

Floristic Studies

6.1 Introduction

Darjiling area is a part of the IUCN recognised Himalayan Hotspot. The richness of the flora of this region is well known and that has been discussed under the General Introduction (Chapter 1). Tea is a plantation crop and the natural habit of *Camellia sinensis* is arboreal i.e. tree of about 10 m tall. However, in the plantation the height of plants is manually maintained at around 1m only. Their branches produce a crown like structure and the crowns of tens of thousands of such plants in plantations forms almost a continuous cover over the soil. This actually creates the problem by cutting the sunlight from reaching to the soil surface.

Tea Gardens were established after clearing very large tracts of vegetation those were floristically extremely rich. After the establishment of Tea saplings, weeds start growing there, either from the pre-existing seeds in the soil or from the freshly arrived seeds and/or propagules from the nearby natural vegetations.

It is also expected that seeds or propagules from all types of plants will enter the plantations. But the environment inside a plantation is different from that of the outer natural vegetation. Regular cleaning of weedy plants is the main problem for the survival of majority of the plants. Then the non-availability of direct sunlight is another major problem. So, only a limited number of species of plants are expected to grow there. Again, whatever may be the density of Tea plants there are always some open spaces available in such plantations. Roadsides, gaps created by the death of some plants, very steep surface where plantations could not be made, exposed rocky areas etc. where many native wild species can grow successfully.

The locally prevalent favourable or conducive environment is much suitable for the successful occurrence of many species in apparently difficult-looking habitats.

6.2. Selected Gardens

For the preparation of weed-flora of the Tea Gardens of Darjiling area four gardens from Terai and three gardens from Hills were selected as it has been done for other works in the present dissertation. Gardens from Terai are (1) Kamalpur Tea Estate, (2) Hansqua Tea Estate, (3) Matigara Tea Estate and (4) Mohurgong & Gulma Tea Estate. And, the three gardens from Hills are (v) Makaibari Tea Estate, (vi) Tamsong Tea Estate and (vii) Soom Tea Estate.

6.3. Methods of Survey

The weed flora of these Tea Gardens has been prepared through random sampling in three different seasons for three consecutive years, starting from 2002 to 2004. The three different seasons selected for survey were (i) winter, (ii) Pre-monsoon and (iii) Post-monsoon. This has been done to get a holistic picture of the weed flora including all types of perennial and seasonal elements present in these gardens. Gardens were visited regularly for the collection of all relevant field data including the time of flowering, fruiting, leaf flash, uses etc. Further details about the methodology have been discussed in *Materials and Methods* (Chapter 4).

6.4. Enumeration of the Flora

The readers and/or users of this weed flora are mostly non-taxonomists and for this reason, except for the three higher taxa, namely Divisions, Classes and Subclasses, all other taxa starting from Families, then to Genera, Species and Varieties present in this flora are arranged alphabetically. Different steps in the Enumeration are as follows:

I. *Names*: As far as possible, up-to-date correct nomenclature has been adopted for the plants. A correct name is followed by a Basionym if any and the common Synonym(s).

II. *Author Citation*: Proper Author Citation has been provided to all taxa, family to variety of Forma as per the effective ICBN. As far as possible, full name of most of the authors has been cited.

III. *Reference Citation*: No reference has been provided for Family and Genus names. But, for binomials the protologue reference has been provided in all cases. This is then followed by the references to the record of the plant in floras covering this region. In most of the cases,

prologues have been provided with standard and conventionally used abbreviated form. But, for the local flora much concise abbreviations has been used.

IV. Local Names: The local languages in the study area are mainly Bengali and Nepali. In addition, there is a sizeable population of Hindi speaking people. Names provided here are all collected from the local people during field works. In the enumeration the language for a name has been provided in parenthesis.

V. Description: A very brief description using mostly habit and macromorphological characters has been provided for each plant. Detailed descriptions of all these plants are available in local floras.

VI. Voucher Specimens: Only one or few specimens have been cited for each and every species/ variety/ forma recorded in this weed-flora. All these field numbers are from the Field Note Book of 'AP Das & Chandrâ'. Along with the number the garden from which the specimen has been collected, the date of collection and the altitude of the place has been provided.

VII. Flowering & Fruiting Period: A broad flowering and/or fruiting season for most of the plants have been provided on month to month basis.

VIII. Local Distribution: Here it is nothing but the presence of a plant in one or more of the selected seven Tea Gardens.

IX. General Distribution: It is collected from available literature and, as far as available, the total range of distribution of each taxon has been provided.

X. Note: At the end of enumeration of a species/ variety/ forma if some more relevant information are available then a 'Note' has been appended.

6.5. Abbreviations Used:

FEH = Flora of Eastern Himalaya; **EFPN** = Enumeration of the Flowering Plants of Nepal; **FBI** = Flora of British India; **FI** = Flora of India; **FB** = Flora of Bhutan; **FWB** = Flora of West Bengal; **PPB** = Perspectives of Plant Biodiversity; **TBRI** = Transactions Bose Research Institute; **Beng** = Bengali; **Eng** = English; **Nep** = Nepali.

Other abbreviations used are standard ones and as been presented/ recorded by Stafleu & Cowan (1976 – 1988).

6.6 Systematic Position of the Recorded Flora

No recent classification has covered the entire Kingdom Plantae. So, three different classification have followed for three major groups of taxa, namely Pteridophyta, Pinophyta and Magnoliophyta.

6.6.1 Pteridophyta

There are serious disagreements between eminent Pteridologists about the Phylogenetic schemes of classification of this important taxa. Schemes presented by eminent pteridologists particularly by Holttum (1947) and Pichi-Sermolli (1958, 1977, 1981) are now in a 'flux' (Panigrahi 2003). Under such circumstances it has been decided to present the recorded 26 families in an alphabetical sequence following the leads from Kramer et al (1990) and Singh & Panigrahi (2005) but with a basic recognition of two groups (i) Fern-Allies & (ii) Ferns:

I. Fern-Allies:

- i. Equisetaceae
- ii. Lycopodiaceae
- iii. Selaginellaceae

II. Ferns

- i. Adiantaceae
- ii. Aspleniaceae
- iii. Athyriaceae
- iv. Blechnaceae
- v. Dennstaedtiaceae
- vi. Dryopteridaceae
- vii. Gleicheniaceae
- viii. Hemionitidaceae
- ix. Hypolepidaceae
- x. Lindsaeaceae
- xi. Lygodiaceae
- xii. Marattiaceae
- xiii. Marsileaceae
- xiv. Monachosoraceae

- xv. Nephrolepidaceae
- xvi. Parkeriaceae
- xvii. Polypodiaceae
- xviii. Pteridaceae
- xix. Pteridiaceae
- xx. Taenitidaceae
- xxi. Tectariaceae
- xxii. Thelypteridaceae
- xxiii. Vittariaceae

6.6.2 Pinophyta [Gymnosperms]

Only three species from three genera covering two families have been recorded in the present work. For this taxon the classification made by Cronquist, Takhtajan & Zimmermann (1966) has been followed:

Subdivision A. Cycadicea (no record)

Subdivision B. Pinicae

Class 2: Pinatae

Subclass ii: Pinidae

Family: Pinaceae

Taxodiaceae

Subdivision C. Gnéticae (no record)

6.6.3 Magnoliophyta [Angiosperms]

For Angiosperms classification of Arthur Cronquist (1981) has been followed and the position of the recorded families has been presented below.

Division: MAGNOLIOPHYTA

Class: MAGNOLIOPSIDA

Subclass : MAGNOLIIDAE

Order: MAGNOLIALES

Family: Annonaceae

Family: Magnoliaceae

Order: LAURALES

Family: Lauraceae

Order: PIPERALES
Family: Saururaceae
Family: Piperaceae

Order: RANUNCULALES
Family: Ranunculaceae
Family: Menispermaceae

Order: PAPAVERALES
Family: Papaveraceae
Family: Fumariaceae

Subclass II. HAMAMELIDAE

Order: HAMAMELIDALES
Family: Hamamelidaceae

Order: URTICALES
Family: Ulmaceae
Family: Cannabaceae
Family: Moraceae
Family: Urticaceae

Order: JUGLANDALES
Family: Juglandaceae

Order: FAGALES
Family: Fagaceae
Family: Betulaceae

Subclass III. CARYOPHYLLIDAE

Order: CARYOPHYLLALES
Family: Nyctaginaceae
Family: Aizoaceae
Family: Chenopodiaceae
Family: Amaranthaceae
Family: Portulacaceae
Family: Basellaceae
Family: Molluginaceae
Family: Caryophyllaceae

Order: POLYGONALES
Family: Polygonaceae

Subclass IV. DILLENIIDAE

Order: THEALES
Family: Theaceae
Family: Actinidiaceae

Family: Hypericaceae

Order: MALVALES

Family: Elaeocarpaceae

Family: Tiliaceae

Family: Sterculiaceae

Family: Malvaceae

Order: VIOLALES

Family: Flacourtiaceae

Family: Violaceae

Family: Passifloraceae

Family: Cucurbitaceae

Family: Begoniaceae

Order: CAPPARALES

Family: Capparaceae

Family: Cleomaceae

Family: Brassicaceae

Order: ERICALES

Family: Ericaceae

Order: PRIMULALES

Family: Myrsinaceae

Family: Primulaceae

Subclass V. ROSIDAE

Order: ROSALES

Family: Crassulaceae

Family: Saxifragaceae

Family: Rosaceae

Order: FABALES

Family: Mimosaceae

Family: Caesalpiniaceae

Family: Fabaceae

Order: PROTEALES

Family: Proteaceae

Order: MYRTALES

Family: Sonneratiaceae

Family: Lythraceae

Family: Thymeleaceae

Family: Myrtaceae

Family: Onagraceae

Family: Melastomataceae

Family: Combretaceae

Order: CORNALES

Family: Alangiaceae

Order: SANTALALES

Family: Santalaceae

Order: CELASTRALES

Family: Celastraceae

Family: Icacinaceae

Order: EUPHORBIALES

Family: Euphorbiaceae

Order: RHAMNALES

Family: Vitaceae

Order: LINALES

Family: Linaceae

Order: POLYGALALES

Family: Polygalaceae

Order: SAPINDALES

Family: Aceraceae

Family: Anacardiaceae

Family: Meliaceae

Family: Rutaceae

Order: GERANIALES

Family: Oxalidaceae

Family: Balsaminaceae

Order: APIALES

Family: Araliaceae

Family: Apiaceae

Subclass VI. ASTERIDAE

Order: GENTIANALES

Family: Apocynaceae

Family: Asclepiadaceae

Order: SOLANALES

Family: Solanaceae

Family: Convolvulaceae

Family: Cuscutaceae

Order: LAMIALES

Family: Boraginaceae

Family: Ehretiaceae

Family: Verbenaceae

Family: Lamiaceae

Order: PLANTAGINALES
Family: Plantaginaceae

Order: SCROPHULARIALES
Family: Oleaceae
Family: Scrophulariaceae
Family: Gesneriaceae
Family: Acanthaceae
Family: Bignoniaceae

Order: CAMPANULALES
Family: Campanulaceae
Family: Lobeliaceae

Order: RUBIALES
Family: Rubiaceae

Order: DIPSACALES
Family: Caprifoliaceae
Family: Carlemanniaceae
Family: Sambucaceae
Family: Valerianaceae

Order: ASTERALES
Family: Asteraceae

Class LILIOPSIDA

Subclass II. ARECIDAE

Order: ARECALES
Family: Arecaceae

Order: ARALES
Family: Araceae

Subclass III. COMMELINIDAE

Order: COMMELINALES
Family: Commelinaceae

Order: JUNCALES
Family: Juncaceae

Order: CYPERALES
Family: Cyperaceae
Family: Poaceae

Subclass IV. ZINGIBERIDAE

Order: ZINGIBERALES
Family: Zingiberaceae

Family: Costaceae
Family: Marantaceae

Subclass V. LILIIDAE

Order: LILIALES

Family: Pontederiaceae
Family: Amaryllidaceae
Family: Convallariaceae
Family: Hemerocallidaceae
Family: Hypoxidaceae
Family: Smilacaceae
Family: Dioscoreaceae

Order: ORCHIDALES

Family: Orchidaceae

6.7 THE ENUMERATION OF THE FLORA

PTERIDOPHYTES

ADIANTACEAE Newman

ADIANTUM L.

Adiantum capillus-veneris L., Sp pl. 2: 1096. 1753; Trans. Linn. Soc. London ser. II. Bot. 1: 453. 1880; Handb. Ferns Brit. Ind. 84. 1883; Fern & Fern-allies Arun. Prad. I. 84. 2005.

Rhizome creeping, ca 2 mm across; fronds 10-25 x 4-7 cm, bipinnate, ovate-lanceolate, stipes 4-12 cm long, thin, dark brown/ blackish. Lamina 7-13 cm; pinnae 3-5 pairs, alternate. Sori marginal, single or double at apex of pennule-lobes; indusium thin, entire veins 3-6.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 1966, dated 30.06. 2003

Status: Abundant

Local Distribution: All three hill gardens

General Distribution: India, Pan-tropical and -temperate region including Europe and Surinam.

Note: The fern is used as pectoral demulcent, expectorant and tonic. It is boiled in wine that is given in cases of hard tumours of the spleen, liver and other viscera. Contains essential oil.

Adiantum edgeworthii Hooker, Sp. Fil. 2: 14. t. 81 B. 1851; Handb. Ferns Brit. India 1: t. 17. 1865; Ferns Fern-All. Arun. Prad. 1: 86. 2005.

Adiantum caudatum L. var. *rhizophorum* C.B. Clarke in Trans. Linn. Soc. London ser. II. Bot. 1: 453. 1880, *in synonym*.

Rhizomes erect, short, paleaceous; roots thin, brown; Fronds 15-20 x 3 cm, tufted, pinnate, deltoid-lanceolate, acute. Stipes 8-10 cm, blackish-brown, glabrous. Pinnae 17 x 8 mm, lower largest, entire, glabrous. Sori marginal, interrupted, subentire, dark brown.

Specimen Cited: Soom TE, AP Das & Chandrâ 2593, dated 27.12. 2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Nepal, Myanmar, Malaya, Taiwan, Philippines, China, Japan.

Adiantum philippense L., Sp. Pl. 2: 1094. 1753; Ferns Fern-All. Arun. Prad. 1: 86. 2005.

Adiantum lunulatum N. Burman, Fil. Ind. : 235. 1768.

Rhizomes erect, short; paleae dark brown. Fronds 10-40 cm, tufted, pinnate, oblong-lanceolate, obtuse. Stipes 5-20 cm, glabrous, base paleaceous. Pinnae alternate, 5-15 pairs, glabrous. Sori marginal, elongated, interrupted, false indusium thick, entire.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2398, dated 05.11. 2003

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Tropical and sub tropical areas of the old world.

Note: Used in blood diseases, in epileptic fits and in rabies, rhizomes prescribed for strangery and in fever due to elephantiasis. Fronds are burnt in oil and applied to itch.

ASPLENIACEAE (C. Presl) Mettenius ex A.B. Frank

ASPLENIUM L.

Asplenium ensiforme Wallich ex Hooker & Grev., Ic. Fil.: t. 71. 1829; Handb. Ferns Brit. Ind. 141. t. 71. 1883; Fern & Fern-allies Arun. Prad. I. 97. 2005.

Asplenium ensiforme Wallich, Num. List. No. 200. 1829, *nom. nud.*

Rhizome erect, short. Fronds 20- 40 x 1.0- 2.5cm, simple, repand. Lamina base decurrent, veins forked 1-2 times, free. Sori oblique, blackish brown, 8- 12 mm long.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2509, dated 11.11. 2003.

Status: Less Common

Local Distribution: Found only in Makaibari garden

General Distribution: India, Sri Lanka, Nepal, Bhutan, Myanmar, Thailand, Vietnam, Taiwan, Hong Kong, Japan.

Asplenium filix-femina var. *parasnathensis* Bernham, Schrad. Neu. J. i. pt. ii. 26, t.2.; Ferns N. India, I: 491. 1973 (Indian Reprint).

Fronds 60-120 cm long, lanceolate, both ends narrowed, membranous, bipinnate; rachis appears triangular when dry. Primary pinnae linear-oblong, base broadest. Secondary pinnae oblong, sessile, acute, very persistent. Sori globose, median, blackish-brown.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2431, dated 05.11. 2003.

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: Endemic to India

Note: Anthelmintic, Diuretic, Poultice, Women's complaints; relieving labour pains; internal ailments such as cancer of the womb; general body pains to stop breast pains caused by childbirth and to induce milk flow in caked breasts; externally to heal sores; liquid root extract is an effective anthelmintic.

ATHYRIACEAE A.H.G. Alston

ATHYRIUM A. W. Roth

Athyrium drepanopterum (Kuntze) A. Br. ex Milde, Fl. Eur.: 49. 1867; Fern & Fern-allies Arun. Prad. I. 128. 2005.

Polypodium drepanopterum Kunze in Linnaea 23: 278, 318. 1850.

Athyrium oxyphyllum Moore., Ind. XLIX. 1857; Handb. Ferns Brit. Ind. 170. 1883.

Rhizome erect, ascending. Paleae basifixed, ovate-lanceolate, gradually long, acuminate, entire. Fronds 50- 70 x 11-15 cm, bi- or tripinnatifid. Lamina 30-50 cm, deltoid lanceolate; basal or 2nd pair pinnae largest. Sori median, elongated – hooked or rounded.

Specimen Cited: Soom TE, AP Das & Chandrâ 2608, dated 27.12. 2003.

Status: Common.

Local Distribution: In Terai and low altitude areas

General Distribution: India, Bhutan, China, Myanmar, Philippines.

Athyrium puncticaule (Blume) T. Moore, Ind. Fil. 186.1860; FEH 3: 183. 1975.

Aspidium puncticaule Blume, Enum. Pl. Jav. 159. 1828.

Rhizome erect, paleaceous. Fronds oblong, 20- 30 x 5-7 cm, tufted, tripinnatifid, lanceolate. Lamina 25 - 35 cm long; bipinnatifid at basal region only, rachis paleaceous only at stipe base. Sori medium, dorsal, indusium athyroid or reniform, thin.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3011, dated 10.04. 2004

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Sri Lanka, Java.

Athyrium solenopteris (Kuntze) T. Moore, Ind. Fil.: 43, 187. 1857; Handb. Ferns Brit. Ind. 166. 1883, *p.p. excl. syn.*; Fern & Fern-allies Arun. Prad. I.132.2005.

Allantodia solenopteris Kunze in Linnaea 24: 266. 1851.

Rhizome erect, fronds ca 60 x 23 cm, tufted. Lamina 30-40 x 22 cm, oblong, gradually acuminate; pinnae 14-20 pairs, 2nd or 3rd pair largest, basal slightly reduced. Pinnules ovate-oblong, 2.0 x 1.0 cm, oblique, acute, pinnule-lobes oblong-rectangular, crenate to serrate. Sori basal, athyroid to asplenoid, indusium whitish pale, thin, persistent.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2346, dated 05.11. 2003; Makaibari TE, AP Das & Chandrâ 1851, dated 10.06. 2003.

Status: Less Common

Local Distribution: All three hill gardens

General Distribution: India, Nilgiris, Sikkim, Meghalaya, West Bengal, Arunachal Pradesh, Sri Lanka.

CORNOPTERIS T. Nakai

Cornopteris opaca (D. Don) Tagawa in Acta Phytotax. Geobot. 8: 92. 1939; Fern & Fern-allies Arun. Prad. I. 134. 2005.

Hemionitis opaca D. Don, Prod. Fl. Nepal.: 13. 1825.

Leptogramma opaca (D. Don) Beddome, Handb. Ferns Brit. India: 379. f.217. 1883.

Rhizomes erect, apex densely paleaceous; Fronds 100-115 x 30-40 cm, ovate-lanceolate; stipes 50-65 cm long, glabrous. Pinnae 1st to 3rd pair the largest, lamina elliptic oblong, bipinnatifid. Pinnules alternate, pinnatifid, acuminate. Sori up to 2 mm long, rounded to oblong, dorsal superficial, exindusiate.

Specimen Cited: Soom TE, AP Das & Chandrâ 3384, dated 12. 10. 2004.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Java, China, Japan.

DIPLAZIUM Swartz

Diplazium axillare Ching in Lingnan Sci. J. 15(2): 277. 1936, *p.p.* Fern & Fern-allies Arun. Prad. I. 145. 2005.

Diplazium polypodioides sensu C. Christensen in Contrib. U. S. Nation. Herb. 26 (6): 304. 1931, *p.p. incl. spec.* Yunnan, *non* Blume (1828).

Rhizome erect, paleae basifixed, ovate lanceolate, hairy, brown. Fronds 150-180 x 80-100 cm, tripinnatisect, caudate-acuminate; stipes 60-120 cm, grooved dorsally. Largest pinnae towards middle, alternate, acuminate; pinnules largest towards base, alternate, papillose. Sori 1.5-2 mm long, basal.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3024, dated 10.04. 2004.

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Arunachal Pradesh, Myanmar.

Note: A new record for West Bengal.

Diplazium esculentum (Koenig ex Retzius) Swartz in Schrad. J. Bot. 1801: 312. 1803; Handb. Ferns Brit. Ind. 192. 1883; Ferns Fern-All. Arun. Prad. I. 161.2005.

Hemionitis esculenta Koenig ex Retz., in Obs. Bot. 6: 38. 1791.

Terrestrial fern; rhizome erect, dark brown. Fronds large; lamina 2 pinnate; pinnae petiolate; pinnules many, sessile or shortly stalked, acuminate, broadly cuneate at the base, margin lobed. Sori linear, continuous along almost whole length on both sides of the veins, brown; sporangia shortly stalked.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0009, dated 27.01.2002;

Makaibari TE, AP Das & Chandrâ 1861, dated 10.06. 2003.

Status: Abundant.

Local Distribution: In Terai and low altitude areas

General Distribution: India, Sri Lanka, Myanmar, Malaya, Malaysia, Taiwan, Philippines, New Guinea, Samoa.

Note: Young unopened fronds eaten in salad or as cooked vegetable.

Diplazium sikkimense (C.B. Clarke) C. Christensen in Contrib. U.S. Nation. Herb. 26: 304. 1931; Fern & Fern-allies Arun. Prad. I.183. 2005.

Asplenium sikkimense C.B. Clarke in Trans. Linn. Soc. London ser. II. Bot. 1: 500. pl. 65. f. 1. 1880.

Rhizome erect, roots thick; paleae entire, ovate-lanceolate. Fronds 175-250 x 80-120 cm, tufted, lanceolate, tripinnatisect, acuminate; stipes 75-120 cm, base black, dirty brown, grooved. Lamina 100-150 cm, pinnae over 8 pairs, alternate, pinnules opposite. Sori few diplazioid, small, basal.

Specimen Cited: Soom TE, AP Das & Chandrâ 3455, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom garden

General Distribution: Sikkim, Arunachal Pradesh, West Bengal; endemic.

Note: New record for West Bengal.

Diplazium stoliokae Beddome, Ferns Br. Ind. Suppl. 13, pl. 361.1876; FEH 3:186. 1975.

Rhizome erect; paleae basifixed, ovate lanceolate, acuminate, hairy, brown. Fronds 150 x 80 cm, tripinnatisect, caudate, acuminate; stipes 60-80 cm, grooved. Largest pinnae towards middle, alternate, acuminate, pinnules the largest towards base, alternate. Sori 1.5-2 mm long, basal.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 1725, dated 17.05.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: India; endemic.

BLECHNACEAE (C. Presl) Copel

BLECHNUM L.

Blechnum orientale L., Sp. Pl. ed. 1, 2: 1077. 1753; Handb. Ferns Brit. Ind. 132. t. 66.1883; Fern & Fern-allies Arun. Prad. I.206-207.2005.

Asplenium orientale (L.) Bernhardt, Schrad. J. 1801 (1): 17. 1802.

Rhizome erect; densely paleaceous at apex. Fronds up to 150 x 25-45 cm, tufted, pinnate, caudate acuminate. Stipes upto 40 cm, base paleaceous, thick, small auricles several pairs, lamina 120 cm long, pinnae alternate, spreading, entire. Sori costal, elongated, indusium long, narrow, brown.

Specimen Cited: Kamalpur TE, AP Das & Chandrâ 1183, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens

General Distribution: India, Sri Lanka, Nepal, Bhutan, Bangladesh, China, Myanmar, Thailand, Indonesia, Malaysia, and Australia.

Note: Rhizome edible and also used in urinary disorders and as an anthelmintic, poultice applied to boils.

DENNSTAEDTIACEAE Ching ex Pichi Sermolli

MICROLEPIA C. Presl

Microlepia pilosiuscula (J.E.Smith) Morton in Contrib. U.S. Nation. Herb. 38(7): 313. 1974; Fern & Fern-allies Arun. Prad. I. 255. 2005.

Davallia pilosiuscula J.E. Smith in Ress, Cycloped. 11: 10. 1808.

Rhizomes creeping, thick. Fronds upto 150-80 cm, lanceolate, caudate acuminate, tripinnate. Stipes 60 cm, grooved, pubescent, green. Pinnae 14 pairs, 50 x 17 cm, alternate. Pinnules 20-25 pairs, long, acuminate, acumination crenate, hairy on both side. Sori half cup-shaped, terminal.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2570, dated 11.11. 2003.

Status: Less Common

Local Distribution: Found only in Makaibari garden

General Distribution: India, Sri Lanka, Nepal, Myanmar, Thailand, Malaya, Indonesia, Vietnam, China, Philippines.

Microlepia rhomboidea (Wallich ex Kuntze) Prantl in Arb. Bot. Gart. Breslau 1:31.1892; Ferns Fern-All. Arun. Prad. I. 259. 2005.

Davallia rhomboidea Wallich ex Kuntze in Bot. Zeit. 8: 158. 1850.

Rhizomes creeping, thick, tips hairy; roots profuse. Fronds 120-170 x 55-70 cm, closely originated, ovate-lanceolate, tripinnate to quadripinnatifid, caudate acuminate; stipes long, dirty brown, grooved. Lamina 90-125 cm; pinnae widest at base, basal pair shorter. Sori half cup shaped, terminal, towards margin below or above sinus.

Specimen Cited: Soom TE, AP Das & Chandrâ 2633, dated 27.12. 2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Nepal, Bhutan, Myanmar, Malaysia.

Microlepia speluncae (L.) T. Moore, Ind. Fil. XCII. 1857; Handb. Ferns Brit. India: 67. 1883; Fern & Fern-allies Arun. Prad. I. 268. 2005.

Polypodium speluncae L., Sp. Pl. 2: 1093. 1753.

Rhizomes short, creeping. Fronds 120-175 x 50-80 cm, ovate-lanceolate, caudate, acuminate, quadripinnate. Stipes ca 70 cm long, grooved dorsally. Pinnæ basal pair largest, alternate. Pinnules alternate, sessile, oblong-lanceolate, bipinnate. Sori near to margin, davallioid, terminal.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2762, dated 25.03. 2004.

Status: Less Common

Local Distribution: Found only in Makaibari garden

General Distribution: India, Tropical Asia.

Microlepia speluncae (L.) T. Moore var. *pubera* (C.B. Clarke) Sledge in Kew Bull. 11: 525. 1956; Fern & Fern-allies Arun. Prad.I. 264. 2005.

Davallia flaccida var. *pubera* C.B. Clarke in Trans. Linn. Soc. London ser. II. Bot. 1: 449. 1880.

Rhizomes creeping. Fronds tripinnate to quadripinnatifid, caudate acute; rachis grooved dorsally, hairy throughout. Pinnæ ca 20 x 9 cm, alternate; pinnules 15 pairs, alternate, deltoid-lanceolate, base oblique, acuminate. Sori near to margin, davallioid, terminal.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2804, dated 25.03. 2004.

Status: Less Common

Local Distribution: Found only in Makaibari garden

General Distribution: India, Nepal; endemic to Himalayas.

DRYOPTERIDACEAE Herter

DRYOPTERIS Adanson

Dryopteris filix-mas (L.) Schott, Gen. Fil. ad. pl. 9. 1834.

Polypodium filix-mas L., Sp. pl. 1090. 1753.

Rhizome erect, paleaceous. Fronds 55 x 15cm, tufted, lanceolate, bipinnate towards base, bipinnatisect upwards, acuminate. Stipes 25 cm, paleaceous, grooved. Lamina 30 cm long, pinnae upto 9 x 2.5 cm, subopposite; pinnules 8-12 x 5-7 mm, pinnatifid, veins pinnate. Sori round, median, indusium, entire, brown.

Specimen Cited: Hansqua TE, AP Das & Chandrâ 1153, dated 14.06.2002.

Status: Abundant.

Local Distribution: In Terai and low altitude areas

General Distribution: India, China.

Note: Young fronds – cooked and eaten. Roots anodyne, antibacterial, anti-inflammatory, antiviral, astringent, febrifuge, vermifuge, worm-expellant, internal haemorrhage, uterine bleeding, mumps and feverish illnesses. Pregnant women and people with heart complaints should not consume this plant.

Dryopteris sparsa (Hamilton ex D. Don) O. Kuntze, Rev. Gen. Pl. 2: 813. 1891; Fern & Fern-allies Arun. Prad. I. 286. 2005; FEH 3:188. 1975.

Nephrodium sparsum D. Don, Prodr. Fl. Nepal.:6. 1825;

Rhizome erect, paleaceous. Fronds 50-70 x 15-25 cm, tufted, oblong-lanceolate, caudate acuminate. Stipes 20-30 cm, grooved. Lamina 30-45 cm, pinnae 7-11 pairs, widest at base, pinnules sessile, oblique deltoid, acute, pinnatifid, lobes entire. Sori globose, receptacles elevated, dorsal, indusium reniform.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2027, dated 30.04. 2003.

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Sri Lanka, Nepal, Myanmar, Tibet, China, Malaysia, Philippines, Japan, Taiwan.

POLYSTICHUM A. W. Roth

Polystichum lentum (D. Don) T. Moore, Ind. Fil. : 86, 95. 1858; Fern & Fern-allies Arun. Prad. I. 299. 2005.

Aspidium lentum D. Don, Prod. Fl. Nepal.:4. 1825.

Rhizomes erect, short, paleaceous, curved, teeth dark brown. Stipes dense, 8-11x 3-5 mm, ascending, margin irregularly toothed. Lamina 20-35 cm; pinnae 20-40 pairs, basal pair strongly reflexed, slightly reduced, sessile, subopposite. Sori on basal acroscopic vein, entire, peltate, deciduous.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3047, dated 10.04. 2004

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India: Sikkim, West Bengal, Meghalaya, Arunachal Pradesh, Nagaland; Nepal, Bhutan; endemic to Eastern Himalaya.

Polystichum sublentum S. Singh & Panigrahi, Fern & Fern-allies Arun. Prad. I. 307. 2005.

Rhizome erect, medium sized, paleaceous; roots profuse; paleae polymorphous. Fronds 70-90 x 8-10 cm, tufted, narrow lanceolate, pinnate, acuminate; stipes ca 30 cm long, grooved. Lamina 45-55 cm long; pinnae 35-50 pairs, subopposite to alternate, pinnatifid, acuminate. Sori mostly terminal, a few dorsal.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2791, dated 25.03. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: India: Arunachal Pradesh, West Bengal; endemic

Note: New record for West Bengal.

Polystichum subapiciflorum Hayata, Ic. Pl. Formosanum 5: 335-337. 1913; Fern & Fern-allies Arun. Prad. I. 305. 2005.

Polystichum longipinnulum Nair in Amer. Fern J. 64: 15. f. 11-12. 1974.

Rhizomes erect, paleaceous. Fronds 80-110 x 20-25 cm, lanceolate, caudate acuminate, bipinnate. Stipes 35-45 cm, base densely paleaceous, grooved. Lamina 40-70 cm; pinnae 20 pairs, ascending, oblong-lanceolate, acuminate. Pinnules 13-17 pairs, sessile, overlapping, oblique. Sori rounded, receptacles globose, sunk, terminal.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2845, dated 25.03. 2004; Tamsong TE, AP Das & Chandrâ 2054, dated 30.04. 2003.

Status: Less Common

Local Distribution: Found only in Makaibari & Tamsong gardens.

General Distribution: India, Nepal, Myanmar, Thailand, N. Vietnam, China, Philippines.

EQUISETACEAE Rich. ex DC.

EQUISETUM L.

Equisetum diffusum D. Don, Prod. Fl. Nepal.: 19.1825; Fern & Fern-All. Arun. Prad. 1: 78.2005

Terrestrial to sub aquatic; stem erect and diffused; aerial shoots jointed with hollow internodes. Leaves very small, whorled. Internodes ca 2- 4 cm long, sheaths loose, ridged, linear-lanceolate. Sporangia homosporous, paired; sporophylls on terminal stalked, oblong cylindrical strobilus.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2229, dated 05.09. 2003; Soom TE, *AP Das & Chandrâ 3294*, dated 26.06. 2004.

Status: Abundant.

Local Distribution: All three hill gardens

General Distribution: West Bengal, Assam, Arunachal Pradesh, Meghalaya, Bhutan, China, Myanmar, Nepal, S. E. China.

Equisetum ramosissimum Desf. Subsp. *debile* (Roxburgh ex DC.) Hauke in Amer. Fern J. 52: 33. 1962; Fern & Fern-allies Arun. Prad. I.80.2005.

Equisetum debile Roxburgh ex Vaucher in Mem. Soc. Phys. Hist. Nat. Geneve 1: 387, 1822; FEH. 2: 197. 1971.

Stem creeping, subterranean, ridged and grooved, hollow, internodes 7 – 8 cm. Leaves (sheath) rudimentary, 5-6 cm long, fused laterally, toothed. Cones sessile to subsessile, terminal on branch, solitary. Sporangiphore many, whorled, very dens and compact.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0033, dated 27.01.2002; Tamsong TE, AP Das & Chandrâ 1944, dated 30.04. 2003.

Status: Common

Local Distribution: All Terai gardens

General Distribution: India: Himalayas, North-East region; Nepal, China, Myanmar, Thailand, Vietnam, Malaysia.

Note: Used as refrigerant and given in gonorrhoea.

GLEICHENIACEAE (R. Brown) C. Presl.

DICRANOPTERIS Bernhardt

Dicranopteris linearis (N. Burman) Underw. in Bull. Torrey Bot. Cl. 34: 249. 1907; Fern & Fern-allies Arun. Prad. I. 313-314. 2005.

