824; Hook.f., Fl. Brit. Ind.4: 393.1884; Kanjilal *et al.*, FA.3-411.1939 ; Rao ei Verma in BOBSI 11 (3 & 4) : 410 (1969) 1972; Balakr Fl. Jowai 2:349.1983; Haridasan& Rao, For. Fl. Meghalaya 2:669. 1987.

An extrorse profusely branched attractive climber with quadrangular stem . Leaves ovate - lanceolate, remotely toothed, base sub cordate, 8.5 -15 x 3.5-6 cm; petioles 2.5- 3.5 cm long. Flowers scarlet red, usually on lax elongated pendent racemes; bracts leaf like; bracteoles reddish; calyx lobes annular; corolla 5 lobed; stamens 4, didynamous; ovary 2- celled, cells 2- ovuled. Capsules globose.

Fl. & Fr.: October - April.

Occurrence: Rare .

Vernicular name: Chonga lota(As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/ 328 Coll. Date: 30.5.2016

Locality: Nameri NP.

PLATE 14D

Thunbergia grandiflora (Roxb. ex Rottl.) Roxb., Pl. Cor. 1:47. 5.67.1795; Clarke in Hook, f., Fl. Brit. Ind. 4:390.1884; Kanjilal *et al.*,

FA 3:410.1939; Jain and Hajra, BBSI 17(1-4):83.1975; Chowdhury et al., Ass. Fl. 254. 2005.

A large heavily branched climber. Leaves ovate or orbicular or lanceolate, often angularly toothed, membranous, sub-entire, scaberulous above, pubescent beneath; lower leaves often deeply cordate. Flowers large, bluish, axillary from the uppermost leaves or in dense flowered racemes; bracteoles conspicuous, elliptic, falcate. Corolla 5-7.5 cm long, bluish-white. Anthers bearded, spurred. Capsule about 3.7 cm long, up-curved with 4-quetrous beak, pubescent.

Fl.: April- July & Fr.: Winter.

Occurrence: Not very common .

Vernacular name: Kukua loti(As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/341 Coll. Date: 30.5.2016

Locality: Nameri NP.

VERBENACEAE J. St.-Hil.

Expos. Fam. Nat. 1: 245. 1805.

India: 17 genera and 96 species; Study area: 10 genera and 15 species

Key to the genera

1a. Inflorescence racemose with centripetal flowers:

2a. Drape with two or one 1-seeded pyrenes. Inflorescence spikes:

3a. Spikes capitate, ovoid or cylindric. Stamens 4:

- 4a. Calyx truncate or densely toothed with succulent fruit
----- **Lantana**
- 4b. Calyx 2-4-fid with dry fruit
----- **Phyla**
- 3b. Spikes long terminal elongate. Perfect stamens 2
---**Stachytarpheta**
- 2b. Drupe fleshy, with 2-seeds pyrenes. Inflorescence racemose
----- **Duranta**
- 1b. Inflorescence cymose with centrifugal flowers:
- 5a. Flower more or less regular
----- **Tectona**
- 5b. Flower Zygomorphic:
- 6a. Drupe with one 4-celled pyrene:
- 7a. Leaves simple, entire or toothed:
- 8a. Flowers large
----- **Gmelina**
- 8b. Flowers small
----- **Premna**
- 7b. Leaves digitate
-----**Vitex**
- 6b. Drupe with four 1-seeded pyrenes:
- 9a. Calyx campanulate or tubular
----**Clerodendrum**
- 9b. Calyx petaloid
---- **Holmskioldia**

***Clerodendrum* L.**

Key to the species

- 1a. Plant twiners or ramblers.
- 2a. Tall twiners; petal crimson
----- ***C. thornsoniae***
- 2b. Short ramblers; petals white
----- ***C. inerme***
- 1b. Plant erect; self supporting
- 3a. Leaves in whorls of 3-6
----- ***C. indicum***
- 3b. Leaves opposite.
- 4a. Flowers in lax panicle
----- ***C. viscosum***

4b. Flowers in dense panicles, corymbose or capitate.

5a. Calyx bearing large glands, petals more than 1 whorls

--- *C. philippinum*

5b. Calyx bearing small glands, petals in 1 whorl

--- *C. glandulosum*

Clerodendrum glandulosum Coleb. ex Wall. Cat. 1806; Deb, FTS.2:107.1993. *C. colebrookianum* Walp. Rep.4:114.1845; Cl. in Hook. f., Fl. Brit. Ind.4:594. 1885; Kanjilal *et al.* FA. 3:488.1939; Balakr. Fl. Jowai 2: 370.1983; Haridasan & Rao, For. Fl. Meghalaya 2: 676.1987.

A shrub with globose crown, usually with foetid smell. Leaves 6-20 x 5-11 cm, ovate orbicular, obtuse, base sub cordate or truncate, glabrous and pale beneath. Corymb compound, ca. 7-20 cm across; flowers 2 - 3.5 cm long, white; bract caducous; calyx pubescent, often bearing a few glands, calyx teeth short; corolla tube slender 2.5-3 cm long. Fruit bluish green during ripe, glossy ca. 0.8 cm across.

Fl. & Fr.: August - December.

Occurrence: Very common.

Vernacular name: Nephaphu (As.)

Coll. No. J Sarma/343 Coll. Date: 30.5.2016

Locality: Nameri NP.

Clerodendrum indicum (L.) O. Kuntze, Rev. Gen. 586. 1891; Chowdhury *et al.*, Ass. Fl. 255. 2005. *Siphonanthus indica* L., Sp. pi. 109. 1753. *Clerodendrum siphonanthus* R. Br. in Ait. f., Hort. Kew.

4:65. 1812; Clarke, in Fl. Brit. Ind. 4:595. 1885; Kanjilal *et al.*, FA 3: 492.1939.

An erect shrub, generally unbranched. Bark ashy grey. Leaves narrow-lanceolate or oblong-lanceolate sometimes linear, entire or serrate, acuminate, glabrous; lateral nerves meeting in a continuous line inside the margin. Flowers white or creamy, drooping on opposite or whorled few flowered cymes forming large rigid panicle. Calyx deeply partite, green, red. Corolla tube very slender. Drupe bluish of 4 connate drupels, seated on the enlarged calyx.

Fl.: October- May & Fr.: December- August.

Occurrence: Very Common.

Vern. name: Akal bih (As.).

Coll. No. J Sarma/335 Coll. Date: 20.12.2014

Locality: Singri Hill RF.

PLATE 16F

Clerodendrum inerme Gaertn., Fl. Ind. 3:58. 1832; Clarke in Fl. Brit. Ind. 4:580. 1885; Prain, Bengal plants, 2:835.1939; Chowdhury *et al.*, Ass. Fl. 255.2005.

A handsome sprawling shrub. Cultivated extensively as hedge or ornamental plant gardens.

Occurrence: Common.

Uses: As ornamental plant

Coll. No. J Sarma/387 Coll. Date: 22.12.2014

Locality: Singri

Clerodendrum philippinum Schauer in DC. Prodr. 11:667.1847; Deb, FTS. 2 :108.1983. *C. fragrum* Willd. Enum. Hort. Berol. 659. 1809; Hook, f., Fl. Brit. Ind. 4:389.1883; Kanjilal *et al.*, FA.3:487.1939; Haridasan & Rao, For. Fl. Meghalaya 2: 676.1987.

A shrub with quadrangular branchlets, tomentose. Leaves ovate orbicular, acuminate or acute, base sub-cordate. Inflorescence 5 - 12 cm long; bracts reddish or purplish; flowers scented 1.5-2.5 cm across, white turning purple-pink; corolla tube more than 1 serrate. Fruits purplish ovoid.

Fl. & Fr.: February - December.

Occurrence: More or less common.

Coll. No. J Sarma/389 Coll. Date: 22.12.2014

Locality: Singri.

Clerodendrum thomsoniae Bal f. in Edinb. Phil. Jour. il. 15: 233.1862. Merr., Enum. Philip. Fl. P.1.3:406.1923; Deb, FTS. 2:108.1983.

Tall evergreen shrub. Leaves ovate-oblong, acuminate, margins wavy, membranous, glabrous, 6.5-9.5 x 3.5 -4.5 cm. Flowers in forking axillary or terminal racemes; calyx 5 - angled, white; corolla 5- fid, spreading crimson; stamens 4, didynamous; ovary imperfectly 4- celled, cells 1-3-ved. Drupes globose.

Fl. & Fr. : Almost Whole year.

Occurrence: Common.

Vern. name: Bleeding heart.

Uses: As ornamental plant

Coll. No. J Sarma/217 Coll. Date: 2.5.2016

Locality: Kekorapool.

PLATE 16E

Clerodendrum viscosum Vent. Jard. Malm. l.t.25.1803; Deb, FTS.2:109.1983; Balakr. Fl.Jowai 2:369.1983; Haridasan & Rao, For. Fl. Meghalaya 2:678.1987; Santapau in Bull. Bot. Surv. Ind. 3:14.1961. *C. infortunatum* auct non L; Cl. in Hook.f, Fl. Brit. Ind. 4:594. 1885 ; Kanjilal *et al.*, FA.3:487.1939.

A shrub or undershrub with foetid smell, often gregarious. Leaves ovate, acuminate, denticulate, pubescent, densely beneath, 14.0 - 24.0 x 6.0 - 9.5 cm; petioles pubescent, upto 12 cm long. Flowers in large terminal pyramidal panicle of cymes, white or off- white, tinged with pink; bracts elliptic acuminate; calyx deeply 5- partite, pubescent, red, leathery; corolla 5-lobed, tube pubescent; stamens 4, declinate; ovary imperfectly 4 - celled, cells with single- ovule. Drupes globose, bluish black.

Fl. & Fr.: January - August.

Occurrence: Very Common .

Vern. name: Bhetai teta (As.)

Coll. No. J Sarma/718 Coll. Date:6.6.2015

Locality: Amolapaam.

PLATE 17A

Duranta Jacq.

Duranta repens L., Sp. Pl. 637. 1753; Chowdhury *et al.*, Ass. Fl. 255. 2005. *D. plumieri* Jacq., Select. Strip. Amer. H ist 186, t. 176. 1763; Prain, Bengal Plants 2:827.1903; Kanjilal *et al.*, FA 3:462.1939.

A beautiful large thorny shrub; branches often drooping. leaves often golden yellowish-green, sub-sessile, ovate, serrate, puberulous. Flowers lilac in elongating spikes. Mostly planted as hedge in household and institutional gardens.

Fl. & Fr.: Whole year.

Occurrence: Very Common .

Vern. name: Duranta (As.)

Coll. No. J Sarma/719 Coll. Date: 6.6.2015

Locality: TU Campus.

Gmelina L.

Gmelina arborea Roxb., Fl. ind. 3:84. 1834; Kanjilal *et al.*, FA 3: 467. 1939; Jain and Hajra, BBSI 17(1-4):83.1975; Chowdhury *et al.*, Ass. Fl. 255.2005.

A deciduous trees. bark grey or ashy, watery with lenticular tubercles. Branchlets nearly pubescent, quadrangular. Leaves opposite, broadly ovate-acuminate, 8-20x 5.5-15 cm, acuminate at apex, sub. Date or truncate or abruptly cuneate at base. Flowers ca. 2.5 cm across brownish – yellow in decussate cyme. Corolla pubescent. Drupes turning yellow with age, ovoid or pyriform.

Fl. & Fr.: February- July.

Occurrence: Very Common .

Vern. name: Gomari, Gamera (As.).

Uses: As timber

Coll. No. J Sarma/425

Coll. Date:15.1.2015

Locality: Da Parbatia.

PLATE 16B

***Holmskioldia* Retz.**

Holmskioldia sanguinea Retz., Obs. vi. 31. 1791; *if. sanguinea* Willd.: Roxb., Fl. ind. 480.1832; Hook, f., Fl. Brit. Ind. 4: 596. 1885; Prain, Bengal plants 2: 624, 1903; Kanjilal *et al.*, FA. 3:493.1939.

A perennial, terrestrial large straggling shrub; stem woody, angular. Bark dark brown, smooth. Leaves opposite, ovate, acuminate, margin sparingly toothed or aggregated at the end of the branches in short cymes. Flowers bisexual, red, showy, hypogynous, pentamerous, zygomorphie, bracts 2, pubescent. Sepals 5, connate, membranous. Carpels- 2, syncarpous, tetra-celled, ovary superior, styles terminal, stigma shortly bifid. Fruit drupe.

Fl. & Fr.: October- April.

Occurrence: Almost Common

Vern. name: Manu-kata lota, Chatra-puspa (As.)

Uses: Used as ornamental plant

Coll. No. J Sarma/ 304

Coll. Date: 11.11.2017

Locality: Near Bhalukpong.

***Lantana* L.**

Lantana camera var. ***aculeata*** (L.) Moldenke in Bull. Torrey Bot. Club. 34:9.1934. *L. aculeata* L., Sp. Pl.627.1753; Kanjilal *et al.*,

FA.3:460.1939; Deb, FTS. 2: 111.1983; Balakr. Fl. Jowai 2: 681. 1987.

A highly aromatic straggling shrub with recurved prickles. Leaves opposite, ovate or oblong, acute, rugose, base cordate, 4.0 - 8.0 x 2.5 - 4.5 cm, petioles ca. 1.0 cm long. Flowers in pedunculate capitate spikes, orange, varying to white or purple; bracts often 3-5 ribbed; calyx obscurely 4-toothed; corolla 5-lobed, spreading; stamens 4, didynamous, included.; ovary sessile, single-celled, cells single-ovuled. Drupes with 2 bony 1-seeded pyrenes, bluish green.

Fl. & Fr.: Whole year.

Occurrence: Very Common

Vern. name: Gu-phul (As.)

Coll. No. J Sarma/371 Coll. Date: 30.5.2016

Locality: Nameri NP.

PLATE 16D

***Phyla* Lour.**

Phyla nodiflora (L.) Green, Piltonia 4:46.1899; Rao el Verma in BOBSI. 11 (3 & 4) : 410. (1969) 1972. *Verbena nodiflora* L., Sp.Pl. 20.1153; *Lippia nodiflora* (L.) A.Rich. in Michx. Fl. Bor. Amer. 2: 15. 1803; Hook.f., Fl. Brit. Ind. 4: 563. 1885.

An aggressive creeping perennial herb with rooting at nodes. Leaves sub-sessile, opposite, obovate or spatulate, apex round, serrate. Flowers sessile, peduncled heads ca. 6-8 cm long, white or pale pink; bracts mucronate, base cuneate; calyx 2-lipped; corolla 2-lipped, 5-

lobed, middle lobe the largest; stamens 4. Fruit globose, dry splitting into 2, 1- seeded pyrenes.

Fl. & Fr. :October - March.

Occurrence: Very Common

Vern. name: Pikhas Bon (As.)

Coll. No. J Sarma/429 Coll. Date: 7.2.2015

Locality: Bhomoraguri RF.

***Premna* L.**

Premna bengalensis Clarke in FL. BRIT. IND. 4:574. 1885; Prain, Bengal Plants 2:831. 1903; Kanjilal *et al.*, FA 3:474.1939; Jain and Hajra, BBSI 17 (1-4): 83.1975; Chowdhury *et al.*, Ass. FI. 256.2005.

A middle sized evergreen tree, stem irregularly often fantastically fluted. Bark grayish white, exfoliating in thin corky papery flakes. Leaves 22-25 cm long and ca. 10 cm width, ovate-oblong, entire, acuminate, stellate-pubescent along the midrib above, stellately pubescent beneath especially when young. Flowers in large paniculate, terminal, corymbiform paniced cymes. Calyx pubescent, 5-toothed, obscurely 2-lipped. Corolla white or greenish-white sometimes yellowish, 2-lipped with a row of hairs in the throat, tomentose outside. Drupe globose, verrucose.

Fl.: May – July & Fr: August- November.

Occurrence: Rare.

Vern. name: Gohora (As.).

Coll. No. J Sarma/487 Coll. Date: 6.8.2016

Locality: Balipukhuri.

***Stachytarpheta* Vahl.**

Stachytarpheta jamaicensis (L.) Vahl. var. ***indica*** (Vahl.) Lamk. in Bull. Jard. Bot. Btzg. III. 3(1): 7. 1921; Kanjilal *et al.*, FA. 3: 461. 1939 (as var. *typica*); *Stachyterpheta indica* Vahl., Enum. 1:206.1804; Hook, f., Fl. Brit. Ind. 4: 564.1885.

A perennial herb with dichotomous branches. Leaves 2.5-8.5 x 1.2-4.0 cm, elliptic-ovate, crenate-serrate, dentate, acute, almost glabrous; petioles ca. 2 cm long; spikes 10-30 cm long, 4-5 mm across, erect. Flowers blueish, adpressed, sessile, 7-10 mm long, immersed in the rachis; bracts lanceolate, adpressed. Stamens 2, perfect; staminodes 2, included. Fruit long, dry and enclosed in calyx.

Fl. & Fr.: Whole year.

Occurrence: Not very common.

Coll. No. J Sarma/399

Coll. Date: 22.12.2014

Locality: Singri.

***Tectona* L. f.**

Tectona grandis L.f., Suppl. 151.1781; Cl. In Hook. f., Fl. Brit. Ind. 4: 570. 1885; Kanjilal *et al.* FA. 3 : 466.1939 ; Deb , FTS. 2:115.1983; Haridasan & Rao , For. Fl. Meghalaya 2: 689.1987.

A huge deciduous tree often fluted near the base. Bark pale brown, grey, fibrous. Leaves 15-60 cm long, broadly elliptic or obovate entire, stellate - tomentose beneath, petiole 3.7-6.2 cm long. Inflorescence ca. 60-90 cm long, white, about 0.6 cm across, cymes, with decussate branching; bract lanceolate, oblong acute; calyx campanulate, stellate tomentose; corolla funnel-shaped, tube short, lobes 5-6, sub equal, spreading; stamens 5-6, inserted near the base of the corolla tube; ovary densely hairy, 4-celled, stigma shortly 2-fid. Fruit a sub-globose drupe.

Fl. & Ft. : January - February.

Occurrence: Very common. Cultivated.

Vern. Name: Segun (As.)

Uses: Used as timber

Coll. No. J Sarma/297 Coll. Date: 2.7.2016

Locality: Singori.

PLATE 16C

***Vitex* L.**

Vitex negundo L., Sp. Pl. 638.1753; Roxb., Fl. Ind. 3:70. 1832; Hook, f, Fl. Brit. Ind. 4: 583. 1885; Kanjilal *et al.*, FA. 3:480.1939; Rao et Verma in BOBSI 11 (3 & 4) : 410, (1969) 1972; Deb, FTS. 2:117. 1983; Haridasan & Rao For. Fl. Meghalaya 2:692. 1987.

Large strongly scandent deciduous shrub sometimes a small tree. Leaves opposite, 3-5 foliate; leaflets lanceolate, acuminate, base cuneate or rounded, 5.5 -10.5 x 2 - 2.5 cm. Flowers on elongated panicles, lavender to bluish purple; calyx 5-toothed, campanulate;

corolla 2 - lipped, 5 - lobed ; stamens 4, didynamous; ovary 2-4 celled. Drupes ribbed, gland dotted.

Fl. & Fr.: Whole year.

Occurrence: Not very common.

Vern. Name: Posotia (As.)

Uses: Eaten as vegetable

Coll. No. J Sarma/426 Coll. Date:15.1.2015

Locality: Mazgaon.

LAMIACEAE Artinov

Tekhno-Bot. Slovar. 355. 1820.

India: 64 genera and 380 species; Study area: 7 genera and 9 species

Key to the genera :

1a. Stamens declinate

2a. Flowers white or purplish in verticellaster ----- **Oscimum**

2b. Flowers blue in axillary cymes ----- **Hyptis**

1b. Stamens not declinate

3a. Stamens hairy, anthers 1 celled ----- **Pogostemon**

3b. Stamens not hairy, anthers 2 celled ----- **Mentha**

4a. Upper lip of corolla short ----- **Anisomeles**

4b. Upper lip of corolla hooded:

5a. Calyx 5 toothed ----- **Leonarus**

5b. Calyx 8-10 toothed. ----- **Leucas**

Anisomeles R. Br.

Anisomeles indica (L.) Kuntz, Rev.Gen.P1.512. 1891. *Nepeta indica*

L. Sp. P1.571.1753; *Anisomeles ovata* R. Br. in. Ait. Hort.Kew.

ed.23:164.1911; Hook.f., Fl. Brit. Ind. .4:672.1885; Kanjilal *et al.*, FA.3: 521.1939.

A shrub like woody, tomentose, aromatic herb with quadrangular stem. Leaves decussate 3.5 - 8.5 x 1.3 - 3 cm, ovate acute, petiolate subcoriaceous, crenate-serrate, cordate at base, pubescent on both surfaces. Flowers purplish blue, fragrant in axillary and terminal, spikate clusters; calyx 5-toothed, tubular, hirsute; corolla 2 lipped, upper one short, entire, erect, lower one 3-lobed, mid lobe 2-fid; stamens 4, lower pair longest, didynamous; ovary 4-partite. Nuts 4, ovoid, shining black when ripe.

Fl. & Fr.: October - November.

Occurrence: Almost Common.

Vern. Name: Bon til

Coll. No. J Sarma/427 Coll. Date: 15.1.2015

Locality: Mazgaon.

***Hyptis* Jacq**

Hyptis suaveolens Poit., Ann. Mus. Natl. Hist. 7:472. t. 29. f. 2. 1806; Benth. in DC. Prodr. XII. 126; Hook, t., Fl. Brit. Ind. 4:630.1885; Jain & Hajra, B B SI17 (1-4):84.1975.

A rigid annual herbs with hairy stems. Leaves petiolate, 5-8 cm very variable, broadly ovate, sinuate and serrulate, pubescent, villous or tomentose, lower cordate. Peduncles racemose, equaling the globose head. Bracts minute, setaceous, calyx striate, mouth villous, teeth erect subulate. Heads second, fruiting in long sometimes reduced to a fine flowers.

Fl. & Fr.: September- February.

Occurrence: Almost Common.

Coll. No. J Sarma/906

Coll. Date: 4.11.2017

Locality: Dekargaon.

PLATE 17C

***Leonarus* L.**

Leonarus sibiricus L., Sp.Pl. 584. 1753; Hook. f., Fl. Brit. Ind. 4: 678. 885, Kanjilal *et al.*, FA. 3:523.1939; Rao et Verma in BOBSI 11 (3 & 4) : 410, (1969) 1972.

Erect delicate annuals; stem tomentose. Leaves petiolate , pinnate or pinnatepartite or palmatepartite, segments linear, glabrous above, tomentose beneath, 5.0-11.5 x 1.2- 3.5 cm; petioles long. Flowers in densely congested whorls lower one axillary and spike above, red or pink; bracts spinous; calyx 5 - toothed, 5 ribbed; corolla 2- lipped, lower one 3- lobed, upper one hooded, tomentose ; stamens didynamous; disk uniform; ovary 4 - partite. Nut lets glabrous.

Fl. & Fr. : October - January.

Occurrence: Not very Common.

Coll. No. J Sarma/675

Coll. Date: 15.3.2017

Locality: Nameri NP.

***Leucas* R. Br.**

Leucas plukenetii (Roth.) Spreng, Syst. Veg. 2: 743. 1825; Press in EFPN. 3: 157. 1982; *Phlomris plukentii* Roth. Nov. Sp. 261.1821; Hook. f., Fl. Brit. Ind. 4: 690.1885; *Leucas aspera* Link. Enum h. Beral, 2: 113.1822.

A much branched annuals with quadrangular stems. Leaves subsessile, lanceolate distantly serrate, ca. 4-8 x 7-1.3 cm in size; bracts equaling the calyx, ca. 0.5-0.8 cm, linear, curved, tubular, contracted at the mouth, glabrous below, ribbed, teeth generally 10-12, nonequal, corolla bilabiate; tube annulate, lower tip trifid, white, size ca. 12-16 mm. Stamens 4, didynamous, ascending, upper pair shorter; anther connivent, ultimately confluent. Disc entire, style bifid, upper lobe minute or obsolete. Nutlets smoothbrown.