Polypodium lineare N.Burm., Fl. Indica: 235. t. 67. f. 2. 1768.

Rhizomes creeping. Fronds large, forming thickets; stipes stout, brown, 10-12 x 3-4 cm lanceolate, deeply lobed; ultimate-pinnae c.30 x 7 cm, lanceolate, gradually acuminate, base unequal. Ultimate-lobes oblong, 4-5 mm wide, entire, incurved. Sori round, dorsal, exindusiate, sub-basal.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2299, dated 05.09. 2003.

Status: Very common

Local Distribution: All three hill gardens

General Distribution: India, Tropical and sub Tropical Asia, Malaysia, Australia.

Note: Rhizomes anthelmintic; fronds used for asthma; rachis used for making mats, chairs, seats, pouches, caps, fishing traps, baskets, belts etc. Fronds used as one of the ingredients for making local beverages.

Dicranopteris linearis (N. Burman) Underw. var. *montana* Holttum in Reinwardtia 4: 276. 1957; Fern & Fern-allies Arun. Prad.I. 314. 2005.

Polypodium lineare N.Burman, Fl. Indica: 235. t. 67. f. 2. 1768.

Rhizomes long creeping. Fronds very large, dichotomously branched; stipes short to quite long, ultimate-branches 20-35 x 5-7 cm. Ultimate-pinnæ falcate, deeply lobed, acuminate, brown, septate. Ultimate-lobes 5-7 mm wide, 7-15 mm apart, entire to repand. Sori round, exindusiate.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3732*, dated 26.06. 2004.

Status: Less Common

Local Distribution: Found only in Soom garden.

General Distribution: India, Sri Lanka, Malaysia, Moluccas.

DIPLOPTERYGIUM (Diels) Nakai

Diplopterygium blotianum (C. Christensen) Nakai in Bull. Nat. Sci. Mus. 29: 49.1950; Ferns Fern-All. Arun. Prad. I. 317. 2005.

Gleichenia blotiana C. Christensen in Bull. Mus. Hist. Nat. Paris 2 ser. 6(1): 103.1934; Bull. Bot. Surv. India 10(3-4): 339.f.15-27.1969 (1968).

Common Name: *Welcome fern*

Rhizomes long creeping; Paleae peltate, ovate-lanceolate to variously shaped, toothed, light brown on rachis, costae and costules. Fronds up to 3 m with long stipes, rachis dichotomously branched, dormant apex with small pinnatifid leaflet. Lamina oblong-lanceolate, deeply pinnatisect. Sori sterile.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2657*, dated 27.12. 2003.

Status: Less Common

Local Distribution: Found only in Soom garden.

General Distribution: India: Eastern Himalaya, North East India; Vietnam, S. China, Malay Peninsula.

HEMIONITIDACEAE Pichi Sermolli

PITYROGRAMMA Link

Pityrogramma calomelanos (L.) Link, Handb. d. Gewachse 3: 20.1883; Fern & Fern-allies Arun. Prad. I. 326. 2005.

Acrostichum calomelanos L., Sp. Pl. 2: 1072. 1753.

Common Name: *Silver Fern*

Rhizomes erect, short. Paleae entire, acuminate, brown. Fronds 50-90 x 7-15 cm, tufted, lanceolate. Stipes 20-40 cm, blackish brown, grooved, glabrous. Lamina 15-40 cm long, pinnæ long, acuminate, pinnate to bipinnatifid, 2nd- 3rd pair largest. Pinnules sessile. Sori scattered on lower surface on veins along midvein, exindusiate.

Specimen Cited: Soom TE, AP Das & Chandrâ 3100, dated 03.05. 2004

Status: Very common

Local Distribution: All three hill gardens

General Distribution: India, Temperate Europe and Surinam (S. America).

Note: Constituent of a decoction used in kidney troubles. Rhizomes used as an anthelmintic and leaf smoked for colds in head and chest.

HYPOLEPIDACEAE Ching ex Pichi Sermolli

HYPOLEPIS Bernhardt

Hypolepis punctata (Thunberg) Mettenius ex Kuhn, Fil. Africanæ: 120. 1868; Handb. Ferns Brit. Ind. Suppl.: 19. 1892; Fern & Fern-allies Arun. Prad. I. 355. 2005.

Polypodium punctatum Thunberg, Fl. Jap.: 337. 1784.

Rhizome creeping, fronds 30-40 x 15-20 cm, acute. Stipes 10-15 cm long, grooved dorsally, hairy throughout. Lamina 20-30 cm long, Pinnæ basal or next pair the largest, hairs brown, articulated, pointed, curved. Pinnules basal pair the largest, sessile. Sori antimarginal, dorsal on single vein, indusium false.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2850, dated 25.03. 2004.

Status: Common

Local Distribution: Found only in Makaibari garden

General Distribution: India: throughout the mountain region; Sri Lanka, Vietnam, Malaya Peninsula, S. China, S. Korea, Japan.

Note: Fronds used for poultice boils.

LINDSAEACEAE Ching ex Pichi Sermolli

ODONTOSORIA Fee

Odontosoria chinensis (L.) J. Smith in Seem. Bot. Voy. Herald: 430. 1857; Fern & Fern-allies Arun. Prad. I. 365. 2005.

Trichomanes chinense L., Sp.Pl. 2: 1099. 1753.

Rhizome short, erect, paleaceous at apex. Fronds 15-55 x 5-15 cm, tufted, tri or quadripinnate, acuminate; stipes 5-25 cm long, paleaceous at base. Lamina 10-40 cm, pinnæ largest in lower half of lamina, 3-11 x 1-5 cm, alternate, acuminate, pinnules up to 3 x 1.5 cm, winged. Sori marginal, terminal on 1 or 2 veins.

Specimen Cited: Soom TE, AP Das & Chandrâ 3596, dated 12. 10. 2004.

Status: Less Common

Local Distribution: Found only in Soom garden

General Distribution: India: Sikkim, Assam, Meghalaya, Arunachal Pradesh; Nepal, Bhutan, Myanmar, Thailand, Vietnam, China, Malaysian Islands, Japan, Taiwan, Madagascar.

Note: New record for West Bengal. Prescribed in chronic enteritis.

LYCOPODIACEAE P. Beauv ex Mirb.

LYCOPODIELLA Holub

Lycopodiella cernua (L.) Pichi-Sermolli, Ollgaard in Kramer & Green, Fam. Gen. Vasc. Pl. 1:38. 1990.; Fern & Fern-allies Arun. Prad.I.: 48.2005

Lycopodium cernuum L., Sp. Pl. 2: 1103. 1753; Baker, Handb. Fern Allies : 23. 1887

Terrestrial; rhizome subterranean, simple in basal part, copiously branched above. Leaves crowded, small linear, subulate. Strobili oblong, sessile at the ends of branch lets. Sporophylls broadly ovate, cuspidate, ciliate at margins.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3014, dated 10.04. 2004; Soom TE, **AP Das & Chandrâ 3459**, dated 12. 10. 2004; Mohurgong & Gulma TE, AP Das & Chandrâ 1525, dated 22.10. 2002.

Status: Common

Local Distribution: In Terai and low altitude areas

General Distribution: India, Tropics and subtropics of all the continents.

Note: Decoctions used in lotions in beriberi, cough and uneasiness in the chest. Embrocation of ashes in vinegar recommended for skin eruption. Plants used for stuffing pillows after drying. Ceruine and small quantities of nicotine have been isolated from the plants.

LYCOPODIUM L.

Lycopodium pseudoclavatum Ching in Acta Bot. Yunnanica 4 (3): 222. 1982; Fern & Fern-allies Arun. Prad. I.: 52.2005.

Lycopodium clavatum auct., non L. (1753); C. B. Clarke in Trans. Linn. Soc. London ser. II. Bot. 1:592. 1880, *p.p. excl. syn.*;

Terrestrial. Leaves spirally arranged, ca 0.1- 0.2 cm long, linear-lanceolate. Sporangia in strobili. Strobili erect ca 25- 30 cm long, long stalked. Sporophylls deltoid, margins irregularly ciliate. Spores oval, dark.

Specimen Cited: Soom TE, **AP Das & Chandrâ 3392**, dated 12. 10. 2004; Tamsong TE, AP Das & Chandrâ 1956, dated 30.04. 2003.

Status: Common

Local Distribution: All three hill gardens

General Distribution: India: northern mountain region; Nepal, Bhutan, N. Myanmar, Thailand, China.

Note: Spores used as dusting powder, for sound experiments in physics, absorbent in excoriation of the skin, base for medicated snuff, covering pills to prevent adhesion, for dyspepsia, in constipation with flatulence, hepatic congestion and pustular skin eruption. In homeopathy, it is used against disorders of chest, urinary passage, rheumatism, cramps and varices. Powder employed in fireworks; flash light on the stage, as dusting powder for sand- moulds for fine casting. It contains fatty oil. The alkaloids lycopodine, clavatine and clavotoxine have been isolated.

Lycopodium serratum Thunberg, Fl. Jap. 341. t. 38. 1784; Icon. Fil. T. 37. 1827; Trans. Linn. Soc. II. Bot. 1: 591. 1880; Ferns of N. India, 591, 1973 (Ind. Reprint).

Terrestrial. Stems rigid, 15-25 cm; leaves spiral, 0.5 - 1.5 cm, spatulate, oblong, subpetiolate, serrate; Strobili distinct 1-1.5 cm, cylindrical, sporophylls spirally arranged, dense, peltate, acuminate, serrate.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3068, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Tamsong garden

General Distribution: India, Nepal, Bhutan, Malaysia, Japan.

LYGODIACEAE C. Presl

LYGODIUM Swartz

Lygodium japonicum (Thunberg) Swartz in J. Bot. (Schrader) 1800(2): 106. 1801; Handb. Ferns Brit. Ind.: 457. 1883; Fern & Fern-allies Arun. Prad. I. 389. 2005.

Ophioglossum japonicum Thunberg, Fl. Jap.: 328. 1784.

Rhizome long creeping. Fronds 200-300 x 20-60 cm; rachis ca 2mm across, pinnae in sterile fronds tripinnate, ovate-deltoid; lamina pubescent, blackish brown when dried. Sorophores up to 7 mm long, 4-7 solitary sporangia.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2885, dated 10.04. 2004; Hansqua TE, AP Das & Chandrâ 1381, dated 20.10.2002.

Status: Less Common

Local Distribution: In Terai and low altitude areas

General Distribution: India: S. india, Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram; Sri Lanka, Thailand, Vietnam, China, Malaysia, Japan, Korea, Malaya peninsula, Malesian Islands, Philippines, Australia.

Note: New record for West Bengal. Used as expectorant, decoction of fertile fronds as diuretic and cathartic.

Lygodium microphyllum (Cavan) R. Brown, Prod. Nov. Hollandiae: 162. 1810; Handb. Ferns India: 455. t. 282. 1883; Fern & Fern-allies Arun. Prad. I: 391, 2005.

Ugena microphyllum Cavan, Ic. Descr. Pl. 6(2): 76. t. 595. f. 2. 1801.

Rhizomes long-creeping. Fronds 5-7 m x 15-45 cm, tripinnate; pinnae 12-20 x 4-8 cm, ovate-oblong. Primary rachis-branches 3-5 mm long, brown; secondary rachis-branches glabrous; ultimate pinnules ovate-oblong, obtuse, smooth, veins forked, prominent. Sorophores up to 3 mm long, 4-5 sporangia on each side.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0975, dated 04.05. 2002; Hansqua TE, AP Das & Chandrâ 0254, dated 09.02.2002.

Status: Abundant.

Local Distribution: All Terai gardens

General Distribution: India, Sri Lanka, Africa, Melanesia, Malaysia, Hongkong, Australia.

Note: Young leaves eaten, as poultice in skin disease, swellings, their decoction used in dysentery; old rachis for basket making and plaiting.

Lygodium salicifolium C. Presl, Suppl. Tent. Pterid.: 102. 1845, *p.p. excl. pl. Wallich p.p.* and *syn. L. semibipinnatum* Wallich; Proc. Indian Acad. Sci. (Pl. Sci.) 93 (2) : 131. f. 20-22.1984; Fern & Fern-allies Arun. Prad. I: 394, 2005.

Lygodium flexuosum sensu Beddome, Handb. Ferns Brit. India : 457.1883, *p.p. incl. L. longifolium* Wallich *nom. nud. tantum pro syn., non (L.)* Swartz

Twining fern; rhizome creeping, glabrous. Leaflets pinnate, basal leaflets large, separate or lobed; fertile leaflets narrower than sterile ones. Sori protruding from the margin; sporangia large, shortly stalked, arranged in 2 rows.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0014, dated 27.01.2002; Hansqua TE, AP Das & Chandrâ 0172, dated 03.02.2002; Tamsong TE, AP Das & Chandrâ 2134, dated 30.04. 2003.

Status: Abundant.

Local Distribution: In all gardens

General Distribution: India, China, Malaysia, Sri Lanka, Philippines, Australia, Africa.

Note: Used as expectorant, fresh roots used in external application for rheumatism, sprain, scabies, eczema, wounds and particularly useful for carbuncles.

MARATTIACEAE Bercht. & J.S. Presl.

ANGIOPTERIS Hoffmann

Angiopteris crassipes Wallich ex C. Presl, Tent. Pterid. Suppl.: 23.1845. Fern & Fern-allies Arun. Prad. 1: 397. 2005.

Angiopteris evecta sensu auct. multi.; Beddome, Handb. Ferns Brit. Ind. 460. t. 285. 1883; Holttum, Rev. Fl. Malaya 2:44.t.3 A-D.1955, *non* (G. Forst.) Hoffmann

Terrestrial, rhizome erect, broad. Stipe long, swollen at base. Fronds ca 100-200 cm long, 2 pinnate; pinnae ca 80 cm long, pinnules shortly stalked, acuminate. Sori dark-brown, arranged in two close rows.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2821, dated 23.02. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: Hilly regions of India, Nepal, Bhutan, Myanmar, Australia, China, Japan, Madagascar, Malaysia.

Note: Aromatic oil is used to perfume coconut oil in Pacific (May, 1978), massive short stem, full of starch, is edible in India and form the basis of an intoxicating drink. Leaves used as head dresses and temporary beds; stipules have been eaten by man in times of extreme food scarcity and frequently eaten by wild pigs; an alcoholic drink has been brewed from stipules. Stem is reported to be very effective in curing white patches on skin in Central India.

MARSILEACEAE R. Brown

MARSILEA L.

Marsilea quadrifolia L. Sp.Pl. 1099. 1753; Prodr. Fl. Nepal. 19.1825.

Marsilea crenata Presl, Rel. Haenck. 1: 84 (1825); FEH 2: 221. 1971.

Amphibious; rhizome long, creeping; rooting at nodes. Stipes with four leaflets, Pinnae entire, forked. Sporocarps oval, 2-4 in a group.

Specimen Cited: Kamalpur TE, AP Das & Chandrâ 0457, dated 17.04.2002.

Status: Common

Local Distribution: All Terai gardens

General Distribution: India: Himalaya, South India; Nepal, Bhutan, Bangladesh, Japan, Philippines, Malaya Islands, Malaya peninsula, Europe, North America, Russia.

MONACHOSORACEAE (Crabbe, Jermy & Mickel) Ching

MONACHOSORUM Kuntze

Monachosorum henryi Christ in Bull. Herb. Boiss. 6: 869. 1898; FEH 1: 463. 1966; Ferns Fern-All. Arun. Prad. I. 402. 2005.

Phegopteris subdigitata sensu Beddome, Handb. Ferns Brit. India: 295. 1883, *p.p.*

Rhizomes wide creeping. Fronds ca 100 x 50 cm, quadripinnate; rachis pubescent; hairs brown. Pinnae 20-30 x 10-20 cm, alternate, elliptic-lanceolate, acuminate; pinnules the largest in middle of pinnae, gradually acuminate, upper surface glabrous; Sori rounded, median, subterminal, exindusiate.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0068, dated 27.01. 2002.

Status: Less Common

Local Distribution: Found only in Mohurgong & Gulma garden

General Distribution: India, Nepal, Bhutan, Vietnam, S. China.

NEPHROLEPIDACEAE Ponce de Leon ex Pichi Sermolli

NEPHROLEPIS Schott

Nephrolepis auriculata (L.) Trimen in J. Linn. Soc. London Bot. 24: 152. 1887; Bot. J. Linn. Soc. 84: 7, 20. 1982; Fern & Fern-allies Arun. Prad. I. 405. 2005.

Polypodium auriculatum L., Sp.Pl. 2: 1088. 1753.

Nephrolepis cordifolia sensu auct. pl., non (L.) Presl (1836); Trans. Linn. Soc. London ser. II. Bot. 1: 541. 1880, *p.p.*

Rhizome short, erect, paleaceous at apex; roots thick, bearing fleshy tubers; Fronds 35-50 x 4.5-5.0 cm, tufted, linear-elliptic, acuminate, pinnate; stipes 4-6 cm long, pale brownish, paleaceous; pinnae largest in the middle of the fronds, 20-25 x 7-8 mm, sessile, alternate, drying pale green. Sori median, terminal, indusium reniform.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2473, dated 11.11. 2003; Tamsong TE, AP Das & Chandrâ 2233, dated 05.09. 2003.

Status: Abundant.

Local Distribution: In all gardens

General Distribution: India, Tropical Asia.

Note: Tubers are edible and decoction of the fresh fronds given in cough and highly ornamental.

PARKERIACEAE Hooker

CERATOPTERIS Ad. Brongniart

Ceratopteris thalictroides (L.) Brongniart in Bull. Sci. Soc. Philom. Paris 1821: 186. cum *tabula*, 1822; Handb. Ferns Brit. Ind.: 123. 1883; Fern & Fern-allies Arun. Prad. II. 430. 2005.

Acrostichum thalictroides L., Sp. Pl. 2: 1070. 1753.

Rhizome short, erect, roots fibrous, annual in marshes or on moist soil. Fronds dimorphic, herbaceous; sterile fronds 5-40 x 3-25 cm, ovate-lanceolate, lobed. Stipes wrinkled on drying.

Fertile fronds 3-100 x 3-40 cm, lanceolate, acute to acuminate. Stipes similar to sterile fronds; lamina 3-60 x 3-40 cm, acute to acuminate. Sporangia dorsal, solitary, indusium absent.

Specimen Cited: Hansqua TE, AP Das & Chandrâ 1664, dated 13.11. 2002.

Status: Abundant.

Local Distribution: All Terai gardens

General Distribution: India; Pantropics and Subtropics.

Note: Mabberley (1987) states that "much cultivated in flooded rice fields etc. as a spring vegetable (esp. Japan)"; also used as poultice in skin complaints and as tonic in styptic.

Vegetative fronds are edible both as green salad and after cooking as potherb.

POLYPODIACEAE Bercht. & J.S. Presl

ARTHROMERIS (T. Moore) J. Smith

Arthromeris himalayansis (Hooker) Ching, Contrib. Inst. Bot. Nat. Acad. Peiping 2: 99 1933; FEH 489.1966; Candollea 27:279.1972; FEH 3: 195.1975.

Polypodium himalayense Hooker, Sp. Fil. 5: 91 (1863).

Rhizomes creeping, thick, long acuminate, paleaceous; Fronds up to 50-60 x 15-18 cm, distant, imparipinnate. Stipes ca 12 cm long, articulated, glabrous, slender. Lamina up to 40 cm long; pinnae up to 15 x 6 cm, subsessile, ovate-lanceolate, serrulate, acute to acuminate. Sori globose, paraphyses absent.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2809, dated 25.03. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: Eastern Himalaya, Western China and North Burma.

Arthromeris lehmanni (Mettenius) Ching in Contrib. Inst. Bot. Nat. Acad. Peiping 2: 96. 1933; Fern & Fern-allies Arun. Prad. II. 442. 2005.

Polypodium lehmanni Mettenius, Abh. Senck. Naturf. Ges. 2(1): 109. Oct. 1857 (Farngett. 1: 117. t. 3. f. 35. 1857).

Rhizomes wide creeping, thick, paleaceous; paleae peltate, brown. Fronds up to 50 x 15 cm, distant, paripinnate. Stipes ca 13 cm, articulated, glabrous, slender. Lamina up to 30 cm long; pinnae up to 15 x 1.8 cm, sessile, lanceolate, entire, acuminate. Sori globose in 2-rows in between 2-lateral veins.

Specimen Cited: Soom TE, AP Das & Chandrâ 3266, dated 26.06. 2004.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Myanmar, Vietnam, China.

Arthromeris wallichiana (Sprengel) Ching, Contr. Inst. Bot. Nat. Acad. Peiping 2: 92 (1933); FEH 490. 1966; FEH 3: 196.1975.

Polypodium wallichianum Sprengel, Syst. Veg. 4: 53 (1827), based on *P. juglandifolium* D Don.

Rhizomes wide creeping, thick, paleaceous; Fronds up to 40 x 12 cm, distant, imparipinnate. Stipes ca 13 cm, articulated, glabrous, slender. Lamina up to 30 cm long, leathery; pinnae up to 12 x 1.5 cm, sessile, lanceolate, entire, acuminate. Sori globose in 2-rows, between 2-lateral veins.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 3341, dated 26.09. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: India, Nepal.

COLYSIS C. Presl

Colysis decurrens (Blume) Panigrahi, Abstr. and Souv. Nation. Symp. Curr. Trends Pterid. 1991: 13. 1991; Ferns Fern-All. Arun. Prad. II. 447. 2005.

Leptochilus decurrens Blume, Enum. Pl. Javae: 206. 1828.

Rhizomes wide creeping, paleaceous; Fronds simple, strongly dimorphic. Sterile 40-50 x 6- 7.5 cm, grooved, paleaceous at the base; lamina elliptic-lanceolate, entire, repand, subacuminate. Fertile 30-50 x 0.8- 1 mm, stipes 30-50 cm, grooved, lamina linear, entire. Sori acrostichoid covering entire lower surface of the lamina.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3081, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Myanmar, Malaya, Vietnam, China, Taiwan, Malesia to Polynesia.

DRYNARIA (Bory) J. Smith

Drynaria propinqua (Wallich ex Mettenius) J. Smith [in J. Bot. 4: 61. 1841] ex Beddome, Ferns Brit. Ind.: t. 160. 1866, & Handb. Ferns Brit. Ind.: 339. t. 189. 1883; Ferns Fern-All. Arun. Prad. II. 456. 2005.

Polypodium propinquum Wallich ex Mettenius In Abh. Senck. Naturf. Ges. (Farngatt.) 2: 120. t. 3. f. 50. 1857.

Rhizome long, creeping, thick, paleaceous; paleae peltate, ovate-lanceolate, long acuminate, brown with darker brown at sinus. Fronds dimorphic; sterile 16-22 x 15-18 cm, sessile, broadly ovate, pinnatifid, entire, acute, brown; fertile 25-50 x 16-25 cm long, paleaceous at base, lamina pinnatisect, ovate, caudate acute. Sori round, basal large, in two rows along the costae.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2520, dated 11.11. 2003.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: India, Nepal, Bhutan, Myanmar.

Drynaria quercifolia (L.) Small in J. Bot. 3: 398. 1841; Handb. Ferns Brit. Ind. 341. t. 191. 1883.

Polypodium quercifolium L., Sp. Pl. 1541. 1753.

Epiphytic herb; rhizome scales linear, cordate, dark brown. Fronds dimorphic; sterile fronds overlapping the base of fertile fronds; fertile fronds ovate to oblanceolate, ca 30-70 cm long, pinnatisect, stipitate. Sori small, copious, biseriate lamina in between lateral veins.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 1877, dated 10.06. 2003..

Status: Abundant.

Local Distribution: In all gardens

General Distribution: India, China, Malaya, Tropical Australia.

GONIOPHLEBIUM (Blume) C. Presl

Goniophlebium argutum (Wallich ex Hooker) Beddome, Ferns Br. Ind. pl. 6 (1865), (1883) 323, f. 174; Ferns Fern-All. Arun. Prad.II. 459. 2005.

Polypodium argutum Wallich ex Hooker Sp. Fil. 5:32.1863 ;FEH 497 .1966; FEH 3: 202.1975.

Rhizome wide-creeping, paleaceous, thick. Paleae peltate, ovate-lanceolate, entire, acuminate, brown. Fronds with long glabrous stipes. Lamina long with lobes subulate-lanceolate, base dilated, subentire to distantly minutely crenate, acuminate, costate, blackish, sparsely paleaceous below. Sori rounded, median, terminal, sunk, brown.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3571*, dated 12. 10. 2004.

Status: Less Common

Local Distribution: Found only in Soom garden

General Distribution: India, Thailand, Indo-China, China, Philippines.

MICROSORUM Link

Microsorium dilatatum (Beddome) Sledge in Bull. Br. Mus. Nat. Hist. (Bot.) 2: 143.1960; Ferns Fern-All. Arun. Prad.II. 474. 2005.

Pleopeltis dilatata Beddome, Ferns Brit. India: t.122.1866.

Rhizomes creeping, thick, paleaceous; roots many; paleae pseudopeltate, lanceolate, acuminate, brown; Fronds 40-100 x 20-50 cm, distant; stipes winged. Lamina up to 90 cm, elliptic broad, caudate acute, pinnatifid; lobes subulate-lanceolate to elliptic or oblong, acuminate, entire. Sori rounded to slightly elongated, interrupted, superficial, dorsal, scattered irregularly beneath.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2094*, dated 30.06. 2003.

Status: Less Common

Local Distribution: Found only in Tamsong garden

General Distribution: India, Sri Lanka, Nepal, Myanmar, Malaya, China, Taiwan, S. Japan.

Microsorium membranaceum (D. Don) Ching, Bull. Fan Mem. Inst. Biol. 4: 309 (1933); FEH 495 .1966; 3: 201.1975.

Polypodium membranaceum D. Don, Prodr. Fl. Nepal.: 2. 1825. Ferns of N. India, 560, 1973.

Rhizomes stout, shortly creeping, with ovate lanceolate scales; fronds large, lanceolate, thin, membranous, green, gradually narrowed at the base to a short stipe; Sori many, rarely coalescent, on the anastomosing veinlets included in the areola between the secondary veins.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3198*, dated 26.06. 2004.

Status: Rare

Local Distribution: Found only in Soom garden

General Distribution: India, Sri Lanka.

Microsorium pteropus (Blume) Copel. in Uni. Calif. Publ. Bot. 16: 112. 1929; Ferns Fern-All. Arun. Prad. II. 479. 2005.

Polypodium pteropus Blume, Enum. Pl. Javae addenda: 3. 1828, & Fl. Jav. Fil. : 168. t. 76. 1829.

Rhizomes wide creeping, paleaceous, brown with dense hairs; paleae ovate-lanceolate, entire, acute. Fronds 15-35 x 10-17 cm; stipes 15 cm, densely paleaceous. Lamina up to 20 cm long,

deltoid to rhomboid, trilobed, elliptic-lanceolate, entire, acuminate, drying dark green. Sori rounded to oblong.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3036, dated 10.04. 2004.

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Sri Lanka, Nepal, Bhutan, Myanmar, Malaya, China, Vietnam, Philippines.

NEOCHEIROPTERIS Christ

Neochheiropteris normalis (D. Don) Tagawa in J. Jap. Bot. 27: 217.1952. Ferns Fern-All. Arun. Prad. II. 487. 2005.

Polypodium normale D. Don, Prod. Fl. Nepal. 1: 1825.

Rhizomes wide creeping, stout, paleaceous. Roots sparse, long, stout. Paleae peltate, ovate to circulate, toothed, dark brown, long pale hairs at sinus. Fronds simple, narrow, elliptic-lanceolate, sessile to stipes, repand, acuminate. Rachis raised on lower surface and sparsely paleaceous. Sori round, large, superficial, nearer to rachis in one row on each side.

Specimen Cited: Soom TE, AP Das & Chandrâ 2647, dated 27.12. 2003.

Status: Rare

Local Distribution: Found only in Soom garden

General Distribution: India, Nepal, Bhutan, N. Myanmar, S. China, Thailand, Malaya, Indonesia.

PHYMATOSORUS Pichi-Sermolli

Phymatosorus cuspidatus (D. Don) Pichi-Sermolli in Webbia 31:249.1977; Ferns Fern-All. Arun. Prad. II. 496. 2005.

Polypodium cuspidatum D. Don, Prod. Fl. Nepal.: 2. 1825.

Rhizomes wide, creeping, paleaceous; paleae circular, peltate, entire. Fronds 80-120 x 20-45 cm, caudate-acuminate, pinnate. Stipes 30-50 cm, grooved, smooth. Lamina 50-70 cm; pinnae 9-11 pairs, 15-25 x 1.5-3 cm, lanceolate, entire, acuminate. Sori round in two rows, dorsal on veins, sunken, papillae on dorsal side.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2799, dated 25.03. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: India, Nepal, Vietnam, China, Vietnam, Laos.

PLEOPELTIS Humboldt & Bonpland ex Willdenow

Pleopeltis bicolor (Takeda) Sledge in Bull. Br. Mus. Nat. Hist. 2(5): 138. 1960; Ferns Fern-All. Arun. Prad. II. 503. 2005.

Polypodium excavatum var. *bicolor* Takeda in Notes R. Bot. Gard. Edinburgh 8: 280. 1915.

Rhizomes creeping, short, paleaceous; paleae 6 x 2.5 mm, peltate, lanceolate, toothed, acute, bicolorous. Fronds 35-45 x 2.5-2.7 cm; stipes 0.5- 1 cm long, paleaceous; lamina elliptic lanceolate, long acuminate, reticulate. Sori round, median, large, sunk, paraphyses long stalked, peltate.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0054, dated 27.01.2002.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, China.

Pleopeltis contorta (Christ) Alston & Bonner in *Candollea* 15: 209. 1956; Ferns Fern-All. Arun. Prad. II. 503. 2005.

Polypodium lineare var. *contortum* Christ in *Nuovo Giorn. Bot. Soc. Ital.* n.4: 98. pl. 1. f.3. 1897.

Rhizome wide creeping, paleaceous; paleae peltate, lanceolate, brown. Fronds 15-25 x 0.5-1 cm; stipes 0.5-1.5 cm long, paleaceous at the base; lamina narrow linear to elliptic-lanceolate, entire in sterile portions to repund in fertile portion, long acuminate; Sori rounded to oblong, median, paraphyses brown, shortly stalked, dentate.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2283, dated 05.09. 2003.

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, China, Tibet.

Pleopeltis leiopteris (Kuntze) S. Singh & Panigrahi in *J. Hill Res.* 3: 18. 1990; Ferns Fern-All. Arun. Prad. II. 506. 2005.

Polypodium leiopteris Kuntze in *Linnaea* 23: 279, 319. 1850.

Rhizomes wide creeping, densely paleaceous; roots thin, short; paleae peltate, lanceolate, dull brown, persistent on rhizomes and rachis. Fronds 30-37 x 1.6 cm; stipes to 1 cm, paleaceous at base, glabrous. Lamina narrow linear-elliptic, acuminate; Sori round, large, near midvein in two rows, slightly sunk.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2096, dated 30.04. 2003.

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, China, Thailand.

Pleopeltis macrosphaera (Baker) Panigrahi & Patnaik in *Proc. Nat. Acad. Sci. India, B*, 34: 481. 1964; Ferns Fern-All. Arun. Prad. II. 511. 2005.

Polypodium macrosphaerum Baker in *Kew Bull.*: 55. 1895.

Rhizomes short creeping, paleaceous; paleae peltate, ovate-elliptic, entire, obtuse, brown, bicolorous, deciduous. Fronds 20-40 x 1.5-1.8 cm, close; stipes 3-4 cm, glabrous; lamina linear-elliptic, entire or repand, acuminate, reticulate. Sori round, on vein plexus, submarginal, paraphyses brown, long stalked, subentire.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3089, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Tamsong garden

General Distribution: India, China.

Note: New record for West Bengal.

Pleopeltis nuda Hook., *Exot. Fl.* 1: t. 63. 1823; Ferns Fern-All. Arun. Prad. II. 513. 2005.

Pleopeltis wightiana (Hook.) Beddome, *Ferns S. India*: 60. t. 180. 1864.

Rhizomes widely creeping, drying blackish brown, paleaceous; roots long, less branched, subglabrous. Paleae peltate, lanceolate, subentire, acute, thin, brown. Fronds 15-26 x 1.8-2.3 cm.

Stipes 1.5-3.5 cm, glabrous; lamina elliptic lanceolate, entire, gradually acuminate. Sori round, sunk papillate dorsally on vein-plexus.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3223*, dated 26.06. 2004.

Status: Rare

Local Distribution: Found only in Soom garden

General Distribution: India, Sri Lanka, Nepal, Thailand, China.

PYRROSIA Mirbel

Pyrrrosia lanceolata (L.) Farwell in Amer. Midland. Nat. 12: 245. 1931; Ferns Fern-All. Arun. Prad. II. 537. 2005.

Acrostichum lanceolatum L., Sp. Pl. 2: 1067. 1753.

Rhizomes wide-creeping, paleaceous. Paleae up to 6 x 0.5 mm, peltate, lanceolate, long toothed to hairy, acuminate, brown. Fronds up to 11 x 0.5 cm, sessile. stipes ca 1 cm, elliptic to lanceolate, entire, acute. Sori globose, close, sunk, stellate-hairs with lanceolate arms.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2818, dated 25.03. 2004.

Status: Common

Local Distribution: Found only in Makaibari garden

General Distribution: India, Sri Lanka, China, Polynesia.

Note: New record for West Bengal.

PTERIDACEAE Reichb.

ALEURITOPTERIS Fee

Aleuritopteris albo-marginata (C.B.Clarke) Ching in Hong Kong Nat. 10: 199. 1941; Ferns Fern-All. Arun. Prad. II. 560. 2005.

Cheilanthes albo-marginata C. B.Clarke in Trans. Linn. Soc. London. Ser. II. Bot. 1: 456. f. 52. 1880; Handb. Ferns Brit. India: 94. 1883.

Rhizomes short, paleaceous; roots thick; Fronds 30 x 8 cm, deltoid or ovate-lanceolate, bipinnatifid; stipes up to 12 cm, blackish brown, paleaceous. Lamina up to 18 cm; pinnae 4 x 3.5 cm, basal pair largest, sessile, oblique deltoid, acute, margin irregular; Sori marginal, terminal, indusium false, broad reniform; sporangium very few.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3421*, dated 12. 10. 2004.