Fl. & Fr.: September- February.

Occurrence: Common.

Vern. Name : Doron (As.).

Coll. No. J Sarma/722 Coll. Date: 6.6.2015

Locality: TU Campus.

PLATE 17B

***Mentha* L.**

Mentha arvensis L., Sp. Pl. 577. 1753. Benth. in DC., Prodr. 12: 171. 1848; Hook. f., Fl. Brit. Ind. 4: 648. 1885; Briquet in Bull. Soc. Bot. Geneve 5: 42. 1889; Mukerjee in Rec. Bot. Surv. Ind. 14, 1: 86. 1940

Perennial. Stems erect or ascending, simple or branched above. Leaves ovate to ovate-elliptic, acute, cuneate; petiole up to 10 mm on lower leaves. Verticillasters all distant, many-flowered, subglobose, ca. 1.5 cm in diameter. Bracts linear-lanceolate. Calyx tubular-campanulate, ca. 2-3 mm, pilose with eglandular hairs; teeth subequal, triangular. Corolla white or pale lilac.

Locality: Bebejia.

Ocimum grattissimum L., Sp. Pl. 1197. 1753; Roxb. Fl. Ind. 3:17.1832; Hook. f., Fl. Brit. Ind. 4: 608. 1885; Deb, FTS. 2: 331. 1983.

A highly aromatic perennial shrub upto ca. 2 m tall; branches pubescent at young. Leaves sub-membranous, elliptic-lanceolate, acute, serrate, pubescent, ca. 5.5 - 13 x 1.5 - 4.5 cm; petioles ca. 2 cm long. Inflorescence ca. 8 - 10 cm long. Flowers shortly pedicelled; bracts lanceolate, sessile; calyx hirsute, upper lip broad, roundly acute, recurved in age, lowers spinulose; corolla nearly as long as calyx, pubescent; stamens exserted. Nutlets sub-globose, rugose, brown.

Fl. & Fr.: October - December.

Vern. Name : Bon-tuloshi (As.)

Occurrence: Common.

Uses: Treated as holy in hindu religion

Coll. No. J Sarma/697 Coll. Date: 22.4.2017

Locality: Bhalukpong.

Ocimum tenuiflorum L., Sp. Pl. 597.1753; Deb., FTS. 2: 332. 1983; Chowdhury *et al.*, Ass. Fl. 258. 2005. *O. sanctum* L., Mant. 1: 85.1767; Hook, f., Fl. Brit. Ind. 4:609.1885; Kanjilal *et al.*, FA. 3: 500.1939; Mukejee, RBSI. 15:19.1940.

A perennial with woody root stocks, ca. 70 cm high, aromatic; branches hispid and terete. Leaves sub-membranous, ovate-oblong to elliptic-oblong, serrate or obtusely denticulate, pubescent, obtuse or acute, base truncate, petioles ca. 2 cm long. Bracts ovate, acuminate, almost as long as calyx. Calyx 5 lobed, purplish green. Corolla cream, purplish within. Nutlets minute, smooth.

Fl. & Fr.: Mostly in August-March.

Vern. Name : Tuloshi (As.)

Occurrence: Common.

Uses: Treated as holy in hindu religion

Coll. No. J Sarma/698 Coll. Date:22.4.2017

Locality: Bhalukpong.

***Pogostemon* Desf.**

Pogostemon benghalense (Burm. f.) Kuntze, Rev. Gen. Pl. 529. 1891; Merrill in Philip. J. Sci. 19. 379. 1921; Chowdhury *et al.*, Ass. Fl. 259. 2005. *Origanum benghalense* Burm. f., Fl. Ind. 128. t. 38. f. 3. 1768. *Pogostemon plectranthoides* Desf. in Ann. Mus. Paris 2:155. 1803; Hook.f., Fl. Brit. Ind. 4:632. 1885; Kanjilal *et al.*, FA 3: 510. 1939.

An aromatic shrub with dark purple branches; young parts pubescent. Leaves ca. 5-15 x 2.5- 7.5 cm ovate or ovate-lanceolate, acute, doubly serrate, rather sub-coriaceous, sometimes pubescent, generally glabrescent. Flowers white or pale pinkish, in paniced terminal and axillary spikes. Bracts foliaceous, ovate-acuminate, glandular, exceeding the flower buds, usually tinged pinkish, villous.

Calyx glandular hairy; shorter than the tube. Corolla ca. 0.5 cm long.
Stamens with light purple hairs.

Fl.: Winter. Fr: Summer.

Occurrence: Not very Common.

Coll. No. J Sarma/419 Coll. Date: 26.6.2016

Locality: Sonai Rupai.

PLANTAGINACEAE Juss.

Gen. Pl. 89–90. 1789.

India: 3 genera and 260 species; Study area: 1 genus and 1 species

***Plantago* L.**

Plantago asiatica L. subsp. ***erosa*** (Wall.) Z.Yu Li Fl. Reipubl.
Popularis Sin. 70: 328 2002. *P. erosa* Kanjilal *et al.*, FA 3 : 530. 1940

An almost glabrous perennial; root stalk erect, stout, truncate.
Leaves alternate ovate-oblong, sub acute or obtuse, almost entire.
Flowering spikes slender 7-10cm long. Corolla lobes glabrous.

Fl.: April-June.

Occurrence: Cultivated.

Coll. No. J Sarma/723 Coll. Date: 6.7.2015

Locality: TU Campus.

PLATE 17E

MONOCHLAMYDAE

NYCTAGINACEAE Juss.

Gen. Pl. 90. 1789.

India: 3 genera 10 species; Study area: 3 genera and 3 species

Key to the genera

1a. Herbs; leaves opposite:

2a. Perianth campanulate, larger ----- **Mirabilis**

2b. Perianth funnel shaped, minute ----- **Boerhavia**

1b. Climbing shrubs; leaves alternate ---- **Bougainvillea**

***Boerhavia* L.**

Boerhavia diffusa L., Sp. Pl. 3:1753; Kanjilal *et al.*, FA 4 : 1. 1940; Chowdhury *et al.*, Ass. Fl. 259. 2005. *B. procumbens* Banks ex Roxb., Fl. Ind. 1:148. 1820. *B. repens* L., var. *diffusa* Hook, f., Fl. Brit. Ind. 4:709. 1885.

A spreading diffuse herb, root fusiform, stem ascending, thickened at the nodes. Leaves in unequal pairs, ovate or orbicular-ovate or rounded, ca. 1.5- 3.0 x 1.0-2.0 cm, typically cordate at base, rounded at apex; petioles ca. 0.5- 1.0 cm long. Flowers very small, dark pink, sessile. Perianth glandular outside, 5-lobed. Stamens usually 2. Fruit small, 5 ribbed, glandular.

Fl. & Fr.: February- June.

Occurrence: Common.

Vern. Name: Punaunava (As.)

Coll. No. J Sarma/337 Coll. Date: 20.12.2014

Locality: Singri Hill RF.

***Bougainvillea* Commers. ex Juss.**

Bougainvillea spectabilis Willd. Sp. Pl. 2 :348. 1799 ; Kanjilal *et al.*,
FA. 4 : 2. 1940.

A climbing shrub with recurved spines; bracts petaloid, dark purple. Leaves ovate suborbicular, acuminate, pubescent petioled. Flowers usually 3 - together in terminal panicles; bracts red, larger than the flowers; perianth tube densely pubescent; stamens 7 - 8; ovary single - celled, cells 1 ovuled. Achenes simple.

Fl. & Fr.: Whole year.

Occurrence: Common. Cultivated.

Vern. Name: Kagaj phul(As.)

Coll. No. J Sarma/225 Coll. Date: 3.5.2016

Locality: Nlikamul.

***Mirabilis* L.**

Mirabilis jalapa L., Sp. Pl. 1:177.1753; Chowdhury *et al.*, Ass. Fl. 259.2005; Santapau Fl. Khend. (ed. 3)221. 1967.

A large herb with soft stems with swollen joints. Leaves broadly ovate - acuminate, basal ones petioled, upper ones sessile. Flowers solitary and in few flowered cymes, red to white or yellow, nocturnal. Seeds rugose, black.

Fl. & Fr.: Whole year.

Occurrence: Common. Cultivated.

Vern. Name: Godhuli-gopal phul (As.)

Coll. No. J Sarma/218

Coll. Date:2.5.2016

Locality: Kekorapool.

AMARANTHACEAE Juss.

Gen. Pl. 87–88. 1789.

India: 17 genera and 41 species; Study area: 6 genera and 11 species

Key to the genera:

1a. Leaves alternate or alternate and opposite mixed:

2a. Ovary 2- many-ovuled:

3a. Climber or Shrubby; fruit berry ----- **Deeringia**

3b. Herbs; fruit membranous ----- **Celosia**

2b. Ovary 1-ovuled. Flowers unisexual ----- **Amaranthus**

1b. Leaves all opposite:

4a. Anthers 2-celled. Flowers perfect ----- **Achyranthus**

4b. Anthers 1-celled:

5a. Staminal tube short; stigma capitate ---- **Alternanthera**

5b. Staminal tube long; stigma bi-fid ----- **Gomphrena**

Achyranthus L.

Achyranthes aspera L., Sp. Pl. 204. 1753; Roxb., Fl. Ind. 2: 226. 1832; Hook, f., Fl. Brit. Ind. 4: 730.1885; Kanjilal *et al.*, FA. 4: 6.1940. Rao et Rabha, BBSI8: 30, 1966; Prain., Bengal Plants. 2: 874. 1981; Deb, FTS 2: 162, 1983; Balak., FJ. 2:386,1983; Chowdhury *et al.*, Ass. Fl. 259,2005.

A perennial erect herb or undershrub; branches pubescent, striate. Leaves very variable, opposite, cauline, sub-sessile, simple, herbaceous. Inflorescence terminal simple spike. Flowers greenish,

polished, bracteates and bracteolate, sessile, complete, zygomorphic. Bract 1, membranous, persistent; bracteoles 2, spinescent. Perianth sepaloid, tepals 5, inferior, acute, membranous, greenish. Stamens 5, united at the base; filaments 5, perfect, shorter, alternating 5 staminodes. Carpels 2, united, ovary ovate, style 1, slender, simple, erect, terminal; stigma simple, capitate.

Fl. & Fr.: Almost whole year

Occurrence: Common.

Vern. Name: Uvoti suth, Uvot kata, Biyoni sabota (As.)

Coll. No. J Sarma/678 Coll. Date:15.3.2017

Locality: Nameri. NP

PLATE 17D

***Alternanthera* Forssk**

Key to the species:

1a. Decumbent herb; Flower in peduncle ----- ***A. philoxeroides***

1b. Prostrate herb; Flower in sessile head ----- ***A. sessilis***

Alternanthera philoxeroides (Mart.) Griseb. in Goett. Abh. 25 : 36. 1879 ; Baker in van Steenis, Fl. Males. 1.4 (2): 93. 1949. *Buchokia philoxeroides* Mart. Beitr. Amar. 107. 1825 ; *Telanthera philoxeroides* Moq. in DC. Prodr. 13 (2) : 362.1849.

Aquatic and marshy erect herb, internodes hairy. Leaves semi decussate, lamina ovate-oblong or lanceolate, acute rounded, ca. 10.5 x 1.7 cm, glabrous above, pilose beneath; petioles ca. 0.6 cm long. Heads alternate at nodes, mostly one or two in each erect

branches; peduncle ca. 4.0 cm long. Flowers white with a pink tinge, bracteate and bracteolate; tepals 5, free; stamens 5; staminodes 5, slightly shorter than the stemens; carpel ca. 0.2015 cm long, stigma capitate.

Fl. & Fr.: April – May

Occurrence: Almost Common.

Vern. Name: Senchi (As.)

Uses: Eaten as vegetable

Coll. No. J Sarma/227 Coll. Date: 3.5.2016

Locality: Near Morabharali.

Alternanthera sessilis (L.) R. Br. ex Roem. & Schult, Syst. 5: 554. 1819 ; Hook, f., Fl. Brit. Ind. 4:731.1883 ; Joseph. Fl. Non. 216. 1982 ; Balakr. Fl. Jowai 2 : 387. 1983 ; Deb, FTS. 2: 164. 1983 ;Baker in van Steenis, Fl. Males. 1.4 (2) : 93. 1949. *Gomphrena sessilis* L., Sp. Pl. 225. 1753.

A perennial prostrate, highly branched herb with rooting at nodes. Leaves simple, opposite, elliptic to lanceolate, obovate, obtuse at apex, cuneate at base, glabrous, ca. 2.5-9 x 0.5 - 1.2 cm, shortly petioled. Flowers whitish in small axillary sessile heads. Fruit - utricle.

Fl. & Fr.: September - December.

Occurrence: Almost Common.

Vern. Name: Matikaduri (As.)

Coll. No. J Sarma/459 Coll. Date: 23.4.2016

Locality: Missamari.

***Amaranthus* L.**

Key to the species

1a. Tepals 3. Stems not spiny:

2a. Tepals long awned; robust herbs; stem reddish pink

----- ***A. tricolor***

2b. Tepals shortly mucronate; stem brown or pink tinged green:

3a. Stem brownish purple; leaf apex slightly notched

----- ***A. viridis***

3b. Stem greenish tinged with yellow; leaf apex deeply
notched

-- ***A. polygonoides***

1b. Tepals 5. Stem spiny

----- ***A. spinosus***

Amaranthus polygonoides L., Fl. Jam. Pugill. 2:27.1729; *A. polygonoides* auct plur. non L. et Roxb.; Hook.f., Fl. Brit. Ind. 4:721. 1885; *A. tenuifolius* Wall. Cat. 6893 Ed. 1832; Chowdhury *et al.*, Ass. Fl. 260,2005.

A prostrate erect shrub, glabrous, greenish. Leaves ca. 3-5 x 2.5-4 cm. obtusely bilobed with a short, mucronate apex, decurrent or alternate at base, glabrous, green; petioles ca. 3-5 cm long. Spikes paniculate, green. Flowers ca. 1-2 cm across. Utricles rugosa, brownish, ca 1-2 cm across. Seeds yellowish brown.

Fl. & Fr.: Almost Whole year.

Occurrence: Common.

Vern. Name: Khutura, Khuduna (As.)

Coll. No. J Sarma/228

Coll. Date: 5.5.2016

Locality: Hahuakuri.

Amaranthus spinosus L., Sp. Pl. 991. 1753; Hook, f., Fl. Brit. Ind. 718. 1885; Kanjilal *et al.*, FA. 4 :8 .1940; Hajra, BBSI, 17:84, 1975; Deb, FTS 2:165, 1983; Rao et Rabha, BBSI, 8; 301, 1966; Chowdhury *et al.*, Ass. Fl. 260.2005.

An erect herb having sharp axillary spines. Leaves ovate, lanceolate or rhomboid. Flowers unisexual, greenish on axillary clusters and axillary more or less spreading paniculate spike; with chaffy bracts and three bracteoles. Perianth 5; stamens 5. utricles ovoid; seeds dark purple shining.

Fl. & Fr.: Whole year

Occurrence: Common.

Vern. Name: Hati Khutura (As.)

Uses: Used as vegetable

Coll. No. J Sarma/239

Coll. Date: 2.6.2016

Locality: Dekerigaon.

Amaranthus tricolor L., Sp. Pl. 989. 1753; Deb, FTS 2 : 166. 1983; Chowdhury *et al.*, Ass. Fl. 260, 2005. *A. mangostamus* L., Cent. Pl. 1:32. 1755; Hook. f., Fl. Brit. Ind. 4:720.1885. *A. gangeticus* L., Syst. ed. 10. 2:1268. 1759; Hook.f, I.C. 719; Kanjilal *et al.*, FA 4:8. 1940.

Robust annuals herb. Leaves reddish pink or purple, ca. 20x15 cm ; petioles ca. 5- 8 cm. panicles 8-12 cm long, reddish brown. Flowers ca. 4.0-5.5 x 3-4 m. utricles ca. 2 x 1.5 m, slightly rogusa, purplish green; seeds shining black.

Fl. & Fr.: April- December.

Occurrence: Common

Vern. Name: Datha / Ronga Morissa (As.)

Uses: Used as vegetable

Coll. No. J Sarma/240 Coll. Date: 5.5.2016

Locality: Hahuakuri.

Amaranthus viridis L., Sp. Pl. (ed. 2) 1405.1763; Hook.f, Fl. Brit. Ind. 4:720. 1885; Kanjilal *et al.*, FA. 4:8. 1940; Chowdhury *et al.*, Ass. Fl. 260, 2005. *Amaranthus gracilis* Best. Tabl. Ec. Bot. 43,1804; Jain *et Hajra*, BBSI,17:84, 1975; Deb, FTS. 2:165. 1983; Balakrishnan, FJ 2:385,1983.

An annual erect herb with glabrous branching. Stems brownish, striated. Leaves simple, rhomboid. Flowers unisexual, pale green to light brownish, small clusters and in slender axillary and terminal paniculate spike. Seeds lenticular, black and shiny.

Fl. & Fr.: Whole year.

Occurrence: Common

Vern. Name: Khutura / Khuduna (As.)

Uses: Used as vegetable

Coll. No. J Sarma/ 691 Coll. Date: 15.3.2017

Locality: Near Nameri.

***Celosia* L.**

Key to the species

1a. Flower white, glistening

----- ***C. argentea***

1b. Flower red, pinkish or purple

----- *C. cristata*

Celosia argentea L., Sp. Pl. 205. 1753; Hook, f., Fl. Brit. Ind. 4:714. 1885; Roxb. Fl. ind. 2:228.1832; Prain, Bengal Plants 2:867; Chowdhury *et al.*, Ass. Fl. 260. 2005.

An erect glabrous annual herb. Leaves lanceolate to oblong. Spikes sub-cylindric, scarious; generally white or pink in colour. Nectary with five, short toothlets, alternate with long antherifeous divisions. Seeds generally small, black.

Fl.: August-November.

Occurrence: Common. Cultivated.

Vern. Name: Boga kukura phul (As.)

Coll. No. J Sarma/725 Coll. Date:6.7.2015

Locality: TU campus.

Celosia cristata L., Sp. Pl. 205. 1753; Hook, f., Fl. Brit. Ind. 4:715. 1885; Roxb. Fl. ind. 2: 228. 1832; Prain, Bengal Plants 2:867. 1908; Bose RBSI 18:218. 1978; Chowdhury *et al.*, Ass. Fl. 260.2005.

Annual robust erect herb, ca. 4 cm high. Leaves oblong-ovate, peduncled, round, striated. Spikes oblong, red, vavelty, attractive, curly, pink or rose.

Fl.: August-January.

Occurrence: Common. Cultivated.

Vern. Name: Kukura joba (As.)

Coll. No. J Sarma/744 Coll. Date:12.2.2016

Locality: TU campus.

Deeringia R.Br.

Deeringia amaranthoides (Lamk.) Merr. Interpr. Rumph. Herb. Amb. 211.1917; Kanjilal *et al.*, FA .4: 3. 1940; Deb, FTS.2:168.1993; *Achyranthus amaranthoides* Lamk., Encycl. Meth. Bot. 1:548.1785. *Deeringia celosiodes* R. Br., Prodr. 413. 1810 ; Hook, f., Fl. Brit. Ind. 4 : 714. 1885.

A subscentent rambling shrub, branches long weak. Leaves alternate ca. 5-13 x 2.5-5 cm; ovate to lanceolate, acuminate, entire, glabrescent, lateral nerves ca. 7-9 pairs. Flowers greenish, close together with spikelike penicles; tepals 5, pale yellow, margins white; stamens 5, connate at the base ; stigma 3. Fruit globose, succulent berry, red; seeds black.

Fl. & Fr.: June - December.

Occurrence: Common.

Vern. Name: Mathek thoka (As.)

Coll. No. J Sarma/407 Coll. Date: 23.4.2016

Locality: Balipara.

Gomphrena L.

Gomphrena celasioides Mart. Beitr. Amar 93.1885; Hook, f., Fl. Brit. Ind. 4:732. 1885; Deb FTS. 2:168.1983; Chowdhury *et al.*, Ass. Fl. 260. 2005.

A very delicate herb; tap root enlarged. Leaves alternate, ovate or oblong sometimes rhomboid, obtuse, base cordate. Flowers bisexual in leafy paniced spikes; bracts distinct; bracteoles 2; perianth 5-lobed; stamens 5; disk fleshy; ovary single-celled, cells single-ovuled.

Fl. & Fr.: April- July.

Occurrence: Very Common. Cultivated.

Vern. Name: Beat (As.)

Coll. No. J Sarma/179 Coll. Date: 10.9.2016

Locality: Burhachapori.

***Chenopodium* L.**

Chenopodium album L., Sp.Pl.219.1753; Hook. f., Fl. Brit. Ind. 5 : 3.1886 ; Prain, Beng. Pl. 879.1903; Kanjilal *et al*, FA. 4:10.1940; Deb, FTS. 2: 160. 1983.

A very delicate annual herb, stem tinged with red or purple. Leaves long petioled, rhomboid, deltoid or lanceolate, ca. 10-15 mm long. Flowers minute in panicle, 5-merous, bisexual, perianth globose, stigmas 2; seeds black, depressed with obscure horizontal keel.

Fl. & Fr.: December - April.

Occurrence: Very Common.

Vern. Name: Jilmil-sak(As.)

Coll. No. J Sarma/928 Coll. Date: 16.12.2017

Locality: Saikia chuburi.

***Spinacia* Schur.**

Spinacia oleracea Schur., Enum. Pl. Transsilv. 547. 1866. *S. spinosa* Moench., Meth. 318. 1794.

Annual or biennial delicate herb, ca. 20-60 cm tall, erect. Leaves ovate to triangular-hastate, entire or dentate, usually entire, Staminate flowers in interrupted spiciform panicles; pistillate flowers in dense axillary sessile clusters; bracteoles in fruit orbicular-obovate, usually broader than long, free.

Fl.: February-May.

Occurrence: Very Common. Cultivated.

Vern. Name: Paleng sak(As.)

Coll. No. J Sarma/914 Coll. Date: 11.11.2017

Locality: Dekha chuburi.

BASELLACEAE Raf.

Fl. Tellur. 3: 44. 1837.

***Basella* L.**

Basella alba L. var. ***rubra*** (L.) Stewart., Punjab Pl. 177.1869; Chowdhury *et al.*, Ass. Fl. 261. 2005.

A delicate annual climbing herb. Stems green or red, fleshy, glabrous. Petiole ca. 1-3 cm; leaf blade ovate or rotunded, ca. 3-9 × 2-8 cm, base shallowly cordate, margin entire, apex acuminate. Spikes ca. 3-15 cm. Perianth reddish or purplish, ovate-oblong, base pale, margin entire. Filaments white; anthers yellowish.

Fl.: May-September & Fr.: July-October

Occurrence: Very Common. Cultivated.

Vern. Name: Ronga Pui sak (As.)

Uses: Leaves eaten as vegetable

Coll. No. J Sarma/915 Coll. Date:11.11.2017

Locality: Hazarika chuk.

POLYGONACEAE Juss

Gen. Pl. 82. 1789.

India: 40 genera and 800 species; Study area: 3 genera and 8 species

Key to the genera

1a. Perianth segments 3-5; stigmas capitellate:

2a. Stamens 5-8 or fewer; cotyledons flat ----- ***Persicaria***

2b. Stamens 8; cotyledons plaited ----- ***Fagopyrum***

1b. Perianth segments 6; stigmas fimbriate ----- ***Rumex***

Fagopyrum Mill.

Fagopyrum esculentum Moench, Met. Pl. Hort. Bot et Agri. Marburg. 290. 1794; Kanjilal *et al.*, FA 4:22.1940; Chowdhury *et al.*, Ass. Fl. 261.2005; Patiri & Borah, Wild Ed. Pl. As. 113. 2007.

A glabrous annual herb ca. 10 cm height. Leaves small, triangular, cordate. Flowers white or pink in dense subcapitate cyme, stamens 8.

Fl. & Fr.: July-October

Occurrence: Common.

Vern. Name: Sutia lofa (As.)

Coll. No. J Sarma/918 Coll. Date:13.11.2017

Locality: Kacharibasti.