Status: Abundant.

Local Distribution: In all gardens

General Distribution: India, Nepal, Bhutan, China.

PTERIS L.

Pteris aspericaulis Wallich ex J. Agardh, Rec. Spec. Gen. Pterid.: 22. 1839; Ferns Fern-All. Arun. Prad. II.: 565.2005

Pteris quadriaurita Retz. var. *aspericaulis* (Wallich ex J. Agardh) Bedd., Handb. Ferns Brit. India: 111. 1883.

Pteris aspericaulis Wallich, Num. List No. 107. 1829, *nom. nud.*

Rhizomes erect, medium sized, paleaceous at apex. Roots firm, brown. Fronds 80-100 x 30-40 cm, tufted, ovate to ovate-lanceolate, caudate acuminate, bipinnatisect. Lamina 30-40 cm long



with 3-7 pairs pinnae, basal most or 2 nd pair the largest. Sori marginal, elongated, reaching sinus and almost to tip with dark brown spores.

Specimen Cited: Hansqua TE, AP Das & Chandrâ 1065, dated 09.05.2002.

Status: Common

Local Distribution: All Terai gardens

General Distribution: India, Nepal, Myanmar, Thailand, China.

Pteris biaurita L., Sp. Pl. 2: 1076. 1753; Ferns S. India : t. 44. 1863; Fern & Fern-allies Meghalaya 110. 1982; Ferns Fern-All. Arun. Prad. II.: 569.2005

Terrestrial fern; rhizome short with many crowded roots. Scales linear-lanceolate, dark brown. Lamina deeply two pinnatifid, glabrous; pinnae 5-9 pairs with a single apical pinna. Fertile pinnae narrower and shorter than sterile ones. Sori confluent along the margin of the sinus but not reaching the apex of lobes.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0923, dated 04.05. 2002; Makaibari TE, AP Das & Chandrâ 2571, dated 11.11. 2003; Soom TE, **AP Das & Chandrâ 2659**, dated 27.12. 2003; Tamsong TE, AP Das & Chandrâ 2033, dated 30.06. 2003.

Status: Abundant.

Local Distribution: All Terai gardens

General Distribution: India, China, Malaysia, Sri Lanka, Philippines, Australia, Africa.

Pteris ensiformis N. Burm., Fl. Ind.: 230 1768; Handb. Ferns Brit. Ind. 107.t.58. 1883; Fern & Fern-allies Arun. Prad. II. 576. 2005.

Rhizomes creeping, short, paleaceous. Fronds dimorphic. Pinnae sessile, deltoid lanceolate, serrate, acute. Sori marginal, elongated, uninterrupted.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2560, dated 11.11. 2003.

Status: Less Common

Local Distribution: Found only in Makaibari garden

General Distribution: India: throughout, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, China, Japan, Taiwan, Philippines, Malaya Islands, Tropical Australia, Polynesia, Micronesia.

Pteris semipinnata L., Sp.Pl. 2: 1076. 1753; Handb. Ferns Brit. Ind.: 109. t. 58. 1883; Ferns Fern-All. Arun. Prad. II. 591. 2005.

Pteris dimidiata Willd., Sp.Pl. 5: 381. 1810.

Rhizome erect, short, paleaceous, hard. Fronds 50–65 x 15-25 cm, pinnate, caudate acuminate. Stipes 20-30 cm, brown lustrous, grooved, smooth. Lamina 30-40 cm; pinnae 12-18 x 5-8 cm, sessile, long acuminate, sterile serrate, fertile entire, costae brown. Sori marginal, elongated, interrupted at sinus and apex of lobes.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 1900, dated 10.06. 2003.

Status: Common

Local Distribution: All Terai gardens

General Distribution: India, Nepal, Bhutan, Myanmar, S. E. China, Malaya peninsula, Japan, Taiwan, Philippines, Borneo.

Pteris vittata L., Sp. Pl. 2: 1074. 1753; Ferns Fern-All. Arun. Prad. II: 605, 2005.

Pteris longifolia auct, quoad pl. Asia; sensu Beddome, Handb. Fern Brit. India: 106 t. 55. 1883, p.p.

Rhizomes erect, short, paleaceous; paleae up to 4 x 0.5 mm, basifixed, entire, acuminate, pale, thin. Fronds 50-75 x 18-22 cm, oblanceolate, caudate-acute, pinnate; stipes 10-15 cm, grooved, pale brown. Lamina 40-60 cm; pinnae up to 12 x 0.7 cm, sessile, linear to subulate-lanceolate. Sori marginal, elongated, indusium entire, thick, pale brown.

Specimen Cited: Kamalpur TE, AP Das & Chandrâ 0576, dated 20.04.2002.

Status: Abundant.

Local Distribution: In all gardens

General Distribution: India, Cosmopolitan.

PTERIDIACEAE Ching

PTERIDIUM Gleditsch ex Scopoli

Pteridium aquilinum (L.) Kuhn subsp. *aquilinum* var. *wightianum* (J. Agardh) Tryon in Rhodora 43: 22. pl. 650. f. 1, pl. 651. f. 3. 1941; Ferns Fern-All. Arun. Prad. II: 610, 2005.

Rhizomes wide creeping, thick, hairy. Fronds up to 150 x 100 cm, 4-7 m tall, ovate, tripinnatifid; stipes 60 cm, grooved. Lamina up to 100 cm; pinnae 40-45 x 15-35 cm, opposite, bipinnatifid, oblong-lanceolate/ ovate-acuminate, densely hairy. Pinnules up to 20 x 3 cm, alternate to opposite, sessile, oblong-lanceolate, deeply pinnatifid, smooth. Sori marginal, elongated, indusium double, paraphyses absent.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0317, dated 16.02. 2002;

Tamsong TE, AP Das & Chandrâ 2255, dated 05.09. 2003.

Status: Very common

Local Distribution: In all gardens

General Distribution: India, Sri Lanka, Nepal, Bhutan, Myanmar, Thailand, Vietnam, Taiwan, Java, Indonesia, Philippines, North and South America.

Note: Boiled rhizomes eaten during scarcity, or grounded into flour for making bread. Rhizomes used for brewing local beer; contains bitter saponin toxic to fish and non-toxic to rabbits. Young fronds used as vegetables, as soup, fodder and dried fronds as packing material. Rhizome astringent and anthelmintic; proves fatal when consumed more and solely. Used formerly as a source of potash for making glass and soap, for thatch, swine food, bedding material for animals and man. Young leaves contain a nerve poison and are carcinogenic. In Japan, the young leaves are consumed and cause stomach cancer.

SELAGINELLACEAE Palisot de Beauvois

SELAGINELLA Palisot de Beauvois

Selaginella bisulcata Spring, Mém. Acad. Sci. Belg. 24: 259 (1850); FEH 2:200 .1971; 3: 167.1975.

Common Name: Spike Moss

Rhizomatous, bushy, creeping, erect bases bearing soft branches arched outward, successively branching and lacy cut to narrow skeleton segments. Stems long, rooting at prostrate base only.

Stem leaves distant, almost uniform, adpressed, oblique-ovate, entire. Strobili 5-6 mm long. A laminar flap present on the adaxial surface of larger sporophylls.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2640*, dated 27.12. 2003.

Status: Very common

Local Distribution: In all gardens

General Distribution: N. India, Yunnan, Burma, and N. Thailand.

Note: Highly ornamental, much cultivated in gardens as potted plants or trained in trellis as climbers, as potted plants they decorate indoors due to their attractive feathery foliage. Sold in Indian markets as resurrection plant. It is reputed as 'Sanjeevany' and is sold during summer as cooling agent.

Selaginella monospora Spring in Mem. Acad. Roy. Sci. Belg. 24: 135. 1850; Ferns Fern-All. Arun. Prad.I. 62. 2005.

Plants 15-50 cm long, prostrate-ascending; stems thin at base, glabrous, rooting in lower ½ to 2/3 of stem. Stem-leaves dimorphic, dorsal leaves adpressed, broad ovate, toothed, ventral leaves overlapping, oblique-ovate, obtuse. Branch axillary-leaves broad ovate, acute. Strobili terminal, simple; sporophylls uniform, spiral, broad ovate, acuminate, green.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2447, dated 05.11. 2003.

Status: Very common

Local Distribution: All three hill gardens

General Distribution: India, Nepal, Bhutan, Myanmar, Thailand, China, Vietnam.

Selaginella semicordata (Wallich ex Hooker & Grev.) Spring in Mart. Fl. Bas. 1(2): 122. 1840; Ferns Fern-All. Arun. Prad. I. 69. 2005.

Lycopodium semicordatum Wallich ex Hooker & Grev. in Hook. Bot. Misc. 2: 396. 1831.

Plants prostrate-ascending, 10-20 cm long, glabrous, pinnately branched, rooting in basal 2/3rd, rhizophores long, axillary; stem leaves dimorphic; dorsal leaves antrorse, ovate-oblong, entire, acute; lateral leaves broad ovate, entire, acute. Branch axillary-leaves ovate, entire, acute. Strobili 5-8 mm long, simple, terminal; sporophylls uniform, ovate lanceolate, entire, acuminate, keeled.

Specimen Cited: Kamalpur TE, AP Das & Chandrâ 0420, dated 27.02.2002; Makaibari TE, AP Das & Chandrâ 2789, dated 25.03. 2004.

Status: Less Common

Local Distribution: All Terai gardens

General Distribution: India, Nepal, Bangladesh, Myanmar, Malaya Peninsula.

Selaginella tenuifolia Spring in Mem. Acad. Roy. Sci. Belg. 24:253.1850; Ferns Fern-All. Arun. Prad. I. 71. 2005.

Plants 4-7 cm long, rooting at base, rhizophores small in basal 2-3 nodes. Stems glabrous, c.1 mm across, drying stramineous, pinnately branched. Branches further pinnately branched, glabrous, slender. Stem leaves dimorphic. Strobili 5-7 x 3-3.1 mm with dimorphic sporophylls. Spores yellow, tuberculated on dorsal side.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3586*, dated 12. 10. 2004.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Myanmar, Thailand, Laos.

TAENITIDACEAE (C. Presl) Pichi Sermolli

ONYCHIUM Kaulfuss

Onychium siliculosum (Desvaux) C. Christensen, Ind. Fil.: 469. 1906; Ferns Fern-All. Arun. Prad. II. 619. 2005.

Pteris siliculosa Desv., Naturforsch. Freund. Berl. Mag. 5: 324. 1811.

Common Name: *Golden Fern*

Rhizomes erect, short, brown, paleaceous. Fronds 25-80 x 8- 25 cm, deltoid to lanceolate, tripinnate to quadripinnate, sterile fronds more dessected; fertile fronds ovate-lanceolate; stipes 13-40 cm, paleaceous at base, grooved. Lamina 13-30 cm long; pinnae lowest pair the largest. Sori marginal elongated to almost entire, indusium entire, thin, waxy powder yellow, opening at maturity.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 1604, dated 22.10. 2002.

Status: Very common

Local Distribution: In all gardens

General Distribution: India, Nepal, Bhutan, Myanmar, Vietnam, W. China, Malaysian Islands, Taiwan, Philippines

Note: Decoction of the fronds used in dysentery.

TECTARIACEAE (Holttum ex Nayar) Panigrahi

TECTARIA Cavanilles

Tectaria coadunata (J. Smith) C. Christensen in Contrib. U. S. Nation. Herb. 26: 331. 1931; Ferns Fern-All. Arun. Prad. II. 633. 2005.

Sagenia coadunata J. Bot. 4: 184. 1841; Ferns S. India: 28. t. 81. 1863.

Pinnae ca 50 x 30 cm wide, tripinnatifid, oblong, caudate acute; costae grooved. Pinnules ca 13 x 10-13 cm, suopposite, oblong, acuminate. Lobes broad ovate, obtuse, shallowly lobed to entire. Sori round, terminal on included veinlets in 2-rows along midvein in areoles, slightly sunk; indusium large, persistent reniform, thin, subentire.

Specimen Cited: Soom TE, AP Das & Chandrâ 3204, dated 26.06. 2004; Tamsong TE, AP Das & Chandrâ 2167, dated 30.06. 2003.

Status: Very common

Local Distribution: In all gardens

General Distribution: India, Sri Lanka, Myanmar, S. W. China, North Malaysia, Taiwan, Thailand.

Note: Used as medicine in acute cases of diarrhoea in children and other stomach troubles and eaten as salad.

Tectaria dubia (C.B. Clarke & Baker) Ching in Sinensia 2(2): 23. pl. 5. 1931; Ferns Fern-All. Arun. Prad. II. 637. 2005.

Nephrodium cicutarium var. *dubia* C.B. Clarke & Baker in J. Linn. Soc. London 24: 417. 1888.

Rhizomes erect. Fronds bipinnatifid; rachis densely pubescent, brown; pinnae alternate, acuminate; pinnae lobes up to 3.5 x 7-9 mm, gradually acuminate, repand, margin distantly hairy; hairy below, sparsely hairy above. Sori round, terminal, indusium large, sporangiophore long.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2543, dated 11.11. 2003.

Status: Common

Local Distribution: In Terai and low altitude areas

General Distribution: India: West Bengal, Assam, Arunachal Pradesh; endemic.

Note: New record for West Bengal.

Tectaria fuscipes (Wallich ex Beddome) C. Christensen in Contrib. U.S. Nation. Herb. 26: 290. 1931; Ferns Fern-All. Arun. Prad. II. 637. 2005.

Aspidium fuscipes Wallich ex Beddome Ferns Brit. India Suppl.: 15. t. 366. 1876.

Rhizomes erect, paleaceous at tip; fronds tufted, subdimorphic, bipinnatifid; fertile narrow and long than sterile, 26-40 x 6-11 cm; stipes grooved dorsally, 12-23 cm; lamina deltoid, caudate acute; pinnae 3-4 pairs below deeply pinnatifid apex, opposite, repand, obtuse. Sori round, terminal, indusium reniform, brown, thin, persistent.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0042, dated 27.01.2002.

Status: Rare

Local Distribution: Found only in Mohurgong & Gulma garden

General Distribution: India: West Bengal, Assam, Arunachal Pradesh; Myanmar, China.

Note: New record for West Bengal.

THELYPTERIDACEAE Ching ex Pichi Sermolli

CYCLOSORUS Link

Cyclosorus jaculosus (Christensen) H. Ito in Bot. Mag. Tokyo 51: 725. f. 4. 1937, *non sensu* Panigrahi & Monton (1958); Ferns Fern-All. Arun. Prad. II. 685. 2005.

Rhizomes erect, thick, apex paleaceous; roots many; Fronds 125-200 x 18-30 cm, elliptic, caudate acuminate, bipinnatifid; stipes 10-20 cm, paleaceous at base, groove. Lamina 110-160 cm long, pinnae largest of lamina, sessile, oblong-lanceolate, gradually acuminate, entire. Sori round, median, indusium large, persistent, reniform.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 1610, dated 22.10. 2002.

Status: Common

Local Distribution: Found only in Mohurgong & Gulma garden

General Distribution: India: West Bengal, Meghalaya, Arunachal Pradesh; Thailand, China, Japan.

Notes: New record for West Bengal.

Cyclosorus namburensis (Beddome) Ching in Bull. Fan Mem. Inst. Biol. Bot. 8: 216. 1938; Ferns Fern-All. Arun. Prad. II. 692. 2005.

Nephrodium namburense Beddome, Handb. Ferns Brit. India Suppl.: 69. 1892.

Rhizomes long, creeping, paleaceous. Fronds 75-120 x 24-28 cm, ovate, caudate acuminate, bipinnatifid. Stipes 35-45 cm, curved, base paleaceous. Lamina 50-90 cm; pinnae large, 12-17 x 2-2.5 cm, 9-10 pairs, oblong, gradually acuminate, entire, glandular hairy. Sori round, divergent in basal lobes, close to excurrent vein, supramedial; indusium reniform, persistent, thick, entire.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 1632, dated 22.10. 2002.

Status: Less Common

Local Distribution: All Terai gardens

General Distribution: India: West Bengal, Assam, Arunachal Pradesh; Thailand.

Note: New record for West Bengal.

Cyclosorus siamensis (Tagawa & Iwats.) Panigrahi in Research J. Pl. Environ. (Bhambie Comm. Vol.) 9: 67. 1993. Ferns Fern-All. Arun. Prad. II. 702. 2005.

Thelypteris siamensis Tagawa & K. Iwats. in Acta Phytotax. Geobot. 22: 101. f. 5. 1967.

Rhizomes erect, short, apex paleaceous; fronds 95 x 15-17 cm, elliptic lanceolate, caudate acuminate, bipinnatifid. Stipes 40 cm, grooved dorsally and laterally, paleaceous; lamina 55 cm; pinnae 16 pairs, sessile, oblong lanceolate, acumination long, entire, margin hairy. Sori round, median to nearer to midvein; indusium reniform, persistent, densely hairy on surface.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 1648, dated 24.10. 2002.

Status: Very common

Local Distribution: In Terai and low altitude areas

General Distribution: N.E. India, Thailand, China, Taiwan.

Note: New record for West Bengal.

PRONEPHRIUM C. Presl

Pronephrium clarkei S. Singh & Panigrahi, Fern & Fern-allies of Arunachal Pradesh II. 726. 2005.

Rhizomes creeping, stout, paleaceous. Roots many, firm. Fronds very small in fully-grown and fertile plants, widely spaced, rhomboid or lanceolate-ovate, pinnate. Lamina 12-18 cm, glabrous, surface pustular, drying whitish pale, coriaceous. Sori round, median; spores plenty brown.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2519, dated 11.11. 2003.

Status: Common

Local Distribution: Found only in Makaibari garden

General Distribution: India: Arunachal Pradesh; endemic.

Note: New record for West Bengal.

Pronephrium nudatum (Roxburgh) Chandrâ in Bull. Bot. Surv. India 13: 274. 1971; Ferns Fern-All. Arun. Prad. II. 732. 2005.

Polypodium nudatum Roxburgh in Griffith, Calcutta J. Nat. Hist. 4: 491. 1844.

Rhizome creeping, paleaceous; paleae basifixed, lanceolate, entire, acuminate, pale brown. Fronds 90- 150 x 50 cm, pinnate, caudate acuminate. Stipes 60-90 cm, base paleaceous, grooved, hairy. Pinnae up to 30 x 5 cm, subopposite to alternate, sessile, about 10 pairs, densely hairy. Sori round, median, indusium small.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3309*, dated 26.06. 2004.

Status: Less Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Nepal, Bhutan, Bangladesh, Myanmar, Malaysia.

TRIGONOSPORA Holttum

Trigonospora caudipinna (Ching) Sledge in Bull. Br. Mus. Nat. Hist. (Bot.) 8: 15. 1981; Ferns Fern-All. Arun. Prad. II. 767. 2005.

Thelypteris caudipinna Ching in Bull. Fan Mem. Inst. Biol. 6: 288. 1936.

Rhizomes erect, apex blackish-brown paleaceous; fronds 100-110 x 20-25 cm, tufted, deltoid, caudate-acuminate, bipinnatifid. Stipes 50-70 cm, base paleaceous, grooved. Lamina 35-40 cm; pinnae 10-13 x 1.5-2.2 cm, sessile, pinnatifid, acuminate, oblique, entire. Sori round, nearer to midvein, indusium reniform, entire, thick.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2622*, dated 27.12. 2003.

Status: Rare

Local Distribution: Found only in Soom garden

General Distribution: India, Sri Lanka, Nepal, Bhutan, China.

VITTARIACEAE (C. Presl) Ching

VITTARIA J. E. Smith

Vittaria elongata Swartz, Syn. Fil.: 109, 302.1806; Handb. Ferns Brit. India: 404.f.238.1883; Ferns Fern-All. Arun. Prad. II. 791. 2005.

Rhizomes creeping, paleaceous throughout; Fronds 15-35 x 4.5 mm, subsessile to stipes up to 1.5 cm, base paleaceous. Lamina linear-lanceolate, long acuminate; rachis invisible. Sori long elongate, marginal, sunk; sporangium with thick stalk, glandular, paraphyses branched.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1150*, dated 14.06. 2002.

Status: Abundant.

Local Distribution: In Terai and low altitude areas

General Distribution: India: West Bengal, Sikkim, Arunachal Pradesh, Meghalaya; Africa, Sri Lanka, Bangladesh, Myanmar, Vietnam, Laos, Malaysia, Taiwan, Philippines, S. China, Australia.

Note: New record for West Bengal.

PINOPHYTA

[GYMNOSPERMS]

Only three species of Gymnospermic plants has been recorded from the seven Tea Gardens of Darjiling District under study. However, all of these are planted and only very few individuals found scattered in hill Tea Gardens.

PINACEAE Lindley

PINUS L.

Pinus roxburghii Sargent, Silva N. Amer. 11:9. 1897; FEH 1:40. 1966; 2:12. 1971; EFPN 1:26. 1978; FB 1 (1):46. 1983.

P. longifolia Roxb. ex Lambert, Descr. Gen. Pinus 1:29, 21. 1803.

Local Name: *Dhup* (Nep); *Pine* (Beng)

Evergreen trees upto 28m. Leaves upto 29cm long, drooping, fimbriate scales at base. Male cones in large clusters. Female cones sessile, 8-19 x 7-9.5cm, ovoid; scales upto 2.2 cm broad, woody, reflexed, curved upward; seeds 0.7-0.8 x 0.5cm; wings upto 1.5cm.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3089, dated 10.04. 2004.

Status: Frequently planted.

Local Distribution: All hill gardens.

General Distribution: Afghanistan, Himalayas (Kashmir-Bhutan).

Note: Timber useful, tapped resin produce turpentine.

TSUGA Carriere

Tsuga dumosa (D. Don) Eichler in Engl., Pfl. - fam. II, 1: 30, 1889; FEH 1: 41. 1966; FB 1(1): 50. 1983.

Pinus dumosa D. Don, Prodr. Fl. Nep. 55. 1825

Local Name: *Tengre Salla* (Nep).

Evergreen trees, 15-40m tall; branches puberulous. Leaves spiral, linear, margins inrolled downward, shiny white beneath, green above. Male cones almost globose; Female cones terminal, pendulous, ovoid; ovuliferous scales rounded, leathery; seeds ovoid, compressed, winged.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 3067, dated 10.04. 2004.

Status: Rarely planted.

Local Distribution: Found only in Tamsong garden.

General Distribution: Nepal, India (Kumaon, Sikkim, Darjeeling), Bhutan, N. Myanmar.

Note: Timber sometimes used in house construction.

TAXODIACEAE Warming

CRYPTOMERIA D. Don

Cryptomeria japonica (L.f.) D. Don. in Trans. Lin. Soc. 18: 167, t. 13, f. 1. 1841; FEH 1: 41. 1966; FB 1(1): 51. 1983.

Cupressus japonica L. f., Suppl. Pl. 421. 1781.

Local Name: *Dhupi* (Nep).

Tall tree to 35m or more with drooping branches. Leaves 0.65-1.1 cm, 4-angled, curved inwardly, acuminate, base decurrent. Male cones smaller, 0.65 - 0.95 x 0.28 - 0.35 cm. Female cones 1.2-1.4 cm, scales 3-6 toothed at apex; bracts adnate to scale, exerted. Seeds narrow elliptic.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3264*, dated 26.06. 2004.

Status: Frequently Planted.

Local Distribution: In all hill gardens.

General Distribution: Japan, China, introduced in India.

Note: Cultivated as a fast-growing timber tree.

MAGNOLIOPHYTA

[ANGIOSPERMS]

MAGNOLIOPSIDA

[DICOTYLEDONS]

ACANTHACEAE A. Jussieu

ASYSTASIA Blume

Asystasia macrocarpa Nees in Wallich, Pl. As. Rar. 3: 89. 1832; FBI 4: 495. 1885; FEH 1: 300. 1966.

Ascending undershrub to 2 m. Lamina lanceolate, acuminate at both ends, glabrous below, sparsely pilose above, dark green. Recemes short solitary, terminal of 2-6 cm with pale purple flowers in opposite pairs with linear bracts. Capsule 28-36 mm, glandular-pubescent.

Flowers & Fruits: June - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1917*, dated 10.06.2003.

Status: Less common

Local Distribution: Found only in Makaibari garden.

General Distribution: Subtropical Himalayas

BARLERIA L.

Barleria cristata L., Sp. Pl. 636.1753; FBI 4:488.1884; FB 2(3): 1281.2001

Pilose undershrub; branches, many, wiry. Leaves elliptic-oblong, both ends acute, pilose, spines absent. Flowers pinkish-purple in dense axillary clusters; bracts spinescent. Capsules oblong, glabrous, 4-seeded.

Flowers & Fruits: September – February

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2546*, dated 11.11. 2003

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Myanmar, Malaysia and China.

Barleria strigosa Willdenow, Sp. Pl. 3: 379. 1800; FB 2(3): 1281.2001

Strigose undershrub to 50cm. Lamina ovate or broadly elliptic, acute, attenuate at base and decurrent on petiole, strigose especially on margin and veins below. Petiole winged. Flowers blue – purple, 5-6.5cm, glandular-pubescent, subsessile in dense, shortly pedunculate, 1 sided, axillary cymes.

Flowers & Fruits: January - April

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0006*, dated 27.01. 2006.

Status: Rare

Local Distribution: Found only in Mohurgong & Gulma garden.

General Distribution: Tropical Himalayas, Myanmar, Indo –China

DICLIPTERA A. Jussieu

Dicliptera bupleuroides Nees in Wallich, Pl. As. Rar. 3: 111. 1832; FEH 1: 301. 1966; EFPN 3:139.1982.

Dicliptera roxburghiana Nees var. *bupleuroides* (Nees) C.B. Clarke in FBI 4: 554. 1885.

Perennial undershrubs, branches long, scrambling, ascending to 2m; lamina elliptic, entire or obscurely sinuate, shortly acuminate at both ends, dark green, glabrous or thinly pubescent. Flowers pink with white tube, lobes longer than tube in sessile or shortly pedunculate axillary and terminal clusters. Capsule clavate, pubescent, 7-8 mm.

Flowers & Fruits: October – June.

Specimen Cited: Makaibari TE, **AP Das & Chandrâ 2500**, dated 11.11. 2003; Kamalpur TE, **AP Das & Chandrâ 0517**, dated 17.04.2002

Status: Less Common

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: India, Nepal, Bhutan, China, Indo –China, Afghanistan

Dicliptera roxburghiana Nees in Wallich, Pl. As. Rar. 3:111. 1832.

Dicliptera roxburghiana non Nees: Clarke in Hook.f., FBI 4: 553. 1885.

Like *D. bupleuroides* but leaves more ovate; inflorescence more dense; corolla smaller.

Flowers & Fruits: October – June.

Specimen Cited: Hansqua TE, **AP Das & Chandrâ 1040**, dated 09.05.2002 ; Makaibari TE, **AP Das & Chandrâ 2528**, dated 11.11. 2003; Soom TE, **AP Das & Chandrâ 3573**, dated 12.10. 2004.

Status: Very common

Local Distribution: In all gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, Thailand

HYPOESTES R. Brown

Hypoestes triflora (Forsskal) Roemer & Schultes, Syst. Veg. 1: 141. 1817; FBI 4:557. 1884; FEH 2:123. 1971; EFPN 3:141. 1982; FB 2(3): 1293.2001

Justica triflora Forsskal, Fl. Aegypt.- Arab. 4.1775.

Small ramous semi-erect herbs, ±30cm tall; stem ribbed, pubescent; lamina ovate, crenate, acute, rounded at base, pubescent; cymes capitellate, 1-5 flowered; bracts and bracteoles opposite; corolla pinkish to white, red-spotted within, deeply bilipped; capsules ellipsoid, 4 seeded.

Flowers & Fruits: September – March

Specimen Cited: Makaibari TE, **AP Das & Chandrâ 2763**, dated 25.03. 2004; Soom TE, **AP Das & Chandrâ 2669**, dated 04.01.2004.

Status: Very common

Local Distribution: All three hill gardens.

General Distribution: W. Asia, Himalayas (Nepal-Bhutan), W. China.

Hypoestes sanguinolenta Hooker in Bot. Mag. 91: t. 5511. 1865.

Local Name: *Swapnabati* (Nep).

Erect, much branches undershrubs, braches slender. Lamina ovate, entire, shortly acuminate, green to brownish, white streaked. Flowers pink in terminal slender terete spikes.

Flowers & Fruits: September – June.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3411*, dated 12.10.2004; Makaibari TE, *AP Das & Chandrâ 1778*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2149*, dated 30.06.2003.

Status: Less Common

Local Distribution: All three hill gardens.

General Distribution: Nicely naturalized in subtropical hills.

Note: First record of naturalization in India.

JUSTICIA L.

Justicia adhatoda L., Sp. Pl. 1: 15. 1753; FB 2(3): 1287.2001

Adhatoda zeylanica Medicus in Hist. Comm. Acad. Theod. Palat 6 Phys. 393. 1790.

A. vasica Nees in Pl. As. Rar., 3: 103 1832; FBI 4: 540. 1885.

Local Name: *Asuro*, *Kalo vashak* (Nep), *Basak* (Beng)

Gregarious shrubs, 1-2 m tall. Lamina 8-18 cm, entire or undulate, acuminate or acute, base cuneate to attenuate, subcoriaceous, pubescent. Spikes peduncled, bracteate; corolla white, palate spotted; Capsules clavate; seeds suborbicular.

Flowers & Fruits: January – June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0430*, dated 05.04.2002; Hansqua TE, *AP Das & Chandrâ 0976*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0643*, dated 20.04.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Subtropical Himalayas, India, and Malaysia.

Note: Leaves and roots used to cure cough, cold and asthma; flowering shoots insecticidal.

Justicia diffusa Willdenow, Sp. Pl. 1: 87. 1797; FBI 4: 538. 1885; FB 2(3): 1288.2001

Justicia procumbens L., Sp. Pl. 15. 1753, *p.p.*

Much branched, diffuse perennial hairy herb. Lamina ovate-lanceolate, entire, acute, nerves 6 – 7 pairs. Flowers in erect terete dense spikes; bracts linear lanceolate, scarious margined; corolla pink, brown spotted near throat. Capsule oblong, glabrous.

Flowers & Fruits: October – May.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1282*, dated 18.10.2002.

Status: Common.

Local Distribution: Found only in Kamalpur garden.

General Distribution: India, Nepal, Bhutan, Sri Lanka, Myanmar, Thailand

Justicia gendarussa Burman f., Fl. Ind. 10. 1768; FBI 4: 532. 1885; FB 2(3): 1287.2001

Gendarussa vulgaris Nees in Wallich, Pl. As. Rar. 3: 104. 1832.

Shrubs 1-1.5 m, stem dark brownh, glabrous; lamina lanceolate or narrowly elliptic, tapering to obtuse apex, attenuate, glabrous, purplish. Spikes terminal and axillary, 2-11cm; corolla white with purple streaks, glabrous; flowers in clusters along rachis with leafy bracts.

Flowers & Fruits: October – May.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0496*, dated 17.04. 2004

Status: Less Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, Thailand

Justicia simplex D.Don, Prodr. 118. 1825; FBI 4: 539. 1885; FB 2(3): 1288. 2001.

Justicia japonica Thunb., Fl.Jap. 20.1784.

Wiry annual herbs; stems decumbent, rooting at nodes, thinly bifariously pubescent. Lamina ovate-elliptic, acute, attenuate at base, thinly pilose. Spikes simple, terminal, hairy, sometimes interrupted below; corolla pink, glabrous; bracts slender. Capsule cylindric, hairy at tip.

Flowers & Fruits: August - November

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0913*, dated 04.05.2002.

Status: Less Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Sri Lanka, Myanmar, Thailand, Malaya

LEPIDAGATHIS Willdenow

Lepidagathis incurva Buch.–Ham.ex D. Don, Prodr. Fl. Nep. 119. 1825; FEH 1: 303. 1966; EFPN 3:142.1982; FB 2(3): 1286.2001.

Lepidagathis hyalina Nees in Wall., Pl. As. Rar. 3: 95. 1832; FBI 4: 521. 1885.

suffrutescent herbs, glabrescent, branches ascending to 50 cm. Lamina of lower leaves ovate, upper elliptic, acuminate, base rounded, glabrous or shortly glandular-pubescent. Flowers white, streaked with purple c1 cm, glabrous in dense, 1 sided, sessile heads, in terminal clusters.

Flowers & Fruits: November – June

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2556*, dated 11.11. 2004

Status: Very common

Local Distribution: All three hill gardens. Rarely in Terai during winter

General Distribution: Subtropical Himalayas, China, Malaysia.

NELSONIA R. Brown

Nelsonia canescens (Lamarck) Sprengel in L., Syst. Veg. ed. 16.1:42.1824. 1884; FB 2(3): 1250.2001.

Justicia canescens Lamarck, Tab. Encycl. Method Bot. 1:40. 1791.

Nelsonia campestris R. Brown, Prodr. Fl. Nov. Holl. 1:481. 1810; FBI 4:394.

Perennial, prostrate, diffuse herbs; branches radiating from taproot, softly pilose. Leaves dimorphic, shortly petiolate, elliptic-oblong, entire, obtuse, pubescent. Flowers in dense,

terminal, pilose bracteate spikes, lips purplish. Capsules narrow conical; seeds glabrous, brown, ellipsoid.

Flowers & Fruits: February – April

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0076*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1501*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 0416*, dated 27.02.2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: Pantropic weed.

PERISTROPHE C.G.D.Nees

Peristrophe paniculata (Forsskal) Brummitt in Kew Bull. 38: 451. 1983.

Dianthera paniculata Forsskal, Fl. Aeg. –Arab. 7. 1775

Peristrophe bicalyculata (Retzius) Nees in Wallich, Pl. As. Rar. 3: 113. 1832; FBI 4: 554. 1885.

Erect, much branched herbs upto 70 cm high with hairy 6 angled stems. Lower lamina larger, upper lamina smaller, all ovate, entire, acute, base decurrent, surfaces hairy. Flowers pink in copiously branched lax panicles with bracts and bracteoles. Capsules pointed, narrowed to a stalk.

Flowers & Fruits: October – June.

Specimen Cited: Matigara TE, *AP Das & Chandrâ 3611*, dated 20.10.2004.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Subtropical Himalayas, Indo –China, Malaya.

Peristrophe speciosa (Roxburgh) Nees in Wallich, Pl. As. Rar. 3: 3. 1882; FB 2(3): 12. 2001.

Justicia speciosa Roxburgh, Fl. Ind. 1: 123. 1820.

Perennial undershrubs; branches leggy, ascending, glabrescent, 1-2 m long. Lamina ovate-elliptic, acute, cuneate at base, dark green above, thinly pubescent or glabrescent. Flowers pink in small, shortly pedunculate axillary and terminal clusters. Capsules clavate, pubescent 15 – 18 mm.

Flowers & Fruits: June - December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2533*, dated 11.11.2003; Tamsong TE, *AP Das & Chandrâ 2046*, dated 30.04.2003.

Status: Rare

Local Distribution: Found only in Makaibari & Tamsong gardens

General Distribution: Himalayas.

PHAULOPSIS Willdenow, *emend.* K.P.J.Sprengel, *nom. cons.*

Phaulopsis imbricata (Forsskal) Sweet, Hort. Brit. ed. 1. 327. 1827. FB 2(3): 1275.2001.

Ruellia imbricata Forsskal, Fl. Aegypt-Arab. 113.1775.

Phaulopsis parviflora Willdenow, Sp.Pl. 3:342. 1801; FBI 4:417. 1884.

Prostrate or decumbent, suffrutescent, much branched, herbs. Leaves ovate or elliptic, acute, base oblique. Flowers in terminal and axillary secund spikes, bracteate; Capsules clavate, glabrous, tips pointed; seeds 4, brown, supported by jaculators.

Flowers & Fruits: December – April

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0012*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1081*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0558*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 2830*, dated 25.03.2004; Tamsong TE, *AP Das & Chandrâ 2990*, dated 10.04.2004.

Status: Abundant.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: India, Sri Lanka, Malagasy and tropical Africa.

PHLOGACANTHUS Nees

Phlogacanthus thyrsoiflorus (Roxburgh) Nees in Wallich, Pl. As. Rar. 3: 99. 1832; FBI 4: 512. 1884; FEH 1: 303. 1966; EFPN 3:143.1982; FB 2(3): 1284.2001.

Justicia thyrsoiflora Roxburgh, Fl. Ind. 1: 116. 1820.

Local Name: Chua (Nep)

Shrubs to 3 m tall; stems erect, glabrous and leaves often crowded near branch tips, elliptic-obovata, both ends shortly acuminate, glabrous. Flowers orange-brown dense, uninterrupted terminal thyrse, usually solitary, rarely 2-3 with linear bracts. Capsules narrowly clavate.

Flowers & Fruits: January – March.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2722*, dated 27.01.2004.

Status: Less Common

Local Distribution: Found only in Soom garden.

General Distribution: India, Nepal, Bhutan.

PTERACANTHUS (Nees) Bremek

Pteracanthus alatus (Wallich ex Nees) Bremekamp in Verh. Nederl. Akad. Wet. 41. 199. 1944; FB 2(3): 1271.2001.

Ruellia alata Wallich, Pl. As. Rar. 1: 26, t. 31. 1830.

Strobilanthes wallichii Nees in Wallich, Pl. As. Rar. 3: 87. 1832, FBI 4: 471. 1884; FEH 1: 305. 1966.

Perennial herbs, 0.3-0.5-1m, glabrous, erect from creeping woody rootstock. Leaves equal or slightly unequal, ovate or elliptic, serrate to coarsely crenate, acute, base rounded to attenuate, shortly decurrent, glabrous, sessile above. Flowers blue in opposite pairs in axils of leaf like bracts forming small axillary secund spikes.

Flowers & Fruits: September – December.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3383*, dated 12.10.2004.

Status: Very common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: India, Nepal, Bhutan.

Pteracanthus urophyllus (Nees) Bremekamp: FB 2(3): 1271.2001.

Strobilanthes urophyllus Nees in DC. Prodr. 11. 192. 1947.

Strobilanthes urophylla (Nees) Nees

Small branched undershrubs, glabrous; leaves slightly unequal, narrowly ovate-elliptic, serrate, shortly acuminate, base cuneate, paler beneath, veins prominent, glabrous. Flowers blue, fragrant in opposite pairs, 1-1.5 cm apart in axils of leaf like bracts on short axillary branchlets

Flowers & Fruits: September – December.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2597*, dated 27.12.2003.

Status: Less Common

Local Distribution: Found only in Soom garden.

General Distribution: India, Nepal, Bhutan.

RUNGIA Nees

Rungia himalayensis C. B. Clarke in FBI 4: 548. 1885; FEH 1: 303. 1966; EFPN 3:144.1982; FB 2(3): 1291.2001.

Wiry decumbent perennial herb, rooting at nodes, thinly puberulent. Lamina ovate or elliptic, often suffused with red, acute, shortly cuneate onto petiole, minutely scabrid. Flowers white, lower lip pink. Spikes axillary and terminal secund. Capsules oblong, mucronate, pubescent.

Flowers & Fruits: November – January.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2535*, dated 11.11. 2003

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan.

Rungia pectinata (L.) Nees in DC., Prodr. 11:469. 1847. FB 2(3): 1291.2001.

Justicia pectinata L. in Torner, Cent. II Pl. 3. 1756.

Rungia parviflora (Retzius) Nees var. *pectinata* (L.) Clarke in Hook.f., FBI 4:550. 1985.

Prostrate or diffuse annual much branched herbs, minutely pubescent. Lamina narrowly lanceolate to elliptic, tapering at ends. Spikes sessile, secud, axillary & terminal; bracts hyaline margined, dimorphic; corolla blue. Capsules ovoid, compressed; seeds 2-4, orbicular.

Flowers & Fruits: September – May

Specimen Cited: Matigara TE, *AP Das & Chandrâ 3632*, dated 20.10.2004; Makaibari TE, *AP Das & Chandrâ 2819*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 2754*, dated 12.02.2004; Tamsong TE, *AP Das & Chandrâ 2339*, dated 05.11.2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: India, Sri Lanka, Bangladesh, Myanmar, Nepal, and Malaysia.

STROBILANTHES Reichb.

Strobilanthes capitatus T. Anders.in J. Linn. Soc. 9: 475. 1867; FB 2(3): 1263.2001

Local Name: *Kibu* (Nep)

Much-branched undershrub, often leafless when in flower. Stems decumbent or ascending. leaves unequal, lanceolate- broadly elliptic-ovate, serrate, both ends shortly acuminate, base oblique, whitish beneath. Flowers blue in dense, pedunculate axillary heads, borne in 3s on small axillary branchlets with reduced leaves.

Flowers & Fruits: September – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2848*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 2680*, dated 09.01. 2004

Status: Common

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan.

Strobilanthes divaricatus (Nees) T. Anders. In J. Linn. Soc. 9: 478. 1867; FBI 4: 468. 1884; FEH 1: 305. 1966; FB 2(3): 1273.2001

Goldfussia divaricata Nees in Wallich, Pl. As. Rar. 3: 89. 1832.

Undershrubs; branches 10-50 cm, glabrous, zigzag above, erect from a creeping root-stock; leaves unequal; smaller ones ovate, obscurely serrulate, glabrous, acute, rounded at base, sessile, often deciduous, larger broadly lanceolate-elliptic, acuminate. Flowers deep purple in opposite pairs on small axillary branchlets forming a lax spicate inflorescence.

Flowers & Fruits: September – January.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2531*, dated 11.11. 2003.

Status: Less Common

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas.

Strobilanthes extensus Nees, Prodr. 11: 195. 1847; FB 2(3): 1270. 2001

Much branched shrubs, branches 0.5-2m, erect, pilose. Leaves slightly unequal, ovate above, serrate, elliptic below, shortly acuminate, base cuneate, pilosa, whitish beneath, sessile, lower leaves decurrent onto pseudo-petiole. Spikes lax; flowers blue in opposite pairs.

Flowers & Fruits: September – November.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2301*, dated 05.09.2003.

Status: Less Common

Local Distribution: Found only in Tamsong garden.

General Distribution: NE India, Myanmar.

Strobilanthes oligocephalus T. Anders. ex. C.B.Clarke in FBI 4: 461. 1884; FB 2(3): 1265.2001

Much branched undershrubs, branches 30-50cm, decumbent, rooting below, eventually erect. Leaves unequal, elliptic or narrowly obovate, falcate, serrate, abruptly acuminate, base attenuate, whitish beneath, glabrous, sessile above. Flowers blue or white in pedunculate, shortly elongate terminal heads.

Flowers & Fruits: October – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2569*, dated 11.11. 2003

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas.

Strobilanthes thomsonii T. Anders. In J. Linn. Soc. 9: 478. 1867; FBI 4: 467. 1884; FEH 2: 123. 1971; EFPN 3:144.1982; FB 2(3): 1268.2001

Much branched erect undershrubs, appearance untidy, 0.6 –2 m; leaves unequal, ovate or elliptic, serrate, acuminate, base cuneate or attenuate, glabrous or thinly pilose, sessile above. Flowers blue in opposite pairs in lax, axillary spikes, becoming branched & compound, developing into large leafless panicles in older plants.

Flowers & Fruits: September – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2238*, dated 05.09. 2003.

Status: Common

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas.

THUNBERGIA L.f.

Thunbergia fragrans Roxburgh, Pl. Corom. 1:47, t. 67. 1795; FBI 4:390. 1884; Trs. N. Beng. 97. 1929; FEH 1:305. 1966; EFPN 3:145. 1982; FB 2(3): 1247.2001

Local Name: *Kaneshi Lahara* (Nep).

Slender twining herbs, roughly pilose. Lamina ovate-lanceolate or triangular cordate, acute to acuminate, base cordate, pubescent above. Flowers white, fragrant, thinly pilose, solitary or paired from leaf axils. Fruits glabrous, beaked, 4 seeded.

Flowers & Fruits: July – February

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0453*, dated 05.04.2002; Kamalpur TE, *AP Das & Chandrâ 0526*, dated 17.04.2002.

Status: Less Common

Local Distribution: All Terai gardens.

General Distribution: Himalayas, Tropical and Sub-tropical Asia, Australia, W. China

Thunbergia grandiflora Roxburgh [H. Beng. 45. 1814, *nom.nud.*] Lodd., B. Cab. 4: t. 324. 1819. [*nom. nud.*] in B. Reg. 6: t. 495. 1820; EFPN 3:145.1982; FB 2(3): 1248.2001
Flemingia grandiflora Roxb. ex Rottl. in Ges. Naturf. Fr. Neuc. Schr. 4: 202. 1803.

Local Name: *Kanesi Lahara* (Nep).

Vigorous liana; branches long, glabrous to tomentose. Lamina ovate-triangular, rarely suborbicular, sinuate with few large teeth, acute or shortly acuminate, hastate or cordate. Flowers white or bluish, glabrous, 6-9 cm borne on solitary pedicels from leaf axils on mature stems.

Flowers & Fruits: August – April.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0545*, dated 17.05. 2002.

Status: Rare

Local Distribution: Found only in Kamalpur garden.

General Distribution: Himalayas, China, Indo –China, Myanmar.

ACERACEAE A. Jussieu

ACER L.

Acer campbellii Hk.f. et Thoms. ex Hieron in FBI 1: 696. 1875; Trs. N. Beng. 42. 1929; FEH 1:191. 1966; EFPN 2: 98. 1979; FPK 23. 1981; TBRI 50(4): 104. 1987; FB 2(1): 64. 1991; FWB 1:465. 1997; FI 5: 396. 2000.

Local Name: Kapasi (Nep.)

Large deciduous trees. Stem greenish. Leaves exstipulate, palmately 5-7 lobed, lanceolate or ovate-caudate, serrate-biserrate, teeth fine acute, caudate acuminate, sub-cordate, and glabrous both sides, dark green above, yellowish when dry. Peduncles narrow, elongated, many flowered. Fruits (mericarps) numerous in each cluster.

Flowers: April – May; *Fruits:* June – August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2895*, dated 10.04.2004.

Status: Common.

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal-Arunachal Pradesh), W. China.

Note: Woods used as firewood.

Acer hookeri Miq. in Arch. Neerl. Sci. Nat. 2: 471. 1852; FBI 1:694 1875; Trs. N. Beng. 41. 1929; FEH 1:191. 1966; EFPN 2: 98. 1979; TBRI 50(4):104. 1987; FB 2 (1):64. 1991; FWB 1:467. 1997; FI 5: 400. 2000.

Local Name: *Lal Kapasi* (Nep)

Medium tree. Young branchlets reddish. Leaves ovate sharply serrate to biserrate, caudate-acuminate, shallowly cordate, glabrous and green both sides or sparsely hairy on veins of old leaves beneath. Racemes simple, pendulous with actinomorphic, monoecious, greenish white flowers, appear along with new leaves. Fruits shortly winged.

Flowers: April - June *Fruits:* June - November

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2898*, dated 10.04.2004

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: *General Distribution:* E. Himalaya (Nepal-Arunachal Pradesh).

Acer thomsonii Miquel in Arch. Ne'erl. Sci. Nat. 2:470. 1867; FEH 1: 193. 1966; 2: 73. 1971; EFPN 2: 98. 1979; Fasc. Fl. Ind. 9: 18. 1982; TBRI 50(4): 104. 1987; FB 2(1): 65. 1991; FI 5: 410. 2000.

A. villosum Wallich var. *thomsonii* (Miquel) Hiern in FBI 1: 695. 1875.

Local Name: *Melo Kapasi* (Nep).

Trees, 15-28 m tall. Lamina coriaceous, trilobed, mid-lobe ovate to triangular, entire or obscurely serrate, acuminate. Inflorescence spicate racemose, 8-21 cm long. Sepals upto 0.3 cm, oblong, pubescent within. Petals equal to sepals or slightly longer, yellowish. Samara reddish brown, wings 5-6cm, straight-parallel.

Flowers: October – December; *Fruits:* January – July
Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2950*, dated 10.04.2004
Status: Less common
Local Distribution: Found only in Makaibari & Tamsong gardens.
General Distribution: Himalayas (Simla-Arunachal Pradesh), Manipur, MyanMarch

ACTINIDIACEAE Van Tiegh.
[SAURAUJACEAE J.G. Agardh.]

SAURAUJA Willd.

Saurauja napaulensis DC., Mem. Ternstr. 29. 1822; Pl. As. Rar. 40, 77 t. 178. 1813; FBI 1: 286. 1874; Trs. N. Beng. 20. 1929; FEH 1: 207. 1966; FB 1(2): 359. 1984; FI 3: 201. 1993.

Local Name: Gagun (Nep).

Soft wooded small deciduous tree to 7 m; young twigs brown tomentose, scaly; leaves simple, alternate, elliptic-lanceolate, finely serrulate, acuminate, base rounded, glabrous or thinly brown tomentose beneath, dark green above, whitish-green beneath. Flowers pinkish in axillary panicles, shorter than leaves; Fruit globose, sweet.

Flowers: May - August *Fruits:* September - December
Specimen Cited: Soom TE, *AP Das & Chandrâ 3369*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 3070*, dated 10.04.2004.
Status: Common.
Local Distribution: All three hill gardens.
General Distribution: Himalayas (Garhwal-Bhutan), Khasia, Mishmi Hills, N. Myanmar, Indo-China and W. China.
Note: Fruits edible. Good fodder for cattle.

AIZOACEAE Rudolphi

GLINUS L.

Glinus lotoides L., Sp. Pl. 463. 1753.
Mollugo lotoides (L.) O. Ktze., Rev. Gen. Pl. 264. 1891; FBI 2:662.1879.

Prostrate, spreading annual; stems tomentose, with stellate and simple hairs. Leaves fascicled, obovata, entire, apiculate, densely tomentose, shortly petiolate. Flowers axillary, solitary or cluster of 6, white. Capsules oblong with several black seeds.

Flowers & Fruits: January – May
Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0265*, dated 09.02.2002; Mohurgong & Gulma TE, *AP Das & Chandrâ 0972*, dated 04.05.2002; Kamalpur TE, *AP Das & Chandrâ 0656*, dated 20.04.2002.
Status: Very common.
Local Distribution: All Terai garden.
General Distribution: Pantropical.

Glinus oppositifolius (L.) A. DC., Bull. Herb. Boiss. 2, 1:552. 1901.

Mollugo oppositifolia L., Sp. Pl. 89. 1753.

M. spergula L., Syst. ed. 10:881.1759; FBI 2: 662. 1879.

Local name: *Gimasak* (Beng)

Prostrate or ascending herbs with slender, glabrescent stems. Leaves fascicled, petiolate elliptic-obovate or oblanceolate, entire, acute, apiculate, glabrous or sparsely hairy beneath. Flowers in axillary fascicles of 2-7, pedicellate, white. Capsules oblong with reddish seeds, ± reniform.

Flowers & Fruits: January – June.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0973*, dated 04.05.2002;

Matigara TE, *AP Das & Chandrâ 3132*, dated 10.05.2004.

Status: Abundant

Local Distribution: All Terai garden.

General Distribution: Pantropical.

Note: The plant is taken as vegetable.

ALANGIACEAE DC.

ALANGIUM Lamarck

Alangium alpinum (C.B. Clarke) W.W. Smith & Cave in Rec. Bot. Surv. 6: 96. 1914; FEH 1: 219. 1966; EFPN 2: 194. 1979; FB 2(1): 332. 1991

Small soft wooded trees; lamina broadly ovate, shallowly lobed, acuminate; flowers in axillary few-flowered corymbs, white; fruits oblong.

Flowers & Fruits: June – September.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3468*, dated 12. 10. 2004.

Status: Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Nepal, Bhutan, Myanmar.

Alangium chinense (Loureiro) Harms in Ber. Deuts. Bot. Ges. 15: 24. 1897; FB 2(1): 332. 1991.

Styloidium chinense Loureiro, Fl. Cochinch. 1: 221. 1790.

Marlea begoniaefolia Roxburgh, Cor. Pl. 3: 80 t. 203. 1819; FBI 2: 743. 1879.

Local Name: *Akhane* (Nep).

Small tree with spreading, zigzag branches. Leaves alternate; pubescent, shape very variable, ovate to suborbicular or broadly subquadrate, margin entire to angular lobed, tip long acuminate, base usually oblique, truncate or deeply cordate, glabrous above, pubescent beneath with tufts of hair. Inflorescence axillary with white flowers; Fruits ovoid, dark purple when ripe, glabrous, succulent.

Flowers: March – May; *Fruits*: July - October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0488*, dated 17.04.2002.

Status: Very common

Local Distribution: All Terai gardens.

General Distribution: Tropical Africa, Himalayas (Nepal-Bhutan), Myanmar east to China, Malaysia.

AMARANTHACEAE A. Jussieu

ACHYRANTHES L.

Achyranthes aspera L., Sp. Pl. 204. 1753; FBI 4: 730. 1885; FEH 1: 76. 1966; EFPN 3:168.1982; FB 1(2): 227.1984.

Local Name: Apang (Beng)

Erect or sprawling herb with long branches 25-100cm. with leaves ovate-elliptic, acute, base cuneate, sparsely to densely appressed pubescent. Flowers at first erect-spreading, congested, becoming strongly deflexed, distant in long slender spikes up to 35cm with rigid, greenish perianth.

Flowers & Fruits: June - August

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0620*, dated 20.04.2002; Mohurgong & Gulma TE, *AP Das & Chandrâ 0277*, dated 16.02.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Throughout India; Tropical Africa.

Note. – Roots, leaves and seeds used medicinally.

Achyranthes bidentata Blume, Bijdr. 545. 1825; FBI 4:730. 1885; FEH 1:76 & 635, f. 57. 1966; 2:25. 1971; EFPN 3:168. 1982; TBRI 50(4):104. 1987. FB 1(2): 227.1984.

Local Name: Ankhlay Jhar (Nep). FB 1(2): .1984.

Erect biennial herb; branches long, slender, striate, pubescent. Leaves petiolate opposite, ovate-elliptic, acute, repund, pubescent. Flowers bisexual on 10 – 20 cm long spikes. Tepals ovate-lanceolate, greenish, rigid, persistent. Capsules oblong, 1-seeded.

Flowers: August – November; *Fruits:* October – February

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1207*, dated 18.10.2002; Tamsong TE, *AP Das & Chandrâ 2384*, dated 04.11.2003; Soom TE, *AP Das & Chandrâ 3435*, dated 12.10. 2004; Makaibari TE, *AP Das & Chandrâ*, dated 17.05.2003.

Status: December – July.

Local Distribution: In all gardens.

General Distribution: Tropical Africa, Himalayas (Kashmir-Sikkim), India, Sri Lanka, China, Malaysia and New Guinea.

ALTERNANTHERA Forsskal

Alternanthera paronychioides St. Hill, Voy. Bres. 2: 439. 1833.

Prostrate, creeping herbs with profusely branched stems, rooting at nodes. Leaves opposite, oblanceolate – elliptic to spatulate, entire, acute, base narrowed, hairy. Flower heads axillary, many with white tepals, pilose on back, 3-nerved.

Flowers & Fruits: January – December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0498*, dated 17.04.2002.

Status: Rare

Local Distribution: All Terai gardens.

General Distribution: A native of tropical America; naturalized in tropics.

Alternanthera sessilis (L.) R. Brown ex DC. in Cat. Hort. Monsp. 77. 1813; FBI 4: 731.1885; FB 1(2): 228. 1984.

Gomphrena sessilis L., Sp. Pl. 225. 1753.

Prostrate or decumbent herbs, often perennial, stem hairy in 2 lines, nodes rooting. Leaves opposite; lamina oblanceolate or elliptic, acute, glabrous. Flower heads sessile, globose; tepals 5, membranous. Capsules rounded, compressed, emarginated; seeds with broad wings.

Flowers & Fruits: March – September

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0142*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0458*, dated 17.04.2002; Mohurgong & Gulma TE, *AP Das & Chandrâ 0846*, dated 04.05.2002.

Status: Common

Local Distribution: Very common.

General Distribution: India, Sri Lanka, and probably pantropic.

AMARANTHUS L.

Amaranthus lividus L., Sp. Pl. 1: 990. 1753; FB 1(2): 224. 1984.

Amaranthus blitum L., Sp. Pl. 1: 990. 1753; FBI 4: 721. 1885.

Erect or prostrate annuals, 10 –50 cm. Lamina broadly ovate, subacute or obtuse; spikes slender; flowers mostly female, males few above; tepals 3; stamens 3; stigmas 2 –3, minute. Capsules distinctly exceeding perianth. Seeds strongly glossy, faintly striate without scurfy warts.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0586*, dated 20.04.2002; Hansqua TE, *AP Das & Chandrâ 1053*, dated 09.05.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Widely distributed in tropical to temperate regions.

Amaranthus spinosus L., Sp. Pl. 991.1753; FBI 4:718.1885; FB 1(2): 225.1984.

Local name: *Kanta note* (Beng)

Erect much-branched armed herbs; spines axillary, straight, yellowish. Leaves alternate, ovate-lanceolate, entire, obtuse or mucronata, base cuneate, glabrous. Flowers unisexual, in compact axillary and terminal branched spikes. Utricles ovoid, rugose; seed 1, shining, black.

Flowers & Fruits: May – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0898*, dated 04.05.2002; Hansqua TE, *AP Das & Chandrâ 1420*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 0607*, dated 20.04.2002.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: Pantropical.

Note: Young shoots taken as vegetable.

Amaranthus viridis L., Sp. Pl. 2: 1405. 176; FBI 4: 720. 1885; FB 1(2): 224.1984.

Erect annual unarmed herbs. Leaves alternate; lamina broadly ovate, subacute or obtuse, base attenuate, glabrous. Flowers mainly female, males few, usually on the upper part of slender spikes; Capsules equal or slightly exceeding perianth; seeds glossy, scurfy warty.

Flowers & Fruits: April – July

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0916*, dated 04.05.2002; Hansqua TE, *AP Das & Chandrâ 1476*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 1182*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1807*, dated 17.05.2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Pantropic weed.

Note: Commonly taken as vegetable.

CELOSIA L.

Celosia argentea L., Sp. Pl. 205.1753; FBI 4:714.1885; FB 1(2): 221.1984.

Erect annual; branches grooved. Leaves alternate, variable, shortly petiolate, linear-lanceolate, acute, base tapering, glabrous. Flowers bisexual, white or tinged pink in dense, terminal, lanceolate spikes. Capsules ellipsoid; seeds 4-8, sub-reniform, black, shining.

Flowers & Fruits: March – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0446*, dated 05.04.2002.

Status: Rare

Local Distribution: Found only in Gulma garden.

General Distribution: Tropical regions of Asia, Africa and America.

DEERINGIA Brown

Deeringia amaranthoides (Lamarck) Merrill, Interpr. Rumph. Herb. Amboin. 211. 1917; FEH 1: 78. 1966; EFPN 3:169.1982; FB 1(2): 221.1984.

Achyranthes amaranthoides Lamarck, Encycl. Meth. B. 1: 548. 1785.

Stems up to 6m. with leaves ovate, acute or acuminate, base rounded or truncate, often reddish-tinged, puberulous beneath. Spikes with crimson perianth. Berry subglobose, red.

Flowers & Fruits: August – February

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1422*, dated 20.10.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Throughout India; China, Australia.

GOMPHRENA L.

Gomphrena celosioides Martius in Beitr. Amar. 93. 1825; FB 1(2): 229. 1984; FS 312, 2004.

Prostrate or decumbent perennial, up to 40 cm. Leaves elliptic-ob lanceolate, subacute, attenuate, appressed pilose beneath. Flower heads oblong, closely subtended by uppermost leaves. Bracts ovate. Outer 3 tepals almost flat, inner 2 with green midrib. Capsules ovoid, compressed.

Flowers & Fruits: June - December

Specimen Cited: Matigara TE, *AP Das & Chandrâ 3630*, dated 20.10.2004.

Status: Rare

Local Distribution: Found only in Matigara garden.

General Distribution: Native of tropical America; now widely distributed in tropics.

PUPALIA Adanson *mut.* A. Jussieu

Pupalia lappacea (L.) A. Jussieu in Ann. Mus. Hist. Nat. Paris 2:132.1803; FBI 4:724.1885.

Achyranthes lappacea L., Sp. Pl. 204.1753.

Pupalia atropurpurea (Lam.) Moq. in DC., Prodr. 13(2): 331.1849;

Straggling tomentose suffrutescent plant. Leaves opposite, short petioled, ovate, entire. Flowers green, fascicled in simple spikes with hooked bristles of perianth. Utricles ovoid, membranous, hooks stalked enclosed by perianth; seeds ellipsoid, shining, black.

Flowers & Fruits: September – January

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2106*, dated 30.06. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Tropical parts of India, Nepal, Sri Lanka, Singapore, Java, Madagascar, S. Africa and Philippines.

ANACARDIACEAE Lindley

CHOEROSPONDIAS Burt & Hill

Choerospondias axillaris (Roxburgh) Burt. & Hill in Ann. Bot. n. s. 1:254. 1937; FEH 1: 180. 1966; FEH 3:76. 1975; EFPN 2:100. 1979; FB 2 (1): 60. 1991; FWB 1:479. 1997; FI 5: 448. 2000.

Spondias axillaris Roxburgh, Fl. Ind. 2: 453. 1832; FBI 2: 42. 1876.

Local Name: *Lapsi* (Nep).

Evergreen tree, 10 m high or more. Leaves alternate, leaflets 2-6 pairs, ovate, acuminate, base rounded, entire, glabrous. Dioecious. Panicles with purple flowers. Drupes oblong or ovoid; stone with 5 oval depressions at apex.

Flowers & Fruits: April – June

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2161*, dated 30.06. 2003

Status: Less common

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Assam, Thailand, C. and S. China, Japan.

Note: Fruits delicious.

DRIMYCARPUS Hook.f.

Drimycarpus racemosus (Roxbur)gh Hook.f., FBI 2: 36. 1876; FB 2(1): 59. 1991; FI 5: 454. 2000.

Holigarna racemosa Roxb., Fl. Ind. 2: 82. 1832.

Local Name: *Khak Balaiyo* (Nep)

Tree to 30m. with leaves elliptic or oblanceolate, acuminate, entire, margin fluted or crispate and with a marginal vein, glabrous, base cuneate. Racemes up to 6cm, in axillary clusters. Fruit sub-globose, oblique, 1-seeded.

Flowers & Fruits: March – April

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1772*, dated 17.05.2003.

Status: Rare.

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan, Thailand.

MANGIFERA L.

Mangifera indica L., Sp. Pl. 1: 200. 1753; FBI 2: 13. 1876; FB 2(1): 59. 1991; FI 5: 466. 2000.

Local Name: *Aam* (Beng, Nep)

Tree 10-30m. with leaves elliptic or lanceolate, acuminate, base cuneate, glabrous. Panicles usually terminal, pubescent. Drupe variable in shape, ovoid-oblong, weakly compressed, yellowish or reddish when ripe.

Flowers & Fruits: February – June

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2115*, dated 30.06. 2003.

Status: Common in Terai; sometimes grown in hills.

Local Distribution: In all gardens

General Distribution: India: Sub Himalayan Tract, Hilly areas of Central, Eastern and South India; Nepal, Bangladesh, Myanmar and Malaysia.

RHUS L.

Rhus chinensis Miller, Gard. Dict.ed. 8. sub. n. 7. 1768; FB 2(1): 55. 1991; FI 5: 486. 2000.

Rhus semialata Murray in Comm. Soc. Goett. 5: 27.t. 3. 1784; FBI 2: 10. 1876.

Local Name: *Bhakimlo* (Nep).

Shrub to small tree, upto 12 m high. Branches lax, spreading. Leaves alternate, leaflets 3-6 pairs, variable in form, oblong-ovate or elliptic, margin crenate-dentate, acute, base rounded or sometimes truncate, thinly pubescent above, densely brown tomentose beneath. Panicles pyramidal, terminal with flowers yellow or greenish-white; Drupe subglobose, reddish when ripe and densely hairy.

Flowers & Fruits: August – January

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1884*, dated 10.06.2003.

Status: Less common

Local Distribution: Found only in Makaibari & Tamsong gardens.

General Distribution: Himalayas, Assam, Myanmar, Thailand, China, Formosa, Korea, Japan.

Note: Local vinegar is prepared from its fruits and often consumed as medicine.

Rhus succedanea L., Mant. Pl. 2: 221. 1771; FBI 2: 12. 1876; Trs. N. Beng. 45. 1929; Faun. & Fl. Nep. Him. 173. 1955; FEH 1:186. 1966; 3: 76. 1975; TBRI 50(4):125. 1987; FWB 1:483. 1997; FI 5: 494. 2000. var. *acuminata* (DC.) Hk. f. in FBI 2: 12. 1876; FB 2(1): 65. 1991.
R. acuminata DC., Prodr. 68. 1815.

Local Name: *Rani Bhalayo* (Nep).

Shrub to small trees, upto 10.5 m. Stem gray-brown, glabrous, sap acrid, irritating and causing blisters on human skin. Leaves imparipinnate, leaflets 2-6 pairs, ovate or oblong, entire, caudate-acuminate, base variable, cuneate, some rounded or even oblique, glabrous both sides, green and glossy above, silvery white below. Panicles axillary, slender with unisexual, small, yellowish green flowers.

Flowers : April - June *Fruits:* June - August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2986*, dated 10.04.2004.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalaya, Myanmar, Thailand, Indo-China, Japan.

Note: Sap causes irritating and itching blisters on skin.

ANNONACEAE A. Jussieu

ANNONA L.

Annona reticulata L., Sp. Pl. 1: 573. 1753; FBI 1: 78. 1872; FB 1(2): 244. 1984; FI 1: 207.1993.

Local Name: *Nona Ata* (Beng)

Tree 6-12m. with leaves oblong-lanceolate, acuminate, base rounded, minutely pubescent at first, later glabrous. Cymes 2-9 flowered extra-axillary or terminal. Fruit ovoid-globose, 5-10cm diameter, reddish green or brownish.

Flowers & Fruits: July – January.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1202*, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Native of Central America cultivated for its edible fruit; naturalized in India.

MILIUSA Lesch.

Miliusa globosa (DC.) Panigrahi *et* S.C. Mishra in *Taxon* 33:713. 1984; *FI* 1:215. 1993; *FWB* 1(2):149. 1997.

Guatteria globosa DC. In *Mem. Soc. Physt. Geneve.* 5: 41. 1831.

Miliusa roxburghiana (Wallich) Hk. *f. et* Thoms., *Fl. Ind.* 150. 1855; *FBI* 1:87. 1872;

A small deciduous shrub to small tree, 3.5-5 m, young shoots pubescent. Branches spreading. Leaves sessile, oblong - elliptic, acuminate, base rounded, somewhat aromatic. Flowers dioecious or polygamous either, crimson red. Ripe carpels subglobose or oblong, glabrous, borne long stalks.

Flowers & Fruits: March – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2846*, dated 25.03. 2004.

Status: Rare.

Local Distribution: Found only in Makaibari area.

General Distribution: Himalayas (Nepal-Sikkim), Assam, Myanmar

APIACEAE Lindley, *nom. alt.*

[UMBELLIFERAE A. Jussieu, *nom. cons.*]

CENTELLA L.

Centella asiatica (L.) Urban in *Martius, Fl. Brasil* 11:287, t. 78, f.1.1879; *FEH* 1:229. 1966; *EFPN* 2:188. 1979; *FB2*(2): 446.1999.

Hydrocotyle asiatica L., *Sp. Pl. ed. 1*(1): 234. 1753; *FBI* 2:669. 1979.

Local Name: *Ghor Topray* (Nep), *Thankuni* (Beng).

Small annual/perennial herbs; runners rooting at nodes. Lamina 1.5–5 cm across, reniform, crenate, deeply cordate. Bracts ovate, partially subtending flowering umbels of 3-6 pinkish, sessile flowers. Fruits reticulate-rugose with elevated ridges.

Flowers & Fruits: April – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0446*, dated 05.04.2002; Hansqua TE, *AP Das & Chandrâ 0264*, dated 09.02.2002; Kamalpur TE, *AP Das & Chandrâ 1180*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1822*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 3313*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2430*, dated 05.11.2003.

Status: Abundant.

Local Distribution: All gardens.

General Distribution: Tropical and sub-tropical parts of the world.

Note: Important medicinal plant; leaf-decoction taken locally to cure dysentery.

HYDROCOTYLE L.

Hydrocotyle himalaica P.K. Mukherjee in For. 95: 470. t. 1. 1969; EFPN 2: 186. 1979; TBRI 50(4): 116.1987.