Persicaria (L.)P. Millar.

Key to the species

- 1a. Plants armed ----- ***P. strigosum***
- 1b. Plants unarmed
 - 2a. Flowers in racemes or spikes:
 - 3a. Nutlets biconvex; bracts glabrous ----- ***P. glabra***
 - 3b. Nutlets trigonous ----- ***P. hydropiper***
 - 2b. Flowers clustered in heads:
 - 4a. Peduncle corymbose; climber or rambling under shrub
----- ***P. chinense***
 - 4b. Peduncle axillary; a herb of 3-9 cm ----- ***P. microcephalum***

Persicaria chinensis (L.) H. Gross in Engl. Bot. Jahrt. 49:269. 1915; Hara in Fl. East, final. 70.1966. *Polygonum chinense* L., Sp. PL 363.1753; Hook, f., Fl. Brit. Ind. 5:44. 1886; Kanjilal *et al.*, FA 4:21. 1940; Hajra and Jain, Bot. Kaz. Man, 179.1978; Chowdhury *et al.*, Ass. Fl. 261.2005.

A shrub with herbaceous shoots & woody base. Stem generally reddish coloured, branches with glandular hairs. Leaves very variable, ovate or oblong sometimes lenciolate, deltoid-ovate, elliptic, base truncate, rounded; sometimes amplexicaul, acute or acuminate at apex, ca. 1-2 cm long. Panicles ca. 3-5 cm across. Flowers white or pink. Perianth segments 5. Nutlets trigonous, Suiting perianth fleshy or dry.

Fl. & Fr.: April - January.

Occurrence: Common.

Vern. Name: Indrani (As.)

Coll. No. J Sarma/920 Coll. Date:16.11.2017

Locality: Bebejia.

Persicaria glabra (Wild.) M. Gomes in An. Inst. Segunda Ensenanza Habana 2: 278. 1896; Hara in Kara *et al.*, Enum. Fl. Pl. Nepal 3:176. 1982; Grierson & D. G. Long. Fl. Bhutan 1(1); 161. 1983; Choudhury i. c. 306. *Polygonum glabrum* Willd., Sp. Pl. ed. 4. 2:447. 1799; Roxb., Fl. ind. ii. 287. 1824; Kanjilal *et al.*, FA 4: 15. 1940; Chowdhury *et al.*, Ass. Fl. 261.2005.

An erect herb having woody root stocks. Leaves ca. 7-14 cm long, lanceolate or linear-acuminate, tapering at the base, glabrous; stipules not ciliate, tubular. Flowers pink or white in a glabrous paniced racemes. Stamens ca. 6-8. Style usually 2, sometimes 3-cleft. Nuts biconvex, usually trigonous. Seeds round.

Fl. & Fr.: April- January.

Occurrence: Common.

Vern. Name.: Bonriya Ghehu (As.)

Coll. No. J Sarma/220 Coll. Date:3.5.2016

Locality: Nikamul.

Persicaria hydropiper (L.) Spach. Hist. Veg. 10:536. 1841; Hara, Fl. East. Himal. 2:23:1971; in Hara *et al.*, Enum. Fl. PL Nepal 3:176. 1982; Grierson & D. G. long, Fl. Bhutan 1: 162. 1983. *Polygonum hydropiper* L., Sp. Pl. 361. 1753; Hook, f., Fl. Brit. Ind. 5. 39. 1886;

Kanjilal *et al.*, FA 4 : 21. 1940; Hajra and Jain, Bot. Kaz. Man. 179. 1978; Chowdhury *et al.*, Ass. Fl. 261.2005.

An annual herb with glabrous stems. Leaves lanceolate to oblong-lanceolate ca. 1.5- .0 x 0.5-1.5 cm, base acute, acuminate at apex, ochreae ca. 1-2 cm long, shortly ciliate. Racemes slender, lax, decurved, interrupted. Perianth pinkish green. Styles three. Nutlets trigonous. Commonly grows on marshy places.

Fl. & Fr.: April- January.

Occurrence: Common.

Vern. Name.: Bonriya Ghehu, Bihlongoni (As.)

Coll. No. J Sarma/907 Coll. Date: 4.11.2017

Locality: Dekargaon.

Persicaria microcephala (D. Don.) Sasaki, Cat. Gov. Herb. (Gov. Res. Inst. Rep. Dept. For. No. 9) 192.1930. *Polygonum microcephalum* D. Don. Prodr., Fl. Nepal 72. 1825; Kanjilal *et al.*, FA 4: 18. 1940; Chowdhury *et al.*, Ass. Fl. 261.2005.

A glabrous or sparsely hairy herb with a woody perennial root stock. Leaves hastately ovate, lanceolate, abruptly narrowed to the winged petiole. Flowers in small heads in axillary or subterminal slender peduncles. Perianth 5 cleft; stamens 8. Styles 2-3, connate below. Nutlets 3-gonous.

Fl.: June- July & Frt.: August -September

Occurrence: Not very common

Vern. Name : Madhusuleng (As.)

Uses: Used as vegetable

Coll. No. J Sarma/918 Coll. Date:12.11.2017

Locality: Dhekiajuli TE.

Persicaria strigosa (R. Br.) Nakai in Rigakkai xxiv. 299. 1926; cf. Nemoto. Fl. Japan. Suppl. 175. 1936. *Polygonum strigosum* R. Br., Prodr. 420. 1810; Hook, f., Fl. Brit. Ind. 5:47. 1886; Hajra and Jain, Bot. Kaz. Man. 181. 1978; Chowdhury *et al.*, Ass. Fl. 262.2005.

A very tall prickly herb, often almost climbing. Leaves linear or linear-oblong ca. 4-8 x 0.5-1.0 cm, truncate at base, acute or acuminate at apex, petioles ca. 1-2 mm long; petioles and nerves beneath with prickles; leaves somewhat reddish-purple in colour. Racemes oblong or subglobose; peduncles prickly. Flowers pink. Stamens 6-8. Nuts black.

Fl. & Fr.: June- November.

Occurrence: Rare.

Vern. Name: Mou sarali (As.)

Coll. No. J Sarma/ 522 Coll. Date: 12.11.2017

Locality: Sonai Rupai WLS.

***Rumex* L.**

Key to the species :

- 1a. Flowers bisexual ----- ***R. maritimus***
1b. Flowers unisexual ----- ***R. vesicarium***

Rumax maritimus L., Sp. Pl: 335.1753; Hook, f., Fl. Brit. Ind. 5: 59.1886; Deb, FTS. 2: 158. 1983.

A stout annual herb. Leaves lanceolate, acute, narrowed at base, lower leaves long petioled, ca. 9.0 - 20.0 x 1.7-4.5 cm; petiole ca. 1.5 - 4.0 cm long; stipules tubular. Flowers bisexual on jointed panicles, greenish; perianth 6-lobed; stamens 6; ovary 3- gonous, single-celled, cell single - ovuled. Nutlets enclosed in the enlarged inner perianth lobes.

Fl. & Fr.: February - May

Occurrence: Almost common.

Vern. Name: Bon-suka(As.)

Coll. No. J Sarma/434 Coll. Date:7.2.2015

Locality: Kaliabhomora.

Rumax vesicarius L., Sp. P1.336.1753 ; Hook f., Fl. Brit. Ind. 5:61. 1886 ; Kanjilal *et al*, FA. 4: 22. 1940.

A pale green annual herb with fleshy stems. Leaves ca. 2.5-7.5 cm long, elliptic - ovate or oblong, cordate, hastate or cuneate, petiole long. Flowers monoecious, inner perianth segments membranous, reticulate often pink without teeth; stamens 6. Nuts trigonous, black at maturity, enclosed by persistent membranous pinkish perianth members.

Fl. & Fr.: October -February.

Occurrence: Almost common.

Vern. Name: Chukasak (As.).

Coll. No. J Sarma/436 Coll. Date: 8.2.2015

Locality: Jahaz ghat.

ARISTOLOCHIACEAE Juss.

Gen. Pl. 72–73. 1789.

India: 4 genera and 21 species; Study area: 1 genus and 1 species

***Aristolochia* L.**

Aristolochia indica L. Sp. Pl. 2: 960. 1753. Benth. & Hook. f., Gen. Pl. 3: 123. 1880; Hook. f., Fl. Brit. Ind. 5: 75. 1886, Cooke, Fl. Bomb. Pres. 3: 15. 1906.

Quite glabrous , twining. Stems woody below, branches slender. Leaves from linear to obovate-oblong or sob-panduriform base canate rounded or shallowly cordate 5 nerved, excessively variable. Flowers 1-3, bract opposite the base of the peduncles. Perianth greenish, straight, base globose, tube shortly funnel shaped, mouth trumpet shaped, gradually passing into the glabrous brownish lip. Capsule long, oblong, grooved. Seeds flat, triangular.

Fl. & Fr.: April-July.

Occurrence: Rare.

Vern. Name: Iswarmul (As.).

Coll. No. J Sarma/681 Coll. Date:15.3.2017

Locality: Nameri NP.

PLATE 17F

PIPERACEAE Giseke

Prae. Ord. Nat. Pl. 123. 1792.

India: 2 genera and 55 species; Study area: 2 genera and 5 species

Key to the genera

1a. Anther cells distinct; stigma more or less connate. Fruit baccate

----- ***Piper***

1b. Anther cells confluent; stigma penicillate. Fruit minute

----- ***Peperomia***

Peperomia Ruiz & Pav.

Peperomia pellucida (L.) H. B. K., Nov. Geng 1: 64. 1816; Kanjilal *et al.*, FA. 4: 39, 1940; Rao et Rabha, BBSI. 8: 301.1966; Balak., FJ. 2:395.1983; Chowdhury *et al.*, Ass. Fl. 263.2005. *Piper pellucidum* L., Sp. Pl. 30.1753.

A very slender, procumbent annual herb. Leaves sub-transparent; membranous when dry; alternate, ovate- cordate to sub-orbicular, ca. 5-7 nerved from base, pale green; petioles up to 1 cm long. Spikes slender, leaf opposed, solitary or paired ca. 2.5 - 5.5 cm long. Flowers greenish white. Berries reticulate; seeds minute, black.

Fl. & Fr.: August - November

Occurrence: Common.

Vern. Name: Ponounoua (As.)

Coll. No. J Sarma/482 Coll. Date: 24.7.2016

Locality: Khonamukh.

Piper L.

Key to the species

- 1a. Bracts orbicular, peltate:
 - 2a. Fruiting spikes longer than broad:
 - 3a. Leaves glabrous, ovate- . Date ----- ***P. longum***
 - 3b. Leaves coriaceous, oblique ----- ***P. betle***
 - 2b. Fruiting spike globose ----- ***P. thomsonii***
- 1b. Bracts adnate to rachis or with free margin ----- ***P. nigrum***

Piper betle L., Sp. Pl. 29. 1753; Hook, f., Fl. Brit. Ind. 5:85. 1886; Kanjilal *et al.*, FA. 4:35. 1940; Chowdhury *et al.*, Ass. Fl. 263.2005.

A very common dioecious climber. Stems rooted at nodes slightly woody. Petiole 2-5 cm, leaf blade ovate to ovate-oblong, ca. 7-15 × 5-11 cm, papery, sometime leathery, abaxially densely glandular, adaxially glabrous, base cordate, symmetric or nearly so, apex acuminate; veins 7 . Spikes leaf-opposed. Male spikes nearly as long as leaf blades. Female spikes longer in fruit; rachis fleshy, densely pubescent.

Fl.: May-Jul.

Occurrence: Common. Cultivated.

Vern. Name: Paan (As.)

Coll. No. J Sarma/436 Coll. Date: 8.2.2015

Locality: Chandmari.

Piper longum L., Sp. Pl. 29. 1753; Hook. f., Fl. Brit. Ind. 5:83. 1886; Kanjilal *et al.*, FA. 4:34. 1940; Hajra and Jain, Bot. Kaz. Man. 183. 1978; Chowdhury *et al.*, Ass. Fl. 263. 2005.

An aromatic herbs, trailing on ground or climbing in big trees. Leaves measuring ca. 7-9 x 6-8 ovate-oblong or orbicular-ovate, acuminate at apex, 7-nerved at base; petioles ca. 5-7 cm long. Upper leaves oblong, sessile, amplexicaul. Male spikes slender, ca. 3-7 cm long, generally yellowish. Female spikes ca. 1.5 - 2.0 cm long, fleshy. Flowers dioecious; bracts stalked, peltate. Berries globose, 2-3 mm in diameter.

Fl. & Fr.: June- November.

Occurrence: Common.

Vern. Name: Pipoli (As.)

Uses: Catkin eaten

Coll. No. J Sarma/702 Coll. Date: 15.3.2017

Locality: Nameri NP.

Piper nigrum L., Sp. Pl. 31.1753; Hook. f, Fl. Brit. Ind. 5:90.1886; Kanjilal *et al.*, FA.4: 37. 1940; Chowdhury *et al.*, Ass. Fl. 263. 2005.

A stout climbing glabrous shrub ; rooting at nodes. Leaves ovate, ovate - lanceolate or broadly ovate, acuminate, elliptic-acuminate, membranous, shining above, glabrous beneath, 5 nerved, the 2 supra - basal nerves alternate, measuring ca.13.0 - 16.0 x 5.0 - 10.5 cm; petioles ca. 0.8 -1.5 cm long. Flowers usually dioecious; spikes pendulous, long; bracts offemale cupular, bracteoles offemale forming a cup round the ovary; ovary one - celled, cell single - ovuled. Berries globose, red.

Fl. & Fr.: Aug. - Mar.

Occurance: Common. Cultivated.

Vern. Name: Jaluk (As.).

Uses: Catkin eaten

Coll. No. J Sarma/409 Coll. Date:23.4.2016

Locality: Balipara TE.

PLATE 18A

Piper thomsonii (C. DC.) Hook, f., Acta. Phytotax. Sin., 17(1):39. 1979; Hook, f., Fl. Brit. Ind. 5: 88. 1886; Prain, D. Bengal Plants 2: 893.1903; Kanjilal *et al.*, FA. 4:36. 1940; Chowdhury *et al.*, Ass. Fl. 263.2005.

A glabrous scandent shrub; generally half woody; stem rooting at the nodes, basal stem woody. Leaves ca. 7.5 -12.5 x 2.5- 5 cm, ovate-oblong or elliptic-oblong, acuminate, membranous, 5-nerved; base truncate or shallowly cordate, often oblique; petiole ca. 1.2- 5 cm long. Flowers dioecious; male spikes slender, ca. 7.5 cm long; bracts orbicular, peltate.

Fl. & Fr.: October- March.

Occurrence: Rare.

Vern. Name: Aauni paan(As.).

Coll. No. J Sarma/703 Coll. Date: 15.3.2017

Locality: Nameri NP.

PLATE 18C

SAURURACEAE Rich. ex T. Lestib.

Botanogr. Élé. 453. 1826.

India: 1 genus and 1 species; Study area: 1 species found

***Houttuynia* Thunb.**

Houttuynia cordata Thunb. Corr. Fl. Jap. 12:234. 1784 ; Hook, f., Fl. Brit. Ind. 5:78. 1886 ; Kanjilal *et al.*, FA. 4 :31. 1940 ; Deb, FTS. 2 : 139. 1983 ; Balakr. Fl. Jowai 2 : 397. 1983.

A perennial herb with creeping root stock; stem herbaceous. Leaves ovate, cordate, acuminate, membranous, gland dotted, ca. 5-7 nerved, pubescent when young ca. 4.0 - 0.5 x 3.0 - 6.0 cm; petioles ca. 1.2 - 3.5 cm long; stipules linear lanceolate. Flowers in dense flowered spikes, subtended by a involucre of 4 - 6 white bracts; perianth absent; stamens 3 ; ovary 3-4 connate; carpels 1 - celled. Capsules sub-globose.

Fl. & Fr.: June - December.

Occurrence: Common.

Vern. Name: Mosondori (As.)

Uses: Used as vegetable

Coll. No. J Sarma/744 Coll. Date: 12.2.2016

Locality: TU campus.

LAURACEAE Juss.

Gen. Pl. 80. 1789.

India: 17 genera and 175 species; Study area: 4 genera and 6 species

Key to the genera

1a. Stamens of 3rd row (if present), extrose.

- 2a. Leaves usually opposite & terminal ----- ***Cinnamommum***
- 2b. Leaves alternate:
 - 3a. Perianth segments reflexed ----- ***Persea***
 - 3b. Perianth segments erect, clasping ----- ***Phoebe***
- 1b. Stamens all introse. Leaves alternate ----- ***Litsaea***

***Cinnamomum* Bl.**

Key to the species

- 1a. Leave Buds with small scales , triple nerved ----- ***C. tamala***
- 1b. Leave Buds with small scales , triple nerved -- ***C. glanduliferum***

Cinnamomum glanduliferum (Wall.) Meisn. Prodr. 15(1): 25. 1864;
Kanjilal *et al.*, FA. 4:59. 1940.

A large evergreen tree with thick dark brown bark, buds enclosed in large orbicular concave silky tomentose imbricating scales. Leaves opposite, very variable in size and shape, elliptic, thick, orbicular or lenciolate, ca. 6-15 × 4-6.5 cm. panicles axillary terminal. Flowers pedicilate. Perianth segments thinly pubescent outside, villous within, stamens hairy, ovary glabrous.

Fl.: June & Fr.: August

Occurrence: Rare.

Vern. Name: Gondhsoroi (As.)

Coll. No. J Sarma/705 Coll. Date: 13.3.2017

Locality: Nameri NP.

PLATE 18E

Cinnamomum tamala Nees & Eberm., Handb. Med. Pharm. Bot. 11: 426. 1831; Kanjilal *et al.*, FA. 4:56. 1940; Chowdhury *et al.*, Ass. Fl. 264.2005.

A medium sized bunchy tree, aromatic. Bark rather rough, almost black. Leaves opposite sub-opposite or opposite, ovate-oblong or elliptic to oblong-lanceolate, acuminate, pink when young, base triplinerved, highly aromatic. Flowers in panicles, ca. 0.75 cm across. Perianth silky, segments sub-equal. Stamens villous. Ovary free, villous. Drupe black when ripe, supported by persisting perianth.

Fl.: February – May & Fr.: June- October.

Occurrence: Common. Cultivated.

Vern. Name: Tejpat (As.)

Uses Leaves used as spece

Coll. No. J Sarma/859 Coll. Date:25.12.2016

Locality: Haleswar.

Litsea Lamk.

Key to the species:

1a. Tree. Leaves rusty obovate-oblong. Stamens 9-13

---- ***L. monopetala***

1b. Small tree. Leaves glabrous narrow-lanceolate. Stamens 6-7

---- ***L. salicifolia***

Litsea monopetala (Roxb.) Pers., Syn. 2:4. 1807; Hajra and Jain, Bot. Kaz. Man. 190. 1978; Chowdhury *et al.*, Ass. Fl. 265. 2005. *Tetranthera monopetala* Roxb. Pl. Cor. 2:26, t. 148. 1800. *L. polyantha* A. Juss. in Ann. Mus. Hist. Nat. Paris 6:211. 1805; Hook. f, Fl. Brit. Ind. 5:162.1886; Kanjilal *et al.*, FA 4:83.1940.

A huge tree with a spreading crown; young parts rusty-tomentose. Bark greyish brown. Leaves abovate, oblong, lanciolate or broadly elliptic-oblong ca. 5- 1x3-13 cm, acute or rounded at apex, rounded at base, lateral nerves 8-10 on either side; petioles ca. 1-2 cm long. Flowers greenish yellow, pedunculate, umbellate heads. Perianth segments 5, nearly free. Stamens ca. 9-13. Fruits ovoid, ca 1.0 cm across.

Fl: March – May & Fr: June- September.

Occurance: Almost common.

Vern. Name: Soalu, Jharua, Muga goch (As.)

Coll. No. J Sarma/860 Coll. Date: 23.12.2016

Locality: Near Col Park.

Litsea salicifolia (Roxb. ex Nees) Hook, f., Fl. Brit. Ind. 5:167. 1886; Kanjilal *et al.*, FA. 4:87. 1940; Hajra and Jain, Bot. Kaz. Man. 191. 1978; Chowdhury *et al.*, Ass. Fl. 265.2005. *Tetranthera salicifolia* Nees in Wall. Pl. As. Rar. 2:66.1831.

A small trees or shrub, about 2-6 m tall. Bark greyish or chocolate brown. Leaves narrow, highly elliptic-lanceolate, ca. 7- 21 x 2.5-0.5 cm, acute to cuneate at base, acuminate at apex, lateral nerves 8-10 on either half, glaucaous and silky pubescent beneath; petioles ca. 1-3 cm long. Umbels 4-6 flowered, greenish. Stamens 6-7, villous, filaments densely pilose. Fruits ellipsoid, ca 1.0 cm long.

Fl.: February-March & Fr: April- May.

Occurance: Not Very common

Vern. Name: Dighloti (As.).

Uses: Used in Bihu celebration

Coll. No. J Sarma/429

Coll. Date: 4.9.2016

Locality: Sonai Rupai WLS.

***Persea* Miller**

Persea bombycina (King ex Hook.f.) Kostin Reinw.6:191,1962
Machilus bombycina King ex HookX, Fl. Brit. Ind. 5: 861.1890;
Kanjilal *et al.*, FA.4:66.1940; Rao et Verma in BOBSI11 (3&4) : 410
(1969) 1972.

A middle sized tree. With spreading branches. Bark light grey; young shoots and inflorescence silky. Leaves ca. 6.2-12,5 x 2-5 cm, elliptic lanceolate to obovate lanceolate or oblanceolate, acuminate, coriaceous, glabrous above, base cuneate or acute; lateral nerves 6-8 pairs; petiole 0.7-1.7 cm long. Panicles sub-termin upto 11.2 cm long. Flowers 0.6 cm long; perianth 6, tube obsolete, segments oblong or oblong-lanceolate, silky on both surfaces; stamens 9, filaments villous at the base. Fruit globose berry, seated on the perianth.

Fl. & Fr.: December - April.

Occurance : Common. Cultivated.

Vern. Name: Som (As.)

Coll. No. J Sarma/278

Coll. Date: 5.11.2015

Locality: TU.

Phoebe Nees

Phoebe goalparensis Hutch.; Kanjilal *et al.*, FA. 4 : 73. 1940.

A tall tree with high timber value. Bark blackish - grey or greenish-grey. Leaves ca. 6 - 15 x 2.5 - 5.5 cm, obovate or ovate – lanceolate, rarely obtuse, somewhat acute or obtusely acuminate; lateral nerves ca. 9-12 pairs. Inflorescence in long peduncled lax panicles. Flowers 0.5 - 0.7 cm; perianth segments unequal; stamens slender in 4 series; ovary globose, depressed. Fruit ellipsoid, blackish.

Fl. & Fr.: February - August.

Occurance : More or less common.

Vern. Name: Bonsom (As.)

Uses: Used as timber

Coll. No. J Sarma/410 Coll. Date: 23.4.2016

Locality: Balipara.

PROTEACEAE Juss.

Gen. Pl. 78. 1789.

Grevillea R. Br.

Grevillea robusta Cunn. ex R.Br. Suppl. Prodr. Fl. Nov. Holl. 24, 1830; Kanjilal *et al.*, FA. 4:107.1940; Deb, FTS. 1:242.1981.

Large handsome tree, young shoots rusty tomentose. Leaves twice pinnatifid, fern like, silvery beneath, ca. 20-30 cm long. Flowers bright orange coloured in unilateral racemes. Follicle coriaceous, ca. 1.5 - 1.7 long, oblique.

Fl. & Fr.: February – May.

Occurance : Common.

Vern. Name: Teli -Wui (As.)

Coll. No. J Sarma/671 Coll. Date: 8.4.2017

Locality: Bhalukpong.

THYMELAEACEAE Juss.

Gen. pl. 76. 1789.

India: 7 genera and 18 species; Study area: 1 genus and 1 species

Aquilaria Lamk.