H. javanica Thunb. *sensu* Hara, SFSH f. 174. 1963.

H. podantha auct. non Molkenb; FEH 1: 230. 1966.

Local Name: *Golpatta, Dallo patta, Ataney Jhar* (Nep).

Prostrate perennial, runners rooting at nodes. Stem pubescent. Lamina 0.8-3.2 x 1.1-3.7 cm, reniform, crenate, deeply cordate, glossy, 7-9 nerved. Umbels solitary, 0.6-0.9 cm across, flowers many. Peduncles longer than petioles, leaf-opposed; pedicels upto 0.3 cm. glabrous. Petals white.

Flowers: June - October *Fruits:* July - December

Specimen Cited: Makaibari TE, **AP Das & Chandrâ 1690**, dated 17.05.2003; Tamsong TE, **AP Das & Chandrâ 2886**, dated 10.04. 2004; Soom TE, **AP Das & Chandrâ 3488**, dated 12. 10. 2004.

Status: Abundant.

Local Distribution: In all hill gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Meghalaya.

Note: Leaf extracts used medicinally in dysentery and stomach disorders.

Hydrocotyle nepalensis Hook., Exot. Fl. 1: t. 30. 1823; FEH 1: 229 & 643. 1966; EFPN 2: 186. 1979; TBRI 50(4): 116. 1987.

H. javanica auct. Non Thunb.: Clarke in FBI 2: 667. 1879, P.P.

Similar to *H. himalaica* but comparatively larger. Leaves 1.5-4 x 1.8-6.2 cm; petioles 1.3-8 cm long, light red when young; lamina palmately 6-7 lobed, serrate, broadly cordate, hairy above. Umbels aggregated; peduncles 1.8-2.5 cm long. Petals light-green; stamens upto 0.7 cm long.

Flower & Fruit: May - December

Specimen Cited: Tamsong TE, **AP Das & Chandrâ 2954**, dated 10.04. 2004; Soom TE, **AP Das & Chandrâ 3553**, dated 12. 10. 2004.

Status: Less common.

Local Distribution: In Soom & Tamsong gardens.

General Distribution: Himalayas (Kashmir-Bhutan), Meghalaya, Tibet, Myanmar.

Note: Leaf extract used to treat diphtheria, throat-pain and pneumonia.

Hydrocotyle sibthorpioides Lamarck, Encycl. Meith. 3:153. 1789; FEH 1:230.1966: EFPN 2:187. 1979; FB 2(2): 444.1999.

H. rotundifolia Roxb. *ex* DC., Prodr. 4:64. 1830; FBI 2:668. 1879.

Prostrate herbs; branches filiform, forming mess, rooting at nodes. Lamina 0.55-1cm across, orbicular, cordate, shallowly lobulate, lobes crenate, glabrous, glossy. Flowers sessile, greenish-white in simple umbels. Ripe fruits broadly orbicular, smooth, 3-ribbed, yellow / dark-brown.

Flower & Fruit: April – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0059*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1009*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0397*, dated 27.01.2002; Matigara TE, *AP Das & Chandrâ 3128*, dated 10.05.2004; Makaibari TE, *AP Das & Chandrâ 2861*, dated 25.03.2004; Tamsong TE, *AP Das & Chandrâ 2957*, dated 10.04.2004.

Status: Abundant.

Local Distribution: All gardens.

General Distribution: S.E. Asia, Australia.

OENANTHE L.

Oenanthe thomsonii Cl. In FBI 2: 697. 1879; FB 2(2): 486. 1999.

Oenanthe javanica (Blume) DC., Prodr. 4: 138. 1830.

Sium javanicum Blume, Bijdr. 15: 881. 1826.

A weak diffuse herb, 20 –80 cm. Leaves 3 –15cm long, finely 3 –4 x pinnately divaricately divided, ultimate segments linear. Umbels, 3 –9 rayed; peduncle 1 –7cm; rays 1 –2.5cm; bracteoles 2 –3mm. Calyx teeth 0.5 –1mm. Petals white, 1 –1.5mm long. Fruits ovoid.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2760*, dated 25.03.2004; Tamsong TE, *AP Das & Chandrâ 2271*, dated 05.09.2003.

Status: Less common.

Local Distribution: All three hill gardens

General Distribution: Eastern Himalaya, Khasia Hill, Indochin, China.

SANICULA L.

Sanicula elata Hamilton ex D.Don, Prodr. 183. 1825; FB 2(2): 446. 1999.

Erect perennial herbs to 100 cm. Leaves twice deeply divided to base, segments acute or acuminate, serrations spinulose, glabrous; upper leaves smaller. Bracts linear lanceolate to ovate; flowers almost sessile. Corolla greenish –white, purple tinged. Fruits subterete, bristles hooked.

Flowers & Fruits: May – September.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3244*, dated 26.06.2004

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: Kashmir – Bhutan, Khasia Hills, Myanmar, Sri Lanka, Indochin, China.

APOCYNACEAE A. Jussieu

ALSTONIA R. Brown, *nom. cons.*

Alstonia scholaris (L.) R.Br., Mem. Wern. Soc. 1:76.1811; FBI 3:642.1882; FB 2(2): 672.1999.

Echites scholaris L., Mant. 1:53.1767.

Local Name: *Chhatiwan* (Nep), *Chhatim* (Beng).

Medium, evergreen trees with a dense, spreading crown. Leaves in whorls of 5-7, rarely more, oblong-lanceolate or obovate, bright green, glossy, thick, crowded at the ends of branches. Flowers greenish-yellow in compact, umbellate cymes. Follicles 2, terete, pendulous.

Flowers & Fruits: November – May

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0831*, dated 04.05.2002; Hansqua TE, *AP Das & Chandrâ 1033*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 1184*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1735*, dated 17.05.2003.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Singapore, Malay Archipelago, tropical Australia and Africa.

Use: Bark used as medicine and a pig fodder.

BEAUMONTIA Wallich

Beaumontia grandiflora Wallich, Tent. Fl. Nep. 15.t. 7. 1824; FB 2(2): 677. 1999.

Local Name: *Gautali phul*, *Gathale phul* (Nep); *Chomrik* (Lep)

Liana, rusty-brown tomentose. Lamina obovate to elliptic oblong, acuminate, cuneate, glabrous above. Corolla white, pale green below, fragrant, lobes triangular-ovate. Calyx lobes obovate to oblanceolate, tomentose. Fruits narrowly ellipsoid, obtuse. Seeds 2 x 1 cm, coma 4 cm long.

Flowers & Fruits: April – November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2481*, dated 11.11.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: NE India.

CATHARANTHUS G. Don

Catharanthus roseus (L.) G. Don, Gen. Hist. 4: 95. 1837; FB 2(2): 670. 1999.

Vinca rosea L., Syst. Ed. 10: 944. 1759; FBI 3: 640. 1882.

Local Name: *Nayantara* (Beng)

Erect to decumbent undershrub; stems yellowish green. Lamina glabrous, elliptic-obovate, obtuse-mucronate, cuneate. Corolla lobes white with a purple, red, pink, pale yellow or white eye or purple, obovate, hairy ring below anthers. Sepals teeth lanceolate. Fruits striate; seeds oblong.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1537*, dated 22.10.2002; Makaibari TE, *AP Das & Chandrâ 2470*, dated 11.11.2003.

Status: Rare

Local Distribution: In Terai and low altitude areas.

General Distribution: A native of South America, fairly naturalized in the tropics.

ICHNOCARPUS R. Brown, *nom.cons.*

Ichnocarpus frutescens (L.) Aiton in Ait.f., Hort. Kew. ed. 2, 2:69.1811; FBI 3:669.1882; FB 2(2): 686.1999.

Apocynum frutescens L., Sp. Pl. 213.1753.

Local Name: *Dudhe Lahara* (Nep)

Woody climbers, young branches red-brown tomentose, latex milky. Lamina lanceolate to elliptic-oblong, acute-acuminate, base acute, glabrous. Flowers small, fragrant, white, tinged with green or purple. Follicles 2, very slender, curved, divergent with linear, black seeds.

Flowers & Fruits: June – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0043*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1028*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 1236*, dated 18.10.2001; Makaibari TE, *AP Das & Chandrâ 1879*, dated 10.06.2003; Tamsong TE, *AP Das & Chandrâ 2116*, dated 03.07.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: India, Sri Lanka, Bangladesh, Nepal, Myanmar, Java and Australia.

TABERNAMONTANA L.

Tabernamontana divaricata (L.) R. Br. in R & S. Syst. 4: 427. 1819; FEH 1: 259. 1966, Fl. Jow. 2: 311. 1983, Fl. Meg. 2: 607. 1987.

Nerium divaricatum L., Sp.Pl. 209. 1753.

Tabernaemontana coronaria (Jacq.) Willd., Enum. Hort. Bertol 275. 1809; FBI 3: 646. 1882.

Shrub bark; gray, minutely fissured; dichotomously branched. Lamina 4-13 x 1.2-4 cm, ovate-lanceolate, oblong-lanceolate, acuminate, base cuneate, greenish, glossy. Cymes upto 10 cm long. Flowers 4.5 cm diam., fragrant. Follicles 2-4.5cm long, divaricate, yellowish, seeds red-arillate.

Flowers & Fruits: April – November

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1104*, dated 09.05.2002; Soom TE, *AP Das & Chandrâ 3538*, dated 12. 10. 2004.

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: Native of Tropical Asia, widely naturalised.

VALLARIS Burmann f.

Vallaris solanacea (Roth) O. Kuntze, Rev. Gen. 417. 1891; FB 2(2): 678. 1999.

Peltanthera solanacea Roth, Nov. Sp. 132. 1821.

Local Name: *Dudhe Lahara, Harmali* (Nep)

Extensive woody twinner; branches pale grey. Leaves opposite, membranous, elliptic-lanceolate, acuminate, minutely dotted. Corolla salver shaped, fragrant, white to creamy, tinged with green, in axillary or terminal cymes. Follicle fibrous, green to light brown; seeds with long coma.

Flowers & Fruits: March – June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0289*, dated 16.02.2002;
Hansqua TE, *AP Das & Chandrâ 1151*, dated 14.06. 2004.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Tropical and Subtropical regions of Himalayas; Myanmar, Indo –China and South China.

VINCA L.

Vinca minor L., Sp. Pl. 209. 1753.

Small under shrub, branches procumbent. Leaves petiolate, ovate –lanceolate, entire, acute. Flowers axillary, corolla tube narrow, limb broad, bluish –violet. Fruit a pair of follicle.

Flowers & Fruits: June – November.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3066*, dated 10.04 2004.

Status: Rarely naturalized; commonly grown ornamental

Local Distribution: All three hill gardens.

General Distribution: India, Europe and many temperate regions

WRIGHTIA R. Brown

Wrightia arborea (Dennst.) Mabblerley in Taxon 26(5/6): 533.1977. FB 2(2): 676.1999.

Periploca arborea Dennst. in Schluessel Hort. Malab. 13, 23 & 25.1818

Wrightia tomentosa Roem. et Schult. in L., Syst. Veg. 4/414. 1819; FBI 3:653.1882;

Local Name: *Khirra, Dudhi* (Nep)

Small crooked tree; branches lenticellate. Leaves ovate-elliptic, caudate-acuminate, base cuneate, puberulent to tomentose. Flowers fragrant in peduncled cymes; corolla greenish white or yellow; coronal scales orange, pubescent. Follicles connate throughout; seeds with long white coma.

Flowers & Fruits: April – July

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0774*, dated 04.05.2002

Status: Rare

Local Distribution: All Terai gardens.

General Distribution: India, Pakistan, Sri Lanka, Bangladesh, Myanmar, Thailand and China.

ARALIACEAE A. Jussieu

BRASSAIOPSIS Decaisne et Planch

Brassaiopsis hainla (Hamilton) Seemann in J. Bot:2: 291. 1864; FBI 2: 735. 1879; FEH 1:226. 1966; FB 2(1): 343. 1991.

Hedera hainla Hamilt. ex D. Don, Prodr. Fl. Nep. 187. 1825.

Local Name: Chuletro (Nep).

Small armed trees to 3-10m. Stems and branches spiny. Leaves palmately lobed, ovate or suborbicular, shallowly 3-7 lobed, acuminate, base cordate, serrate, glabrous, rarely stellate-pubescent beneath. Flowers in umbels borne in panicles, stellate-pubescent, greenish. Fruits globose with 2 seeds obscurely compressed.

Flowers & Fruits: February - April

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2564*, dated 11.11. 2003; Tamsong TE, *AP Das & Chandrâ 2891*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 3422*, dated 12. 10. 2004.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Meghalaya, S. W. China.

TREVESIA Vis.

Trevesia palmata Vis. in Mem. Acc. Torin. Ser. 2: 4. 262. 1842; FB 2 (1): 350. 1991.

Local Name: *Phutta* (Nep)

Trees to 6m, bark strongly prickly. Lamina palmately 7-9 lobed from base; lobes ovate-elliptic, acuminate, coarsely serrate, sparsely stellate-pubescent; petioles sparsely prickly or unarmed. Umbels up to 30 flowered, 5-10 cm in diameter. Corolla yellowish, narrowly ovate. Fruits 10-16mm diameter.

Flowers & Fruits: April - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1787*, dated 17.05.2003.

Status: Few plants only; probably planted.

Local Distribution: Found only in Makaibari garden.

General Distribution: Eastern Himalaya (Nepal - Assam), W. China, Malaysia.

ASCLEPIADACEAE R. Brown

CALOTROPIS R. Brown

Calotropis gigantea (L.) Dryand. in Aiton, h. Kew. ed. 2, 2: 78. 1811; FBI 4: 17. 1883; FEH 1: 260. 1966; EFPN 3:85.1982; FB 2(2): 701.1999.

Asclepias gigantea L., Sp. Pl. 214. 1753.

Local Name: *Aakanda* (Beng); *Aak* (Nep)

Large shrub to small tree, 1.5-3m tall with stout hollow trunk. Leaves dense at ends of branches, obovate to oblong, apex acute, base strongly cordate, sub-sessile, glabrous above, white tomentosa below. Inflorescence 4-many-flowered with campanulate, spreading, white with purple corolla.

Flowers & Fruits: February - November

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0739*, dated 04.05. 2002; Soom TE, *AP Das & Chandrâ 3482*, dated 12. 10. 2004.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Tropical Asia.

HOYA R. Brown

Hoya parasitica Wallich in Wight, Contrib. Bot. Ind. 37. 1837; FBI 4: 57. 1883; FB 2(2): 719.1999.

Epiphytic succulent glabrous, twiner. leaves flat, ovate, thickly fleshy-coriaceous, long petioled. Flowers white and broad on long persistent peduncles. Follicles long, slender, glabrous, thin skinned; seeds oblong with coma.

Flowers & Fruits: July - November

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1636*, dated 24.10. 2002; Kamalpur TE, *AP Das & Chandrâ 1173*, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India: Andaman Island, North East India; Bangladesh, Malacca, Singapore.

MARSDENIA R. Brown

Marsdenia tinctoria R. Brown in Mem. Wern. Nat. Hist. S. 1: 30. 1811; FBI 4: 34. 1883; FEH 1: 262. 1966; EFPN 3:87.1982; FB 2(2): 709.1999.

High climbing glabrous under shrub to 7m. or more. Stem beneath bark, leaves, calyx etc., suffused with purple-blue dye. Leaves ovate to elliptic, apex acuminate or caudate, base rounded to truncate to shallowly cordate, membranous, sparsely hairy. Flowers white, very small in distinctive crowded spike like cymose.

Flowers & Fruits: August - October

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1056*, dated 09.05.2002; Soom TE, *AP Das & Chandrâ 2716*, dated 28.01. 2004

Status: Less Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Subtropical Himalaya (Nepal - Bhutan), Assam, China, Taiwan, Malaysia.

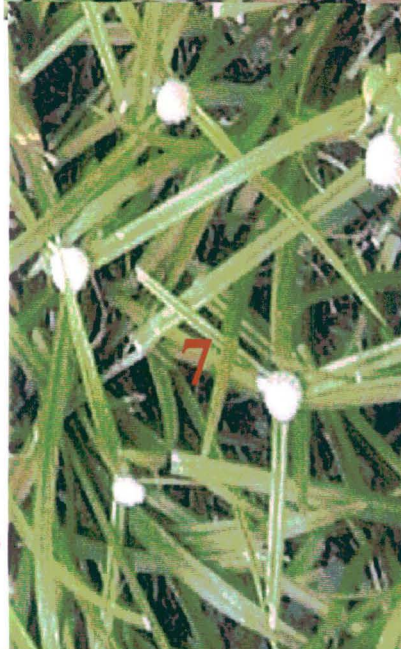
TYLOPHORA R. Brown

Tylophora belostemma (Wallich) Bentham ex Bentham & Hooker f., Gen. Pl. 2: 771. 1876; FBI 4: 43. 1883; EFPN 3:88.1982; FB 2(2): 727.1999.

Belostemma hirsutum Wallich ex Wight, Conrt. B.Ind. 52. 1834.

Slender climbing shrub with long, twining branches, densely softly-hirsute. Leaves ovate to lanceolate, apex acuminate, base cordate to rounded, membranous. Flowers dull purple, small in few-flowered almost sessile umbels.

Flowers & Fruits: June- July



Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1383*, dated 20.10.2002; Makaibari TE, *AP Das & Chandrâ 2800*, dated 25.03. 2004.

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: NE India.

WATTAKAKA Hasskarl

Wattakaka volubilis (L.f.) Stapf in Curtis, Bot. Mag. Sub. t. 8976. 1923; FB 2(2): 723.1999.

Dregea volubilis (L.f.) Bentham ex Hook.f. in Hook.f., FBI 4:46. 1883.

Asclepias volubilis L.f., Suppl. Pl. 170. 1781.

Extensive liana, glabrous, sometimes parts puberulent. Lamina large, ovate to suborbicular, acuminate, cordate to truncate or rounded; petioles long and slender. Umbels axillary, many flowered; flowers yellow-green. Follicles thick, hard; seeds with coma.

Flowers & Fruits: May – January

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0092*, dated 03.02.2002; Mohurgong & Gulma TE, *AP Das & Chandrâ 1524*, dated 22.10.2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: India, east to W. & S. China, Taiwan, Sri Lanka, Java, Malaysia.

ASTERACEAE Dum., nom. alt. [COMPOSITAE Giseke, nom. cons.]

ACMELLA Richard

Acmella calva (DC.) Jansen : FB 2(3): 1605. 2001.

Spillanthes calva DC. in Wight, Contr. Bot. Ind. 19. 1834; FEH 2:141. 1971; EFPN 3:45. 1982; TBRI 50 (4):127. 1987; FI 12:409. 1995.

S. acmella var. *calva* (DC.) Clarke, Comp. Ind. 138. 1876; FBI 3:307. 1881.

Local Name: *Kalijhar* (Nep).

15-35cm tall diffuse annual. Leaves opposite; lamina ovate, acute, serrate, 3-nerved. Capitula 0.7-0.82cm in diam., either in solitary paniculate peduncles, yellow. Involucral bracts 2-seriate, ovoid. Heads ovoid. Receptacle conical. Rays uniseriate, yellowish. Discs tubular. Pappus absent.

Flowers & Fruits: July – November.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1374*, dated 18.10.2002.

Status: Abundant in low altitude.

Local Distribution: All Terai gardens

General Distribution: E. Himalaya (Darjeeling, Sikkim, Assam), Nepal, Sri Lanka, China, Myanmar, Indonesia, Malaysia.

Acmella paniculata : FB 2(3): 1605. 2001.

Spilanthes paniculata Wallich ex DC., Prodr. 5: 625. 1836; FI 12: 410. 1995.

Spilanthes acmella var. *paniculata* (DC.) C.B. Clarke, Comp. Ind. 139. 1876; FBI 3: 307. 1881.

Similar to *Acmella uliginosa* but capitula discoid, 7-9mm diameter, rather many in terminal, corymbose panicles. Achenes strongly ciliate; weak pappus bristles present.

Flowers & Fruits: November – February

Specimen Cited: Soom TE, *AP Das & Chandrâ* 2653, dated 27.12.2003

Status: Less Common.

Local Distribution: Found only in Soom garden.

General Distribution: India, Nepal, Sri Lanka, Myanmar, Thailand, Indonesia, Philippines, Vietnam, South America, New Guinea.

Acmella uliginosa Sw., Nov. Gen. Pl. Seu Prodr. Descr. Veg. Ind. Occ. 110. 1788; FI 12: 412. 1995; FB 2(3): 1406. 2001.

Local Name: *Gorakba, Pirazh* (Nep)

Plant erect or decumbent, 5-30cm with stems ± glabrous or sparsely pilose at nodes and leaves acute or subobtuse, attenuate at base, subentire or serrate, subglabrous or sparsely pubescent on both surfaces. Capitula 3-5mm diameter, radiate, yellow.

Flowers & Fruits: February – August

Specimen Cited: Soom TE, *AP Das & Chandrâ* 1577, dated 22.10. 2002.

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: India: West Bengal, Tamil Nadu; Nepal, Sri Lanka, Myanmar, Indonesia, Philippines, South America, New Guinea.

AGERATINA Spach

Ageratina adenophora (Sprengel) King & Robinson in Blumea 1:502. 1935; FEH 1:339. 1966; FEH 2:137. 1971; EFPN 3: 27. 1982; FI 12:350. 1995; FB 2(3): 1624.2001.

Eupatorium adenophorum Spreng, Syst. Veg. 3: 420. 1826.

E. glandulosum Humboldt, Bonpland & Kunth, Nov. Gen. & Sp. 4: 122. 1820; *non* Michaux (1803).

Local Name: *Kalo Banmara* (Nep).

Undershrubs, about 1m tall. Stem reddish, glandular hairy. Leaves opposite; lamina rhomboid-elliptic or almost triangular, crenate-serrate, acute, base cuneate, dark green, almost glabrous above, glandular-hairy beneath. Heads discoid in corymbs; florets white, longer than involucre.

Flowers: June – September; *Fruits*: July – October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ* 2780, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ* 3277, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ* 2182, dated 30.06.2003.

Status: Less common

Local Distribution: Makaibari, Soom & Tamsong gardens.

General Distribution: Pantropical weed; native of Mexico.

Note: Medicinal and dried leaves used extensively as potent manure.

AGERATUM L.

Ageratum conyzoides L., Sp. Pl. 839. 1753, FBI 3: 243. 1881; FEH 1:330. 1966; TBRI 50 (4):105. 1987; FI 12:348. 1995; FB 2(3): 1627. 2001

Local Name: *Elami-paat* (Nep).

Erect annuals to 95 cm high, pilose. Lamina ovate, ovate-rhomboid, crenate-serrate, obtuse/acute, subtruncate, 3-nerved. Capitula discoid, all discs, white. Involucral bracts, lanceolate. Achenes black-brown; pappus scales 5, flattened at base.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0788*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1001*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 1316*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1732*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2001*, dated 27.12.2003; Tamsong TE, *AP Das & Chandrâ 2261*, dated 05.09. 2003.

Status: Abundant.

Local Distribution: All Gardens

General Distribution: Native of Tropical America. Now a pantropic weed.

Note: Young leaf extract applied on cuts and injuries as haemostatic.

Ageratum houstonianum Mill., Gard. Dict. Ed. 8. 1768; FI 12: 349. 1995; FB 2(3): 1627. 2001

Local Name: *Elami-paat* (Nep).

Annual, erect. To 1 m tall; leaves usually truncate to cordate, gradually acuminate; stipitate-glandular. Capitula larger, bluish, all discs; Styles much exerted, 2-3 mm; pappus not exceeding corolla, awn-tipped.

Flowers & Fruits: Major part of the year.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0297*, dated 16.02.2002; Hansqua TE, *AP Das & Chandrâ 0099*, dated 03.02. 2002; Kamalpur TE, *AP Das & Chandrâ 0371*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 1790*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2604*, dated 27.12.2003; Tamsong TE, *AP Das & Chandrâ 2201*, dated 30.06. 2003.

Status: Abundant

Local Distribution: All Gardens

General Distribution: Native of Tropical America. Naturalized in India, Nepal, Indonesia, Mexico, W. Indies, Peru, Colombia and British Honduras.

ANAPHALIS DC.

Anaphalis busua (D. Don) DC., Prodr. 6: 275. 1838; FEH 1: 331.1966; 2:132. 1971; 3: 110.1975; EFPN 3: 10.1982; TBRI 50(4):105. 1987; FI 13:57. 1995; FB 2(3): 1517. 2001
Gnaphalium busua D. Don., Prodr. 173.1825.

Local Name: *Bukki Phool* (Nep).

Erect 30-70cm tall softly hairy branched herb. Leaves numerous, decurrent, 3-6 cm, narrow lanceolate to oblanceolate, margins recurved, entire, acute, green, puberulous above, white wooly beneath. Involucral bracts elliptic. Capitula in branched corymbs, subglobose; florets white.

Flowers: Jul. - Nov. *Fruits:* Sep.- Jan.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2089*, dated 30.06. 2003.

Status: Common.

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: Himalayas, Meghalaya, Myanmar, Thailand, Philippines, China.

Anaphalis contorta (D. Don) Hook. f., FBI 3: 284. 1881; FEH 1: 331. 1966; 2: 132. 1971; 3: 110. 1975; EFPN 3: 10.1982; TBRI 50(4): 105. 1987; FI 13:59. 1995; FB 2(3): 1518. 2001

Antennaria contorta D. Don in Bot. Reg. t. 605.1821.

Local Name: *Bukki Phool* (Nep).

Perennial tufted herbs; branches slender, wooly. Leaves sessile, densely clustered, overlapping, upper linear, basal obovate, margins inrolled, nerve-one, thick. Capitula 0.35 cm in diam. in terminal compact corymbose clusters. Involucral bracts 0.1-0.2 cm. Discs whitish-yellow.

Flowers & Fruits: August – March

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2402*, dated 05.11.2003; Soom TE, *AP Das & Chandrâ 3451*, dated 12.10.2004.

Status: Common.

Local Distribution: Soom & Tamsong gardens.

General Distribution: Temperate regions of Afghanistan, Himalayas, Meghalaya, Assam, China.

Anaphalis margaritacea (L.) Bentham & Hook.f., Gen. Pl. 2: 303.1873; FEH 1: 331.1966; 2: 132.1971; EFPN 3: 10.1982; TBRI 50(4): 105.1987; FI 13:68. 1995; FB 2(3): 1517. 2001

Gnaphalium margaritaceum L., Sp. Pl. 850. 1753.

Anaphalis cinnamomea C.B. Clarke, Comp. Ind. 103. 1876; FBI 3: 281. 1881.

Erect, usually unbranched, leafy, wooly, 30 – 55 cm tall herbs. Leaves sessile; lamina 3-9 x 0.5-1 cm, lanceolate, entire, acute, glabrous to thinly hairy, bright green above, 3-4 nerved. Involucral bracts small, elliptic-ovate. Capitula 0.7 cm across, subglobose, grouped in dense domed clusters.

Flowers: Aug. - Nov. *Fruits.:* Sep. - Dec.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2221*, dated 05.09. 2003.

Status: Common

Local Distribution: Soom & Tamsong gardens.

General Distribution: Kashmir-Bhutan, Meghalaya, Thailand, China, Japan, N. America.

ARTEMISIA L.

Artemisia dubia Wallich ex Besser in Nouv. Memb. S. Imp. Nat. Mos. 3:39. 1834; FEH 1:332. 1966; EFPN 3:12. 1982; TBRI 50(4):106. 1987; FI 12:19. 1995; FB 2(3): 1565 . 2001.

Local Name: *Titepaati* (Nep).

Aromatic tomentose suffrutescent plant, paniculately branched. Lamina to 8.2 cm, sessile, pinnatisect, irregularly serrate, acute, pale underside. Capitula 0.25-0.35cm across, nodding on racemes, reddish brown. Involucral bracts scarious. Outer florets female; corolla yellowish green.

Flowers: Aug. - Oct. *Fruits.:* Oct. - Jan.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2289*, dated 05.09. 2003; Soom TE, *AP Das & Chandrâ3470*, dated 12. 10. 2004.

Status: Common.

Local Distribution: All three hill gardens

General Distribution: Himalayas, Nepal, Bhutan, Tibet and China.

Artemisia indica Willdenow, Sp. Pl. 3:1846. 1803; FEH 1: 332. 1966; 2: 133. 1971; EFPN 3: 12. 1982; TBRI 50(4):106. 1987; FI 12: 27. 1995; FB 2(3): 1559. 2001.

A. vulgaris auct. non. L., FBI 3: 325. 1881. p.p.; KB 42 (2): 447. 1987.

Local Name: *Titepaati* (Nep); *Nak-nisinda* (Beng).

Bushy shrubs to 2m high. Stem whitish hairy, rarely glabrescent. Leaves alternate, sessile, highly aromatic, 2.4-7 x 1.25-3.7 cm, ovate, lobed or deeply pinnatisect, cottony white beneath; terminal leaves smaller, entire or 3-lobed. Heads 0.25-0.35cm diam., ovoid, in long pyramidal panicles.

Flowers: Aug. - Dec. *Fruits.:* Oct. - Feb.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1720*, dated 17.05. 2003; Soom TE, *AP Das & Chandrâ 3521*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2588*, dated 27.12.2003.

Status: Abundant.

Local Distribution: All three hill gardens

General Distribution: Subtropical-temperate regions of India, Myanmar, Thailand, China and Japan.

Note: An important plant in local folk medicine of Hill people and religious ceremonies of Hindu community. Also used as insect repellent.

BIDENS L.

Bidens pilosa L., Sp. Pl. ed. 1. 832. 1753; FBI 3:309. 1881; FEH 1: 333. 1966; EFPN 3: 15. 1982; TBRI 50 (4): 107. 1987; FI 12:372. 1995; FB 2(3): 1619. 2001

Local Name: *Kuro* (Nep)

Erect glabrous annual to 60 cm. Leaves opposite; lamina 3-lobed, 1-2 pinnatisect or undivided; leaflets 2-5x 1-2.5cm, ovate, toothed, acute. Peduncles stout. Involucral bracts scarious margined. Capitula c.1 cm across; rays white. Achenes 1-1.5cm, linear, black; pappus bristles barbed.

Flowers & Fruits: June – March.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0789*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1503*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 1185*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1748*, dated 17.05.2003.; Soom TE, *AP Das & Chandrâ 2625*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2464*, dated 05.11.2003.

Status: Common

Local Distribution: All gardens.

General Distribution: Pantropic, also extending to temperate regions.

BLUMEA DC. *nom. cons.*

Blumea axillaris DC., Prodr. 5: 434. 1836; FB 2(3): 1504. 2001

Blumea mollis (D.Don) Merrill in Philip. J. Sci. (Bot.) 5: 395. 1910; FI 13: 135. 1995.

Erigeron molle D.Don, Prodr. Fl. Nepal. 192. 1825.

Strong smelling, annual or biennial; stems 5-100 cm. Leaves ovate oblong to obovate, obtuse. Capitula few; involucre 4-seriate; phyllaries linear lanceolate. Corolla purplish.

Flowers & Fruits: January to November.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1144*, dated 09.05. 2002.

Status: Less common

Local Distribution: Found only in Hansqua garden

General Distribution: India, Pakistan, Nepal, Bhutan, Bangladesh, Myanmar, China, Sri Lanka, S.E. Asia, Africa and Australia.

Note:

Blumea hieraciifolia (D. Don) DC. in Wight, Contr. 15. 1834; FBI 3:263. 1881; FEH 1:333. 1966; 2:134. 1971; EFPN 3:16. 1982; TBRI 50(4):107. 1987; FI 13:125. 1995; FB 2(3): 1502. 2001

Erigeron hieraciifolium D. Don, Prodr. Fl. Nep. 172. 1825.

A. sericans Hook.f., FBI 3:262. 1881.

Erect herbs, 25-70cm tall, densely villous; usually unbranched or few branches at tip. Radical lamina pubescent, elliptic-oblong, acute, serrate-dentate, silky; cauline sessile. Capitula globose, fascicled. Involucral bracts lanceolate to oblanceolate. Outer florets female. Achenes oblong, hairy, brown. Pappus white.

Flowers & Fruits: April - September.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2196*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 3260*, dated 26.06.2004.

Status: Common.

Local Distribution: All three hill gardens

General Distribution: Subtropical-temperate regions of Nepal, Myanmar, Bangladesh, China, S.E. Asia, Philippines, New Guinea and Australia.

Blumea lacera (Burman f.) DC. in Wight, Contrib. Bot. Ind. 14. 1834; FBI 3: 263. 1881; FI 13: 128. 1995; FB 2(3): 1504. 2001

Conyza lacera Burm.f., Fl. Ind. 180.t. 59.f. 1.1768.

Local Name: *Kuksima* (Beng)

Annual rosette herbs, to 100 cm. Lamina lyrate pinnatisect, terminal lobe obovate or oblanceolate, acute. Involucres 5-seriate; phyllaries all linear. Receptacle hair less; corolla yellow. Pappus dirty-white.

Flowers & Fruits: March to June.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0444, dated 05.04. 2002; Hansqua TE, AP Das & Chandrâ 0085, dated 03.02. 2002; Kamalpur TE, AP Das & Chandrâ 0539, dated 17.04.2002.

Status: Very common

Local Distribution: All Terai gardens

General Distribution: India, Nepal, Bhutan, China, Sri Lanka, Australia, Tropical Africa.

Note: Medicinally used as diuretic, anthelmintic, stimulant and febrifuge. It yields an essential oil.

BLUMEOPSIS Gagnepien

Blumeopsis flava (DC.) Gagnepien in Bull. Mus. Hist. Nat. Paris 26: 76. 1920; FI 13: 145. 1995; FB 2(3): 1507. 2001

Blumea flava DC., Prodr. 6: 439. 1836.

Plants 25-100 cm; stems simple. Leaves mostly in basal rosette, toothed; lowest ones obovate, acute, truncate at base. Capitula golden yellow. Phyllaries glabrous, ovate-lanceolate; corolla lobes hairy. Achenes glabrous; pappus white.

Flowers & Fruits: January – May.

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0784, dated 04.05.2002

Status: Less common

Local Distribution: Found only in Mohurgong & Gulma garden

General Distribution: India, Bangladesh, Myanmar, Malaya, Sumatra and Hainan.

CHROMOLAENA DC.

Chromolaena odoratum (L.) King & Robinson in Phytologia 20:204.1970; FB 2(3): 1628. 2001

Eupatorium odoratum L., Syst. Nat. ed.10:1205. 1759; FBI 3:244. 1881; FI 12:354. 1995.

Local Name: Banmara (Nep).

Suffrutescent undershrub to 1.5 m high, much branched, green. Lamina 1.2-6 x 0.35-1.5 cm, oblanceolate-spathulate, serrate-incised, acute, base cuneate, adpressed hairy. Capitula 1.1-1.4 cm in diam.. Involucral bracts lanceolate-elliptic. Florets bluish; pappus whitish.

Flowers & Fruits: June - December

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0349, dated 16.02.2002; Hansqua TE, AP Das & Chandrâ 0260, dated 09.02. 2002; Kamalpur TE, AP Das & Chandrâ 1353, dated 18.10.2001; Makaibari TE, AP Das & Chandrâ 1744, dated 17.05.2003; Tamsong TE, AP Das & Chandrâ 2040, dated 30.06.2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Native of America; naturalised in Tropical Asia.

CONYZA L.

Conyza canadensis (L.) Cronquist in Bull. Torrey Bot. Club 79: 632. 1943; FI 12: 105. 1995; FB 2(3): 1546. 2001

Erigeron canadensis L., Sp.Pl. 863. 1753; FBI 3: 254. 1881.

Erect annuals, stems 30-100 cm. Upper stem much branched, densely hairy, leaves and inflorescence yellowish-green. Lamina narrowly oblong, distantly serrate. Capitulum cylindric, all discs. Pappus dirty white.

Flowers & Fruits: June to August.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0361*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 0152*, dated 03.02. 2002; Kamalpur TE, *AP Das & Chandrâ 0556*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 1751*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3225*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 3041*, dated 10.04. 2004

Status: Abundant

Local Distribution: In all gardens.

General Distribution: India, Nepal, Pakistan.

Conyza stricta Willdenow, Sp. Pl. 3:1922. 1803; FBI 3:258. 1881; FEH 1:337. 1966; 3:114. 1975; EFPN 3:21. 1982; TBRI 50(4):110. 1987; FI 12:108. 1995. var. *stricta.*: FB 2(3): 1544. 2001.

Small annual erect, pubescent herb, 15-28cm tall. Stem leafy, corymbosely branched. Leaves sessile, linear-spathulate or spathulate-obovate, acute. Capitula numerous and borne in peduncled corymbose branches. Inner florets yellowish-white. Cypsela pubescent.

Flowers & Fruits: April – October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2918*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 3574*, dated 12.10.2004.

Status: Less common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India (Darjeeling, Jammu and Kashmir, Himachal Pradesh, Utter Pradesh), Africa, W. Asia and MyanMarch

COTULA L.

Cotula australis (Sieb. ex Spreng.) Hook.f., Bot. Antarch. Voy. 2(1): 128. 1825; FI 12: 54. 1995; FB 2(3): 1569. 2001.

Anacyclus australis Sieb. ex Spreng. In Linnaeus Syst. Veg. (ed. 16) 3: 497. 1826.

Much branched annual to 10cm, most part sub-glabrous. Lower leaves 1-2-pinnatisect, ± obovate in outline, very sparsely villous beneath. Upper leaves smaller, usually 1 pinnatisect. Capitula at anthesis 2-5mm diameter, often sub-sessile, peduncles longer 2-6cm in fruit, appressed pubescent.

Flowers & Fruits: July – October.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3424*, dated 12.10. 2004.

Status: Very common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Native of Australia and New Zealand; naturalized in India.

Cotula hemispherica (Roxburgh) Wallich *ex* Clarke, *Comp. Ind.* 150. 1876; *FBI* 3:316. 1881; *EFPN* 3:21. 1982; *TBRI* 50(4):110. 1987; *FI* 12:54. 1995.

Artemisia hemispherica Roxburgh, *Fl. Ind. ed.* 2 (3):422. 1832.

Small diffuse annual herb to 24cm tall. Lamina pinnatisect, linear, segments many, mucronate. Capitula solitary subglobose, yellowish white, usually drooping in fruit. Ray-florets in 2 series; Cypsela very minute, flat and angled.

Flowers & Fruits: October – July

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1636*, dated 24.10.2002

Status: Rare

Local Distribution: All Terai gardens.

General Distribution: India (Sikkim, West Bengal, Assam, Manipur, Meghalaya), China and Japan.

CRASSOCEPHALUM Moench.

Crassocephalum crepidioides (Benth) S. Moore in *J. Bot.* 1912: 211. 1912; *FEH* 1: 337.1966; 2: 136.1971; *EFPN* 3: 22.1982; *TBRI* 50(4):110.1987; *FI* 13:201. 1995; *FB* 2(3): 1597. 2001

Gynura crepidioides Benth in Hook., *Niger Fl.* 468. 1849.

Local Name: *Nowlay Jhar, Pani Jhar* (Nep).

Erect herb to 30cm tall; branche few, hairy. Leaves alternate; lamina 5.5-10.5 x 2-6.5 cm, ovate, irregularly serrate, dentate, acute, greenish above, coarse beneath. Involucral bracts linear, glabrous. Capitula 1-1.4cm long, oblong, in drooping clusters. Florets orange-red. Pappus white.

Flowers & Fruits: January - December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0285*, dated 16.02. 2002;

Hansqua TE, *AP Das & Chandrâ 0083*, dated 03.02. 2002; Kamalpur TE, *AP Das &*

Chandrâ 0369, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 1792*, dated

17.05.2003; Soom TE, *AP Das & Chandrâ 2603*, dated 27.12.2003; Tamsong TE, *AP*

Das & Chandrâ 2154, dated 30.06. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Native of Tropical Africa; naturalised throughout the tropics.

DICHROCEPHALA L' Herit ex DC.

Dichrocephala integrifolia (L.f.) O. Kuntze, *Rev. Gen. Pl.* 333. 1891. *FEH* 1: 338. 1966; 2: 136. 1971; 3: 115. 1975; *FI* 12:114. 1995. *FB* 2(3): 1526.2001.

Hippia integrifolia L.f., *Suppl. Pl.* 389. 1781.

Erect herbs, 10-15 cm; branched upward, pubescent. Leaves alternate; lamina lyrate or pinnatifid, terminal lobe ovate, acute toothed, thinly hairy. Capitula 0.25 – 0.4 cm in diam., on slender and divaricate peduncle, globose, all-disc, whitish. Pappus absent or 2, minute, bristly.

Flowers: June – September; *Fruits:* August – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1863*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 1996*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 2621*, dated 27.12. 2003

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Subtropical-temperate Asia and Africa.

DUHALDEA DC.

Duhaldea cappa (D. Don) Anderberg in FBI 3:295. 1881; FEH 1:340. 1966; 2:138. 1971; EFPN 3:30. 1982; FI 13:13. 1995; FB 2(3): 1495.2001.

Inula cappa (D. Don) DC., Prodr. 5:469. 1836;

Conyza cappa Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 176. 1875.

Local Name: *Taimakhu* (Nep)

Erect tomentose shrubs, stem branched. Leaves subsessile or shortly petiolate, oblong-lanceolate, irregularly toothed, acute, amplexicauled, tomentose beneath. Heads ca 0.8cm across, in terminal corymbs, densely silky with yellow rays and disc florets. Cypsela silky. Pappus whitish yellow.

Flowers: October – March; *Fruit:* December – April

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1883*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2292*, dated 05.09. 2003.

Status: Less common.

Local Distribution: All three hill gardens.

General Distribution: India (Himalayas and N.E. region), Bhutan, Myanmar, China, Thailand and Indonesia.

ECLIPTA L. *nom. cons.*

Eclipta prostrata (L.) L., Mant. Pl. 2: 286. 1771; FI 12: 381. 1995; FB 2(3): 1623. 2001

Verbesina prostrata L., Sp. Pl. 902. 1753.

Eclipta alba (L.) Hasskarl, Pl. Jav. Rar. 528. 1848; FBI 3: 304. 1881.

Local Name: *Keshut* (Beng.)

Prostrate to decumbent herbs; stems up to 50 cm. Leaves elliptic lanceolate, acute or acuminate, 3-veined at base. Capitula 3-5 mm diameter; phyllaries ovate, acuminate. Rays white in 2-3 series. Cypsela dark brown; Pappus obsolete.

Flowers & Fruits: Throughout the year.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0802*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1654*, dated 13.11. 2002; Kamalpur TE, *AP Das & Chandrâ 0491*, dated 17.04.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India.

ELEPHANTOPUS L.

Elephantopus scaber L., Sp. Pl. 814. 1753; FBI 3: 242. 1881; FI 13: 333. 1995; FB 2(3): 1489. 2001.

Rhizomatous with stems 10-60cm, appressed stiffly white pubescent. Basal leaves obtuse or subacute, base attenuate, sparsely hirsute above, pubescent and glandular beneath, margin crenate-serrate; cauline leaves shorter, ovate or oblong, semi-amplexicaul at base. Flowers lilac or white.

Flowers & Fruits: November - January.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1523*, dated 22. 10. 2002; Kamalpur TE, *AP Das & Chandrâ 0484*, dated 17.04. 2002

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Tropical Asia, Australia, Africa.

EMILIA Cassini

Emilia sonchifolia (L.) DC. in Wight, Contrib. Bot. Ind. 24. 1834; FI 13: 212. 1995; FB 2(3): 1598. 2001

Cacalia sonchifolia L., Sp. Pl. 1835. 1753; FBI 3: 336. 1881.

Local Name: Sadhimodi (Beng); Hirankhuri (Hindi).

Annual soft herbs. Leaves weakly dentate; basal lamina lyrate, sessile; upper lamina ovate, long petiolate. Capitula oblong, drooping; phylliaris narrowly oblong-lanceolate. Corolla deep pink. Pappus soft, white.

Flowers & Fruits: June to October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0061*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0116*, dated 03.02. 2002; Kamalpur TE, *AP Das & Chandrâ 0540*, dated 20.04.2002; Tamsong TE, *AP Das & Chandrâ 1979*, dated 27.12.2003; Soom TE, *AP Das & Chandrâ 2642*, dated 30.06. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: India, China, Asia, Africa.

Note: Cauline leaves are taken as vegetable; also used as salad. Decoction of the herb used as a febrifuge and also in bowel complaints. Juice of leaves used for sore of eyes and night blindness.

ERIGEREON L.

Erigeron karvinskianus DC., Prodr. 5:85. 1836; EFPN 3:27. 1982; TBRI 50 (4): 113. 1987; FI 12:122. 1995; FB 2(3): 1540. 2001

Vittadenia triloba auct. DC: FEH 1:347. 1966.

Diffuse tufted perennial herbs; branching from base. Leaves sessile, alternate; lamina 0.8-1.9 x 0.2-0.5 cm, lanceolate, often lobed/ subentire, acute, hairy. Peduncles to 8.5cm, thinly hairy. Heads to 2 cm across. Ray-florets 2 seriate, longer than discs, white, turns pink. Pappus white.

Flowers & Fruits: March – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1920*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 3288*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2949*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: All three hill gardens.

General Distribution: Native of New Zealand; naturalised in Subtropical-Temperate Central Asia.

GALINSOGA Ruiz & Pavon

Galinsoga parviflora Cav., Ic. Descr. Pl. 3: 41. t. 281. 1795; FBI 3: 311. 1881; FI 12: 388. 1995; FB 2(3): 1610. 2001.

Plant 10-60cm, stems pubescent above. Leaves ovate-lanceolate, acute or acuminate, rounded or alternate at base, shallowly serrate – crenate, ciliate and sparsely pilose on both surfaces with petiole upto 1cm or upper ones sub-sessile. Capitula white.

Flowers & Fruits: March – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1921*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 2626*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2015*, dated 30.06.2003

Status: Very common

Local Distribution: All three hill gardens.

General Distribution: Cosmopolitan weed; native of Tropical America.

GNAPHALIUM L.

Gnaphalium luteo-album L., Sp. Pl. 851. 1753; FBI 3:288. 1881. subsp. *affine* (D. Don) Koster in Blumea 4 (3):484. 1941; FI 13:87. 1995.

Gnaphalium affine D. Don., Prodr. Fl. Nep.173. 1825; FBI 7:288. 1881; FEH 1:339. 1966; 3:116. 1975; EFPN 3:29. 1982; TBRI 50(4):115. 1987.

Annual erect, 14-25 cm tall. Stem unbranched, white hairy. Leaves sessile, half-clasping, oblong spatulate, entire, acute to rounded white woolly-haired. Flower-heads globular, clustered, bright shining yellow. Rays absent. Discs tubular, outer female, inner ones bisexual.

Flower & Fruits: February - October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0287*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 0205*, dated 19.02. 2002; Kamalpur TE, *AP Das &*

Chandrâ 0626, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 2876*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 2591*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 1977*, dated 30.06. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Himalayas, Myanmar, Thailand, Indo-Chin, Java, China and Japan.

Gnaphalium purpureum L., Sp. Pl. 854. 1753; FBI 3:289. 1881; FI 13:92. 1995; TBRI 50 (4):115. 1987.

Local Name: *Urua Jhar* (Nep).

Erect annual to 48cm, tomentose. Basal branches procumbent. Lamina sessile spatulate, base narrowed, entire, shortly mucronate/ broadly rounded, pubescent. Heads in spicate globose clusters. Involucral bracts many-seriate, brownish. Ligules female; discs bisexual. Pappus white.

Flower & Fruits: August - June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0974*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0999*, dated 19.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0619*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1923*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 2611*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2021*, dated 30.06. 2003.

Status: Abundant

Local Distribution: In all gardens..

General Distribution: Himalayas, W. Ghats (Nilgiris, Jammu and Kashmir, West Bengal, Tamil Nadu, Maharastra), Pakistan, N. and S. America.

GRANGEA Adamson

Grangea maderaspatana (L.) Poiret in Lamarck, Encycl. Suppl. 2: 825. 1811; FBI 3: 247.1881; FB 2(3): 1529. 2001.

Artemisia maderaspatana L., Sp. Pl. 849. 1753.

Annual rosette herbs, branches long, prostrate. Leaves lyrate, subauriculate; upper lobe ovate, acute. Capitula 6 mm in diameter, all discs. Phyllaries oblong. Corolla yellow.

Flowers & Fruits: February - May

Specimen Cited: Hansqua TE, AP Das & Chandrâ 1388, dated 20.10. 2002; Kamalpur TE, *AP Das & Chandrâ 0649*, dated 20.04. 2002.

Status: Less common.

Local Distribution: All Terai gardens.

General Distribution: India, Africa, Si Lanka, China, Malaysia.

GYNURA Cassini

Gynura cusimbua (D. Don) S. Moore in Journ. Bot. 1:212. 1912; FEH 1:340. 1966; EFPN 3:29. 1982; TBRI 50(4):115. 1987; FB 2(3): 1600. 2001.

Cacalia cusimbua D.Don., Prodr. 179. 1825.

Gynura angulosa DC. Prodr. 6:298. 1837; FBI 3:334. 1881.

Erect herb, 50-150 cm tall. Leaves alternate, sessile, oblong or oblanceolate, margin irregularly toothed, acuminate, base attached to stem (base of upper leaves often lobed), glabrous to sparsely hairy. Corymbs both terminal and axillary. Heads many, discoid. Pappus hairs whitish.

Flowers & Fruits: October – March

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2278*, dated 05.09. 2003.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Nilgiri, Himalayas, Myanmar, Thailand and China.

Gynura nepalensis DC., Prodr. 6: 300. 1838; FBI 3: 333. 1881; FB 2(3): 1600. 2001

Local Name: *Tong kribi* (Nep).

Large bushy or subshrub. Leaves ovate elliptic; pubescent at both surface. Capitula few, born in loose panicles or corymbs, pendulous. Phyllaries narrowly oblong, acuminate. Corolla yellow.

Flowers & Fruits: March to May.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0301*, dated 16.02. 2002; Kamalpur TE, *AP Das & Chandrâ 0375*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 2806*, dated 25.03. 2004; Tamsong TE, *AP Das & Chandrâ 2234*, dated 05.09. 2003.

Status: Common

Local Distribution: In all gardens.

General Distribution: India, Nepal, China, Myanmar and Thailand.

IXERIS Cassini

Ixeris polycephala Cassini in Dict. Sci. Nat. 24: 50. 1822; FI 12: 279. 1995; FB 2(3): 1467. 2001

Lactuca polycephala (Cassini) Benth & Hook.f., Gen. Pl. 2: 526. 1873; FBI 3: 410. 1881.

Small rosette herbs, scapes to 45 cm. Basal leaves oblong lanceolate. Cauline leaves lanceolate to linear, acuminate, sessile; radicals sagittate-auriculate. Capitula urn-shaped; Outer phyllaries 5-6, ovate. Inner phyllaries 7-8, linear-lanceolate. Ligules yellow. Pappus yellowish, simple.

Flowers & Fruits: November to May.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0034*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0136*, dated 03.02. 2002; Kamalpur TE, *AP Das & Chandrâ 0406*, dated 27.02. 2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: India, China, Japan.

MIKANIA Willdenow

Mikania micrantha Kunth in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. 4: 134. 1820; FI 12: 357. 1995; FB 2(3): 1625. 2001.

Mikania scandens auct.; C.B. Clarke, Comp. India 34. 1876, non Willd.

Extensive climbers, branches hairy. Lamina triangular-ovate, acute or acuminate, cordate, pubescent. Capitula numerous in dense compound corymbs. Phyllaries oblong, acute or shortly acuminate; corolla greenish white. Cypsela ribbed, glandular; pappus longer than achenes.

Flowers & Fruits: June to December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0008*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1075*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0615*, dated 20.04. 2002; Matigara TE, *AP Das & Chandrâ 3159*, dated 10.05.2004; Makaibari TE, *AP Das & Chandrâ 1798*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3394*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2113*, dated 30.06. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Native of Tropical America. Now naturalized in India, Nepal, Myanmar, Malay Archipelago, Cochinchina, Anaam, Philippines, Taiwan and Tropical Africa.

Note: Natives use the leaves to cure wounds.

MONTANOA La Llave et Lexarza

Montanoa bipinnatifida C. Koch in Wochenschr. Vereins Beford. Gartenbauges Konigl Preuss. Staaten 7: 406. 1864; FI 12: 399. 1995; FB 2(3): 1623. 2001.

Stems up to 10m. Leaves with 3-5 broad, often lobed segments on each side, acute or acuminate, shallowly serrate, scabrid on both surfaces. Flowers white.

Flowers & Fruits: September – January.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3527*, dated 12.10. 2004.

Status: Rare; also grown as ornamental

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Mexico to Columbia. Naturalized in India.

MYRIACTIS Lessing

Myriactis nepalensis Lessing in Linnaea 6: 128.t. 2. 1831; FBI 3: 247. 1881; FI 12: 134. 1995; FB 2(3): 1529. 2001

Annuals, erect, glabrous. Leaves ovate or lanceolate, sessile. Heads globose, sub paniculate. Involucral bracts acute, reflexed. Rays 10-seriate; discs few. Cypsela mucronate.

Flowers & Fruits: June to August.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3021*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 3404*, dated 12.10.2004

Status: Common

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, China, Java, Afghanistan and Iran.

PARTHENIUM L.

Parthenium hysterophorus L., Sp. Pl. 988. 1753; FI 12: 403. 1995; FB 2(3): 1622. 2001.

Plant to 80cm; stems stiffly appressed white puberulous; leaves white pubescent, often pilose on veins. Basal leaves ovate, long petiolate; cauline leaves more finely cut, short petiolate; upper leaves smaller narrower, sub-sessile. Capitula 3mm with white corollas.

Flowers & Fruits: January – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0858*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0705*, dated 20.04. 2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Native of America; widely naturalized in India.

Note: Pollen, whole plant can cause intense allergic reaction.

SASSAUREA DC.

Saussurea deltoidea (DC.) Sch.–Bip. in *Linnaea* 19: 331. 1846; FEH 1: 342.1966; 2:140.1971; TBRI 50(4):126.1987; FI 12: 197. 1995; FB 2(3): 1442. 2001.

Aplotaxis deltoidea DC., *Prodr.* 6: 541. 1838.

Cnicus deltoideus Wallich, *Cat.* 100, n. 2994. 1831; FBI 3: 374. 1881.

An erect perennial herbs. Stem branched above, white hairy. Leaves petioled, very variable, upper deltoid or triangular ovate, lower lyrate-pinnatifid, sinuate-toothed, acute, base narrow, above glabrous and greenish, beneath white-tomentose, nerves prominent below. Flower heads peduncled, scattered or nodding paniced. Pappus single.

Flowers & Fruits: January – February.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0110*, dated 03.02. 2002

Status: Rare

Local Distribution: This temperate plant has been recorded from tropical Hansqua TE in winter.

General Distribution: Nepal, Bhutan, Myanmar, China, Taiwan, Thailand.

SONCHUS L.

Sonchus asper (L.) Hill. *Herb. Brit.* 1: 47. 1769; FBI 3: 414. 1881; FI 12: 318. 1995; FB 2(3): 1479. 2001.

Sonchus oleraceus var. *asper* L., *Sp. Pl.* 794. 1753.

Annual, 15-75 (-120)cm, glabrous or stems above and peduncles glandular-hairy. Leaves simple or pinnatifid, segments ± triangular, sharply dentate or denticulate with rounded auricles at base. Achenes strongly compressed, winged.

Flowers & Fruits: February – September.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0743*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0506*, dated 17.04. 2002; Makaibari TE, *AP Das & Chandrâ 1926*, dated 10.06. 2003.

Status: Less common

Local Distribution: Common in low altitude areas.

General Distribution: Europe, S.W. Asia, Africa.

Sonchus oleraceus L., Sp. Pl. ed. 1:174. 1753; FBI 3:414. 1881; FEH 1:345. 1966; 2:141. 1971; EFPN 3:43. 1982; TBRI 50(4):127. 1987; FI 12:321. 1995; FB 2(3): 1479. 2001; FB 2(3): 1480. 2001..

Annual, glandular hispid, subumbellately branched, 30 – 120cm tall. Radical leaves semiamplexicauled; lamina lanceolate, spinulose-toothed, glabrous; auricle entire or pinnatifid. Capitula cylindric, all rayed, laxly subcorymbose. Involucral bracts multiseriate, connate at base. Florets yellowish. Cypsela elliptic, brownish. Pappus to white, copious.

Flowers & Fruits: April – October.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0243*, dated 09.02. 2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: India (throughout subtropical and temperate regions), Nepal, Bhutan, Afganistan, Pakistan, China, Iraq, Iran, Europe, Australia, N. and S. America.

Sonchus wightianus DC., Prodr. 7:187. 1838; EFPN 3:43. 1982; TBRI 50 (4):127. 1987; FI 12:321. 1995; FB 2(3): 1480. 2001.

S. arvensis auct non L., Clarke in Comp. Ind. 27. 1876, p.p.; FBI 3:414. 1881, p.p.; FEH 1:345. 1966; 2:140. 1971; 3:118. 1975.

Perennial herbs, 20–40cm, root-stock creeping. Stem erect, leafy, subumbellately branched above. Leaves runcinate-pinnatifid, spinous-toothed; caulines semiamplexicauled, auricles rounded. Capitula ±1.5cm long, in lax corymbs, glandular. Rays yellowish. Cypsela narrow, compressed, ribbed. Pappus white.

Flowers & Fruits: April – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0824*, dated ; Kamalpur TE, *AP Das & Chandrâ 0571*, dated 17.04. 2002; Soom TE, *AP Das & Chandrâ 3242*, dated 26.05.2004; Tamsong TE, *AP Das & Chandrâ 2147*, dated 30.06. 2003.

Status: Common

Local Distribution: In all gardens.

General Distribution: Throughout India, Nepal, Bhutan, Myanmar, China, Pakistan, Afganistan, Indonesia and Philippines.

SYNEDRELLA Gaertn.

Synedrella nodiflora (L.) Gaertn., Fruct. et. Sem. 2:456. T. 171.f. 7. 1791; FBI 3:308. 1881; FEH 1: 345. 1966; FI 12: 413-415. 1995; FB 2(3): 1607. 2001.

Gnaphalium luteo-album L., Sp. Pl. 851. 1753; FBI 3: 288. 1881.

Verberina nodiflora L., Cent. Pl. 1: 28. 1755.

Erect, annual, upto 1.3m tall, whitish pilose. Lamina ovate-elliptic, sub-entire to serrate, acute, cuneate or rounded, trinerved, appressed hairy. Heads 0.4-0.6cm across, clustered in radiate groups. Involucral bracts foliaceous, greenish. Receptacle convex. Rays yellowish; discs narrow yellowish; ray achenes narrowly winged. Disc achenes pubescent and black.

Flower & Fruits: Throughout the year.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0455*, dated 05.04. 2002; Soom TE, *AP Das & Chandrâ 3593*, dated 12.10.2004

Status: Common.

Local Distribution: Common in low altitude areas.

General Distribution: India (Marshy places of West Bengal, Madhya Pradesh, Assam, Tamil Nadu, Kerala and Andaman and Nicobar Islands), Sri Lanka, China, Malaya, tropical America and West Indies.

TARAXACUM F.H. Wiggers

Taraxacum officinale Weber in Wiggers, Prim. Fl. Holset 56. 1780; FBI 3:401. 1881; EFPN 3:46. 1982; TBRI 50 (4):128. 1987; FI 12:252. 1995; FB 2(3): 1463. 2001.

Small rosette perennial, scapes 20-30cm high. Root-stock deep seated. Radical leaves oblanceolate-linear, runcinate-pinnatifid below. Capitula to 1cm in diam., solitary, homogamous. Involucral bracts multiseriate. Florets all rayed, yellowish; Cypsela 4-5 angled, obovoid, ribbed. Pappus unequal.

Flowers & Fruits: May – January.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2938*, dated 10.04. 2004.

Status: Common in open places.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas.

TITHONIA Desf.

Tithonia diversifolia (Hemsl.) A Gray in Proc. Amer. Acad. Arts 19: 5. 1883; FEH 1:346. 1966; EFPN 3:47. 1882; TBRI 50 (4):129. 1987; FI 12: 416. 1995; FB 2(3): 1607. 2001.

Mirasolia diversifolia Hemsl., Biol Centr. Amer. Bot. 2: 168.t. 47. 1881.

Local Name: *Titeni, Gham Phul* (Nep).

Shrubby forming thickets to 1.5-3m high, young parts tomentose. Root-stock woody. Leaves alternate, pinnatifid with serrate lobes, white hairy beneath, base narrowed into the petioles. Capitula solitary, borne on axillary and terminal peduncles. Ray florets uniseriate, oblong to spatulate, bright yellow. Disc florets tubular, yellowish. Cypsela tapering towards base.

Flowers & Fruits: October - March

Specimen Cited: Makaibari TE, AP Das & Chandrâ 1723, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2122*, dated 30.06. 2003.

Status: Rare

Local Distribution: All three hill gardens.

General Distribution: Native of South America; naturalized in India.

TRIDAX L.

Tridax procumbens L., Sp. Pl. ed. 1:900. 1753; FBI 3:311. 1881; FEH 1:346. 1966; 2:141. 1971; 3:118. 1975; EFPN 3:47. 1982; TBRI 50 (4):129. 1987; FI 12:418. 1995; FB 2(3): 1611. 2001.

Perennial herbs. Stem rooting, procumbent. Leaves opposite; lamina elliptic-ovate to lanceolate, acute, irregularly serrate, cuneate. Heads radiate, solitary, heterogamous. Peduncles straight.

Involucral bracts 2-3 seriate, ovate-lanceolate Rays white, bifid/ trifold. Discs numerous, yellowish. Achenes oblong, silky.

Flowers & Fruits: June – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0882*, dated 04.05.2002; Hansqua TE, *AP Das & Chandrâ 1432*, dated 20.10. 2002; Kamalpur TE, *AP Das & Chandrâ 1345*, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Pantropic weed of S. American origin.

VERNONIA Schreb. (*nom. cons.*)

Vernonia cinerea (L.) Less in *Linnaea* 4:291. 1829; *FBI* 3:233. 1881; *FEH* 1:346. 1966; *EFPN* 3:56. 1982; *FI* 13:367. 1995.

Conyza cinerea L., *Sp. Pl.* 862. 1753.

Erect annual or perennial herbs to 75cm tall. Stems terete, pubescent, ribbed, glandular. Leaves subsessile variable, acute or obtuse, undulate or entire, usually glabrous. Heads in loose corymbose panicles. Involucral bracts many seriate, lanceolate. Achenes, terete, silky. Pappus whitish.

Flower & Fruits: Throughout the year.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0819*, dated 04.05. 2002; Makaibari TE, *AP Das & Chandrâ 1738*, dated 17.05. 2003; Soom TE, *AP Das & Chandrâ 2607*, dated 27.12. 2003.

Status: Common.

Local Distribution: In all gardens.

General Distribution: Africa, Asia, Australia.

YOUNGIA Cass.

Youngia japonica (L.) DC., *Prodr.* 7:194. 1838; *FEH* 1:347. 1966; 2:142. 1971; *EFPN* 3:49. 1979; *TBRI* 50 (4):130. 1987; *FI* 12:329. 1995; *FB* 2(3): 1457. 2001.

Prenanthes japonica L., *Mant. Pl.* 107. 1767.

Crepis japonica Benth., *Fl. Hongk.* 194. 1861; *FBI* 3:395. 1881.

Puberulous annual, 20-70cm tall. Leaves rosulate, radical lyrate-runcinate, obovate or oblanceolate, sinuate-toothed; cauline leaves smaller, linear to lanceolate. Heads in cymose corymbs. Peduncles dichotomously branched. Involucral bracts ovate. Florets all ray, yellowish.

Flowers & Fruits: March - August.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0010*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0106*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0376*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 1761*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2490*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2007*, dated 30.06. 2003

Status: Abundant in open and semiopen places.

Local Distribution: In all gardens.

General Distribution: W. Pakistan, Himalayas (Kashmir-Bhutan), India, east to China, Japan, Malaysia.

BALSAMINACEAE A. Rich.

IMPATIENS L.

Impatiens arguta Hooker f. & Thomson in J. Linn. Soc., Bot. 4: 137. 1860; FBI 1: 470. 1875; FEH 1: 194. 1966; EFPN 2: 78. 1979; FB 2(1): 92.1991; FI 4: 120. 1997.

Perennial herb to 80 cm with leaves elliptic to ovate – elliptic or lanceolate, glabrous. Flowers epedunculate, solitary or in clusters of 2-3 (-5), rose-purple to violet. Capsule clavate, glabrous.

Flowers & Fruits: May – October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2541*, dated 11.11. 2003

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, China, Tibet, Myanmar

Impatiens balsamina L., Sp.Pl. 938. 1753; FBI 1: 453. 1874; FB 2(1): 103.1991; FI 4: 123. 1997.

Annual herb to 60 cm tall. Stem simple, more rarely branched. Leaves elliptic to narrow – obovate, usually glabrous. Flowers epedunculate, solitary or in axillary fascicles of 2-3, pink, mauve or white.

Flowers & Fruits: November- June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0779*, dated 04.05. 2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Native of India and Burma but widely naturalized and cultivated in Himalayan foothills.

Impatiens discolor DC., Prodr. 1: 687. 1824; FEH 1: 195. 1966; FB 2(1): 94.1991; FI 4: 141. 1997.

Perennial to 25cm tall. Stems decumbent, rooting at lower nodes. Leaves elliptic-lanceolate. Raceme 1-3 (-4) flowered, flowers pale pink or white, generally with some deeper spotting in throat. Capsule narrowly clavate

Flowers & Fruits: July-October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1943*, dated 30.06. 2003.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan

Impatiens racemosa DC., Prodr. 1: 687. 1824; FEH 1: 196. 1966.

Small, erect, annual; branches slender, glandular; lamina elliptic-lanceolate, crenate, acunilate; peduncles subterminal; flowers yellow; standard orbicular, wings with filiform processes; lip spur long, slender, incurved; capsule linear, acuminate, glabrous.

Flowers & Fruits: June – September

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1839*, dated 10.06. 2003

Status: Less Common.

Local Distribution: Found only in Makaibari garden.

General Distribution: Kashmir – Sikkim, Tibet, Meghalaya.

BASELLACEAE Moq.– Tand.

BASELLA L.

Basella rubra L. Sp.Pl. 272. 1753; FBI 5: 20. 1886; FB 1(2): 197. 1984.

Basella alba L., Sp. Pl. 272. 1753.

Fleshy, glabrous, perennial twiner. Lamina broadly ovate to elliptic, acute, rounded or cordate; petioles 1 – 3 cm. Spike, bearing flowers in upper half. Bracteoles and perianth 3 – 4 mm, segments obtuse, pinkish, tube green. Fruits subglobose, black when ripe.

Flowers & Fruits: December – April.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1919*, dated 10.06. 2003.

Status: Rare

Local Distribution: In all gardens.

General Distribution: Native to tropical Asia & Africa.

BEGONIACEAE C.A. Agardh.

BEGONIA L.

Begonia picta Smith, Exot. Bot. 2: t. 101. 1805; FBI 2:638. 1879; FEH 1:215. 1966; 2:84. 1971; EFPN 2:182. 1979; TBRI 50(4): 106. 1987; FB 2(1):242. 1981.

Small tuberous herbs to 20cm high. Basal leaf one, petioles 2-11 cm; cauline leaf-lamina 4.5-14.5 x 3.5-8.5 cm, ovate, serrate, obliquely cordate. Outer tepals larger, 1-1.5 x 0.9-1 cm, elliptic, white or pink; stamens in globose mass; styles 3, united at base. Largest capsule wing 2-2.5 cm.

Flowers: August - September *Fruits:* September - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1808*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2155*, dated 30.06. 2003.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Punjab – Bhutan), Assam.

Begonia hatacoa Buch. – Ham. ex D.Don, Prodr. 223. 1825; FB 2(1): 243. 1991.

Begonia rubro-venia Hook. in Bot. Mag. 79.t. 4689. 1853; FBI 2: 645. 1879.

Succulent herbs, rhizomatous. Stems 10 – 30 cm. Lamina ovate – lanceolate, acuminate, base obliquely rounded, scarcely cordate, subentire or distantly dentate, pubescent on veins beneath;

stipules ovate, acuminate, persistent. Peduncles bearing few flowers terminally. Outer tepals ovate, pink or white. Capsules becoming reflexed, largest wing oblong.

Flowers & Fruits: July – October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ* 2896, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Eastern Himalaya, Meghalaya, Manipur.