Aquilaria malaccensis Lamk., Encycl. 1:49. 1783; Hook, f., Fl. Brit. Ind. 5:200. 1886; Chowdhury et al., Ass. Fl. 266. 2005. *A. agallocha* Roxb., Fl. ind. 2:422. 1832; Hook, f., Fl. Brit. Ind. 5:199. 1886pp; Kanjilal *et al.*, FA 4:112.1940.

A large evergreen tree; young shoots silky. Leaves alternate, oblong lanceolate, elliptic to ovate lanceolate, caudae acuminate, about glabrous. Flowers white, bisexual in terminal umbellate cyme, almost sessile or shortly pedunculated. Perianth persistent in fruit, campanulate. Stamens 10, anther 10, sub-sessile. Disk 0. Fruit capsular, long obovoid.

Fl. & Fr.: February – May.

Occurance : Not very common.

Vern. Name: Sasi, Agarua (As.)

Coll. No. J Sarma/267 Coll. Date: 6.2.2016

Locality: Garo gaon.

LORANTHACEAE Juss.

Ann. Mus. Natl. Hist. Nat. 12: 292. 1808.

India: 11 genus and 50 species; Study area: 1 genus and 1 species

Dendrophthoe Mart.

Dendrophthoe falcata (L.f.) Etting. Denskschr. Akad.Wissensch. Math. Nat. 32:52. 1872; , Kanjilal *et al.*, FA. 4: 123. 1940; Balakr. Fl. Jowai2:414.1983; Haridasan & Rao, For.Fl. Meghalaya 2: 754. 1987; *Loranthus falcatus* L. f. Suppl. 211. 1781; *L. longiflorus* Desr.in Lamk. Encycl. 3: 598. 1789; Hook. f., Fl. Brit. Ind. 5: 214.1886.

A large glabrous bushy semi-parasite. Bark grey or reddish brown. Leaves opposite or sub-opposite rarely alternate, ovate, ovate-lanceolate or elliptic, obtuse, coriaceous, glabrous, fleshy, ca. 8.0-11.0 x 3.0-4.5 cm; petioles ca. 0.5 cm long. Flowers orange or scarlet, regular, bisexual in dense unilateral, upcurved axillary or supra axillary racemes; calyx 5 toothed; corolla 5-lobed; stamens 5; ovary single-celled, cells single-ovuled. Berries oblong, black when ripe.

Fl. & Fr.: July - November.

Occurance : More or less common.

Vern. Name: Raghumola/Raghumala (As.)

Coll. No. J Sarma/442 Coll. Date: 8.2.2015

Locality: Chandmari.

PLATE 18B

EUPHORBIACEAE Juss.

Gen. Pl. 384 - 385. 1789.

India: 61 genus and 336 species; Study area: 16 genera and 25 species

Key to the genera

1a. Flowers in heads. Involucre regular, 4-5-lobed ----- ***Euphorbia***

1b. Flowers distinct, not united in heads, not contained in an involucre.

2a. Leaves distichous or alternate

3a. Tepals turbinate and connate ----- ***Breynia***

3b. Tepals spreading

4a. Disk absent in either sex ----- ***Glochidion***

4b. Disk present in female and often in male flowers

5a. Tepals gland dotted ----- ***Jatropha***

5b. Tepals not gland dotted

6a. Flowers axillary solitary or fascicled ----- ***Phyllanthus***

6b. Flowers in racemes ---- ***Chrozophora***

2b. Leaves spirally arranged

7a. Stamens 5;

8a. Fruits drupes ----- ***Bridelia***

8b. Fruits berry ----- ***Bischofia***

7b. Stamens 3-6; fruits capsule

9a. Flowers dioecious or monoecious, racemes compound

----- ***Baccaurea***

9b. Flowers monoecious, clustered or solitary

10a. Ovary 1-celled

11a. Anthers reflexed ----- ***Antidesma***

11b. Anthers erect ----- ***Croton***

10b. Ovary 2-3 celled

12a. Anther cells divaricate ----- ***Acalypha***

12b. Anther cells contiguous

13a. Stamens branched ----- ***Ricinus***

- 13b. Stamens not branched.
- 14a. Herb; perianth campanulate ----- ***Manihot***
- 14b. Tree ; perianth free
- 15a. Matured fruit covered with brick-red glands
----- ***Mallotus***
- 15b. Matured fruit not covered with glands
- 16a. Anther 4-celled ----- ***Macaranga***
- 16b. Anther 2- celled . ----- ***Trewia***
- Acalypha* L.**

Acalypha indica L., Sp. Pl. 1003. 1753; Hook. f, Fl. Brit. Ind. 5: 416. 1887; Kanjilal *et al.*, FA. 4: 209. 1940; Deb. FTS. 1: 315. 1981; Chowdhury *et al.*, Ass. Fl. 267. 2005.

An annual with striate branches. Leaves ovate or rhomboid-ovate, acute or obtuse shortly acuminate, serrate- dentate, ca. 7 x 4 cm., scabrid, membranous, base rounded, somewhat 3 nerved at base; petioles long, ca. 3-8 cm. Flowers male and female in axillary spikes, in short spikes, male uppermost and few, females below, in pendunculate solitary bracts; male flower ebracteate; bracts campanulate, shortly dentate, glandular hairy, greenish yellow. Anthers sub sessile. Pistil-2, one sterile. Ovary hispid, 3- lobed; style branched, greenish.

Fl. & Fr.: July-November.

Occurrence: Common.

Vern. name: Muktajhori, Patra-manjori (As.)

Coll. No. J Sarma/325 Coll. Date: 27.4.2016

Locality: Bohuakuri.

***Antidesma* L.**

Antidesma acidum Retz., Obs. Bot. 5: 30. 1788; Airy Shaw in Kew Bull. 26 (2): 352.1972; Haridasan & Rao, For. Fl. Meghalaya 2:769.1987. *Antidesma diandrum* (Roxb.)Roth, Nov. Sp.369.1821; Hook. f., Fl. Brit. Ind. 5: 361. 1887; Kanjilal *et al.*, FA.4:167.1940; Balakr . Fl. Jowai 2: 423. 1983;

A deciduous shrub or small tree upto 8 m tall with spreading branch, young parts rusty tomentose. Leaves variable, oblong – lanceolate, alternate at apex, cuneate at base, glossy above, puberulous along the nerves beneath, entire, sub-coriaceous, ca. 4.5 - 11 x 1 - 2.5 cm, short petiolate, pubescent. Flowers minute, monoecious, greenish yellow, in lax terminal and lateral racemes. Ovaru glabrous. Drupes purplish red when ripe, ovoid acute.

Fl. & Fr.: April - October.

Occurrence: More or less Common.

Vern. name: Abutenga, Nikhontenga (As.)

Uses: Fruit eaten

Coll. No. J Sarma/326 Coll. Date:27.4.2016

Locality: Bohuakuri.

PLATE 19C

***Baccaurea* Lour.**

Baccaurea ramiflora Lour., Fl. Cochinch. 661. 1790; Chowdhury *et al.*, Ass. Fl. 268. 2005. *B. sapida* (Roxb.) Muell.-Arg. in DC., Prodr. 15

(2:459.) 1866; Hook, f., Fl. Brit. Ind. 5:371.1887; Kanjilal *et al.*, FA 4: 161.1940.

A middle sized tree , young parts hairy. Leaves ca. 10 - 22 x 3 - 9 cm, elliptic-oblong or obovate or elliptic-lanceolate, acuminate, membranous, glabrous; base narrowed. Flowers dioecious, apetalous, shortly pedicellate, in dense fascicled racemes from old wood or below the leaves. Male bracts longer than the clusters. Female bracts very small. Calyx segments 4-5, unequal. Stamens 4-8, filaments short, free. Pistillode pubescent. Ovary 2-5-celled, tomentose, ovules 2 in each cell. Fruit globose, capsular, yellowish brown, ca 2.5 cm across. Seeds orbicular, embedded in rose coloured pulp i.e. aril.

Fl.: April- May & Fr.: May- July.

Occurrence: Rare in wild. Cultivated.

Vern. Name: Leteku (As.)

Uses: Fruit eaten

Coll. No. J Sarma/ 655 Coll. Date:20.8.2017

Locality: Beseria.

***Bischofia* Bl.**

Bischofia javanica BL, Bijdr. 1168,1825; Hook, f., Fl. Brit. Ind. 5:345.1887; Prain, Bengal plants 2:926. 1903; Kanjila *et al.*, FA 4: 141. 1940; Hajra & Jain, Bot. Kaz. Man. 197.1978; Chowdhury *et al.*, Ass. Fl. 268. 2005.

A large deceduous trees, with tall cylindric trunk bark exuding reddish gum. Bark dark brown, reddish inside. Leaflets elliptic or

ovate-oblong, ca. 8-15 x 5-9 cm, often oblique at base, acuminate at apex. Inflorescence terminal. Flowers greenish, apetalous, in paniculate racemes. Male flowers shortly pedicellate, corolla segments 5. Pedicel of female flowers longer than male. Fruit globose, fleshy; seeds smooth, shiny.

Fl. & Fr.: February- August.

Occurrence: Common.

Vern. Name: Urium (As.)

Uses : Used as timber

Coll. No. J Sarma/492

Coll. Date: 13.8.2016

Locality: Sonabheel.

Birdelia Willd.

Bridelia retusa (L.) Spreng. in L. Syst. Veg. (ed. 16) 3 : 48. 1826 ; Hook, f., Fl. Brit. Ind. 5 : 268. 1887 ; Kanjilal *et al.*, FA. 4 : 143.1940 ; Jain *et Hajra*, BOBSI 17:84. 1975 ; Deb, FTS. 2: 324. 1981 ; Haridasan & Rao, For. Fl. Meghalaya 2 : 778. 1987. *Clusia retusa* L., Sp. Pl. 1042. 1753.

A large or medium sized deciduous tree with strong conical spines while young. Leaves very variable ca. 6-20 x 2-12 cm, elliptic or elliptic lanceolate, entire, coriaceous, dark green and glabrous above, glaucous but pubescent on the nerves beneath. Flowers 4 mm across, greenish yellow in dense, axillary fascicles or arranged interruptedly on long axillary or terminal spikes. Male flowers : calyx segments triangular, acute, petals toothed or lobed. Female flowers: calyx segments triangular; outer disk annular, inner

completely covering the ovary; petals oblong or ovate, styles 2, free.
Drupe globose, purplish black at maturity.

Fl. & Fr.: May – December.

Occurrence: Common.

Vern. Name: Kuhir (As.)

Coll. No. J Sarma/653 Coll. Date: 20.8.2017

Locality: Bebejia.

***Croton* L.**

Key to the species

1a. Herb or scandent shrub

2a. Inflorescence a long raceme ----- ***C. caudatum***

2b. Inflorescence an androgynous spike ---- ***C. bonplandianum***

1b. A small tree ----- ***C. roxburghii***

Croton bonplandianum Baill. in Adansonia 4:339. 1864; Deb, FTS. 1: 328. 1981. *C. sparciflorus* Morang in Ann. N.Y. Acad. Sci. 7: 221. 1893; Kanjilal *et al.*, FA. 4: 196. 1940.

A much branched annual, ca. 30 - 90 cm high; stem clothed with multiarmed trichomes. Leaves simple, crowded towards top of the branches, ca. 4 - 6 x 2 - 2.5 cm, ovate lanceolate, serrate, 2 - glandular at the base. Inflorescence a terminal erect, androgynous spike in which female flowers arranged below the male ones. Male flowers pale white; stamens about 15. Female flowers with 2 extra-

floral glands at the base of pedicels. Capsules 3 - angled, roundish, stellate hairy; seeds shining, spongy, with a white cap, oblong.

Fl. & Fr.: Whole year.

Occurrence: Common.

Coll. No. J Sarma/ 435 Coll. Date: 4.9.2016

Locality: Sonai Rupai.

Croton caudatus Geisai, *Croton*. Monogr. 73. 1807; Hook. f, *Fl. Brit. Ind.* 5:388. 1887; Kanjilal *et al.*, *FA* 4:194. 1940; Hajra and Jain, *Bot. Kaz. Man.* 199. 1978; Chowdhury *et al.*, *Ass. Fl.* 268. 2005.

A large scandent shrubs, ca. 10-15 m tall; young parts stellately bristly, hairy. Leaves ovate- cordate or orbicular- cordate, 7- 15 x 6- 11 cm, acute to acuminate, sub-orbicular, coarsely toothed or crenate-serrate at margins; basal nerves 3-5; lateral nerves 3-4 pairs; petioles 3-7 cm long. Racemes terminal, solitary, 10-15 cm long. Racemes slender stellately pubescent. Male flowers: tomentose, petals as long as sepals; Stamens 8-13. Female flowers: Ovary stellately pubescent. Capsules obscurely trigonous, ca 2.5 cm long.

Fl. & Fr: April-June.

Occurrence: common.

Vern. Name: Lota Mahudi (As.).

Coll. No. J Sarma/ 436 Coll. Date: 4.9.2016

Locality: Sonai Rupai WLS

PLATE 18C

Croton roxburghii Balak. in BBSI 3:39. 1961 (1962). *Croton oblongifolius* Roxb., Fl. ind. 3:685.1832; Hook, f., Fl. Brit. Ind. 5:381.1887; Kanjilal *et al.*, Fa 4: 192. 1940; Hajra and Jain, Bot. Kaz. Man. 199. 1978; Chowdhury *et al.*, Ass. Fl. 268.2005.

A middle sized tree, often gregarious; young parts clothed with peltate orbicular scales. Leaves ovate or elliptic-oblong, oblong-lanceolate, ca. 10-18 x 4-7 cm, acute or acuminate at base, acuminate at apex, repand - toothed or serrate - crenate at margins; lateral nerves 10-16 pairs; petioles 1-2 cm. Racemes terminal or axillary. Flowers pale yellowish green. Calyx segments 5. Petals 5. Disk of male flowers of 4 glands, of female flowers annular. Ovary 3-locular. Capsule subglobose.

Fl. & Fr.: February - August.

Occurance: Almost Common in wild.

Vern. Name: Mahunda, Mahudi (As.)

Coll. No. J Sarma/ 642 Coll. Date: 19.8.17

Locality: Behali RF.

***Chrozophora* Neck.**

Chrozophora rottleri (Geis.) A. Juss. ex Spreng, Syst. Veg. 3: 850. 1826 ; Balakr. In BOBSI. 15:4.1976; *Croton rottleri* Geis, Monog. 54. 1807; *C. tinctoria* sensu Hook, f., Fl. Brit. Ind. 5 : 409. 1887.

A coarse annual, stem diffuse, densely clothed with stellate hairs. Leaves large ca. 10 - 3 x 5 - 6.5 cm across, alternate. Flowers monoecious; males sessile: ca. 0.4 cm long, many, crowded at the top

of the raceme; sepals 5; petals 5; stamens 15; females: pedicellate, ca. 0.6 cm long, solitary; sepals 5; triangular, acute, petals narrow; ovary 3 - celled, ovule single in each cell. Fruit a capsule of 3 hispid tomentose, 2 - valved cocci.

Fl. & Fr. : November – May.

Occurance: Common .

Coll. No. J Sarma/ 438 Coll. Date: 4.6.2016

Locality: Sonai Rupai.

***Euphorbia* L.**

Key to the species

1a. Plant armed

2a. Leaves 3-5 cm long; cyathium subtended by bright red bract

----- ***E. milli***

2b. Leaves 10-18 cm long; cyathium subtended by yellowish bract

----- ***E. nerifolia.***

1b. Plant unarmed

3a. Shrubs; leaves alternate, tender leaves scarlet red

--- ***E. pulcherrima***

3b. Herbs ;leaves opposite, never scarlet

----- ***E. hirta.***

Euphorbia hirta L., Sp. Pl. 454. 1753; Kanjilal *et al.*, FA 4: 141. 1940; Hajra and Jain, Bot. Kaz. Man. 200. 1978; Chowdhury *et al.*, Ass. Fl.

269. 2005. *E. pilulifera* sensu Hook. f, Fl. Brit. Ind. 5:250.1887; Prain, Bengal. Plants. 925.1903.

Annual hispid herb; branches ascending, often quadrangular. Leaves opposite, ca. 1.5-3.6 cm long, elliptic - oblong, obovate, or oblong-lanceolate, shortly stalked, acute, dentate or serrulate, dark green above, pale beneath; base obliquely cordate, nerves distinct. Inflorescence of many male flowers, surrounding a solitary female enclosed within involucre. Involucres in axillary and terminal, dense, sessile or peduncled, cymes; stalks ca. 1.5-3 cm long; peduncle very short, cyathium ca. 0.8-1.5 x 0.7-1 cm across. Male flowers very small ca. 5-8 mm; bracteate, numerous flowers. Female flowers ca. 0.8 - 0.12 cm long; single, carpels 3, syncarpous. Ovary superior, placentation axile. Capsule minute about 1 cm across, patently hairy, seeds reddish brown, trigonous.

Fl. & Fr.: January-February.

Occurrence: Very Common.

Vern. Name: Gakhiroti (As.)

Coll. No. J Sarma/ 310 Coll. Date: 11.03.2014

Locality: TU campus.

Euphorbia milli Desm, in Bull. Hist. Nat. Soc. Linn. Bordeaux 1:27.1826; Deb, FTS. 1:334. 1981. *E. splendens* Boj. ex Hook. Bot. Mag. t. 2902. 1829. *E. bojeri* Hook. Bot. Mag. t. 3527.1836 ; Kanjilal *et al.*, FA. 4: 141. 1940.

A small much branched, spiny shrub, attaining ca. 90 - 130 cm, armed with needle like spines. Leaves borne all round the stem, fascicled, ca. 3 - 5 x 1.2 - 1.7 cm, spatulate or obovate. Flowers

showy, crimson, in long peduncled, dichotomous cymes ; each cyathium subtended by 2 hemispheric, cuspidate bright red bracts.

Fl. & Fr.: April. - June.

Occurrence: Common. Cultivated.

Coll. No. J Sarma/749 Coll. Date: 12.2.2016

Locality: TU campus.

Euphorbia nerifolia L., Hort. Cliff. 196; Hook. f., Fl. Brit. Ind. 5: 255. 1887; Kanjilal *et al.*, FA. 4 :140. 1940. *E. ligularia* Roxb. Fl. Ind. 2: 465. 1832.

A glabrous shrub or small tree attaining 4m; branches obscurely 5-angled, with vertical rows of tubercled stipular thorns. Leaves deciduous, crowded at the top of branches, thickly coriaceous ca. 10-18 x 4-6 cm, subacute, glabrous, sessile. Cyathia in small, dichotomous short peduncled cymes; involucre ternate, hemispherical, yellowish, lobes large, reddish; bracteoles fimbriate in short peduncled cyme. Capsule 1 cm, glabrous.

Fl. & Fr.: February - May

Occurrence : Common: Cultivated.

Vern. Name: Siju (As.)

Uses: Treated as holy plant by Bodo community

Coll. No. J Sarma/511 Coll. Date:18.9.2016

Locality: Ouguri Hill.

Euphorbia pulcherrima Willd. Ex Klotzsch., in Otto & Distr. Allegem. Gartenz. 2:27. 1834; Deb, FTS.l :333 .1981. *Poinsettia pulcherrima* Grah., Hook, f., Fl. Brit. Ind. 5: 239. 1887.

Perennial shrub 2-4 meter in height, spreading, branches fistular. Leaves 10-15 cm long, alternate, ovate, elliptic, upper narrower, dentate, pubescent beneath, petioles long. Bracts foliaceous bright red. Cyathia in cymose cymes. Involucre with a large ellipsoid, compressed yellow gland on one side. Inflorescence 2 cm long. Male flowers 0.3 cm long ; filament red, anther bi-celled. Female flowers: 1.2 cm long, pedicelled ; pedicel long; stigma trifid, style short, ovary 3 - loculed, each locule with one ovule. Fruit capsule.

Fl. & Fr.: January – May.

Vern. Name: Lalpat (As.)

Occurance : Common. Cultivated.

Coll. No. J Sarma/460 Coll. Date: 9.5.2016

Locality: Missamari.

Glochidion Forst. et G. Forst.

Glochidion coccinum Muell. Arg. in Linnaca 32 : 60. 1863 ; Hook f., Fl. Brit. Ind. 5 : 308. 1887; Kanjilal *et al.*, FA. 4 : 182. 1940 ; Rao *et.* Rabha, BOBSI8 : 301.1966.

A shrub or small tree; branchlets angular, pubescent. Leaves ca. 7.5 - 17.5 cm long, oblong, elliptic-oblong or lanceolate, bluntly acuminate, entire, coriaceous, glabrous, petiole ca. 0.2 - 0.4 cm long. Flowers, clustered; pedicels slender, long in male flowers , sessile in female; anthers 5 or more; sepals ovate; style conical with a

crenulate hollowed tip, ovary hairy. Capsule depressed, globose, ca. 1 - 1.2 cm across, ca. 16 - 20 lobed; seeds scarlet.

Fl. &Fr.: February-August.

Occurance : More or less Common.

Coll. No. J Sarma/ 707 Coll. Date:3.6.2017

Locality: Nameri NP.

***Jatropha* L.**

Key to the species :

1a. Petals united to the middle; stamens 10 in 2 series

----- ***J. curcus***

1b. Petals almost free ; stamens 8 united in a bundle

---- ***J. gossypifolia***

Jatropha curcus L., Sp. Pl. 1006. 1753 ; Hook, f., 5:383. 1887 Kanjilal *et al.*, FA. 4 : 190. 1940 ; Rao *et* Verma in BOBSI 11 (3 & 4): 411 (1969) 1972.

A soft wooded deciduous shrub or small tree; leaf scars prominent. Leaves alternate, sub orbicular, ovate or broadly cordate, acute or acuminate, 3-5 lobed , ca. 15 - 37 x 7.5-12.5 cm, petioles ca. 4.5 -22.0 cm long. Flowers greenish-yellow in long peduncled cyme. Male flowers: calyx 5-segmented; corolla 5-lobed, campanulate; stamens 10 in 2- series. Female flowers : calyx segmented; corolla 5- lobed; ovary 2-4 celled, cells single ovuled, style 3, connate at the base, stigma 2-fid. Fruit ovoid oblong capsule.

Fl. & Fr.: Whole year.

Occurance : More or less Common.

Vern. Name: Bongali Bhotera (As.)

Uses: Eaten as vegetable

Coll. No. J Sarma/ 709 Coll. Date: 3.6.2017

Locality: Nameri NP.

Jatropha gossypifolia L., Sp. Pl. 1006.1753 ;Hook, f., Fl. Brit. Ind. 5 : 383.1887; Kanjilal *et al.*, FA. 4:190. 1940; Rao *et* Rabha, BOBOSI 8: 301. 1996; Deb, FTS. 1: 340. 1981.

A shrub; young parts pale and deep purple. Leaves 3-5 palmately lobed. Flower purplish red, monoecious. Male flower: calyx 5, gamosepalous, glandular bristles present at the edges of the sepals, ca. 4 mm long; petals ca. 5-6 mm long, glands present at the inner side of the petals; stamens 8 united in a bundles, anther dorsifixed, yellow, 2-celled. Female flower sepals 4, ca. 4mm long; corolla same with male flowers; stamens absent; carpels 3, syncarpous, stigma 3-fid, each 2 lobed.

Fl. & Fr.: March - July.

Occurance : Common.

Vern. Name: Bhotera (As.)

Coll. No. J Sarma/710 Coll. Date: 3.6.2017

Locality: Nameri NP.

Macaranga Thours.

Macaranga denticulata (Bl.) Muell.-Arg. in DC. Prodr. 15(2):1000.1866; Hook, f., Fl. Brit. Ind. 5:446. 1887; Kanjilal *et al.*, FA 4: 218. 1940; Hajra and Jain, Bot. Kaz. Man. 204.1978; Chowdhury *et al.*, Ass. Fl. 270. 2005. *Mappa denticulata* Bl. Bijdr. 625. 1825.

A middle sized evergreen trees, often gregarious with greyish brown bark. Leaves peltate, broad-ovate, acuminate, ca. 15-21 x 9-16 cm, rounded, truncate or cordate at base, thinly coriaceous; lateral nerves 10-12 on either side, petiole ca. 5-17 cm long. Male panicles slender, ca. 10-15 cm long; calyx segments 2-3; stamens 6-30. Female panicles shorter; calyx segments 3-4; ovary 2-locular; ovule 1 per locule. Capsule bluish, didymous.