Begonia flaviflora (Clarke) Hara in Journ. Jap. Bot. 45:91. 1970; FEH 2:84. Pl.3b.1971; TBRI 50(4):106. 1987; FB 2(1): 245. 1991.

Begonia laciniata Roxb. var. *flava* Clarke in FBI 2: 645. 1879.

Herbs, 20-55cm, densely tomentose. Rootstock creeping, rigid. Leaves ovate, acuminate, base obscurely cordate, margin deeply lobed, serrate. Flowers yellow. Capsules winged, wings variable in size.

Flowers : July - August *Fruits:* August - September

Specimen Cited: Makaibari TE, *AP Das & Chandrâ* 2363, dated 05.11. 2003

Status: Less common.

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Darjeeling - Sikkim); endemic.

BETULACEAE S.F. Gray

ALNUS Miller

Alnus nepalensis D. Don, Prodr. Fl. Nep. 58. 1825; FBI 5: 600. 1888; FEH 1: 48. 1966; 2: 17. 1971; EFPN 3: 213. 1982; FB 1(1): 72. 1983; TBRI 50 (4) : 105. 1987.

Local Name: *Utis* (Nep).

Deciduous trees upto 21m. Leaves alternate, broadly elliptic, entire, acute, base cuneate or rounded, coriaceous, brownish glandular below. Flowers unisexual, monoecious in catkins. Achenes triangular, membranous.

Flowers & Fruits: February - May

Specimen Cited: Tamsong TE, *AP Das & Chandrâ* 2331, dated 05.11. 2003

Status: Very common..

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Garhwal-Bhutan), Assam, Myanmar, Tibet, W. China.

BETULA Tourn.

Betula alnoides D. Don, Prodr. Fl. Nep. 58. 1825; FBI 5: 599. 1888; FEH 1: 48. 1966; 2: 18. 1971; EFPN 3: 213. 1982; FB 1(1):71. 1983; TBRI 50 (4):107. 1987.

B. cylindrostachya Wallich, Pl. As. Rar. 2: 7. 1831.

Local Name: *Saur* (Nep).

Tall deciduous trees to 16 m high. Bark with vertical strips, reddish brown. Young shoot tomentose. Leaves ovate, unequally serrate, acuminate, base rounded, subglabrous upper surface, pubescent beneath. Male catkins slender, pendulous; female catkins in shorter raceme. Achenes broadly winged.

Flowers & Fruits: January - June

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2014*, dated 30.06. 2003.

Status: Less common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Nepal-Bhutan), Meghalaya, Tibet, W. China.

BIGNONIACEAE A. Jussieu

JACARANDA Jussieu

Jacaranda mimosifolia D. Don in B. Reg. 8: t. 631. 1822; EFPN 3: 137. 1982; FB 2(3): 1242. 2001.

Trees 6-12 m with leaflets elliptic to lanceolate, sessile, cuspidate, sparsely glandular pubescent on upper surface, glabrous, margins revolute. Flowers mauve.

Flowers & Fruits: March - June

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1384*, dated 20.10. 2002; Kamalpur TE, *AP Das & Chandrâ 0641*, dated 20.04. 2002

Status: Commonly planted

Local Distribution: In Terai gardens.

General Distribution: Native of tropical S. America; cultivated in the tropics.

OROXYLUM Ventenat

Oroxylum indicum (L.) Kurz., For. Fl. Br. Burma 2: 237. 1877; FBI 4: 378. 1884; FEH 1: 295. 1966; Fl. Nep. 3: 137. 1982.

Bignonia indica L., Sp. Pl. 625. 1753.

Local Name: *Totola* (Beng, Nep)

Trees 4-6m with leaflets acute or apiculate. Flowers with corolla tube reddish-purple outside, yellow within, lobes creamy, opening after sunset. Capsule 50-62×4-9cm. with papery winged seeds.

Flowers & Fruits: September - March.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0104*, dated 03.02. 2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Tropical Himalaya, India to Indochina, Malaysia, China.

BORAGINACEAE A. Jussieu

CYNOGLOSSUM L.

Cynoglossum lanceolatum Forsskal, Fl. Aegypt. – Arab. 41. 1775; FBI 4:156. 1883; FB 2(2): 907. 1999.

Cynoglossum micranthum Desf., Tab. Ecole Bot. ed. 1: 220. 1804; FBI 4:156. 1883.

Local Name: *Khirpatey* (Nep)

Densely hispid annual/ biennial/ perennial much branched; rootstock stout, erect. Leaves petiolate; lamina subaute to acute, shortly attenuate, greyish hispid. Inflorescence intricately branched, furcated, widely divaricate at fruit; corolla white with blue center.

Flowers & Fruits: January – December

Specimen Cited: Kamalpur Mohurgong & Gulma TE, *AP Das & Chandrâ 0920*, dated 04.05. 2002; TE, *AP Das & Chandrâ 0594*, dated 20.04. 2002

Status: Common.

Local Distribution: In all gardens.

General Distribution: West Asia, Himalayas, India, Sri Lanka, Myanmar, China, Malaysia, Africa.

HELIOTROPIUM L.

Heliotropium indicum L., Sp. Pl. 130. 1753; FBI 4:152.1883; FB 2(2): 878.1999.

Erect annuals with few upper branches, much hairy. Leaves alternate or sub-opposite; lamina ovate, undulate to crenate-sub serrate, sub-acute, cordate; petioles partially winged. Cymes scorpioid; flowers in 2 rows, white. Fruits ovoid, strongly ribbed, glabrous, deeply 2- fid.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0325*, dated 16.02.2002; Kamalpur TE, *AP Das & Chandrâ 1250*, dated 18.10.2002.

Status: Common.

Local Distribution: All Terai gardens

General Distribution: India, Myanmar, East to West and South Malaysia, tropical Africa and America.

BRASSICACEAE Burnett, nom. alt.

[CRUCIFERAE A. Jussieu, nom. cons.]

CAPSELLA Moench.

Capsella bursa-pastoris (L.) Medicus, Pfl.-Gatt. 1: 85. 1792; FEH 1: 108. 1966; EFPN 2: 40. 1979; FB 1(2): 423. 1984; TBRI 50 (4): 108. 1987; FWB 1:188. 1997.

Small annual rosette herb, 20-34 cm. Stem hairy. Basal leaves deeply pinnatifid, runcinate, base short stalked, lateral lobes 5-6 pairs, unequally serrate, oblanceolate, densely pubescent; stem

leaves sessile, smaller, ovate-lanceolate, acute, base auricled. Flowers in ebracteate racemes, white; petals obovate, white. Pods short, obcordate, angular, flattened dorsiventrally; seeds oblong, punctate.

Flowers & Fruits: April – August.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2945*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: All three hill gardens.

General Distribution: Temperate Eurasia and E. Canada.

Note: Young shoots eaten as vegetable.

CARDAMINE L.

Cardamine debilis D. Don, Prodr. Fl. Nep. 201. 1825.

Small annual rosette herb; leaflets rounded; raceme upto 20 cm long; pods ascending.

Flowers & Fruits: January – May.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0002*, dated 27.01.2002;

Hansqua TE, *AP Das & Chandrâ 0098*, dated 03.02. 2002

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Himalayas

Cardamine hirsuta L., Sp. Pl. ed. 1(2): 655. 1753; FB 1(2): 431. 1984.

Small, annual, erect to 25 cm, pubescent herb. Basal leaves many, in rosette; leaflets variable, usually ovate-orbicular; terminal larger. Flowers white, clustered in ebracteate racemes; sepals elliptic; petals longer than sepals, narrow; stamens 4-6. Pods cylindrical; seeds upto 13, pale brown.

Flowers & Fruits: March – October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2507*, dated 11.11. 2003; Soom TE, *AP Das*

& Chandrâ 2645, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2401*, dated 05.11. 2003

Status: Abundant

Local Distribution: All three hill gardens.

General Distribution: Temperate Eurasia

ERUCA Miller

Eruca sativa Miller, Gard. Dict., ed. 8, no. 1. 1768; FBI 1: 158. 1872; FI 2: 143. 1993.

Brassica eruca L., Sp. Pl. 667. 1753.

Erect, glabrous, soft herb; branches few; leaves lyrate; flowers yellow, violet veined inside; pods closely adpressed to the peduncle.

Flowers & Fruits: February – April.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2805*, dated 25.03. 2004

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Canary islands, Africa, Arabia, Pakistan, India, Himalayas.

NASTURTIUM Br.

Nasturtium officinale Brown, Hook. Kew ed. 2(4): 110. 1812; FBI 1: 133. 1872; FEH 1: 110. 1966; FB 1(2): 436. 1984; FWB 1:195. 1997.

Rorippa nasturtium-aquaticum (L.) Hayek, Sched. Fl. Stir. Exs. 22. 1905; TBRI 50 (4): 125. 1987.

Local Name: *Simrayo* (Nep.)

Perennial marshy herb. Stem erect-spreading, 5-9 cm, rooting from lower nodes. Leaves imperipinnate. Lateral leaflets elliptic, terminal slightly broader longer than lateral ones, ovate-cordate, sinuate or entire, obtuse-acute. Flowers in short and ebracteate racemes white. Pods cylindrical, curved upwardly.

Flowers: April - June *Fruits:* May - October

Specimen Cited: Soom TE, *AP Das & Chandrâ 3101*, dated 03.05. 2004

Status: Common in moist & marshy places.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Eurasia, N. Africa; naturalised.

Note: Eaten as vegetable.

RORIPPA Scopoli

Rorippa benghalensis (DC.) Hara in J. Jap. Bot. 49: 132. 1974; FI 2: 128. 1993.

Nasturtium benghalensis DC., Syst. Nat. 2: 198. 1821

Stems 20-30 (-60) cm with lateral segments of leaves oblong - elliptic , 3-5 pairs, terminal segments ovate, obtuse, margins crenately toothed , +/- glabrous. Racemes bracteate.

Flowers & Fruits: December - March

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1485*, dated 20.10. 2002; Kamalpur TE, *AP Das & Chandrâ 0684*, dated 20.04.2002

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Indo -China, Myanmar

Rorippa dubia (Persoon) Hara in J. Jap. Bot. 30: 196. 1955; FEH 1: 110. 1966

Sisymbrium dubium Persoon, Synop. Pl. 2: 199. 1806.

Small, erect, hispid herb; branching near base; radical leaves deeply pinnatisect below, upper part entire; upper leaves sessile, auriculate; sepals yellowish green; corolla absent; pods cylindrical, ascending.

Flowers & Fruits: September - December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2268*, dated 05.09. 2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.



General Distribution: India to Japan; naturalized in America.

Rorippa indica (L.) Hiern, Cat. Afr. Pl. Welw. 1: 26. add. et corr. 1896 et 2: 481, errata 1899; FI 2: 129. 1993.

Sisymbrium indicum L., Mant. Pl. 1: 93. 1767.

Like *R. benghalensis* but much shorter plant; leaved much dissected; scape not leafy.

Flowers & Fruits: January – March.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0823*, dated 04.05. 2002; Tamsong TE, *AP Das & Chandrâ 2906*, dated 10.04. 2004.

Status: Less Common.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: India, Nepal, Bhutan, China, Japan, Malaysia

CAESALPINIACEAE R. Brown

BAUHINIA L.

Bauhinia acuminata L., Sp. Pl. 376. 1753.

Shrub to small tree; bushy; lamina obcordate, tips acute, glabrous; flowers solitary, white; pods oblong with curved persistent style; seeds compressed.

Flowers & Fruits: January – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2976*, dated 10.04. 2004.

Status: Rarely planted

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan, China, Myanmar

Bauhinia purpurea L., Sp.Pl. 375. 1753; FBI 2: 284. 1878; FB 1(3): 633. 1987.

Local Name: *Tanki* (Nep).

Small trees to 12m. Lamina broadly elliptic, deeply obcordate, lobes subacute or obtuse with a subulate point, base truncate or cordate, glabrous or minutely puberulous beneath, veins 9 –11. Racemes 10 –12 flowered, axillary or terminal, buds 2 –2.5 cm, 5 ridged in upper half. calyx spatulate. Petals pink or mauve. Fertile stamens 3. Pods linear oblong; seeds ellipsoid.

Flowers & Fruits: January - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1867*, dated 16.06. 2003 ; Tamsong TE, *AP Das & Chandrâ 2928*, dated 10.04. 2004.

Status: Commonly planted

Local Distribution: In all gardens.

General Distribution: Tropical Himalayas, S.W. China

Bauhinia variegata L., Sp. Pl. ed. 1:375. 1753; FBI 2:284. 1978; FEH 3:57. 1975; EFPN 2:109. 1979; FB 1(3): 634. 1987.

Local Name: *Koiralo* (Nep).

Trees upto 10 m tall, deciduous; branches pendulous. Leaves 8-18 x 7-15cm, broadly ovate, cordate, \pm 1/3 part bifid, lobes obtuse, 9-11 veined. Flowers subsessile, fragrant, appearing with leaves. Hypanthium \pm 3 cm long; petals 4-5 cm, elliptic, white. Pods 16-22 cm, linear oblong.

Flowers & Fruits: February – December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2208*, dated 30.06. 2003

Status: Common; also planted

Local Distribution: In all gardens.

General Distribution: Himalaya, India, Myanmar, China.

CASSIA L.

Cassia alata L., Sp Pl. 378.1753; FBI 2: 264. 1878; FB 1(3): 629. 1987.

Shrubs to 4 m. Leaves 30 –60 cm; leaflets 8 – 12 pairs, oblong/ obovate, obtuse, mucronate, base rounded, glabrous; stipules triangular, persistent. Racemes 40 –60 cm, bracts orange, deciduous. Petals yellow, oblong/ obovate, clawed. Pods 4-angled, winged, with 50 –60 flat-rhombic seeds.

Flowers & Fruits: August – October.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1655*, dated 13.11.2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Pantropical

Cassia fistula L., Sp Pl. 377.1753; FBI 2: 261. 1878; FB 1(3): 628. 1987.

Local Name: *Raj Birse, Sunalo, Bandarlata* (Nep).

Deciduous trees, to 20m. Leaves 15 –40 cm, leaflets 3 –4 pairs, ovate, acute, base rounded, glabrous; stipules deltoid, deciduous. Racemes axillary, pendent, 10 – 40 cm, pedicels 4 – 6cm. Petals yellow, obovate. Pods terete, woody, indehiscent, black, transversely α -septate. Seeds ovate, glossy, brown.

Flowers & Fruits: January – December.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0487*, dated 17.04. 2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China, Polynesia, Malaysia, Malaya Island, Myanmar, Africa

Cassia nodosa Buch. –Ham.in Mem. Wern. Soc. 6: 312. 1832.

A short height but much spreading tree with branches curving downward; stipules large-foliaceous; lamina of leaflets oblong, slightly oblique; corymbs much branched, spreading; corolla with beautiful mosaic of colours; filaments of large stamens globose-swollen at the middle; fruits woody, terete.

Flowers & Fruits: April – June.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0785*, dated 04.05. 2002.

Status: Sometimes planted

Local Distribution: Terai gardens.

General Distribution: Plant of Africal origin but widely cultivated.

Cassia occidentalis L., Sp Pl. 377.1753; FBI 2: 262. 1878; FB 1(3): 631. 1987.

Annuals, to 3 m. Leaves to 20 cm; leaflets 3 –5 pairs, ovate/ lanceolate, acuminate, base rounded, ciliate, glandular pubescent beneath; petiole with a globose gland. Corymbs axillary; bracts ovate, acute, deciduous. Petals obovate, yellow. Pods linear, compressed, brown with a broad pale band along both suture.

Flowers & Fruits: July – December.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0499*, dated 17.04. 2002

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, tropical America

Cassia sophera L., Sp Pl. 379.1753; FBI 2: 262. 1878; FB 1(3): 631. 1987.

Local Name: *Kalkasunda* (Beng)

Undershrubs to 3 m. Leaves to 20 cm, leaflets 4 –9 pairs, ovate, lanceolate, acuminate, base rounded, glabrous; petiole with an erect club-shaped gland; stipules ovate, caducous. Racemes axillary, 4 –10 flowered. Petals yellow. Pods subterete, straight or curved, septate; seeds 30 –40, ovate, greyish.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0875*, dated 04.05. 2002;
Kamalpur TE, *AP Das & Chandrâ 0713*, dated 20.04. 2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China, Malaysia, Polynesia, Australia, Africa

Cassia tora L. Sp. Pl. 376. 1753; FBI 2: 263. 1878;

C. obtusifolia L., Sp. Pl. 377. 1753; KB 13: 248. 1958; BBSI 18: 94. 1979.

Local Name: *Tapray* (Nep).

Annuals, to 1 m tall. Stipules linear, subulate. Petiolules 0.2 cm long; leaflets 3 pairs, 2 glands between lowermost leaflet pair; obovate. Flowers in small axillary corymb, 1.25 cm diam., yellow; sepals obtuse; petals obovate, veined; stamens 7, staminodes 3. Pod slender, septate.

Flowers & Fruits: July - December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0921*, dated 04.05. 2002;
Kamalpur TE, *AP Das & Chandrâ 1319*, dated 18.10.2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: Pantropic.

PELTOPHORUM (Vogel) Bentham

Peltophorum ferrugineum Bentham, Fl. Austral. 2: 279. 1864; FBI 2: 257. 1878; FB 1(3): 621. 1987.

Tree 10-15 m. Leaves pinnate 8-10 (-15) pairs, leaflets 8-18 pairs, oblong, emarginate, base oblique, truncate or rounded, sessile, glabrous. Flowers yellow in brown pubescent panicle. Pods leathery.

Flowers & Fruits: April – January.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0864*, dated 04.05. 2002.

Status: Commonly planted as a decorative wayside tree.

Local Distribution: All Terai gardens.

General Distribution: Native of Australia and SE Asia

CAMPANULACEAE A. Jussieu

WAHLENGERGIA Schrad ex Roth

Wahlenbergia marginata (Thunb.) A. DC., Monogr. Campan. 143. 1840; FEH 2: 131. 1971; Fl. Nep. 3: 53. 1982.

Campanula marginata Thunb., Fl. Jap. 89. 1784.

Glabrous to sparsely hairy. Stems erect to procumbent, 8-60cm, branched at base and above. Leaves oblanceolate, margin undulate, obscurely denticulate, sparsely pilose. Flowers erect with campanulate blue corolla. Capsule obconical, 5-7mm.

Flowers & Fruits: January – April.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0425*, dated 05.04. 2002; Hansqua TE, *AP Das & Chandrâ 0993*, dated 09.05.2002.

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: Subtropical Himalaya, India, China, Japan, Malaysia, Australia, New Zealand.

CANNABACEAE Lindley

CANNABIS L.

Cannabis sativa L., Sp. Pl. ed. 1. 1827. 1753; FBI 5: 487. 1888; FEH 1: 53. 1966; FB 1(1): 134. 1983.

Local Name: *Bhang*, *Ganja* (Nep & Beng); *Hemp* (Eng)

Erect annual herbs, 1 – 1.6m tall. Leaves alternate, opposite at base, palmately compound; leaflets narrow elliptic or lanceolate, acuminate, base attenuate, scabrid above, pubescent beneath. Male panicles pendulous; Female flowers sessile, arranged in leafy spikes minutely resinous-glandular.

Flowers & Fruits: June - August

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1338*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1719*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2118*, dated 30.06.2003.

Status: Abundant

Local Distribution: All gardens.

General Distribution: Native of C. Asia. Cultivated and naturalized in temperate and tropical world.

Note: Used as an intoxicant.

CAPPARACEAE A. Jussieu

CAPPARIS L.

Capparis acutifolia Sweet, Hort. Brit. ed. 2. 585. 1830; FI 2: 255. 1993.

Capparis sabiaefolia Hooker f. & Thomson in FBI 1: 179. 1872.

Local Name: *Chila pati* (Nep).

Climbing shrub, branches unarmed or with short (2-5mm) straight stipular spines, shoots minutely brownish stellate at first. Leaves ovate elliptic, abruptly acuminate or acute, base rounded or cuneate, minutely stellate pubescent at first. Flowers white, 2-4 in vertical rows at or above leaf-axils, sometimes solitary.

Flowers & Fruits: March - May

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 3338*, dated 26.09.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas, Myanmar

CRATEVA L.

Crateva religiosa Forster f., Pl. Escul. Ins. Occ. Austral. 45. 1786; FBI 1: 172. 1872; FI 2: 325. 1993.

Local Name: *Chipli, chiple kath* (Nep).

Trees 3-15m, young shoots brown. Leaflets sub-coriaceous, ovate, obovate, or elliptic, shortly acuminate, middle leaflet largest, symmetrically cuneate at base lateral ones oblique, rounded at base, glabrous. Flowers cream coloured. Fruits 3-5.5 cm diameter, thick walled.

Flowers & Fruits: February - April

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1862*, Dated 10.06.2003.

Status: Rare

Local Distribution: Common in low altitude.

General Distribution: India, Nepal, Bhutan, china, Indo-China, Myanmar

CAPRIFOLIACEAE A. Jussieu

LONICERA L.

Lonicera micrantha Trautv. ex Regel, Act. Hort. Petrop. 5: 609. 1877; FB 2(3): 1358. 2001.

Large scandent shrub with pendulous branches. Branchlets brown, villous, pith hollow. Leaves oblong to oblong-lanceolate, acuminate, base subcordate to truncate, nearly glabrous above except for pilose hairs on midrib and major veins, villous beneath, whitish when young, less hairy and darker when mature, ciliate. Flowers zygomorphic, creamy white.

Flowers & Fruits: September – December..

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2987*, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan, China, Taiwan, Myanmar.

CARLEMANNIACEAE Airy Shaw

CARLEMANNIA Bentham

Carlemannia griffithii Bentham in Hooer's J. Bot. Kew Gard. Misc. 5: 308. 1853; FB 2(3): 1363. 2001.

Tall herb or sub-shrub, 1-3m, woody at base, branches slender. Leaves obliquely elliptic, base cuneate margins serrate, glabrous except on veins beneath. Flowers white in lax cymes. Capsule sparsely puberulous.

Flowers & Fruits: July – September

Specimen Cited: Soom TE, *AP Das & Chandrâ 3469*, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom garden.

General Distribution: E. Himalayas, Khasia Hills, N. Myanmar.

CARYOPHYLLACEAE A. Jussieu

BRACHYSTEMMA D. Don

Brachystemma calycinum D. Don, Prodr. Fl. Nepal. 216. 1825; FBI 1: 235. 1874; FI 2: 519. 1993; FB 1(2): 209. 1984.

Stems 4 angled, glossy. Lamina linear-lanceolate, acuminate, base cuneate, sparsely pubescent above. Panicle branches minutely pubescent, bracts linear – lanceolate up to 4 mm, recurved. Sepals elliptic, weakly 3 nerved. Petals lanceolate, white.

Flowers & Fruits: October – February.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1770*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2348*, dated 05.11. 2003.

Status: Less Common.

Local Distribution: Found only in Makaibari garden.

General Distribution: Eastern Himalaya, Assam, W. China.

CERASTIUM L.

Cerastium glomeratum Thuillier, Fl. Env. Paris ed. 2:226. 286. 1799; Sci. Rep. Thoku Univ. Ser. 4, Biol. 29: FB 1(2): 205. 1984; FWB 1:243. 1997.

C. vulgatum L., Fl. Suec. Ed. 2: 158. 1755, nom ambing.; F.; 38, f. 24. 1936.

Slender, suberect herb to 30 cm. Leaves oblanceolate or ovate, acute or obtuse, base narrowed or rounded, eglanduler pubescent, sometimes glandular. Flowers in terminal cymes. Capsule cylindrical, 10-valved, straw - coloured.

Flowers & Fruits: May - September

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2059*, dated 30.06. 2003.

Status: Common.

Local Distribution: Found only in Soom & Tamsong garden.

General Distribution: Cosmopolitan.

DRYMARIA Schultes

Drymaria diandra Blume, Bijdr. 62. 1825; FI 2:533. 1993; FWB 1(2):243. 1997.

Drymaria cordata (L.) Willdenow ex Roemer & Schultes, Syst. Veg. 5: 406.1819; FBI 1:244.1874; FB 1(2): 215.1984.

Local Name: *Abijalo* (Nep)

Prostrate or trailing herb, rooting at nodes. Stipules short, lacerate. Lamina suborbicular, obtuse, glabrous, 5-nerved.. Flowers in axillary or terminal cymes; pedicels papillose; sepals elliptic-ovate, scarious, 3-nerved; petals white; stamens few to 5. Capsules 3-valved; seeds tuberculate.

Flowers & Fruits: May - July

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0016*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1035*, dated 09.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0701*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1805*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2637*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2244*, dated 03.09. 2003.

Status: Abundant.

Local Distribution: In all the gardens.

General Distribution: Tropical and Subtropical Asia, Formosa, W. & S. China, Oceania, Hawaii.

Note: An important folk medicinal plant.

Drymaria villosa Chamisso et Schlechtendal in *Linnaea* 5: 232. 1830; FEH 3:31. 1975; EFPN 2:54. 1979; FB 1(2): 216.1984; FI 2:532. 1993; FWB 1:245. 1997.

Local Name: *Abijalo* (Nep).

Diffuse, much branched, villous, annuals, >16 cm. Leaves opposite, ovate-cordate, obtuse-mucronate, villous with long whitish hairs; stipules entire. Cymes axillary and terminal, much branched; flowers white; bracts small. Capsule 3-valved, ovoid many seeded.

Flowers: April – August; *Fruits:* July – December

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1661*, dated 13.11. 2002; Tamsong TE, *AP Das & Chandrâ 2180*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 2602*, dated 27.12. 2003.

Status: Very common.

Local Distribution: All three hill gardens and in Terai during winter.

General Distribution: C. America along Pacific coast of S. America to Peru. Highly naturalised in Himalayas (Nepal-Bhutan), India, Malaysia and Africa.

Note: Medicinally useful plant.

POLYCARPON L.

Polycarpon prostratum (Forsskal) Aschers. & Schweinf. In Oesterr. Bot. Z. 39: 128. 1889; FI 2: 553. 1993; FB 1(2): 216. 1984.

Alsine prostrata Forsskal, Fl. Aegypt. – Arab. 207. 1775.

Polycarpon loeflingiae (Wight & Arn.) Benth. In Benth. & Hook.f., Gen. Pl. 1: 153. 1862; FBI 1: 245. 1874.

Stems 15 –30 cm, weakly pubescent. Leaves oblanceolate, 5 –20 x 2 –5mm, acute, base narrowed, sessile, sparsely pubescent beneath; stipules lanceolate, 2 – 3 mm. Sepals narrowly ovate, 2 – 2.5 mm. petals half as long as sepals. Capsule ovoid, 1.5mm.

Flowers & Fruits: June – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1586*, dated 22.10.2002; Kamalpur TE, *AP Das & Chandrâ 1329*, dated 18.10.2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: Tropical Himalaya, India, Tropical Asia, Africa.

SAGINA L.

Sagina japonica (Swartz) Ohwi in Journ. Bot. 13:438. 1937, excl. *syn. S. maxima* A. Gray, Mizushima Journ. Jap. Bot. 35. 257. 1960; FEH 1: 81. 1966; 2: 26. 1971; 3: 33. 1975; FB 1(2): 214. 1984; FI 2:558. 1993; FWB 1:246. 1997.

Spergula japonica Swartz in Gex. Naturf. Freninde Berl. Neue Schr. 3: 164, t. i, f. 2. 1801.

Small perennial herb to 7-13 cm. Leaves opposite, basally connate, acuminate with awn-like tip, glandular above, ciliate near base, nerves indistinct. Flowers both axillary and terminal, solitary, globose, white; Capsule 5-valved; seeds rough and papillate, brownish.

Flowers: May - July; *Fruits:* August - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2998*, dated 10.04. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Korea, China, E. Tibet, Formosa, Japan.

STELLARIA L.

Stellaria media (L.) Villars, Hist. Pl. Dauph. 3: 615, 1789; FEH 1: 82. 1966; FB 1(2): 207. 1984; TBRI 50 (4):128. 1987; FWB 1:250. 1997.

English Name: Chickweed.

Diffuse or matted herb. Stem quadrangular. Petioles upto 1.35 cm; lamina ovate, acute, cordate or rounded, glabrous or ciliate. Cymes few to numerous flowered, terminal, leafy. Pedicels to 1.5 cm; sepals ovate, glandular; petals bifid; stamens 3-8; ovary 1-celled. Capsule ovoid.

Flowers & Fruits: February - November

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0706*, dated 20.04.2002; Soom TE, *AP Das & Chandrâ 2690*, dated 09.01.2004; Tamsong TE, *AP Das & Chandrâ 2997*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: All three hill gardens.

General Distribution: Temperate regions of the world.

Stellaria patens D. Don, Prodr. Fl. Nep. 215. 1825; FEH 1: 84. 1966; 2: 26. 1971; 3: 35. 1979; EFPN 2: 58. 1979; FB 1(2): 207. 1984; TBRI 50 (4):128. 1987; FWB 1:251. 1997.
S. longissima Edgeworth et Hook. f. in FBI 1: 232. 1874.

Decumbent slender herb, tufted stem 4-angled, white-pilose. Leaves sessile, lamina linear lanceolate, entire, white-pilose below. Cymes few flowered; peduncle white-hairy; bracts scarious. Flowers white; sepals lanceolate; petals 2-partite, white; stamens 10; Capsule ovoid.

Flowers & Fruits: April - June

Specimen Cited: Soom TE, *AP Das & Chandrâ 2646*, dated 27.12.2004; Tamsong TE, *AP Das & Chandrâ 1934*, dated 30.06. 2003.

Status: Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Punjab-Bhutan).

Stellaria sikkimensis Hook.f., FBI 1: 230. 1874; FI 2: 588. 1993; FB 1(2): 207. 1984.

Weak, prostrate, stellately -pubescent, yellowish pilose throughout. Lamina ovate -lanceolate, 0.7 -2x 0.3 -0.8cm, acute or acuminate, base rounded, sessile. Flowers in loose terminal cymes. Sepals lanceolate, 4 -5mm; petals 3 -4mm. Capsules ovoid.

Flowers & Fruits: June - December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3010*, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Eastern Himalaya (Nepal - Bhutan).

Stellaria uliginosa Murray, Prodr. Strip. Gotting. 55. 1770; var. *undulata* (Thunberg) Ohwi in Acta Phytotax. Geobot.10:136. 1941; EFPN 1:58. 1979; FB1(2):208. 1984; TBRI 50(4):128. 1987.

S. undulata Thunberg, Fl. Jap. 185. 1785.

Stellaria alsine Grimm

Glabrous annual, profusely branched. Stem 4-angled, brownish. Leaves subsessile, elliptic-lanceolate, repund, acute, glabrous. Cymes terminal/ axillary, few flowered. Flowers 0.55-0.6cm across, bracteate. Sepals lanceolate; petals shorter than sepals, bifid; stamens 10; capsules ovoid.

Flowers & Fruits: October – March

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0724*, dated 20.04.2002; Soom TE, *AP Das & Chandrâ 2671*, dated 09.01. 2004; Tamsong TE, *AP Das & Chandrâ 3027*, dated 10.04. 2004.

Status: Rare.

Local Distribution: All three hill gardens. Rarely in Terai during winter.

General Distribution: Himalayas (Nepal- Bhutan), east to China, Japan .

Stellaria wallichiana Benth. Ex Haines in Bull. Misc. Inf. Kew 1920: 66. 1920; FI 2: 591. 1993.

Stems slender, pubescent and scattered hairy. Leaves petiolate, ovate to ovate – lanceolate, broadly cordate; petioles slender, pubescent. Sepals 4, ovate, acute or acuminate, 2.5 –3mm. Petals 4, ovate, 2 –fid. Stamens hypogynous. Ovary ovoid; styles 2 –3, recurved. Capsules 6 valved. Seeds 10 –15.

Flowers & Fruits: June - December.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0405*, dated 27.02.2002

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: Tropical parts of Indian subcontinent.

CELASTRACEAE R. Br.

CELASTRUS L.

Celastrus paniculatus Willdenow, Sp. Pl. 1: 1125. 1797; FBI 1: 617. 1875; FEH 1: 189. 1966; EFPN2: 88. 1979; FB 2(1): 122. 123. 1991. sub.sp. *paniculatus*: FWB 1:419. 1997.

Local Name: *Bhainsay Lahara* (Nep).

Scandent shrubs. Branchlets terete, pubescent. Stem grooved, lenticellate, grayish green. Leaves simple, alternate, obovate to orbicular, crenate-serrulate, abruptly acuminate, base attenuate, glabrous, soft, lower surface light whitish green. Paniculate cymes terminal, pendulous, pubescent with whitish-green flowers. Capsule globose.

Flowers & Fruits: June – December.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0651*, dated 20.04.2002.

Status: Rare

Local Distribution: Found only in low altitude areas

General Distribution: Himalayas, India, Sri Lanka, Myanmar, Indo-China, Malaysia, China, Formosa, Australia.

EUONYMUS

Euonymus frigidus Wallich in Roxburgh, Fl. Ind. ed. Carey, 2: 409. 1824; FEH 1: 189. 1966.

Local Name: *Chure Lahara* (Nep).

Small shrub, young stems grooved; leaves thick, oblong-lanceolate, sharply serrate, acute; flowers and fruits not seen.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3499*, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom garden.

General Distribution: Eastern Himalaya, Assam, Manipur, Myanmar, China.

CHENOPODIACEAE Ventenat

CHENOPODIUM L.

Chenopodium album L., Sp. Pl. 219. 1753; FBI 5: 3. 1886; FB 1(2): 217. 1984.

Erect, annual, 30 –100 cm tall. Lamina ovate-deltoid, subacute, cuneate, entire or shallowly dentate, sometimes weakly 3 lobed, mealy beneath. Flower-clusters dense, sessile in slender panicles. Flowers minute, bisexual or lower ones female. Tepals 5. Seeds black, faintly striate.

Flowers & Fruits: October – February.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1532*, dated 22.10. 2002; Hansqua TE, *AP Das & Chandrâ 0126*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0720*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1914*, dated 10.06.2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Cosmopolitan weed.

Chenopodium ambrosioides L., Sp Pl. 1: 219. 1753.

Aromatic herb to 125 cm. Lamina lanceolate, acute or acuminate, base attenuate, irregularly serrate –dentate or entire, yellowish gland –dotted beneath. Flower-clusters rather distant on slender spikes forming panicles. Flowers bisexual. Tepals 5. Stamens 4 –5. Seeds smooth.