Fl. & Fr.: February- August.

Occurrence : Very common.

Vern. Name: Jaglo, Morolia (As.)

Uses: Used in many socio-cultural functions

Coll. No. J Sarma/712 Coll. Date:3.6.2017

Locality: Nameri NP.

PLATE 19A

***Mallotus* Lour.**

Mallotus philippinensis (Lamk.) Muell.-Arg. in Linnea 34:196. 1865; Hook, f., Fl. Brit. Ind. 5:442. 1887; Kanjilal *et al.*, Fa 4:216, 1940; Hajra and Jain, Bot. Kaz. Man. 205. 1978; Chowdhury *et al.*, Ass. Fl. 270.2005.

A small sized evergreen tree, young parts rusty. Leaves alternate, ovate, ovate-oblong or lanceolate, ca. 6-14 x 3-7 cm, rounded or acute at base, acuminate at apex; basal nerves 3. Inflorescence brownish or red. Flower small dioecious. Male flowers clustered on

terminal erect spikes. Female flowers usually solitary; ovary 3-locular with red glands; styles 3, papillose. Capsules 3-lobed, red; seeds globose.

Fl.: July- November & Fr.: March- May.

Occurance : Not Very common.

Vern. Name: Joroth, Lochan (As.)

Coll. No. J Sarma/ 717 Coll. Date: 3.6.2017

Locality: Nameri NP.

***Manihot* Miller**

Manihot esculentus Crantz. Inst. Herb. 1: 167. 1766 *M. utilissima* Pohl, Pl. Bras. l.c. 1:32, t 24.1827; Hookr. f, Fl. Brit. Ind. 5 : 239. 1887 Kanjilal *et al.*, FA. 4: 199. 1940.

A shrubs up to 4m tall. Roots tuberalous, elongated. Leaves alternate, peltate or sub-peltate, ca. 5-20 cm across, palmately ca. 3-7 partite; lobes oblong-obovate to oblanceolate, acuminate at open, ca. 8-17 x 1-6 cm across; stipules triangular. Racemes in fascicles of ca. 3-5 x 5-8 cm; male flowers yellow; female flowers greenish yellow. Fruits ellipsoid, 6- winged; seeds stripped.

Fl. & Fr.: April - October.

Occurance : Common.

Vern. Name: Simolu alu (As.)

Uses: Fruit eaten

Coll. No. J Sarma/ 272 Coll. Date: 6.2.2016

Locality: Garo gaon.

***Phyllanthus* L.**

Key to the species:

1a. Fruit berry or drupe:

2a. Fruit a berry, 3.5 - 10 mm in diam. ----- ***P. reticulatus***

2b. Fruit a drupe, 1-3 cm in diam.

3a. Leaves ovate, oblong to elliptic -----***P. acidus***

3b. Leaves linear-oblong to narrowly oblong-elliptic

----- ***P. emblica***

1b. Fruits dry dehiscent, capsular ----- ***P. fraternus***

Phyllanthus acidus (L.) Skeels in U.S.D.A. Bur. Pl. Industr. Bull. 148: 17. 1909; G.L. Webster in J. Arnold Arbor. 38: 66. 1957. *Averrhoa acida* L., Sp. Pl. 428. 1753. *Phyllanthus distichus* (L.) Müll.Arg. in DC., Prodr. 15(2): 413. 1866; Hook.f., Fl. Brit. Ind. 5: 304. 1887.

A deciduous small trees, ca. 5 - 20 m tall. Leaves ovate to ovate-lanceolate or ovate-oblong to oblong-elliptic, obtuse to rounded at base, acute, subacute, apiculate to acuminate at apex, ca. 3 - 9 x 1.5 - 4 cm, often glaucous beneath; lateral nerves 5 - 8 pairs; petioles ca. 1.5 - 4 mm long. Inflorescences cauli- or ramiflorous, racemiform, 2 - 5- together above the leaf scars, ca. 4 - 10 cm long; male cymules many-flowered, female cymules 1- flowered, 1 or 2 per raceme. Male flowers: pedicels 1 - 2 mm long; sepals 2 + 2, ovate to suborbicular; disc glands 4, suborbicular; stamens 4; anthers ellipsoid-oblong, longitudinally dehiscent. Female flowers: pedicels 2 - 4 mm long; sepals 2 + 2, ovate to suborbicular. Fruits in dangling clusters on branches, globose or depressed-globose, yellowish when ripe, pulpy, acidic.

Fl. & Fr. March – September

Occurance : Common.

Vern. Name: Holfoli (As.).

Uses: Fruits eaten

Coll. No. J Sarma/ 722 Coll. Date: 3.6.2017

Locality: Nameri NP

Phyllanthus emblica L., Sp. PL 982.1753; Hook. f., Fl. Brit. Ind. 5; 289. 1887; Chowdhury *et al.*, Ass. FL 270. 2005. *Emblica officinalis* Gaertn., Fruct. 2: 122. t. 108. 1791; Kanjilal *et al.*, FA 4: 159. 1940; Hajra and Jain, Bot. Kaz. Man. 200.1978.

Deciduous small to medium sized trees. Leaves resembling a pinnate leaf, sub-sessile, oblong-elliptic, paler beneath, glabrous ca. 1.0-1.5 x 0.2-0.3 cm. Flowers greenish-yellow, monoecious in axillary clusters. Male flowers: perianth 6; disk glands minute, sometimes absent; stamens 3. Female flower: subsessile, perianth 6; disk copular; ovary tri-celled; ovules 2 in each cell. Fruit a drupe, globose, obscurely 6-lobed. Seeds trigonous.

Fl.: March- May & Fr.: November - March.

Occurance : Common. Cultivated.

Vern. Name: Amlokhi (As.).

Uses: Fruits eaten

Coll. No. J Sarma/ 550 Coll. Date:29.9.2016

Locality: Da-dhora.

Phyllanthus fraternus Webster, Contr. Gray Herb. 176:53. 1955 & in JAA 38:308. 1957; Prain, D., Bengal plants 2:935.1903;

Chowdhury *et al.*, Ass. Fl. 271. 2005. *P. niruri* sensu Hook, f., Fl. Brit. Ind. 5:298.1887.

Small herb, ca. 15 cm high. Leaves resembling a pinnate leaf, subsessile, oblong-elliptic, ca. 0.5-1.0 x 0.2-0.3 cm, green above, glaucous beneath. Flowers axillary, short sub-sessile. Male flower: sepals orbicular; anthers sessile on a short column. Female flower: sepals obovate-oblong; styles minute, very short, free, 2-lobed. Seeds with equal slender ribs.

Fl. & Fr.: Almost whole year.

Occurrence: Common.

Vern. Name: Bhui amlokhi, Mati amlokhi (As.)

Coll. No. J Sarma/ 180 Coll. Date:10.9.2016

Locality: Burhachapori.

Phyllanthus reticulatus Poir., Encycl. (Lamarck) 5:198, 1804; Hook. f, Fl. Brit. Ind. 5: 288; Prain, Bengal plants 2:935.1903; Chowdhury *et al.*, Ass. Fl. 271.2005.

A large shrub with slender branches. Leaves distichous, ca. 2.5- 5 cm long, obovate-oblong to elliptic-obovate, acute or acuminate, pale green beneath, puberulous. Flowers in axillary clusters. Male flower: stamens 5 in 2 series, the three inner filaments connate; anthers erect, slits vertical. Female flower: styles minute; stigma 2-lobed. Fruit a 4-8- celled berry, cells 2-seeded.

Fl. & Fr.: April- May.

Occurrence: common.

Coll. No. J Sarma/223 Coll. Date: 23.5.2016

Locality: Nikamul.

***Ricinus* L.**

Ricinus communis L., Sp. Pl. 1007.1753; Hook, f., Fl. Brit. Ind. 5:457.1887; Kanjilal *et al.*, FA 4: 221. 1940; Hajra and Jain, Bot. Kaz. Man. 206. 1978; Chowdhury *et al.*, Ass. FL 271. 2005.

An evergreen soft-wooded shrub. Leaves peltate, alternate, palmately lobed, membranous, lobes from oblong to linear-acute or acuminate, big, ca. 15-30 cm or more in diameter; petioles ca. 10-20 cm long. Flowers monoecious. Stamens numerous. Ovary 3-locular. Capsule globose, achinate. Seeds with caruncle.

Fl. & Fr.: Almost Whole year.

Occurance: Very common.

Vern. Name: Era goch(As.)

Coll. No. J Sarma/750

Coll. Date: 17.4.2016

Locality: TU campus.

PLATE 19B

***Trewia* L.**

Trewia nodiflora L., Sp. Pl. 1193. 1753 ; Hook, f., Fl. Brit. Ind. 5 : 423. 1887 ; Kanjilal *et al.*, FA. 4. 212. 1940 ; Rao *et* Rabha, BOBSI 8 : 301. 1996 ; Deb, FTS. 1 : 354. 1981 ; Haridasan & Rao, For. Fl. Meghalaya 2:801. 1987.

A middle sized deciduous tree. Leaves ca. 7 - 24 x 4 -11, opposite, broadly ovate cordate, acuminate, entire, glabrescent, petiole ca. 5 -

7 cm long, stipules minute, acute, caducous. Flowers monoecious, greenish yellow; male in long racemes; pedicels short, jointed; female in long peduncles, perianth simple. Male flowers: sepals concave, valvate; stamens numerous, free. Female flowers solitary or ca. 2-3 together; sepals 3-5, broad imbricate caducous; ovary woolly, generally 3-4 celled, style yellowish, stigmatic throughout. Fruit woody, globose, ca. 2 - 3.5 cm across, smooth with pale dots; seeds smooth polished, blackish.

Fl. & Fr.: January - Nov.

Occurance: Common.

Vern. Name: Bhel kor, Kenlow (As.)

Uses: Used as timber

Coll. No. J Sarma/ 723

Coll. Date: 3.6.2017

Locality: Nameri NP.

URTICACEAE Juss.

Gen. Pl. 400. 1789.

India: 21 genus and 114 species; Study area: 5 genera and 5 species

Key to the genera

1a. Hairs stinging

2a. Shrub

----- ***Dendrocnide***

2b. Herb

---- ***Urtica***

1b. Hairs not stinging :

3a. Herbs or under shrubs

4a. Leaves sessile; flowers in heads

----- ***Elatostema***

4b. Leaves petioled; flowers in axillary clusters ----- ***Pouzolzia***

3b. Shrub or trees

--- ***Sarcochlamys***

***Dendrocnide* Miq.**

Dendrocnide sinuata (Bl.) Chew in GBS 21:206. 1965 & 25: 36. 1969; Chowdhury *et al.*, Ass. Fl. 272.2005. *Urtica sinuata* Bl. Bijdr. 505.1825. *U. crenulata* Roxb., Fl. ind. 3:591. 1832. *Laportea crenulata* Wedd., Arch. Mus. Hist. Nat. Paris 9:133. 1856; Hook, f., Fl. Brit. Ind. 5: 550. 1888; Kanjilal *et al.*, FA 4: 281.1940.

A herbaceous stemmed Shrub; young parts clothed with extremely stinging hairs. Leaves ca. 15 -35 x 7.5 - 12.5 cm, ovate or elliptic, about entire, sometimes crenulate at apex, acute or acuminate, clothed with stinging hairs; base rounded or cordate; petiole stout, ca. 2.5-10 cm long. Utricle inflated, white.

Fl.: August- October Fr.: Winter.

Occurance : Common.

Vern. Name: Sorat (As.).

Uses: Flower eaten

Coll. No. J Sarma/ 339 Coll. Date: 20.12.2014

Locality: Singri Hill RF.

PLATE 19D

***Elatostema* Forst.**

Elatostema reptans Hook. f, Fl. Brit. Ind. 5:567. 1888; Hajra and Jain, Bot Kaz. Man. 208. 1978; Chowdhury *et al.*, Ass. Fl. 272. 2005.

A small herb with slender stem, creeping and rooting, pubescent. Leaves falcately oblong, ca. 1 - 3 x 0.5 - 1.5 cm, auricled at base, acute at apex, sharply serrate at margins, nerves ca. 4 - 5 pairs.

Receptacles closely adpressed to the branch. Achenes ellipsoid, ribbed.

Fl. & Fr.: June-July.

Occurance : Not very common.

Coll. No. J Sarma/ 178 Coll. Date: 166.2016

Locality: Nameri NP.

***Pouzolzia* Gaud.**

Pouzolzia zeylanica (L.) Benn. PL Jav. Rar. 1:66. 1838; Hajra and Jain, Bot. Kaz. Man. 209. 1978; Chowdhury *et al.*, Ass. Fl. 273. 2005. *Parietaria zeylanica* L., Sp. Pl. 1052. 1753. *Parietaria indica* L., Mant. Pl. 128. 1767. *Pouzolzia indica* (L.) Gaud. In Freyc. Voy. Bot. 12: 503. 1830; Hook, f., Fl. Brit. Ind. 5: 581.1888.

A herbs of about 30-40 cm tall having branched from the base. Leaves ovate to lanceolate, ca. 1-3 x 0.5-1.5 cm, acute at base, apex obtuse, membranous; basal nerves 3; petiole ca. 5 - 6 mm long. Flowers in axillary clusters. Stamens usually 4. Fruits subequal, ribbed.

Fl. & Fr.: April - June.

Occurance : Common.

Vern. Name: Gakhiroti (As.)

Coll. No. J Sarma/ 729 Coll. Date: 12.8.2017

Locality: Nameri NP.

PLATE 19E

***Sarcochlamys* Gaud.**

Sarcochlamys pulcherrima (Roxb.) Gaud. Bot. voy. Bontite t. 89. 1844-52; Hook. f, Fl. Brit. Ind. 5:588. 1888; Prain, D., Bengal Plants 2: 965.1903; Kanjilal *et al.*, FA 4: 292. 1940; Chowdhury *et al.*, Ass. Fl. 273. 2005. *Urtica pulcherrima* Roxb., Fl. ind. 3: 588. 1832.

Small evergreen tree or large shrub; stem tubercled; branchlets pubescent. Leaves alternate, ca. 20 x 5 cm, narrow, lanceolate, toothed, caudate, rugose, shining and rough above, white beneath; strongly 3-nerved; stipules connate, intrapetiolar. Male flowers: in slender axillary spikes, female clusters in stouter spikes. Female flower: perianth campanulate, constricted, 4-lobed, gibbous. Ovary oblique, stigma sessile. Fruit an oblique achene.

Fl. & Fr.: Winter season.

Occurrence: Rare.

Vern. Name: Mesaki (As.)

Coll. No. J Sarma/ 456 Coll. Date: 9.4.2016

Locality: Sonai Rupai WLS.

***Urtica* L.**

Urtica dioica L., Sp. Pl. 984.1753 ; Hook, f., Fl. Brit. Ind. 5: 548. 1888; Rao in BOBSI. 2:414. 1960 .

An erect herb, ca. 90-150 cm high with profuse stinginghairs, stems grooved. Leaves ovate - cordate, oblong or lanceolate ca. 5-7 x 4-6 cm across, crenate - serrate, acute ; petiole 5 cm long; stipules

usually free, sometimes connate. Flowers in axillary cymose; cymes unisexual, dioecious, rarely androgynous. Male flower: sepals 4, ovate; stamens 4. Female flower: sepals 4, outer usually much smaller; ovary erect Achenes ovoid or oblong, embraced by the sepals.

Fl. & Fr.: December – May.

Occurrence: Not very common.

Coll. No. J Sarma/ 432 Coll. Date: 7.2.2015

Locality: Bhomoraguri RF.

ULMACEAE Mirb.

Elém. Physiol. Vég. Bot. 2: 905. 1815.

India: 5 genera and 18 species; Study area: 1 genus and 1 species

Trema Lour.

Trema orientalis (L.) Bl. Mus. Bot. Lugd.-Bat. 2:62. 1840; Hook, f., Fl. Brit. Ind. 5: 484. 1888; Kanjilal *et al.*, FA 4: 230. 1940; Hajra and Jain, Bot. Kaz. Man. 210. 1978; Chowdhury *et al.*, Ass. Fl. 273. 2005. *Celtis orientalis* L., Sp. PL 1044.1753.

A fast growing and short lived tree, ca. 5-10m tall, twigs adpressed pubescent. Leaves ovate-lanceolate or ovate-oblong, ca. 5-15 x 3-7 cm, obliquely sub cordate or rounded at base, caudate-acuminate at apex, crenulate or serrulate, basal nerves 3 or 5; lateral nerves 3-6 pairs; petioles ca. 5-10 mm. Inflorescence axillary, dense or lax flowered cymes. Perianth pubescent. Fruits ovoid, compressed. Male cyme dense, sometimes lax. Female cyme lax.

Fl. & Fr.: February - August.

Artocarpus chama Buch.- Ham. in Mem. Wem. Soc. 5:331. 1826; Mabberley in Taxon. 26:529. 1977; Chowdhury *et al.*, 273. 2005. *A. chaplasha* Roxb. Fl. ind. 3:525.1832; King in Fl. Brit. Ind. 5:539.1888; Kanjilal *et al.*, FA 4: 267. 1940.

A huge deciduous tree, young shoots dotted with long stiff hairs. Leaves ca. 15- 30 x 7.5 - 17 cm, elliptic-ovate or sub-rotund, entire or minutely dentate-serrate, thinly coriaceous, hispid-pubescent beneath; lateral nerves 6-10 on either side. Leaves of young seedlings and saplings or young shoots pinnatifid or lobed. Receptacle axillary, globose; peduncle long. Male flowers: sessile, mixed with scales; perianth segments bifid at apex; scales hairy above. Fruiting Receptacles globose, ca. 7.5- 10 cm, not lobulated, tuberculate; apice of anthocarp free, pubescent Seeds few, ovoid.

Fl.: March – April & Fr.: Summer season.

Occurance: Common.

Vem. name: Sam Kothal, Sam- goch (As.)

Uses: Used as timber

Coll. No. J Sarma/ 731 Coll. Date: 12.8.2017

Locality: Nameri NP.

Artocarpus heterophyllus Lamk., Encycl. 3:210. 1789; Santapau in BBSI 3: 12. 1962; Chowdhury *et al.*, Ass. Fl. 274. 2005. *A. integrifolia* auct. non. L. f. : King in Fl. Brit. Ind. 5: 541. 1888; *A. integra* Thunb. Kanjilal *et al.*, FA 4: 268. 1940.

A large evergreen tree with large dense crown; young shoots with stiff hairs; barks exfoliating in small thin parts leaving a reddish-yellow colour of the stem. Leaves ca. 7.5- 20 x 3.5- 7.5 cm, elliptic-

obovate, entire, sometimes small lobed in young stage, shortly acuminate, glabrous, dark green and glossy above, pale and rough beneath, base narrowed into the petiole of ca. 2.5 cm long; stipule sheathing. Flowers heads in bud enclosed in large leathery deciduous stipulate sheaths, Syncarp ca. 30- 75 cm long, covered with pointed tubercles hanging on short stalks. Seeds ca. 3 cm long, oblong, farinaceous.

Fl.: February- April & Fr.: May- October.

Occurance: Common. Cultivated.

Vern. name: Kothal (As.)

Uses: Used as timber; fruit eaten ; leaves used in many rituals

Coll. No. J Sarma/753

Coll. Date:19.8.2016

Locality: TU Campus.

Artocarpm lacucha Buch.-Ham. in Mem. Wem. Soc. 5:333. 1826; Mabblerley in Taxon 26:529. 1977; Chowdhury *et al.*, Ass. Fl. 274. 2005. *A. lakoocha* Roxb., Fl. ind. 3: 524. 1832; King in Fl. Brit. Ind. 5:543.1888; Kanjilal *et al.*, FA 4: 268. 1940.

A large deciduous tree with a large spreading crown; young parts tomentose. Barks dark brown, exfoliating in small woody plates, inside reddish, fibrous, scented. Milky juice copious. Leaves ca. 10-30 x 5-16 cm, elliptic or broadly oblong, entire, abruptly and shortly acuminate, acute or obtuse, coriaceous, glabrescent and rough above, softly pubescent beneath; base rounded or obtuse. Receptacle axillary, globose on short pubescent peduncles. Male receptacles: puberulous; perianth segments 2; anthers exerted. Female receptacle: irregularly lobulate; velvety, yellow or orange-red when

ripe, wrinkled or smooth; style protruding. Anthocarp completely united.

Fl.: February- May & Fr.: Summer.

Occurance: Common.

Vern. name: Dewa-Sali, Bohot (As.)

Uses: Used as timber

Coll. No. J Sarma/755 Coll. Date:19.8.2016

Locality: TU Campus.

PLATE 21B

***Ficus* L.**

Key to the species:

Key to the species:

1a. Erect trees

2a. Male, gall and fertile female flowers in the same receptacle

3a. Leaves coriaceous. Receptacle globose or oblong:

4a. Leaves chartaceous, lateral nerves 4-7 on either side

--*F. benghalensis*

4b. Leaves coriaceous; base 3-nerved, lateral nerves numerous

5a. Stipule large. Receptacle greenish-yellow when ripe

----- *F. elastica*

5b. Stipule small. Receptacle yellow or red when ripe

---- *F. benjamina*

3b. Leaves sub-coriaceous. Receptacle globose globose:

----- *F. religiosa*

2b. Male flowers and gall flowers in one receptacle; female flowers in another

6a Leaves ovate-oblong or elliptic oblong; base subcordate or rounded; all parts hispid. -----*F. hispida*

6b. Leaves ovate; base cordate or obtuse or acute; not all parts hispid

7a. Leaves ovate; entire; base acute or obtuse ----*F. racemose*

7b. Leaves broadly ovate, serrate

8a. Young part not hairy -----*F. auriculata*

8b. Young part sparsely hairy ----- *F. hirta*

1b. About Climber -----*F. pumila*

Ficus auriculata Lour., Fl. Cochinch. 666. 1790; Chowdhury *et al.*, Ass. Fl. 274. 2005. *F. Roxburghii* Wall, ex Miq. In Ann. Mus. Ludg.-Bat. 3:296. 1867; King in Fl. Brit. Ind. 5:534.1888; Kanjilal *et al.*, 4:262.1940; Corner, Gard. Bull. Singapore 21 (1): 82. 1965; Berg & Corner in Nooteboom, Fl. Malesiana 17(2): 341.

A middle sized tree with a spreading crown, young part hollow. Leaves ca. 12- 35 x 10-27 cm, broad, ovate – orbicular or mucronate, entire or toothed, pubescent beneath; lateral nerves 3-5 on either side; base deeply cordate; petiole ca. 2.5-15 cm long. Male flowers: tepals 3, broad, stamens 2-3. Gall flowers: pedicillate. Female flowers: style hairy, curved. Receptacles in fascicles on short thick leafless branchlets borne on big branches or trunk, turbinate, depressed, longitudinally 8-12 ribbed, ca. 7.5 cm across, purplish-orange when ripe. Achene minutely tubercled.

Hypenthodia: April- June.

Occurance : Common

Vern. Name: Mon-dimoru, Autha-dimoru (As.)

Coll. No. J Sarma/506 Coll. Date: 17.9.2016

Locality: Thelamara.

Ficus benghalensis L., Sp. Pl. 1059.1753; King, Ann. Roy. Bot. Gard. (Calcutta) 1: 18, t. 13, 81c. 1887 & in Hook. f., Fl. Brit. Ind. 5: 499. 1888; Kanjilal *et al.*, FA 4: 240.1940; Chowdhury *et al.*, Ass. Fl. 274.2005, Fl. Malesiana 17(2): 630. 2005;

A spreading evergreen tree, epiphytic in premature stage; habitually with aerial roots and stilts. Leaves ca. 10- 20 x 5- 12 cm, ovate, broadly elliptic, entire, obtuse or rounded, coriaceous, green and glossy and dotted above, pubescent beneath; lateral nerves 4-7 on either side; petiole ca. 1- 5 cm long. Male, gall and fertile female flowers in the same receptacle. Male flower numerous near the mouth of the receptacle, perianth segments 4, stamen 1. Gall flowers similar to male but with a short style. Female flowers with elongated style. Receptacle globose, sessile, glabrous, rusty tomentose, supported by 3 bracts, scarlet when ripe.

Hypenthodia: April- June.

Occurance : Common

Vern. Name: Bor goch (As.)

Uses: Treated as holy plant in hindu religion

Coll. No. J Sarma/450 Coll. Date:23.4.2016

Locality: Kolamati.

PLATE 20A

Ficus benjamina L., Mant. Pl. 1: 129. 1767; Hook. f., Fl. Brit. Ind. 5: 508. 1888; Kanjilal *et al.*, FA 4:243. 1940; Corner, Gard. Bull. Singapore 21: 21. 1965; Hajra and Jain, Bot, Kaz. Man. 212. 1978; Chowdhury *et al.*, Ass. Fl. 274.2005.

Large tree with drooping branches. Leaves ovate-elliptic, elliptic, coriaceous, rounded or sub-acute at base, abruptly shortly acuminate at apex; lateral nerves many, slender, anastomosing into an intramarginal nerve; petiole ca. 1-1.5 cm long. Male flowers: few, pedicellate, scattered; perianth segments 2; anther almost sessile. Gall flowers: perianth segments 3-4 spatulate. Female flower: sessile; perianth segments spatulate. Receptacle sessile, in pairs, globose, smooth, green when young, red when ripe.

Hypenthodia: October - November.

Occurance : Common

Vern. Name: Jari gach (As.)

Coll. No. J Sarma/764 Coll. Date: 19.8.2016

Locality: TU Campus.

Ficus elastica Roxb. (Hort. Beng. 65. 1814, nom. nud.) ex Hornem., Hort. Bot. Hafn. Suppl. 7. 1819; Roxb., Fl. Ind. 3: 541. 1832; Hook. f., Fl. Brit. Ind. 5: 508. 1888; Kanjilal *et al.*, FA.4: 242. 1940; Deb, FTS. 1: 213.1982.

A huge tree, quite glabrous, with numerous aerial roots. Leaves elliptic oblong, entire, bluntly and abruptly caudate, coriaceous, shining, base rounded or narrowed, petiole stipules, ancelate,

reddish, almost half as long as the leaves. Receptacles enclosed in hooded involucre which falls leaving a saucer-shaped base under the fruit, sessile. Male flowers pedicellate with 4 perianth. Female flowers mostly sessile, style long; gall flowers with 4 perianth. Achenes ovoid, tubercled.

Hypenthodia: March – July.

Occurrence: Common. Cultivated.

Vern. Name: Atha bor (As.)

Uses: Treated as holy plant in Hindu religion

Coll. No. J Sarma/803

Coll. Date: 21.11.2016

Locality: TU Campus.

PLATE 20D

Ficus hirta Vahl, Enum. Pl. 2: 201. 1805; Wight, Icon. Pl. Ind. Orient. 2: t. 672. 1843; King, Ann. Roy. Bot. Gard. (Calcutta) 1: 149, t. 188, 189. 1888 & in Hook. f., Fl. Brit. Ind. 5: 531. 1888; Brandis, Indian Trees 608. 1906; Corner, Gard. Bull. Singapore 21 (1): 45. 1965; Berg & Corner in Nooteboom, Fl. Malesiana 17(2): 113. 2005; Kanjilal *et al.*, FA. 4: 256. 1940

A small tree or shrub. Bark warty with horizontal wrinkles. Leaves 5-12, variable, broad ovate, acuminate, serrate, pubescent or tomentose beneath. Male flower - tepals 4, stamens 2, sometimes 3. Gall flower-tepals 4, globose or ovoid. Female flower- tepals 4, linear lanceolate, style filiform; stigma cylindrical. Achene minutely tuberculate.

Hypenthodia: March – July.

Occurrence: Not very common.

Vern. Name: Khongal dimoru (As.)

Coll. No. J Sarma/551 Coll. Date:12.10.2016

Locality: Debisingh Ghat.

Ficus hispida L. f., Suppl. Pl. 442. 1782; King, Ann. Roy. Bot. Gard. (Calcutta) 1: 116, t. 154, 155. 1888 & in Hook. f., Fl. Brit. Ind. 5: 522. 1888; Kanjilal *et al.*, FA. 4 : 252. 1940; Corner, Gard. Bull. Singapore 21: 89.

Small tree or shrub with hollow branchlets. Leaves opposite, ovate or elliptic-ovate, hispid, rounded or sub cordate at base, acute-apiculate at apex, dentate-serrate at margins; lateral nerves 5-8 pairs; petioles 2-5 cm. Receptacle sub-pyriform, ca 2 cm across, yellow when ripe, paired or fascicled on short branches; peduncles 5-10 mm. Achenes ovoid, minute.

Hypenthodia: Whole year.

Occurance: Common.

Vern. Name: Dumoru (As.)

Coll. No. J Sarma/733. Coll. Date: 12.8.2017

Locality: Nameri.

PLATE 20B

Ficus racemosa L., Sp. Pl. 1060. 1753; Hajra and Jain, Bot. Kaz. Man. 213. 1978; Chowdhury *et al.*, Ass. Fl. 274. 2005, *F. glomerata* Roxb., Pl. Corom. 2:1. 123. 1798; Hook. f., Fl. Brit. Ind. 5:535.1888; Kanjilal *et al.*, FA 4: 264. 1940.

Tree, trunk often buttressed at base. Leaves membranous, oblong-obovate to lanceolate, acute or obtuse at base, caudate or blunt acuminate at apex, basal nerves 3; lateral nerves 4-6 pairs; petiole 2-5 cm long; stipule ovatelanceolate. Syconia pyriform, turbinate at apex, ca 3 cm cross, clustered on tuberculate branches on trunks; bracts 3, ovate, triangular. Achenes minutely tuberculate.

Hypenthodia: April- July.

Occurance: Common.

Vern. Name: Mou Dimoru (As.)

Coll. No. J Sarma/ 660 Coll. Date:12.11.2017

Locality: Sengalimora.

PLATE 20C

Ficus religiosa L., Sp. PL 1059. 1753 ; Wight, Icon. Pl. Ind. Orient. 6: t. 1967. 1853; King, Ann. Roy. Bot. Gard. (Calcutta) 1: 55, t. 67a. 1887 & in Hook. f., Fl. Brit. Ind. 5: 513. 1888; Kanjilal *et al.*, FA. 4 : 246. 1940 ; Rao et Verma in BOBSI11 (3 & 4) : 411, (1969) 1972.

A deciduous tree, trunk irregularly shaped, bark greyish. Leaves orbicular, ovate cordate, entire or undulate, caudate acuminate, coriaceous, glabrous shining above, base cordate to rounded; stipules minute. Receptacle sessile in axillary pairs, sub-globose, darkpurple when ripe. Male flowers: sessile; perianth segments 3; stamen 1. Gall flowers and female flowers : perianth segments 5 ; style short, stigma round.

Hypenthodia: Whole year.

Occurance: Common.

Vern. Name: Aahot (As.)

Uses: Treated as holy plant in hindu religion

Coll. No. J Sarma/913 Coll. Date: 11.11.2017

Locality: Podum Pukhuri.

PLATE 20E

Ficus pumila L., Sp. Pl. 2: 1060. 1753. *Ficus erecta* Thunb., Ficus 9. 1786; King, Ann. Roy. Bot. Gard. (Calcutta) 1: 141. 1888 & in Hook. f., Fl. Brit. Ind. 5: 532. 1888; Brandis, Indian Trees 608.1906.

A root climbing evergreen vine. Leaves distichous, leaf blade on fertile branchlets different in shape than ones on sterile branches, ovate- cordate, abaxially pubescent, base rounded to slightly cordate, margin entire, apex obtuse. Figs axillary on normal leafy branches, solitary, yellowish green to pale red when mature, pear-shaped to globose or cylindric, basally attenuate into a short stalk, apical pore truncate, navel-like, or acuminate. Male flowers: many, in several rows near apical pore, pedicellate; calyx lobes 2 or 3, linear; stamens 2; filaments short. Gall flowers: pedicellate; calyx lobes 3 or 4, linear; style lateral, short. Female flowers: pedicel long; calyx lobes 4 or 5; achenes to globose, with adherent liquid.

Hypenthodia: May–August.

Occurance : More or less common. Cultivated.

Vern. Name: Lota dimoru (As.)

Coll. No. J Sarma/415 Coll. Date: 11.11.2017

Locality: Wild Mahasheer.

PLATE 20F

***Morus* L.**

Morus indica L., Sp. Pl. 986.1753; Hook, f., Fl. Brit. Ind. 5:492. 1888; Hajra and Jain, Bot. Kaz. Man. 216. 1978. *M. acidosa* Griff. , Notul. 4:388. 1851; Kanjilal *et al.*, FA 4: 273.1940.

A moderate sized deciduous tree ca. 3 m tall. Leaves ovate, ca. 2.5-10x1.5- 7.0 cm, rounded or cordate at base, caudate - acuminate at apex, sharply serrate at margins; base 3- nerved. Flowers appears with young leaves. Male spikes: ca. 3 cm long; sepals elliptic, hairy. Female spikes: short, ovoid, ca. 3 mm across; styles long, hairy, connate below, tepals-4. Fruits ovoid or subglobose.

Fl. & Fr.: February- September.

Occurance : Cultivated.

Vern. Name: Nooni gach (As.).

Uses: fruits eaten

Coll. No. J Sarma/ 805 Coll. Date:21.11.2016

Locality: TU campus.

***Streblus* Lour.**

Streblus asper Lour. Fl. Cochinch. 615.1790; Hook. f, Fl. Brit. Ind. 5:489.1888; Kanjilal *et al.*, FA 4:276. 1940; Hajra and Jain, Bot. Kaz. Man. 216. 1978; Chowdhury *et al.*, Ass. Fl. 276. 2005.

Small rigid evergreen trees, ca. 4-8 m high with milky juice. Leaves elliptic, ovate, obovate or rhomboid, cuneate at base, obtuse or abruptly and shortly acuminate at apex, coriaceous, scabrid, ca. 3-10 x 1.5- 4.5 cm; lateral nerves 4-6 on either half. Flowers axillary,

generally dioecious. Perianth campanulate; sepals 3-5, valvate or imbricate. Stamens 4. Style filiform. Berries single -seeded.

Fl. & Fr.: February- July.

Occurance: Common.

Vern. Name: Soura, Seura (As.)

Coll. No. J Sarma/ 494

Coll. Date: 13.8.2016

Locality: Sonabheel TE.

PLATE 19F

FAGACEAE Dumort.

Anal. Fam. Pl. 11, 12. 1829.

India: 5 genera and 40 species; Study area: 1 genus and 2 species

***Castanopsis* Spach.**

Key to the species

1a. Leaves sharply serrate

----- ***C. indica***

1b. Leaves glabrous, entire

----- ***C. armata***

Castanopsis armata (Roxb.) Spach Hist. Nat. Vég. (Spach) 11: 185. 1841, Hook. f, Fl. Brit. Ind. 5:622.1888; Kanjilal *et al*, FA 4: 323. 1940.

A middle sized deciduous tree young part pubescent. Bark thin, greyish brown. Leaves bifarious, lanceolate or oblong-lanceolate, acuminate, entire, thinly coriaceous, shining above, pale beneath. Male spike-erect, solitary, sub-panicled. Female flowers solitary. Ripe fruit ovoid, often depressed, densely spiny; spines in

numerous groups completely covering the wall, sharply apiculate,
Nut solitary.

Fl. : October- December & Fr.: August - December.

Occurrence: Common

Vern. Name: Soru-Singari (As.)

Uses : Used as timber

Coll. No. J Sarma/ 734 Coll. Date: 12.8.2017

Locality: Nameri NP

Castanopsis indica A. DC. J. Bot. 1: 182. 1863, Hook. f, Fl. Brit. Ind. 5: 620.1888; Kanjilal *et al.*, FA 4: 321. 1940.

A middle sized or large tree young part pubescent. Bark greyish , warty. Leaves elliptic-oblong, oblong-lanceolate, acute or acuminate, spinous serrate, coriaceous-glabrous above, rusty-tomentose beneath, later nerve 14-20 on either half. Male spike- in lax panicles, longer than the leaves; stamens 12. Female spike axillary, solitary. Flowers solitary. Ripe involucre thin walled, densely covered with straight spines. Nut ovoid.

Fl. : October- December & Fr.: August - December.

Occurrence: Common

Vern. Name: Singari (As.)

Uses : Used as timber

Coll. No. J Sarma/ 736 Coll. Date: 12.8.2017

Locality: Nameri NP

PLATE 21A

CERATOPHYLLACEAE Gray

Nat. Arr. Brit. Pl. 2: 395, 554. 1822.

India : 1 genus and 4 species; Study area: 1 gene ara and 1 species

***Ceratophyllum* L.**

Ceratophyllum demersum L., Sp. Pl. 992.1753; Hook, f., Fl. Brit. Ind. 5:639.1888; Hajra and Jain, Bot. Kaz. Man. 217.1978; Chowdhury *et al.*, Ass. Fl. 277.2005.

Aquatic herb. Stem densely leafy, green. Leaves of toothed linear segments, 3- 4 cm long, dichotomously forked. Perianth segments greenish white. Fruits ovoid, more or less compressed, 3-4 mm long with 2 decurved spikes at base.

Fl. & Fr.: January- December.

Occurrence: Common

Vern. Name: Sial-bhobora (As.)

Coll. No. J Sarma/ 458 Coll. Date:23.4.2016

Locality: Sonai Rupai WLS

PLATE 21C

4.3 Results & Discussions

4.3.1 General interpretation

As a result of the extensive floristic survey in Sonitpur district, a total of 434 taxa under 107 families and 309 genera of dicot angiospermic plants were systematically enumerated as Flora of Sonitpur (Fl. Son.). The total recorded species constituted about 15.33 % of the Assam's flora [1] and 2.95 % of the total Indian flora [2] (Table 4.1).

Table 4.1: Comparison of Flora of Sonitpur district with Assam's Flora and Flora of India [1, 2].

| Recorded Taxa | Species | Genera | Family |
|---------------------------------------|----------------|---------------|---------------|
| Present study (Flora of Sonitpur) | 434 | 309 | 107 |
| Assam's Flora [1] | 2823 | 1006 | 190 |
| Flora of India [2] | 14663 | 2282 | 203 |
| % of composition to Assam's Flora | 15.33 | 30.61 | 55.26 |
| % of of composition to Flora of India | 2.95 | 13.49 | 51.72 |

Among the 434 species, trees contributed highest having 185 species (about 42%) belongs to 138 genera and 59 families followed by herbs with 107 species (about 25%) under 85 genera and 31 families, shrubs represented with 86 (about 20%) under 62 genera and 29 families, climbers having 42 species (about 10%) under 23 genera and 14 families, aquatic herbs represented with 10 species (about 2%) under 8 genera and 7 families, lianas contributed with 3 species with 3 genera and 3 families (about 0.75 %) while only 1 epiphyte species has been recorded (about 0.25%) (Figure 4.1).

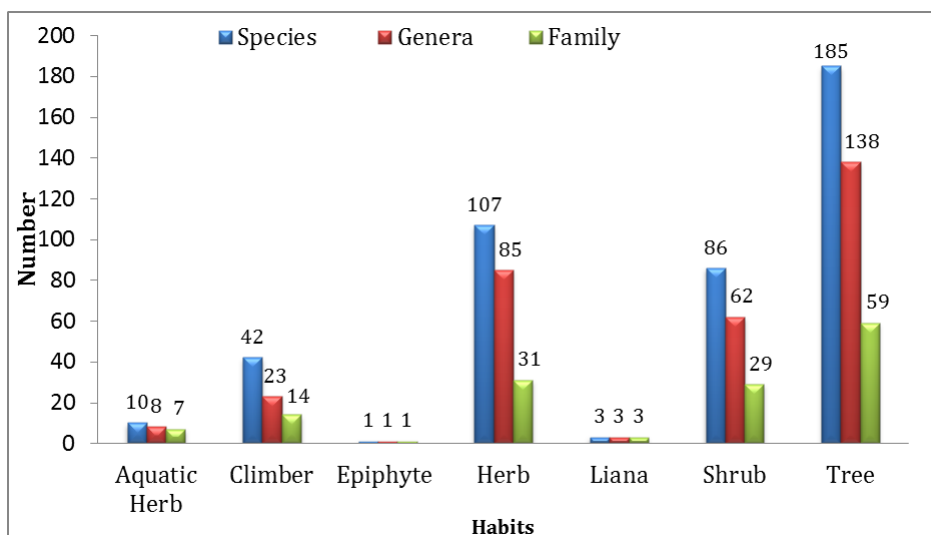


Figure 4.1: Contributions of different habits of plants with respect to taxonomic composition.

Top ten dominant dicot families of the present work has been compared with the Assam's Flora [1] and Flora of India [2] which exhibits four common families i.e. Euphorbiaceae, Asteraceae, Papilionaceae and Rubiaceae. Though the ranks of the families were altered Euphorbiaceae (25 sps.) ranked first in Flora of Sonitpur while it occupies seventh in Flora of India and fifth in Assam's Flora. Asteraceae (22 sps.) is the second dominant family in the present study occupies fourth position in Flora of India and seventh in Assam's Flora. The family Papilionaceae (21 sps.) is well represented, as it is the third largest in Flora of India and Assam's Flora also came in third position in the study area. The seventh dominant family Rubiaceae (14 sps.) represents fourth position in Assam's Flora and fifth in Flora of India (Table 4.2).

Table 4.2: Comparison of top ten dominant families of present record with Assam's Flora and Flora of India.

| Flora of Sonitpur | | | Assam's Flora [1] | | | Flora of India [2] | | |
|-------------------|--------|---------|-------------------|--------|---------|--------------------|--------|---------|
| Family | Genera | Species | Family | Genera | Species | Family | Genera | Species |
| Euphorbiaceae | 16 | 25 | Poaceae | 104 | 303 | Poaceae | 263 | 1291 |
| Asteraceae | 19 | 22 | Orchidaceae | 74 | 293 | Orchidaceae | 184 | 1229 |
| Papilionaceae | 13 | 21 | Papilionaceae | 50 | 199 | Leguminosae | 173 | 1192 |
| Caesalpiniaceae | 6 | 16 | Rubiaceae | 55 | 150 | Asteraceae | 166 | 800 |
| Verbenaceae | 10 | 15 | Euphorbiaceae | 46 | 145 | Rubiaceae | 113 | 616 |
| Moraceae | 4 | 14 | Cyperaceae | 15 | 140 | Cyperaceae | 38 | 545 |
| Rubiaceae | 12 | 14 | Asteraceae | 70 | 135 | Euphorbiaceae | 84 | 523 |
| Solanaceae | 7 | 14 | Acanthaceae | 29 | 98 | Acanthaceae | 92 | 500 |
| Apocynaceae | 11 | 12 | Lamiaceae | 36 | 88 | Lamiaceae | 72 | 435 |
| Convolvulaceae | 4 | 12 | Lauraceae | 11 | 80 | Rosaceae | 40 | 432 |

The top ten genera with respect to number of species was analysed and compared with Assam's Flora. The result showed that the genera *Ficus* (9 sps.) is in the top position of present work as well as in the Assam's Flora followed by *Ipomoea* (8 sps.). *Desmodium* is the tenth largest genera in Assam's Flora and it placed in the fifth position in the present work with 5 species.

All 106 families of the present study area was compared with the Assam's Flora and found that about 22 numbers of families were represented 100% species. Data reveals that the dicot species of Sonitpur contributes about 31% to total genera (almost one third) and 16% of total species are recorded in Assam (Table 4.3). From the data it was found that a total of 53 families represented single genera while 44 families represented single species. Asteraceae represented highest genera with a total number 19 while, maximum species was represented by Euphorbiaceae with 25 species. (Figure 4.2)

Table 4.3: Comparison of families with their respective genera and species with the Assam's Flora.

| Sl. No. | Name of families | Study Area (Fl. Son.) | | Assam's Flora (Ass. Fl.) | | Contribution with Ass. Fl. (%) | |
|---------|------------------|-----------------------|---------|--------------------------|---------|--------------------------------|---------|
| | | Genera | Species | Genera | Species | Genera | Species |
| 1. | Ranunculaceae | 3 | 4 | 7 | 18 | 42.86 | 22.22 |
| 2. | Dilleniaceae | 2 | 2 | 2 | 5 | 100 | 40 |
| 3. | Magnoliaceae | 3 | 3 | 3 | 19 | 100 | 15.78 |
| 4. | Annonaceae | 2 | 3 | 15 | 45 | 13.33 | 6.66 |
| 5. | Menispermaceae | 4 | 5 | 14 | 19 | 28.57 | 26.31 |
| 6. | Nymphaeaceae | 2 | 4 | 2 | 4 | 100 | 100 |
| 7. | Nelumbonaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 8. | Papaveraceae | 1 | 1 | 2 | 4 | 50 | 25 |
| 9. | Brassicaceae | 1 | 1 | 10 | 27 | 10 | 3.70 |
| 10. | Capparaceae | 1 | 1 | 3 | 14 | 33.33 | 7.14 |
| 11. | Cleomaceae | 1 | 4 | 1 | 5 | 100 | 80 |
| 12. | Bixaceae | 1 | 1 | 1 | 1 | 100 | 100 |

| | | | | | | | |
|-----|------------------|---|----|----|----|-------|-------|
| 13. | Caryophyllaceae | 2 | 2 | 8 | 11 | 25 | 18.18 |
| 14. | Portulacaceae | 2 | 2 | 3 | 7 | 66.66 | 28.57 |
| 15. | Tamaricaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 16. | Hypericaceae | 1 | 2 | 1 | 9 | 100 | 22.22 |
| 17. | Clusiaceae | 2 | 5 | 4 | 21 | 50 | 23.80 |
| 18. | Theaceae | 2 | 4 | 7 | 23 | 28.57 | 17.39 |
| 19. | Saururaceae | 1 | 1 | 1 | 7 | 100 | 14.28 |
| 20. | Dipterocarpaceae | 1 | 1 | 3 | 7 | 33.33 | 14.28 |
| 21. | Malvaceae | 6 | 11 | 16 | 53 | 37.50 | 20.75 |
| 22. | Bombacaceae | 1 | 1 | 2 | 3 | 50 | 33.33 |
| 23. | Sterculiaceae | 3 | 4 | 13 | 26 | 23.07 | 15.38 |
| 24. | Tiliaceae | 3 | 4 | 4 | 28 | 75 | 14.28 |
| 25. | Elaeocarpaceae | 2 | 2 | 2 | 21 | 100 | 9.52 |
| 26. | Oxalidaceae | 1 | 2 | 3 | 9 | 33.33 | 22.22 |
| 27. | Averrhoaceae | 1 | 1 | 1 | 2 | 100 | 50 |

| | | | | | | | |
|-----|------------------|----|----|----|-----|-------|-------|
| 28. | Balsaminaceae | 1 | 1 | 2 | 13 | 50 | 7.69 |
| 29. | Rutaceae | 6 | 10 | 14 | 37 | 42.85 | 27.02 |
| 30. | Meliaceae | 5 | 5 | 12 | 28 | 41.66 | 17.85 |
| 31. | Rhamnaceae | 1 | 2 | 7 | 20 | 14.28 | 10 |
| 32. | Vitaceae | 2 | 3 | 6 | 28 | 33.33 | 10.71 |
| 33. | Leeaceae | 1 | 2 | 1 | 8 | 100 | 25 |
| 34. | Sapindaceae | 3 | 3 | 11 | 18 | 27.27 | 16.66 |
| 35. | Hippocastanaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 36. | Anacardiaceae | 4 | 4 | 11 | 19 | 36.36 | 21.05 |
| 37. | Moringaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 38. | Papilionaceae | 13 | 21 | 50 | 199 | 26 | 10.55 |
| 39. | Caesalpiniaceae | 6 | 16 | 9 | 40 | 66.66 | 40 |
| 40. | Mimosaceae | 6 | 7 | 12 | 35 | 50 | 20 |
| 41. | Crassulaceae | 1 | 1 | 3 | 5 | 33.33 | 20 |
| 42. | Droseraceae | 1 | 1 | 1 | 1 | 100 | 100 |

| | | | | | | | |
|-----|------------------|---|----|----|----|-------|-------|
| 43. | Rhizophoraceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 44. | Combretaceae | 2 | 5 | 6 | 23 | 33.33 | 21.73 |
| 45. | Myrtaceae | 4 | 6 | 6 | 23 | 66.66 | 26.08 |
| 46. | Lecythidaceae | 1 | 1 | 2 | 2 | 50 | 50 |
| 47. | Barringtoniaceae | 1 | 1 | 2 | 2 | 50 | 50 |
| 48. | Melastomataceae | 2 | 2 | 8 | 20 | 25 | 10 |
| 49. | Lythraceae | 5 | 6 | 6 | 18 | 83.33 | 33.33 |
| 50. | Sonneratiaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 51. | punicaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 52. | Onagraceae | 1 | 2 | 3 | 6 | 33.33 | 33.33 |
| 53. | Trapaceae | 1 | 1 | 1 | 2 | 100 | 50 |
| 54. | Passifloraceae | 1 | 2 | 3 | 7 | 33.33 | 28.57 |
| 55. | Caricaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 56. | Cucurbitaceae | 8 | 10 | 21 | 38 | 38.09 | 26.31 |
| 57. | Datisceae | 1 | 1 | 1 | 1 | 100 | 100 |

| | | | | | | | |
|-----|----------------|----|----|----|-----|-------|-------|
| 58. | Cactaceae | 1 | 1 | 6 | 9 | 16.66 | 11.11 |
| 59. | Molluginaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 60. | Apiaceae | 5 | 5 | 11 | 14 | 45.45 | 35.71 |
| 61. | Araliaceae | 2 | 2 | 8 | 12 | 25 | 16.66 |
| 62. | Alangiaceae | 1 | 1 | 1 | 3 | 100 | 33.33 |
| 63. | Rubiaceae | 12 | 14 | 55 | 150 | 21.81 | 9.33 |
| 64. | Asteraceae | 19 | 22 | 70 | 135 | 27.14 | 16.29 |
| 65. | Campanulaceae | 1 | 1 | 2 | 4 | 50 | 25 |
| 66. | Plumbaginaceae | 1 | 1 | 1 | 3 | 100 | 33.33 |
| 67. | Myrsinaceae | 2 | 2 | 8 | 40 | 25 | 5 |
| 68. | Sapotaceae | 2 | 2 | 8 | 10 | 25 | 20 |
| 69. | Ebenaceae | 1 | 1 | 2 | 10 | 50 | 10 |
| 70. | Oleaceae | 2 | 2 | 5 | 29 | 40 | 6.89 |
| 71. | Apocynaceae | 11 | 12 | 26 | 39 | 42.30 | 30.76 |
| 72. | Asclepiadaceae | 3 | 3 | 17 | 41 | 17.64 | 7.317 |

| | | | | | | | |
|-----|------------------|----|----|----|----|-------|-------|
| 73. | Menyanthaceae | 1 | 1 | 1 | 2 | 100 | 50 |
| 74. | Hydrophyllaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 75. | Boraginaceae | 2 | 2 | 5 | 7 | 40 | 28.57 |
| 76. | Heliotropiaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 77. | Convolvulaceae | 4 | 12 | 11 | 48 | 36.36 | 25 |
| 78. | Cuscutaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 79. | Solanaceae | 7 | 14 | 14 | 39 | 50 | 35.89 |
| 80. | Scrophulariaceae | 8 | 8 | 24 | 69 | 33.33 | 11.59 |
| 81. | Lentibulariaceae | 1 | 1 | 1 | 6 | 100 | 16.66 |
| 82. | Gesneriaceae | 1 | 1 | 10 | 26 | 10 | 3.84 |
| 83. | Bignoniaceae | 3 | 3 | 15 | 18 | 20 | 16.66 |
| 84. | Acanthaceae | 6 | 10 | 29 | 98 | 20.68 | 10.20 |
| 85. | Thunbergiaceae | 1 | 2 | 2 | 6 | 50 | 33.33 |
| 86. | Verbanaceae | 10 | 15 | 17 | 67 | 58.82 | 22.38 |
| 87. | Lamiaceae | 7 | 9 | 38 | 88 | 18.42 | 10.22 |

| | | | | | | | |
|------|------------------|----|----|----|-----|-------|-------|
| 88. | Plantaginaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 89. | Nyctaginaceae | 3 | 3 | 3 | 4 | 100 | 75 |
| 90. | Amaranthaceae | 6 | 11 | 14 | 31 | 42.85 | 35.48 |
| 91. | Chenopodiaceae | 3 | 3 | 4 | 6 | 75 | 50 |
| 92. | Basellaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 93. | Polygonaceae | 3 | 8 | 5 | 40 | 60 | 20 |
| 94. | Aristolochiaceae | 1 | 1 | 1 | 5 | 100 | 20 |
| 95. | Piperaceae | 2 | 5 | 2 | 20 | 100 | 25 |
| 96. | Saururaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 97. | Lauraceae | 4 | 6 | 11 | 80 | 36.36 | 7.5 |
| 98. | Proteaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 99. | Thymeliaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 100. | Loranthaceae | 1 | 1 | 6 | 13 | 16.66 | 7.69 |
| 101. | Euphorbiaceae | 16 | 25 | 46 | 145 | 34.78 | 17.24 |
| 102. | Urticaceae | 5 | 5 | 14 | 48 | 35.71 | 10.41 |

| | | | | | | | |
|------|------------------|------------|------------|-------------|-------------|--------------|--------------|
| 103. | Ulmaceae | 1 | 1 | 5 | 10 | 20 | 10 |
| 104. | Moraceae | 4 | 14 | 6 | 71 | 66.66 | 19.71 |
| 105. | casuarinaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| 106. | Fagaceae | 1 | 2 | 3 | 22 | 33.33 | 9.09 |
| 107. | Ceratophyllaceae | 1 | 1 | 1 | 1 | 100 | 100 |
| | TOTAL | 309 | 434 | 1006 | 2823 | 30.61 | 15.33 |

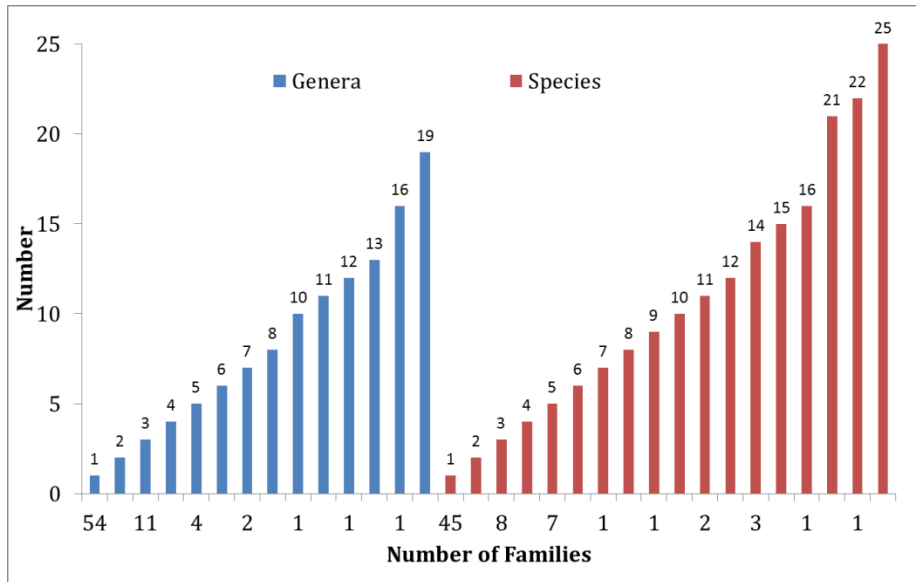


Figure 4.2: Comparison of recorded genera and species with their respective families.

4.3.2 Significant findings of present floristic study

4.3.2.1 New Species

From the present work a new taxa is described as *Capsicum sonitpurensis* J Sarma & G Dutta [3]. [PLATE 15 (A-K)]

4.3.2.2 New distribution record

New distribution record of *Pyrenaria khasiana* var. *lakhimpurensis* was recorded from Sonai Rupai Wildlife Sanctuary [4]. Earlier it is only known from its type locality Dullung Reserve Forest of Assam.

4.3.3 Additional recorded of plant species in Flora of Assam [5].

From the present study a total of 102 species under 42 families and 89 genera are recorded which are not incorporated in Flora of

Assam [5], which contributes about 24 % species of present work (Table 4.4).

Table 4.4: List of the recorded species that are not included in Flora of Assam

| Sl. No | Name of the species | Family |
|--------|--|------------------|
| 1. | <i>Acacia auriculiformis</i> Benth. | Mimosaceae |
| 2. | <i>Aeschynomene aspera</i> L. | Papilionaceae |
| 3. | <i>Ageratum conyzoides</i> (L.)L. | Asteraceae |
| 4. | <i>Alternanthera philoxeroides</i> (Mart.)Griseb. | Amaranthaceae |
| 5. | <i>Alternanthera sessilis</i> (L.)R.Br. ex DC. | Amaranthaceae |
| 6. | <i>Amaranthus viridis</i> L. | Amaranthaceae |
| 7. | <i>Anagalis arvensis</i> L. var. <i>caerulea</i> (L.) Gouan | Asteraceae |
| 8. | <i>Bacopa monnieri</i> (L.) Pennell | Scrophulariaceae |
| 9. | <i>Basella alba</i> L. | Basellaceae |
| 10. | <i>Basella alba</i> L. var. <i>rubra</i> (L.) Stewart. | Basellaceae |
| 11. | <i>Bauhinia scandens</i> L. var. <i>horsfieldii</i> (Miq.) Ohasi | Caesalpiniaceae |
| 12. | <i>Bauhinia vahlii</i> Wight & Am. | Caesalpiniaceae |
| 13. | <i>Callistemon citrinus</i> (Curtis) Stapf. | Myrtaceae |
| 14. | <i>Capsicum sonitpurensis</i> J Sarma & G Dutta | Solanaceae |
| 15. | <i>Cassia siamea</i> Lam. | Caesalpiniaceae |
| 16. | <i>Cayratia trifolia</i> (L.) Domin | Vitaceae |
| 17. | <i>Celosia cristata</i> L. | Amaranthaceae |
| 18. | <i>Centranthera indica</i> Gamble | Scrophulariaceae |

| | | |
|-----|--|------------------|
| 19. | <i>Ceratophyllum demersum</i> L. | Ceratophyllaceae |
| 20. | <i>Cissus quadrangularis</i> L. | Vitaceae |
| 21. | <i>Citrus aurantifolia</i> (Christm. & Panz.)
Swingle | Rutaceae |
| 22. | <i>Cleome gynandra</i> L. | Cleomaceae |
| 23. | <i>Cleome hassleriana</i> Chodat | Cleomaceae |
| 24. | <i>Cleome rutidosperma</i> DC. | Cleomaceae |
| 25. | <i>Clerodendrum inerme</i> (L.) Gaertn. | Verbenaceae |
| 26. | <i>Clerodendrum paniculatum</i> L. | Verbenaceae |
| 27. | <i>Clerodendrum thomsoniae</i> Bal f. | Verbenaceae |
| 28. | <i>Crassocephalum crepidioides</i> (Benth.) S.
Moore. | Asteraceae |
| 29. | <i>Cucumis melo</i> L. | Cucurbitaceae |
| 30. | <i>Cucumis sativus</i> L. | Cucurbitaceae |
| 31. | <i>Cuphea balsamona</i> Cham. & Schlttdl. | Lythraceae |
| 32. | <i>Dendrophthoe falcata</i> (L. f.) Ettingsh. | Loranthaceae |
| 33. | <i>Dischidia nummularia</i> R. Br. | Asclepiadaceae |
| 34. | <i>Eucalyptus maculata</i> Hook. | Myrtaceae |
| 35. | <i>Evolvulus nummularius</i> (L.) L. | Convolvulaceae |
| 36. | <i>Ficus pumila</i> L. | Moraceae |
| 37. | <i>Gnaphalium polycaulon</i> Pers. | Asteraceae |
| 38. | <i>Gomphrena celasioides</i> Mart. | Amaranthaceae |
| 39. | <i>Gossypium arboretum</i> L. | Malvaceae |
| 40. | <i>Grangea maderaspatana</i> (L.) Poir. | Asteraceae |
| 41. | <i>Hedyotis corymbosa</i> (L.) Lamk. | Rubiaceae |
| 42. | <i>Heliotropium indicum</i> L. | Heliotropiaceae |
| 43. | <i>Hibiscus subderifa</i> L. | Malvaceae |
| 44. | <i>Hypericum petioluatum</i> Hook. f. & | Portulacaceae |

| | | |
|-----|---|------------------|
| | <i>Thomsonex Dyer</i> | |
| 45. | <i>Hyptis suaveolens</i> Poit. | Lamiaceae |
| 46. | <i>Impatiens balsamina</i> L. | Balsaminaceae |
| 47. | <i>Ipomoea carnea</i> ssp. <i>fistulosa</i> (Mart, ex Choisy) Austi | Convolvulaceae |
| 48. | <i>Ipomoea obscura</i> (L.)Ker-Gawl | Convolvulaceae |
| 49. | <i>Ipomoea pes-tigridis</i> L. | Convolvulaceae |
| 50. | <i>Kalanchoe pinnata</i> Pers. | Crassulaceae |
| 51. | <i>Lagenaria siceraria</i> (Molena) Standi | Cucurbitaceae |
| 52. | <i>Lagerstroemia speciosa</i> (Linn.) | Lythraceae |
| 53. | <i>Lawsonia inermis</i> L. | Lythraceae |
| 54. | <i>Limnophila heterophylla</i> (Roxb.) Benth | Scrophulariaceae |
| 55. | <i>Lindernia crustacean</i> Muell. | Scrophulariaceae |
| 56. | <i>Ludwigia adscendens</i> (L.)Hara. | Lythraceae |
| 57. | <i>Ludwigia perennis</i> L. | Lythraceae |
| 58. | <i>Manilkara zapota</i> (L.) van Royen | Sapotaceae |
| 59. | <i>Mecardonia procumbens</i> (Mill.)Small. | Scrophulariaceae |
| 60. | <i>Meyna spinosa</i> Roxb. ex Link | Rubiaceae |
| 61. | <i>Mikania micrantha</i> Kunth. | Asteraceae |
| 62. | <i>Mirabilis jalapa</i> L. | Nyctaginaceae |
| 63. | <i>Nigella sativa</i> L. | Ranunculaceae |
| 64. | <i>Nymphaea rubra</i> Roxb. | Nymphaeaceae |
| 65. | <i>Ocimum gratissimum</i> L. | Lamiaceae |
| 66. | <i>Oxalis corniculata</i> L. | Oxalidaceae |
| 67. | <i>Oxalis debilis</i> H.B.K. | Oxalidaceae |
| 68. | <i>Parthenium hysterophorus</i> L. | Asteraceae |
| 69. | <i>Persicaria strigosa</i> (R.Br.)Nakai | Polygonaceae |
| 70. | <i>Phyla nodiflora</i> (L.)Greene | Verbenaceae |

| | | |
|-----|--|-----------------|
| 71. | <i>Phyllanthus acidus</i> (L.)Skeels | Euphorbiaceae |
| 72. | <i>Phyllanthus reticulatus</i> Poir. | Euphorbiaceae |
| 73. | <i>Physalis minima</i> L. | Solanaceae |
| 74. | <i>Plumeria alba</i> L. | Apocynaceae |
| 75. | <i>Plumeria rubra</i> L. var. <i>acutifolia</i> (Poir.)
Bailey | Apocynaceae |
| 76. | <i>Polycarpon prostratum</i> (Forssk.)Asch. &
Schw. | Caryophyllaceae |
| 77. | <i>Portulaca oleracea</i> L. | Portulacaceae |
| 78. | <i>Pseudognaphalium luteo-album</i> (L.)
Hillard et Burt., | Asteraceae |
| 79. | <i>Pyrenaria barringtonifolia</i> (Griffith)
Seem | Theaceae |
| 80. | <i>Pyrenaria khasiana</i> R.N. Paul var.
<i>lakhimpurensis</i> N. Odyuo & D.K. Roy, | Theaceae |
| 81. | <i>Ranunculus laetus</i> Wallich ex D.Don | Ranunculaceae |
| 82. | <i>Rotala rotundifolia</i> (Roxb.) Kochne | Lythraceae |
| 83. | <i>Rumex maritimus</i> L. | Polygonaceae |
| 84. | <i>Samanea saman</i> (Jacq.) Merr | Mimosaceae |
| 85. | <i>Sesbania grandiflora</i> Poir. | Papilionaceae |
| 86. | <i>Sida acuta</i> Burm f. | Malvaceae |
| 87. | <i>Sida cordifolia</i> L. | Malvaceae |
| 88. | <i>Sonchus oleraceus</i> L. | Asteraceae |
| 89. | <i>Spathodea campanulata</i> Beauv | Bignoniaceae |
| 90. | <i>Spilanthes paniculata</i> Wall. ex DC. | Asteraceae |
| 91. | <i>Stellaria media</i> (L.)Vill. | Caryophyllaceae |
| 92. | <i>Synedrella nodiflora</i> (L.)Gaertn. | Asteraceae |
| 93. | <i>Talinum portulacifolium</i> (Forssk.) Asch. | Portulacaceae |

| | | |
|------|---|------------------|
| | ex Sch. | |
| 94. | <i>Terminalia arjuna</i> (Roxb. ex DC.)Wight & Arn. | Combretaceae |
| 95. | <i>Tetrameles nudiflora</i> R. Br. | Datisceae |
| 96. | <i>Torenia diffusa</i> D. Don | scrophulariaceae |
| 97. | <i>Tridax procumbens</i> L | Asteraceae |
| 98. | <i>Urtica dioica</i> L. | Urticaceae |
| 99. | <i>Utricularia exoleta</i> R. Br. | Lentibulariaceae |
| 100. | <i>Wahlenbergia marginata</i> (Thunb.)A.DC. | Campanulaceae |
| 101. | <i>Wrightia coccinea</i> (Lodd.) Sims | Apocynaceae |
| 102. | <i>Youngia japonica</i> (L.)DC. | Asteraceae |

4.3.4 Primitive taxa of the study area

The North Eastern part of India is very rich in biological diversity at community and species diversity with high level of endemism. It is reported that about 50% of the total number of Indian species occurred in this biogeographic zone [6]. Taktajan [7] reported the presence of a large number of primitive flowering plants in North East Region of India. As per Hutchinson [8], *Magnolia pterocarpa* Roxb. is perhaps the most ancient species of living angiosperms.

Consulting literatures [6, 10, 11], 10 species under 9 genera are recorded as primitive species from the present study viz. *Annona squamosa* L., *Cinnamomum tamala* Nees & Eberm., *Litsea glutinosa* (Lour.)Robin., *Litsea salicifolia* Nees, *Houttuynia cordata* Thunb., *Michelia champaca* L., *Magnolia pterocarpa* Roxb., *Talauma roxburghii* Wall., *Polyalthia longifolia* (Sonn.)Thw. and *Tetrameles nudiflora* R.Br.

4.3.5 Rare, Endangered and Threatened (RET) taxa reported from the study area.

The conservation of rare, endangered and threatened (RET) taxa is a global issue in the present context. According to IUCN, about 10% (20000-30000) of the world's total flowering plants were rare or under threats. In India, hundreds of RET taxa have already been recorded and their conservation are suggested [12]. In the "Red Data Book", Nayar and Sastry [13] have enlisted 622 species of vascular plant of Indian flora as RET. It has been reported that many RET species from the entire NE region including Eastern Himalaya is under serious threats and many species has lost [14] their natural habitat. The assessment of RET taxa from Assam and NE region has been worked out by many notable taxonomists [15-23]. Based on the literature, a total 13 species under 12 genera and 11 families (Table 4.5) were recorded as RET taxa from the study area Sonitpur district. Out of this, two species viz. *Kalanchoe pinnata* (Lam.) Pers. (Crassulaceae)[22] and *Rauvolfia serpentine* (L.) Benth. ex Kurz. (Apocynaceae) are listed in CITES. *R. serpentine* is listed in Appendix II of CITES. Among the 13 species 8 species are Vulnerable (VU), 3 species are Rare (R) and 2 is under Endangered (EN) category.

Table 4.5: RET taxa recorded from Sonitpur district.

| Name of the species | Family | Status | Reference |
|----------------------------------|---------------|--------|-----------|
| <i>Magnolia pterocarpa</i> Roxb. | Magnoliaceae | R | [15] |
| <i>Abroma augusta</i> L.f. | Sterculiaceae | VU | [21] |
| <i>Andrographis paniculata</i> | Acanthaceae | VU | [21] |

| | | | |
|---|----------------|----|------|
| (Burm.f.) Nees. | | | |
| <i>Dischidia nummularia</i>
R.Br. | Asclepiadaceae | VU | [21] |
| <i>Euryale ferox</i> Salisb. | Nymphaeaceae | VU | [21] |
| <i>Kalanchoe pinnata</i>
(Lam.)Pers. | Crassulaceae | VU | [22] |
| <i>Rauvolfia serpentine</i> (L.)
Benth. ex Kurz. | Apocynaceae | VU | [23] |
| <i>Boerhavia diffusa</i> L. | Nyctaginaceae | VU | [24] |
| <i>Caesalpinia bonduc</i>
(L.)Roxb. | Caesalpiaceae | R | [24] |
| <i>Cissampelos pareira</i> L. | Menispermaceae | VU | [24] |
| <i>Tinospora cordifolia</i>
(Willd.)Miers | Menispermaceae | EN | [24] |
| <i>Pyrenaria</i>
<i>barringtonifolia</i> (Griffith)
Seem | Theaceae | R | [25] |
| <i>Pyrenaria khasiana</i> R.N.
Paul var. <i>lakhimpurensis</i> | Theaceae | EN | [26] |

4.3.6 Endemic species

It has been estimated that there is about 6100 endemic species in India [27]. The North eastern part of India including Eastern Himalaya harbour a good number of endemic plant species [28, 29]. Though there is no exclusive list of endemic taxa of Assam, from different literature it was estimated that about 102 species belonging to 75 genera are endemic to the state [30]. From the

current study area a total of 4 taxa under 4 genera and 4 families have been identified as endemic to this region (Table 4.6).

Table 4.6: Endemic taxa of Northeastern region of India.

| Name of the species | Family | Distribution | Reference |
|--|---------------|-------------------------------|------------------|
| <i>Mussaenda roxburghii</i>
Hook.f. | Rubiaceae | North East
India | [17] |
| <i>Magnolia pterocarpa</i>
Roxb. | Magnoliaceae | Assam,
Meghalaya | [22] |
| <i>Phoebe goalparensis</i>
Hutch. | Lauraceae | Assam,
Manipur,
Mizoram | [22] |
| <i>Phlogacanthus</i>
<i>tubiflorus</i> Nees | Acanthaceae | Assam,
Tripura | [23] |

4.3.7 Alien taxa of Sonitpur

A significant numbers of plants of foreign origin have invaded the Assam soil which threatens the native species and their natural habitats. Some of them are highly acclimatized and naturalized which makes trouble to differentiate from indigenous plant species [21, 32-35]. From the present study a total of 64 alien taxa have been identified, which contributes about 16 % of total taxa recorded from the area. Among them Asteraceae (10 sps.), Euphorbiaceae (6 sps.), Convolvulaceae (5 sps.), Verbenaceae and Caesalpiniaceae (4 sps. each), Papilionaceae and Caesalpiniaceae (3 sps. each) were dominant exotic taxa among the dicots flora of the Sonitpur district (Table 4.7).

Table 4.7: Alien taxa recorded from the study area.

| Name of the species | Family | Origin | Reference |
|--|-----------------|------------------|------------------|
| <i>Justicia gendarussa</i> Burm | Acanthaceae | China | [21] |
| <i>Sonchus oleraceus</i> (L.)L. | Asteraceae | Europe | [21] |
| <i>Crescentia cujete</i> L. | Bogroniaceae | Tropical America | [21] |
| <i>Bauhinia purpurea</i> L. | Caesalpiniaceae | West Indies | [21] |
| <i>Seena sophera</i> (L.)Roxb. | Caesalpiniaceae | Tropical | [21] |
| <i>Senna tora</i> (L.) Roxb. | Caesalpiniaceae | South America | [21] |
| <i>Carica papaya</i> L. | Caricaceae | Mexico | [21] |
| <i>Ipomoea fistulosa</i> Mart. ex Chois. | Convolvulaceae | Brazil | [21] |
| <i>Ipomoea purpurea</i> (L.)Roth. | Convolvulaceae | America | [21] |
| <i>Euphorbia hirta</i> L. | Euphorbiaceae | Tropical America | [21] |
| <i>Jatropha curcus</i> L. | Euphorbiaceae | Tropical America | [21] |
| <i>Jatropha gossypifolia</i> L. | Euphorbiaceae | Brazil | [21] |
| <i>Phyllanthus acidus</i> (L.)Skeel. | Euphorbiaceae | South America | [21] |

| | | | |
|---|----------------|-------------------|------|
| <i>Ricinus communis</i> L. | Euphorbiaceae | Africa | [21] |
| <i>Melia azedarach</i> L. | Meliaceae | Iran | [21] |
| <i>Morus alba</i> L. | Moraceae | China | [21] |
| <i>Psidium guajava</i> L. | Myrtaceae | America | [21] |
| <i>Oxalis corniculata</i> L. | Oxalidaceae | Southern Europe | [21] |
| <i>Clitoria ternatea</i> L. | Papilionaceae | Tropical America | [21] |
| <i>Tamarindus indica</i> L. | Papilionaceae | Tropical | [21] |
| <i>Portulaca oleracea</i> L. | Portulacaceae | North America | [21] |
| <i>Ziziphus mauritiana</i> Lam. | Rhamnaceae | China | [21] |
| <i>Datura metel</i> L. | Solanaceae | America | [21] |
| <i>Stachytarpheta jamaicensis</i> (L.)Vahl. | Verbenaceae | Tropical | [21] |
| <i>Lantana camara</i> L. | Verbenaceae | Tropical, America | [21] |
| <i>Amaranthus spinosus</i> L. | Amaranthaceae | Tropical America | [32] |
| <i>Annona squamosa</i> L. | Annonaceae | Tropical America | [32] |
| <i>Calotropis gigantea</i> (L.)Dryand. | Asclepiadaceae | Tropical Africa | [32] |

| | | | |
|---|-----------------|------------------|------|
| <i>Mikania micrantha</i> Kunth. | Asteraceae | Tropical | [32] |
| <i>Chromolema odorata</i> (L.)King & Robins. | Asteraceae | Tropical America | [32] |
| <i>Crassocephalum crepidioides</i> (Benth.) S.Moore | Asteraceae | America | [32] |
| <i>Emilia sonchifolia</i> (L.)DC. ex Wight. | Asteraceae | Africa | [32] |
| <i>Xanthium indicum</i> Koenig. ex Roxb. | Asteraceae | Europe and | [32] |
| <i>Heliotropium indicum</i> L. | Boraginaceae | South America | [32] |
| <i>Bauhinia variegata</i> L. | Caesalpiniaceae | China | [32] |
| <i>Chenopodium album</i> L. | Chenopodiaceae | Mexico | [32] |
| <i>Ipomoea hederifolia</i> L. | Convolvulaceae | Tropical America | [32] |
| <i>Evolvulus nummularis</i> (L.) L. | Convolvulaceae | Tropical America | [32] |
| <i>Croton bonplandianum</i> Baill. | Euphorbiaceae | South America | [32] |
| <i>Mimosa pudica</i> L. | Mimosaceae | Brazil | [32] |
| <i>Crotalaria pallida</i> Ait. | Papilionaceae | Tropical America | [32] |

| | | | |
|--|------------------|---------------------------|------|
| <i>Passiflora foetida</i> L. | Passifloraceae | Brazil | [32] |
| <i>Grevillea robusta</i> A.Cunn. ex R.Br. | Proteaceae | Eastern Coastal Australia | [32] |
| <i>Cardiospermum halicacabum</i> L. | Sapindaceae | South America | [32] |
| <i>Scoparia dulcis</i> L. | Scrophulariaceae | South America | [32] |
| <i>Alternanthera philoxeroides</i>
(Mart.)Griseb. | Amaranthaceae | Brazil | [33] |
| <i>Alternanthera sessilis</i>
(L.)R.Br. ex DC. | Amaranthaceae | Tropical America | [33] |
| <i>Eclipta prostrata</i> (L.)L. | Asteraceae | South America | [33] |
| <i>Parthenium hysterophorus</i> L. | Asteraceae | Tropical | [33] |
| <i>Clerodendrum philippinum</i> Schauer. | Verbenaceae | China and Japan | [33] |
| <i>Duranta repens</i> L. | Verbenaceae | Central America | [33] |
| <i>Catharanthus roseus</i> (L.)G.Don. | Apocynaceae | Madagascar | [34] |
| <i>Plumeria rubra</i> L. | Apocynaceae | West Indies | [34] |
| <i>Ageratum conyzoides</i> (L.)L. | Asteraceae | South America | [34] |

| | | | |
|--|-----------------|------------------|------|
| <i>Ipomoea quamoclit</i> L. | Convolvulaceae | Tropical America | [34] |
| <i>Kalanchoe pinnata</i> (Lamk.) Pers. | Crassulaceae | Tropical Africa | [34] |
| <i>Lawsonia inermis</i> L. | Lythraceae | North America | [34] |
| <i>Mirabilis jalapa</i> L. | Nyctaginaceae | Tropical | [34] |
| <i>Jasminum sambac</i> (L.) Ait. | Oleaceae | Arabia | [34] |
| <i>Tridax procumbens</i> (L.) L. | Asteraceae | South America | [35] |
| <i>Senna alata</i> (L.) Roxb. | Caesalpiniaceae | Tropical | [35] |
| <i>Urena lobata</i> L. | Malvaceae | Africa | [35] |
| <i>Acacia auriculiformis</i> Benth. | Mimosaceae | Australia | [35] |
| <i>Argemone mexicana</i> L. | Papaveraceae | Tropical America | [35] |

4.3.8 Utilization of recorded taxa from Sonitpur district

Among the 433 recorded dicot taxa from the present study, it has been found that many of them are highly utilized in different purposes by the tribal groups living in and around the forests of study area. Depending upon the utility of the taxa it may be divided into many groups as Timber yielding plants, Medicinal plants, Edible plants, Ornamental plants and plants used in various ritual activities.

4.3.8.1 Timber yielding plants

The plants that are used as timber by the local people are *Albizia procera* Benth., *Albizia lebbek* (L.) Benth., *Albizia lucidior* (Steud.) *Bischofia javanica* Bl., *Castanopsis indica* A. DC., *Castanopsis armata* (Roxb.) Spach., *Chukrasia tabularis* A. Juss., *Dalbergia sissoo* Roxb. ex DC., *Dillenia indica* L., *Elaeocarpus floribundus* Bl., *Gmelina arborea* Roxb., *Lagerstroemia speciosa* (L.) Pers., *Magnolia pterocarpa* Roxb., *Mangifera indica* L., *Semecarpus anacardium* L.f. *Gmelina arborea* Roxb., *Azadirachta indica* A. Juss., *Michelia champaca* L., *Phoebe goalparensis* Hutch., *Schima wallichii* (DC)Korth., *Shorea robusta* Gaertn. f., *Tectona grandis* L. f., *Toona ciliata* M. Roem., *Trewia nudiflora* L. *Artocarpus heterophyllus* Lam., *Artocarpus chama* Buch.-Ham., *Artocarpus lacucha* Buch.-Ham. and *Duabanga grandiflora* (DC.) Walp.

4.3.8.2 Medicinal plants

Use of plants as medicine for the treatment of various health ailments is one of the integral part of the socio-cultural practices for numbers of tribal/indigenous communities. The traditional

herbal medicinal knowledge of these communities keeps alive the spirit of herbal medicine practices. In the present study also we have undertaken series of investigations to understand the utility of medicinal plants used by the communities living in nearby forest area. The details reports of study on medicinal plants are discussed in the Chapter 5 exclusively.

4.3.8.3 Wild Edible Plants (WEP) used by the community

Among the recorded species from the study area, it has been found that a good number of species have been consumed by the tribal communities living in and around the forest areas. Among the documented taxa edible fruit are viz. *Aegle marmelos* (L.) Corr., *Antidesma acidum* Retz., *Artocarpus heterophyllus* Lam., *Averrhoa carambola* L., *Baccaurea ramiflora* Lour., *Dillenia indica* L., *Garcinia pedunculata* Roxb., *Garcinia xanthochymus* Hook. f. ex Anders., *Garcinia lancaefolia* Roxb., *Garcinia cowa* Roxb., *Syzygium cumini* (L.) Skeels, *Syzygium jambos* (L.) Alst., *Phyllanthus acidus* (L.) Skeels, *Phyllanthus emblica* L., *Piper nigrum* L., *Piper longum* L., *Psidium guajava* L., *Terminalia bellirica* (Gaertn.) Roxb., *Terminalia chebula* Retz., *Ziziphus mauritiana* Lam., *Sapindus mukorossii* Gaertn., *Mangifera indica* L., *Moringa oleifera* Lam., *Morus alba* L., *Nymphaea nouchali* Burm.f., *Solanum anguivi* Lam., *Solanum torvum* Swartz., *Solanum nigrum* L. and *Spondias pinnata* (L. f.) Kurz. Edible leafy plants are viz. *Alternanthera philoxeroides* (Mart.) Griseb., *Amaranthus spinosus* L., *Amaranthus viridis* L., *Amaranthus tricolor* L., *Annona squamosa* L., *Basella alba* L., *Centella asiatica* (L.) Urban, *Coccinia grandis* (L.) Voight, *Dendrocnide sinuata* (Bl.) Chew, *Drymaria diandra* Bl., *Eryngium*

foetidum L., *Euryale ferox* Salisb., *Houttuynia cordata* Thunb., *Ipomoea aquatica* Forssk., *Jatropha curcas* L., *Justicia adhatoda* L., *Limnophila aromatica* (Lam.) Merr., *Phyllanthus nodiflorus* (L.) Green., *Manihot esculenta* Crantz, *Persicaria microcephala* (D. Don.) Sasaki., *Oxalis corniculata* L., *Stellaria media* (L.) Vill. and *Spilanthes paniculata* Wall. ex DC. While some other plants are used for edible flowers, barks, leaves, etc, like *Cinnamomum tamala* (Buch.-Ham.) Nees & Eberm., *Murraya koenigii* (L.) Spreng., *Nyctanthes arbor-tristis* L., *Oenanthe javanica* DC., *Paederia foetida* L., *Passiflora foetida* L., *Phlogacanthus thyrsoiflorus* Nees, *Phlogacanthus curviflorus* (Wall.) Nees, *Vitex negundo* L., *Saraca asoca* (Roxb.) Willd., *Terminalia arjuna* (Roxb. ex DC.) Wight & Arn. And *Zanthoxylum oxyphyllum* Edgw.

4.3.8.4 Ornamental plants

Many of the recorded species have ornamental value. Among them *Bauhinia purpurea* L., *Bauhinia variegata* L., *Beaumontia grandiflora* Wall., *Delonix regia* (Bojer) Raf., *Cassia siamea* Lam., *Cassia nodosa* Buch.-Ham. ex Roxb., *Cassia fistula* L., *Jasminum sambac* (L.) Ait., *Murraya paniculata* (L.) Jack., *Plumeria alba* L. and *Plumeria rubra* L. var. *acutifolia* (Poir.) Bailey are small to medium trees. *Clerodendrum colebrookianum* Walp., *Clerodendrum philippinum* Schauer, *Clerodendrum thomsoniae* Bal f., *Ixora acuminata* Roxb., *Ixora coccinea* L., *Mussaenda glabra* Vahl., *Mussaenda roxburghii* Hook. f., *Pavetta crassicaulis* Bremek. *Holmskioldia sanguinea* Retz., *Tabernaemontana divericata* (L.) R. Br. ex Roem. & Schult., are shrubs and small trees. *Impatiens balsamina* L. is the herb and *Thunbergia coccinea* Wall. Tent.,

Thunbergia alba S. Moore, *Thunbergia grandiflora* (Roxb. ex Rottl.) Roxb., *Hoya parasitica* Wall. are climbers.

4.3.8.5 Plants used in various ritual and socio-cultural activities

It has been found that number of the recorded taxa has been utilized by different communities of Sonitpur district in relation to their socio-cultural and rituals activities. The plants species are viz. *Aegle marmelos* (L.)Corr., *Clitoria ternatea* L., *Elaeocarpus floribundus* Bl., *Elaeocarpus sphaericus* (Gaertn.) K. Schum, *Flemingia strobilifera* (L.) Ait., *Ficus religiosa* L., *Ficus elastica* Roxb., *Ficus benghalensis* L., *Litsea salicifolia* (Roxb. ex Nees)Hook. f., *Mangifera indica* L., *Nelumbo nucifera* Gaertn., *Ocimum basilicum* L., *Ocimum tenuiflorum* L., *Mimusops elengi* L., *Zizyphus mauritiana* Lamk., *Zizyphus rugosa* Lamk., *Saraca asoca* (Roxb.) Willd, *Butea monosperma* (Lam.) Taub., *Artocarpus heterophyllus* Lam., *Macaranga denticulata* (Bl.) Muell.-Arg., *Talauma hodgsonii* Hook. f. & Th., *Euphorbia nerifolia* L. are some of the plants that are considered as sacred plants and used for various purposes.

4.3.9 Phytogeographical affinities of the recorded taxa

An understanding on distribution pattern of plant species is very important as it reflects the endemism of a species. Phytogeographically, the Eastern Himalaya including North Eastern states forms a distinct floristic region. This region is the meeting ground of the Indo- Malayan, Afro-tropic and Indo-Chinese biogeographical dominions as well as the Himalayan and

Peninsular Indian elements [36]. As per Chowdhery and Murti [10] there are 11 phytogeographic regions in India, each of which has its uniqueness in ecosystem, vegetation and floristic composition. Sonitpur district, falls under the floristic province of Assam. Some renowned workers [37-39] treated Assam as distinct phytogeographical area due to its distinctive flora. It was observed that the Flora of Sonitpur district comprise of different phytogeographic elements viz. Indian, Indo-Malesia, Indo-Myanmar, Indo-Lankan, Indo-African, Indo-China, Tropical Asian, Neotropical, Paleotropical, Pantropical, Australia, West Indies, Vietnam, Mexico, Peru, Brazil and Madagascar [22, 40-47].

4.3.9.1 Indian elements

Many dicot taxa from Sonitpur district showed affinity to different phytogeographic regions of India. Some of them are *Magnolia pterocarpa* Roxb., *Averrhoa carambola* L., *Citrus aurantium* L., *Citrus medica* L., *Citrus maxima* Merr., *Dalbergia sissoo* Roxb. ex DC., *Dalbergia rimosa* Roxb., *Mussaenda roxburghii* Hook. and *Plumeria rubra* L.

4.3.9.2 Indo-Malesia elements

The species which shows Indo-Malesian affinities are *Dillenia indica* L., *Tetracera sarmentosa* (L.)Vahl., *Michelia champaca* L., *Cissampelos pareira* L., *Stephania japonica* (Thunb.) Miers, *Mesua ferrea* L., *Pterospermum acerifolium* (L.)Willd., *Sterculia foetida* L., *Elaeocarpus floribundus* Bl., *Biophytum sensitivum* DC., *Impatiens balsamina* L., *Hydrocera triflora* (L.)Wight. & Arn., *Glycosmis*

mauritiana (Lam.)Tanaka, *Murraya paniculata* (L.)Jack., *Zanthoxylum oxyphyllum* Edgw., *Cissus quadrangularis* L., *Aesculus assamica* Griff., *Lanea coromandelica* (Houtt.)Merr., *Mangifera indica* L., *Rhus chinensis* Mill., *Spondias pinnata* (L.f.)Kurz., *Atylosia. elongata* Benth., *Desmodium caudatum* (Thunb.)DC., *Desmodium laxiflorum* DC., *Mucuna pruriens* (L.)DC., *Tephrosia purpurea* (L.)Pers., *Bauhinia variegata* L., *Albizia lucidior* (Steud.)Niel., *Clerodendrum philippinum* Sch. and *Euphorbia nerifolia* L.

4.3.9.3 Indo-Myanmar elements

Species showing Indo-Myanmar element are *Garcinia xanthochymus* Hook.f. & Ande., *Sterculia villosa* Roxb., *Canarium benghalense* Roxb., *Azadirachta indica* Juss., *Chickrassia tabularis* Juss., *Melia azedarach* L., *Toona cilata* Roem., *Walsura robusta* Roxb., *Zizyphus rugosa* Lam., *Sygygium jambos* (L.)Alst., *Coffea bengalensis* Roxb., *Morinda angustifolia* Roxb., *Strobilanthes scaber* Nees., *Baliospermum calycinum* Muell.-Arg., *Croton joufra* Roxb., *Oreocnide integrifolia* (Gaud.)Miq., *Artocarpus chama* Buch.-Ham., *Ficus auriculata* Lour., *Ficus elastica* Roxb., *Ficus rumphii* Bl. and *Morus alba* L.

4.3.9.4 Indo-Lankan elements

Some of the Indo-Lankan elements of the study area are *Nymphaea rubra* Roxb. ex Andr., *Murraya koenigii* (L.) Spreng., *Dysoxylum binectariferum* (Roxb.) Hook. f., *Aeschynomene aspera* L., *Terminalia arjuna* Wight & Arnott, *Coccinia grandis* (L.) Voig., *Ixora acuminata*

Roxb., *Pavetta crassicalis* Brenek, *Limnophila sessiliflora* Bl., *Oroxylum indicum* Vent., *Andrographis paniculata* Wall. ex Nees, *Rungia parviflora* (Retz.) Nees., *Callicarpa arborea* Roxb., *Clerodendrum inerme* (L.) Gaertn., *Vitex negundo* L. and *Litsea salicifolia* Nees.

4.3.9.5 Indo-African elements

Some of the taxa showing Indo-African elements are *Leea asiatica* (L.) Ridsd., *Ammania baccifera* L., *Lawsonia inermis* L., *Ludwigia perennis* L., *Wahlenbergia marginata* (Thunb.) DC., *Justicia gendarussa* Burm. and *Ricinus communis* L.

4.3.9.6 Indo-China elements

Some of the Indo-China elements are *Euryale ferox* Salisb., *Garcinia pedunculata* Roxb., *Schima wallichii* (DC.) Korthal., *Abroma augusta* L.f., *Micromelum minutum* (Forst. f.) Wight & Arnott., *Butea monosperma* (Lam.) Taub., *Milletia pachycarpa* Benth., *Jasminum sambac* Ait., *Merremia vitifolia* (Burm.f.) Hall. f., *Solanum anguivii* Lam., *Mazus pumilus* (Burm.f.) Steenis, *Torenia diffusa* D. Don. and *Castanopsis indica* A. DC.

4.3.9.7 Tropical Asian elements

Species of the Tropical Asian elements are *Tinospora cordifolia* (Willd.) Miers., *Bombax ceiba* L., *Bauhinia purpurea* L., *Terminalia chebula* Retz., *Careya arborea* Roxb., *Rotala rotundifolia* (Buch.-Ham. ex Roxb.) Koehn., *Ludwigia adscendens* (L.) Hara, *Alstonia*

scholaris R. Br., *Rauvolfia serpentina* Benth. ex Kurz., *Tabernaemontana divaricata* R.Br., *Lindernia antipoda* (L.)Alst. and *Euphorbia thymifolia* L.

4.3.9.8 Neotropical elements

Some of the Neotropical elements are *Annona squamosa* L., *Cleome rutidosperma* DC., *Bixa orellana* L., *Oxalis debilis* H.B.K., *Clitorea ternatea* L., *Senna tora* (L.)Roxb., *Senna alata* L., *Tamarindus indicus* L., *Mimosa pudica* L., *Psidium guajava* L., *Passiflora foetida* L., *Opuntia vulgaris* Mill., *Eryngium foetidum* L., *Chromolaena odorata* (L.)King & Robin, *Mikania micrantha* H.B.K., *Parthenium hysterophorus* L., *Tridax procumbens* L., *Thevetia peruviana* Merr., *Evolvulus nummularius* L., *Ipomoea aquatica* Forsk., *Ipomoea purpurea* (L.)Roth., *Ipomoea fistulosa* Mart. ex Choisy, *Ipomoea hederifolia* L., *Ipomoea obscura* (L.)Ker.-Gawl., *Ipomoea quamoclit* L., *Solanum viarum* Dunal, *Mecardonia procumbens* (Mill.)Sm., *Scoparia dulcis* L., *Crescentia cujete* L., *Duranta repens* L., *Lantana camara* L., *Alternanthera philoxeroides* Griseb., *Amaranthus spinosus* L., *Croton bonplandianus* Baill. and *Euphorbia hirta* L.

4.3.9.9 Paleotropical elements

Some Paleotropical elements are *Drymaria diandra* Bl., *Zizyphus mauritiana* Lam., *Caesalpinia bonduc* (L.)Roxb., *Kalanchoe pinnata* (Lam.)Pers., *Trewia nudiflora* R. Br., *Blumea lacera* (Burm.f.)DC., *Bacopa monnieri* (L.)Penn., *Ocimum basilicum* L., *Persicaria barbata*

(L.)Hara., *Persicaria glabra* (Willd.)Gomez., *Phyllanthus reticulatus* Poiret and *Asparagus racemosus* Willd.

4.3.9.10 Pantropical elements

Some of the Pantropical elements are *Cleome gynandra* L., *Cleome viscosa* L., *Portulaca oleracea* L., *Sida acuta* Burm.f, *Sida cordifolia* L., *Sida rhombifolia* L., *Urena lobata* L., *Triumfetta rhomboidea* Jacq., *Cardiospermum halicacabum* L., *Abrus precatorius* L., *Aeschynomene indica* L., *Sesbania sesban* (L.)Merr., *Senna sophora* (L.)Roxb., *Hedyotis corymbosa* L., *Ageratum conyzoides* L., *Eclipta prostrata* L., *Elephantopus scaber* L., *Gnaphalium polycaulon* Pers., *Vernonia cinerea* (L.)Less., *Plumbago zeylanica* L., *Hydrolea zeylanica* (L.)Vahl., *Heliotropium indicum* L., *Ipomoea mauritiana* Jacq., *Ipomoea pes-tigridis* L., *Merremia umbellata* (L.) Hall.f., *Solanum torvum* Sw., *Limnophyla heterophylla* Benth., *Stachytarpheta jamaicensis* (L.)Vahl., *Ocimum gratissimum* L., *Plantago erosa* Wall., *Boerhavia diffusa* L., *Achyranthes aspera* L., *Alternanthera sessilis* R.Br., *Amaranthus viridis* L., *Chenopodium album* L. and *Persicaria hydropiper* (L.) Spach.

4.3.9.11 Cosmopolitan

Some cosmopolitan elements are *Oxalis corniculata* L., *Cajanus cajan* (L.) Millsp., *Trapa natans* L., *Sonchus oleraceus* L., *Phyllanthus nodiflora* L. and *Ceratophyllum demersum* L.

A few species also showed affinities to:

Australia: *Acacia auriculiformis* A.Cun. ex Benth. *Callistemon citrinus* (Curtis) Skeels, *Eucalyptus maculata* Hook.f. and *Trema orientalis* (L.) Bl.

West Indies: *Argemone mexicana* L. and *Holmskioldia sanguinea* Retz.

Vietnam: *Dicliptera roxburghiana* Nees and *Justicia adhatoda* L.

Mexico: *Manihot esculenta* Crantz.

Peru: *Mirabilis jalapa* L.

Brazil: *Jatropha gossypifolia* L.

Madagascar: *Delonix regia* (Boj. ex Hook.) Rafin.

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