Flowers & Fruits: April – November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1754*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2453*, dated 05.11. 2003.

Status: Abundant.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: India, Nepal, Bhutan, Pakistan, China.

Chenopodium giganteum D. Don, Prodr. Fl. Nep.: 75. 1825; FB 1(2): 218. 1984

A larger, often reddish plant, 1-3 m. Leaves rhombic-ovate, unlobed or shallowly 3-lobed, acute, base cuneate, margins coarsely irregular-dentate. Flower clusters dense, sessile, forming slender panicles.

Flowers & Fruits: January – April

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0229*, dated 09.02. 2002

Status: Common; also cultivated as a green vegetable.

Local Distribution: In all gardens.

General Distribution: India, Nepal, Bhutan, China, Korea, Japan, introduced in Europe, Africa, Malaysia, N. America.

CLEOMACEAE Horan.

CLEOME L.

Cleome rutidosperma DC., Prodr. 1: 241. 1824; FI 2: 313. 1993; FWB 1: 208. 1997.

Annual, erect/ decumbent herb. Leaves 3 –foliolate, lower two long petiolate, elliptic to obovate, acute or acuminate, attenuate or cuneate, glabrous. Racemes lax, few flowered, leafy. Flowers violet, with pink streaks; pedicels filiform. Petals oblanceolate to elliptic, apiculate. Capsules linear –cylindric, compressed.

Flowers & Fruits: June – February.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0078*, Dated 27.01. 2002; Hansqua TE, *AP Das & Chandrâ 0165*, dated 03.02. 2002; Kamalpur TE, *AP Das & Chandrâ 1320*, dated 18.10.2002; Matigara TE, *AP Das & Chandrâ 3156*, dated 10.05. 2004.

Status: Abundant

Local Distribution: In Terai gardens

General Distribution: A naturalized Tropical American weed.

Cleome spinosa Jacq., Pl. Carib. 26. 1760; FI 2: 321. 1993.

Erect, annual. Stems with dense patent gland –tipped hairs. Leaves 5 –7 foliolate; 2 spiny stipules at base; leaflets lanceolate, acute, subentire to slightly serrulate. Flowers large, purple pink or white, numerous in terminal racemes. Petals long –clawed. Gynophore 4 cm long. Capsules –cylindric linear.

Flowers & Fruits: January – May.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1712*, dated 17.05.2003.

Status: Rare

Local Distribution: In Terai and low altitude areas.

General Distribution: A naturalized Tropical American ornamental plant.

Cleome viscosa L., Sp.Pl. 672. 1753; FBI 1: 170. 1872; FI 2:312. 1993; FB 1(2): 416. 1984.

Stems up to 60 cm, glandular – pubescent. Leaves 5 foliolate, exstipulate; petioles 1.5 –5cm, leaflets elliptic–oblanceolate, acute or acuminate, cuneate, glandular –pubescent. Bracts leafy, 3 foliolate. Sepals lanceolate. Petals oblanceolate, yellow. Stamens 12 –25. Ovary sessile.

Flowers & Fruits: July – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0847*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1336*, dated 18.10. 2002.

Status: Abundant

Local Distribution: All Terai gardens

General Distribution: Pantropical.

GYNANDROPSIS DC.

Gynandropsis pentaphylla (L.) DC. Prodr. 1: 238. 1824; FBI 1: 171. 1872; FI 2: 309. 1993.

Cleome gynandra L., Sp. Pl. ed. 1. 671. 1753.

Stems erect, 15–45 cm, glandular-pubescent leaflets 5, obovate, lowest pair smallest, middle largest, acute, base alternate, margins entire, glandular-pubescent beneath. Flowers white. Capsule valves papery.

Flowers & Fruits: September – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0798*, dated 04.05. 2002.

Status: Rare

Local Distribution: Found only in Mohurgong & Gulma garden.

General Distribution: India, Nepal, Bhutan, China, Sri Lanka, Malaysia.

COMBRETACEAE R. Brown

COMBRETUM Loefl.

Combretum decandrum Roxburgh, Pl. Corom. 1: t. 59. 1796; FBI 2: 452. 1878; FB 2(1): 306. 1991.

Local Name: *Kali lahara* (Nep).

Evergreen climbling shrub, branches subscondant or pendent, bark reddish brown, somewhat flaking. Leaves oblong-elliptic to obovate, acuminate, base rounded to rounded truncate, glabrous with pilose veins on lower surface. Spikes short, densely villous-pubescent.

Flowers & Fruits: December – February

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1916*, dated 10.06. 2003.

Status: Common

Local Distribution: Common in low altitude.

General Distribution: India, Myanmar, Nepal, Indo-china, & W. China.

TERMINALIA L.(*nom. cons.*)

Terminalia bellirica (Gaertn.) Roxburgh, Pl. Corom. 2: 54, t. 198. 1805; FBI 2: 445. 1878; FB 2(1): 304. 1991.

Myrobalanus bellirica Gaertn., Fruct. 2: 90. 1791.

Local Name: *Borrah* (Nep); *Baherha* (Beng)

Large semi evergreen tree, 20 m or more. Leaves clustered towards ends of branches coriaceous, elliptic to obovate, acute or very shortly acuminate, base cuneate, margin subentire, papillose when dry, glabrescent; spikes 4-12 cm in axils of upper leaves. Fruits a drupe, sub globose to obovoid, pubescent.

Flowers & Fruits: March – June

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1347*, dated 18.10.2002.

Status: Common; also planted.

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka to Malaya-peninsula.

Terminalia chebula Retzius, Obs. Bot. 5:31. 1789; FBI 2:446. 1878; FEH 1:220. 1966; EFPN 2:168. 1979; FB 2(1): 304. 1991.

Local Name: *Harra* (Nep), *Haritaki* (Beng).

Deciduous trees to 22m high; young parts reddish brown hairy. Petiole with two apical outgrowths; lamina elliptic or ovate-oblong, acute, entire, coriaceous, veins hairy. Spikes paniced, axillary or terminal;. Disc densely hairy. Drupe subglobose, 5-ridged, glabrous.

Flowers & Fruits: April – June

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1660*, dated 13.11.2002

Status: Rare

Local Distribution: Found only in Hansqua garden.

General Distribution: Himalayas (Kumaon-Bhutan), India, Sri Lanka, Myanmar, Malaysia.

Note: Fruits edible and generally consumed medically for cough. Its wood essentially used as good firewood.

Terminalia myriocarpa Heurcket Muell.-Arg., Obs. Bot. 215. 1870-71; FBI 2: 448. 1878; FEH 1: 220. 1966; EFPN 2:168. 1979; FB 2 (1): 305. 1991.

Local Name: *Paanisaaj* (Beng & Nep).

Tree to 42 m high, young shoot reddish pubescent. Petioles with stalked glands; lamina oblong to oblong-elliptic, shortly acuminate, subcordate, subentire, pubescent bellow. Spikes paniced, dense flowered, pinkish. Disc sparesly hairy or glabrous. Nut 2-winged, hairy.

Flowers: October - November *Fruits:* May.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2479*, dated 11.11. 2003.

Status: Common; also planted for timber.

Local Distribution: All Terai gardens.

General Distribution: Himalayas (Nepal – Bhutan), Assam, Myanmar, Thailand, Indo-China, W. China.

Note: Durable timber, used for house building.

CONVOLVULACEAE A. Jussieu

ARGYREIA Loureiro

Argyrea hookeri C. B. Clarke in FBI 4: 185. 1883; FEH 1: 263. 1966; EFPN 3: 105. 1982; FB 2(2): 842. 1999.

Large herbaceous climber to at least 8m. Stems shortly appressed hispidulous. Leaves broadly ovate, acuminate, base deeply cordate, densely and minutely scabrid above with short hairs on and near veins. Flowers pink darker at base of tube, in few flowered dichotomous cymes. Fruit globose.

Flowers & Fruits: Jun – February.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2521*, dated 11.11. 2003

Status: Rare

Local Distribution: Found in low altitude areas.

General Distribution: India, Nepal, Bhutan.

Argyrea roxburghii Choisy in Mem. S. Phys. Hist. Nat. Geneve 6: 419. 1834; FBI 4: 185. 1883; FEH 1:207. 1966; EFPN 3: 105. 1982; FB 2(2): 841. 1999.

Large climbers 4cm or more. Stems densely appressed pubescent with whitish hairs. Leaves broadly ovate, shortly acuminate, base cordate, moderately villous above, densely grey-villous beneath. Flowers purplish pink with darker throat in lax, dichotomous up to 5 flowered cymes. Fruit globose, blackish.

Flowers & Fruits: February - October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1317*, dated 18.10.2002.

Status: Common

Local Distribution: Common in low altitude areas.

General Distribution: India, Nepal, Bhutan.

EVOLVULUS L.

Evolvulus nummularius (L.) L., Sp. Pl. (ed.2) 391. 1762.

Convolvulus nummularius L., Sp. Pl. 157. 1753.

Perennial with numerous prostrate annual branches 7-35cm, Leaves rounded, very shortly petiolate, entire, shallowly emarginated, appressed hirsute, sometimes glabrous above. Flowers white. Capsule globose, 4 valved.

Flowers & Fruits: January – December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0179*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 1054*, dated 09.05.2002.

Status: Less common.

Local Distribution: All Terai gardens.

General Distribution: Native of West Indies; widely naturalized in Africa, Asia & America.

IPOMOEA L.

Ipomoea batatas (L.) Lam., Tabl. Encycl. 1: 465. 1792; FBI 4: 202. 1883; FB 2(2): 849. 1999.

Convolvulus batatas L., Sp. Pl. 1: 154. 1753.

Common Name: *Sweet potato* (Eng); *Misti alu* (Beng)

Tubers red, white, or yellow, stems prostrate, ascending or twinning, 1-5 m, glabrous or sparsely hairy, +/- terete or angular. Leaves broadly ovate to orbicular in outline, entire or 3-7 lobed, acute or usually shortly acuminate, base cordate, glabrous or sparsely pubescent. Cymes few-flowered or sub umbellate with corolla lavender, pink or purplish with darker throat.

Flowers & Fruits: (February)

Specimen Cited: Soom TE, *AP Das & Chandrâ* 3393, dated 12.10. 2004

Status: Cultivated

Local Distribution: Found only in Soom garden.

General Distribution: Native of America, grows as a root crop throughout the tropics and sub tropics.

Ipomoea nil (L.) Roth, Cat. B. 1: 36. 1797; EFPN 3: 107. 1982; FB 2(2): 846. 1999.

Convolvulus nil L., Sp. Pl. ed. 2, 1: 219. 1792.

Herbaceous, usually annual twiner, sometimes prostrate. Stems retrorsely hirsute or setulose. Leaves broadly ovate to orbicular in outline, entire or 3 lobed, acute to acuminate, base cordate, appressed hairy on both surfaces. Flowers blue, turning red or reddish purple, 1- several in small umbellate cymes.

Flowers & Fruits: August – September

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ* 0967, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ* 0614, dated 20.04.2002; Soom TE, *AP Das & Chandrâ* 3106, dated 03. 05. 2004.

Status: Common

Local Distribution: In all gardens.

General Distribution: Tropical and temperate regions of the New World.

Ipomoea purpurea (L.) Roth, B. Abh. 27. 1787; FBI 4: 200. 1883; FEH 1: 265. 1966; EFPN 3: 107. 1982; FB 2(2): 854. 1999.

Convolvulus purpureus L., Sp. Pl. ed. 2. 219. 1762.

Herbaceous annual twinner. Stems with short appressed hairs and longer retrorsely patent bristles. Leaves broadly ovate to sub orbicular in outline, usually unlobed but occasionally 3-lobed, apex shortly acuminate, base deeply cordate surfaces shortly appressed pilose. Cymes 1-5 flowered with corolla tube white or pink, limb white, deep pink, red or purple.

Flowers & Fruits: May – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ* 0447, dated 05.04. 2002

Status: Rare

Local Distribution: In all gardens.

General Distribution: Native to America (New Mexico to Argentina).

Note: Morning glory is widely cultivated in tropical and sub tropical countries as an ornamental, sometimes becoming naturalized. Potentially an invasive weed.

Ipomoea quamoclit L., Sp.Pl. ed. 1. 159. 1753; FBI 4: 199. 1883; FEH 1: 265. 1966

Slender twiner. Leaves pinnatipartite, segments filiform. Cymes few flowered, axillary, long peduncled Sepals 5, elliptic; corolla tube slender, funnel-like, scarlet red or rarely white; stamens 5, exerted unequal; ovary 4-celled, glabrous. Capsules 4-seeded.

Flowers & Fruits: May – August

Specimen cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0876*, dated 04.05. 2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: Native of New World Tropics, naturalised in circumtropical regions.

Note: Generally grown in gardens; naturalized.

MERREMIA Dennst. Ex Endl.

Merremia hirta (L.) Merrill in Philip. J. Sci. Bot. 7: 244. 1912; FB 2(2): 854. 1999.

Convolvulus hirtus L., Sp.Pl.159. 1753.

Twining or prostrate herb. Stems very slender, glabrous. Lamina linear, oblong –lanceolate, obtuse to slightly emarginate, base obtuse to shallowly cordate, glabrous. Cymes 1 –6 flowered, peduncles 1 –3 cm. Corolla pale yellow or whitish; glabrous; mid –petal bands with 5 distinct dark veins. Capsules broadly ovoid to globose, papery, 4 –valved. Seeds dark brown.

Flowers & Fruits: **October – January.**

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1415*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 1356*, dated 18.10.2002.

Status: Raredens.

Local Distribution: Hansqua and Kamalpur gar

General Distribution: Tropical Asia.

PORANA Burman f.

Porana paniculata Roxburgh, Pl. Corom. 3:31, t. 235. 1891; FBI 4:222. 1883; FEH 1: 265 1966; EFPN 3:108. 1982.

An extensive climber, densely tomentose, profusely branched. Leaves ovate-cordate, acute, entire, pubescent both sides. Panicles many flowered, white, terminal. Capsules globose.

Flowers & Fruits: October – March.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2847*, dated 25.03. 2004.

Status: Rare

Local Distribution: Found in low altitude areas.

General Distribution: Himalayas, N. India, Myanmar

CRASSULACEAE DC.

KALANCHOE Adanson

Kalanchoe pinnata (Lamk.) Pers., Syn. 446. 1805; FB 1(3): 478. 1987.

Cotyledon pinnatum Lamk., Ency. 2: 141. 1786.

Name: *Patharkuchi* (Beng)

Stems 0.3-2 m, somewhat woody at base. Leaves simple or 3-5 foliate, thickly fleshy, leaves or leaflets ovate-oblong, obtuse, base rounded, margins crenately serrate, glaucous beneath. Flowers reddish, pedunculous in panicles 10-30 cm.

Flowers & Fruits: February - May

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1159*, dated 18.10.2002.

Status: Rare

Local Distribution: All Terai gardens.

General Distribution: Native of Tropical Africa.

CUCURBITACEAE A. Jussieu.

CITRULUS Schrad. ex Eckl. & Zeyh.

Citrullus vulgaris Schr. ex Eckl & Zeyh., Enum. Pl. Afr. Austr. 279. 1836; FBI 2: 621. 1879.

A trailing climber, never climbs up; lamina deeply and palmately lobed; flowers small, yellow, solitary in leaf-axiles; fruits globose, solid due to enlarged placenta.

Flowers: (September)

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2277*, dated 05.09. 2003.

Status: Rare; an escape.

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan, Myanmar, Indo -China.

CUCUMIS L.

Cucumis melo L., Sp. Pl. 1011. 1753; FB 2(1): 259. 1991.

Leaves broadly ovate, acute, base cordate, 5 angular, hispid, petioles 10 cm. Flowers yellow. Fruits of various shapes and sizes, smooth, softly hairy.

Flowers & Fruits: July - October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0935*, dated 04.05. 2002;
Kamalpur TE, *AP Das & Chandrâ 1177*, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Tropical and warm countries.

EDGARIA Clarke

Edgaria darjeelinsis Clarke, J. Lin. Soc. 15:113. 1876; FBI 2:632. 1879; FEH 1:322. 1966; EFPN 2:178. 1979; Fasc. Fl. Ind. 11:49. 1982; TBRI 50(4):112. 1987; FB 2(1): 268. 1991.

Large, annual, monoecious climber, glandular-hairy. Tendrils 2-fid. Lamina ovate, denticulate, shallowly lobed, cordate, acuminate, pubescent. One male peduncle 1-flowered, another racemed. Hypanthium glabrous; corolla rotate, yellow; stamens 3. Females solitary. Fruits trigonous.

Flowers: June - August *Fruits:* September - November

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2434*, dated 05.11. 2003

Status: Abundant

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Garhwal – Bhutan).

GYNOSTEMMA Blume

Gymnostemma pentaphylla (Thunberg) Makino in Bot. Mag. Tokyo 16:179. 1902; FEH 1: 323. 1966; EFPN 2: 179. 1979; TBRI 50(4): 115. 1987; FB 2(1): 270. 1991.

Vitis pentaphylla Thunberg, Fl. Jap. 105. 1784.

G. pedata Blume, Bijdr. 23. 1825; FBI 2: 633. 1879.

A small slender climber. Stem much branched, hairy. Leaves ovate to oblong-lanceolate, acuminate, base narrowed or subcordate to rounded, adpressed hairy both sides. Flowers 4-merous, or very rarely 5-merous, calyx-tube with dense tufts of stellate hair.

Flowers: August - October *Fruits:* September - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2474*, dated 11.11. 2003

Status: Rare

Local Distribution: All three hill gardens.

General Distribution: Himalayas, India, Sri Lanka, Myanmar, east to China, Japan, Malaysia.

MELOTHRIA L.

Melothria heterophylla (Loureiro) Cogn. in DC., Monog. Phan. 3: 618. 1881; FB 2(1): 257. 1991.

Solena heterophylla Loureiro, Fl. Cochinch. 514. 1790.

Local Name: *Gol Kakri* (Nep)

Leaves 7 – 15 x 1 – 10cm, acute or acuminate, cordate or angular, denticulate, glabrous. Flowers white or creamy. Calyx 5mm, teeth triangular; corolla tubes similar, broader. Ovary ellipsoid, 1 cm with scattered elliptic glands. Fruits red, puberulous, glands diffuse; seeds ellipsoid, smooth.

Flowers & Fruits: June - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0751*, dated 04.05. 2002.

Status: Rare

Local Distribution: Found only in Gulma garden.

General Distribution: India, Nepal, Bhutan, Afghanistan, China, Indo –China, Taiwan, Sri Lanka, Myanmar, Malaysia, Australia.

MUKIA Arnott

Mukia maderaspatana (L.) Roem., Fam. Syn. Mon. 2: 47. 1846; FB 2(1): 258. 1991.

Cucumis maderaspatana L., Sp. Pl. 1012. 1753.

Stems stiffly hairy. Tendrils simple. Lamina broadly ovate, 4 – 10 x 4 – 10cm, acuminate, cordate, toothed, hispid. In males; calyx narrow, including hispid teeth; corolla ± 2 mm, yellow. Ripe fruits 1 cm in diameter, red & glossy; seeds ovoid, low margined, surface roughened.

Flowers & Fruits: June - December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1161*, dated 04.05. 2002; Mohurgong & Gulma TE, *AP Das & Chandrâ 0733*, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China, Taiwan, Malaysia, Australia, New Zealand, Africa.

TRICHOSANTHES L.

Trichosanthes lepiniana (Naudin) Cogniaux in DC., Monogr. Phan. 3:377. 1881; FEH 1:325. 1966; Fasc. Fl. Ind. 11:116. 1982; TBRI 50(4): 129. 1987; FB 2(1): 266. 1991.

T. tricuspidata Loureiro, Fl. Cochinch. 589. 1790; EFPN 2: 180. 1979.

T. palmata Roxburgh, Fl. Ind. 3: 704. 1832; FBI 1: 606. 1879.

Local Name: *Indreni* (Nep).

A liana; stem angular-sulcate, lenticellate. Tendrils 2-3 fid. Lamina sub-orbicular, cordate, 3-7 lobed and nerved from base, serrate, acute or acuminate. Racemes 16-29 cm long; bracts obovate, fimbriate. Female flowers on short peduncles. Corolla white, fimbriate. Fruits globose / ellipsoid.

Flowers: June - September; *Fruits.:* October - November

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1063*, dated 09.05.2002.

Status: Less common.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: E. Himalaya, India, east to China, Japan, Malaysia.

Note: Fruits and seeds highly poisonous but eaten by Lepchas

Trichosanthes tricuspidata Loureiro, Fl. Cochinch. 589. 1790;

Trichosanthes palmata Roxburgh, FI 3: 704. 1832; FBI 1: 606. 1879.

Flowers & Fruits: June - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 3339*, dated 26.09. 2004.

Status: Rare

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, China, Japan, Malaysia, Australia.

ZANONIA L.

Zanonia indica L., Sp.Pl. ed. 2. 2: 1457.1763; FB 2(1): 268. 1991.

Woody climber. Lamina, coriaceous, ovate, 8 -12 x 5 -8 cm, acute, cordate, entire, glabrous; tendrils simple or bifid. Dioecious, flowers in racemes or panicles; male peduncles 15 -30 cm; calyx lobes broadly ovate; corolla yellowish, 6 -8 mm. Fruits brownish. Seeds yellowish, winged.

Flowers & Fruits: December - April.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0298*, dated 16.02.2002; Kamalpur TE, *AP Das & Chandrâ 0460*, dated 17.04.2002; Tamsong TE, *AP Das & Chandrâ 2880*, dated 10.04. 2004.

Status: Common

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: Tropical Asia.

ZEHNERIA Endlicher

Zehneria maysorensis (Wight & Arnott) A. in Hook., J. Bot. 3: 275. 1841; FB 2(1): 258. 1991.
Bryonia maysorensis Wight & Arnott, Prodr. 1: 345. 1834.

Herbaceous climber with simple tendril. Leaves blackish when dry, ovate or weakly lobed, acuminate, cordate, denticulate, glabrous beneath. Monoecious; male peduncles 2 – 2.5 cm, 3 – 7 flowered; corolla tubes ovate triangular, 2.5 mm. Female flowers solitary. Ripe fruits globose, 10 – 12 mm in diameter, red. Seeds obovoid, compressed, narrowly margined.

Flowers & Fruits: (June)

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1832*, dated 10.06. 2003.

Status: Common

Local Distribution: Common in low altitude.

General Distribution: Eastern Himalaya, Assam, Myanmar, China, Malaysia, Melanesia.

CUSCUTACEAE Dum.

CUSCUTA L.

Cuscuta reflexa Roxburgh, Pl. Corom. 2: 3, t. 104. 1798; FBI 4: 225. 1883; FB 2(2): 863. 1999.

Stem reddish or light to dark brown, branched. Flowers creamy white, sweetly scented in a short lax raceme of upto 12 flowers.

Flowers & Fruits: February – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0065*, dated 27.01.2002.

Status: Less Common.

Local Distribution: Found only in Mohurgong & Gulma garden.

General Distribution: India, Sri Lanka, Malaysia.

EHRETIACEAE Lindley

EHRETIA P. Br.

Ehretia acuminata R. Brown, Fl. Nov. Hall. 497. 1810; EFPN 3: 104. 1982.

Medium trees; bark much fissured, greyish-black; lamina oblong, closely serrate, acute to acuminate, nearly glabrous; flowers in terminal panicle, 10 – 17 cm long, white, minute; fruits bilobed, turns yellow on ripening.

Flowers & Fruits: May – September.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1138*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0622*, dated 20.04.2002

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Himalayas, Assam, S. Tibet, Myanmar.

ELAEOCARPACEAE DC.

ELAEOCARPUS L.

Elaeocarpus lanceifolius Roxb., Fl. Ind., ed. 2, 1:598. 1832; FBI 1:402. 1872; Ind. Trs. 102. 1906; FEH 1:201. 1966; FB 2(1):170. 1991.

Local Name: *Bhadrase* (Nep)

Tree upto 21 m high. Leaves narrowly elliptic, acute or acuminate, base attenuate, scarcely thin pubescent beneath or usually glabrous, minutely blistered on drying. Racemes usually 10-flowered, whitish. Fruits ovoid to ellipsoid; stone 3-grooved, rugose, one seeded.

Flowers & Fruits: August - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ* 2332, dated 05.11. 2003

Status: Less common.

Local Distribution: Found only in Tamsong gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Assam, Myanmar, S. China.

Note: Wood has timber value for house-building, tea-boxes and charcoal boxes.

Fruits edible.

Elaeocarpus sphaericus (Gaertner) Schumann in Engl., Pfl.-fam. 3(6):5. 1890; FEH 1:202. 1966; FB 2(1):168. 1991.

Ganitrus sphaericus Gaertn., Fruct. and Sem. 2:271. Pl. 139, f. 6. 1791.

Local Name: *Rudraksha* (Beng); *Rudrakshay* (Nep).

Trees, 10-20m high, buttressed at base, puberulous when young. Leaves oblong-lanceolate, subentire to serrate, acute to acuminate, base cuneate, glandular along veins beneath. Racemes whitish flowers. Fruits globose, deep blue, stone 5 grooved, tubercled.

Flowers: May - July *Fruits:* September - December

Specimen Cited: Soom TE, *AP Das & Chandrâ* 3175, dated 26.06. 2004.

Status: Sometimes planted.

Local Distribution: Found only in Soom gardens.

General Distribution: Himalayas (Nepal-Sikkim), India, Malaysia.

Note: A sacred plant, usually grown in the compound of the holy places like temple.

ERICACEAE A. Jussieu

GAULTHERA L.

Gaultheria nummularioides D. Don., Prodr. Fl. Nep. 150. 1825; FBI 3:457. 1882; FEH 1:235. 1966; EFPN 3:55. 1982; TBRI 50 (4):115. 1987; FB 2(1): 391. 1991.

Procumbent, prostrate under shrub with closely branched leafy shoot. Stem brownish, densely hirsute. Leaves alternate, rounded-ovate, margin slightly recurved downwards, entire, ciliate obtuse-acute, base shallowly cordate or rounded, glabrous above, bristly beneath. Flowers axillary, solitary, pinkish white or creamy. Capsule blackish-blue when dry.

Flowers & Fruits: August – March

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2063*, dated 30.06. 2003

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas (Garhwal-Bhutan), Meghalaya, S. Tibet, N. MyanMarch

RHODODENDRON L.

Rhododendron arboreum Smith, Exot. Bot. 1: 9, t. 6. 1805; FBI 3:465 1882; FEH 1: 237. 1966, 2: 95. 1971; EFPN 3: 56. 1982; TBRI 50 (4): 125. 1987; FB 2(1): 372. 1991.

Local Name: *Lali Guras/ Rato Guras* (Nep).

Large shrub to robust trees upto 15m, bark reddish brown. Leaves clustered at branch tips, elliptic-oblongate, entire acute-shortly acuminate, base cuneate, glossy green with deeply impressed veins above, lower surface silvery tomentose. Racemes many flowered, compact. Flowers colours ranging from pinkish white to red. Capsule cylindrical and curved, light brown.

Flowers & Fruits: January – October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2165*, dated 30.06. 2003

Status: Very common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Kashmir-Arunachal Pradesh), Meghalaya, S. Tibet.

Note: 1. Important ornamental and firewood plant. Flowers are consumed medicinally for dysentery. Flowers also chewed and swallowed in case fish bones stick at the throat while eating.

2. People prepare a wine called *Gurans ko rakshi* by traditionally fermenting its flowers, which they believe to be antidote to high altitude sickness.

EUPHORBIAEAE A. Jussieu

ANTIDESMA L.

Antidesma acidum Retzius, Obs. Bot. 5: 30. 1788; FB 1(3): 786. 1987.

Deciduous tree, 3 –10m, branchlets glabrous. Lamina membranous, obovate or oblanceolate, acute, cuneate, glabrous or sparsely pubescent on veins, stipules lanceolate. Spikes slender. Fruits 5 –6mm, style terminal.

Flowers & Fruits: April – November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1726*, dated 17.05.2003.

Status: Less common

Local Distribution: Found only in Makaibari garden.

General Distribution: Eastern Himalaya, India, Myanmar, China, Java.

BALIOSPERMUM Blume

Baliospermum nepalense Hurus & Y. Tanaka in FEH 1: 174. 1966; FB 1(3): 810.1987.

Erect dioecious undershrub. Lamina broadly ovate, 8-10 cm broad, base truncate, rounded or shallowly cordate, 3 veined, margins coarsely glandular-dentate. Male panicles widely-branched 10-30cm; female spikes 5-25 cm, on peduncles; flowers small.

Flowers: June - August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0897*, dated 04.05. 2002.

Status: Less common

Local Distribution: Terai gardens.

General Distribution: Eastern Himalaya.

BREYNIA J. R. & J. G. A. Forster, *nom. cons.*

Breynia retusa (Dennst.) Alston in Ann. R.B.G. peradeniya 11: 204. 1929; FB 1(3): 782. 1987.

Phyllanthus retusus Dennst., Schluss. Hort, Malab. 31. 1818.

Glabrous shrubs, branchlets narrowly winged. Lamina elliptic, obtuse or subacute, base rounded, pale beneath. Male flowers 1-3 per axil, pedicels 2-6mm, slender, deflexed; female flowers solitary on short (1-4 mm) straight pedicel. Fruits subtended by enlarged persistent calyx.

Flowers: May – June

Status: Rare

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0513*, dated 17.04.2003

Local Distribution: All Terai gardens.

General Distribution: Nepal, India, Sri Lanka, Maynmar.

Note: Sap used medicinally to treat eye diseases.

BRIDELIA Willdenow

Bridelia retusa (L.) Sprengel, Syst. Veg. 3:48. 1826; FBI 5: 268.1887; FB 1(3): 769.1987.

Clutia retusa L., Sp. Pl. 1042. 1753.

Local Name: *Gayo, Kuhir* (Nep).

Medium trees; bark grayish-black. Leaves petiolate, alternate; lamina ovate or elliptic-oblong, entire or crenate, obtuse, coriaceous, glabrous. Flowers dioecious, greenish in axillary clusters or in long spikes. Fruits globose, succulent, purplish-black with persistent calyx.

Flowers & Fruits: August – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0900*, dated-04.05. 2002.

Status: Comon

Local Distribution: All Terai gardens.

General Distribution: India, Myanmar, Malaysia and Sri Lanka.

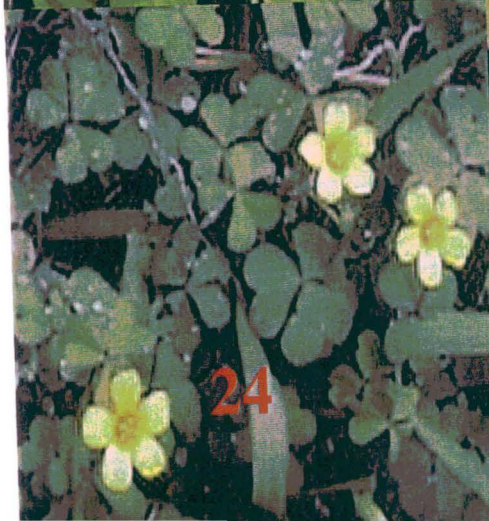
Note: Foliage used as fodder; timber durable; bark used for tannin; fruits edible.

CLEIDION Blume

Cleidion spiciflorum Merrill, Inter. Rumph. Herb. Amboin. 322. 1917; FB 1(3): 803. 1987.

Cleidion javanicum Blume, Biidr. Fl. Ned. Ind. 613. 1827.

Local Name: *Bepari, Hare Bepari* (Nep)



Evergreen, small tree to 12m. Leaves coriaceous, elliptic, 13–25 x 5–11cm, bluntly apiculate or shortly acuminate, cuneate, serrate, discoid glands 4–6, near base; 2 disc-glands at petiole tip; stipules caducous. Male spikes 6–25 cm; sepals elliptic, 2 mm. Female flowers pedicellate. Capsules deeply 2–3 lobed.

Flowers & Fruits: March – June.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2333*, dated 05.11.2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Eastern Himalaya, India, China, Malaysia.

CROTON L.

Croton bonplandianum Baillon in *Adansonia* 4:339. 1864; FB 1(3): 793.1987.

Erect much-branched annual; stems trichomous. Leaves crowded at branch tips, petiolate; lamina lanceolate, serrate, acute-acuminate, 2-glandular at the base. Flowers greenish white, in terminal mixed raceme; males towards apex; females below. Capsules 3-lobed, stellate-hairy.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0449*, dated 05.04.2002; Kamalpur TE, *AP Das & Chandrâ 1229*, dated 18.10.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Native to S. America, now pantropical.

DRYPETES Vahl

Drypetes lancefolia Pax & Hoffmann in Engler Plf. Euph. Phyll.-Phyll. 277. 1922; FB 1(3): 785. 1987.

Local Name: *Hare* (Nep).

Tree 10-15 m, leaves thinly coriaceous, ovate-lanceolate, abruptly caudate-acuminate, petioles 2-4 mm. Flowers solitary or few in short racemes. Fruit ellipsoid.

Flowers & Fruits: October – March.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1689*, dated 17.05.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: NE India.

EUPHORBIA L.

Euphorbia hirta L., Sp. Pl. 454. 1753; FB 1(3): 766.1987.

Euphorbia pilulifera sensu FBI 5: 250. 1887. *non* L. 1753.

Chamaesca hirta (L.) Millsp in Publ. Field Mus. Bot. 2: 303. 1909; FEH 1:176. 1966.

Erect or decumbent annual, much hispid; stem simple, often dichotomously branched. Leaves opposite, shortly petiolate; lamina elliptic oblong, oblique, dentate or serrulate, acute, cordate. Cyathia in sub-sessile or pedunculate globose heads, greenish, becoming pinkish at maturity.

Flowers & Fruits: January – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0057*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0215*, dated 09.02.2002; Kamalpur TE, *AP Das & Chandrâ 1174*, dated 18.10.2002.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: A pantropic weed.

Euphorbia heyneana Spreng. In L., Syst. Veg. (ed. 16) 3: 791. 1826.

Euphorbia microphylla Heyne ex Roth, Nov. Pl. Sp. 229. 1821, non Lam., 1788; FBI 5: 252. 1887.

Prostrate, glabrous, spreading herbs; internodes ribbed; leaves opposite, subsessile; lamina obovate to oblanceolate, serrulate, subacute to obtuse, base obliquely rounded; cyathea axillary. Capsule glabrous.

Flowers & Fruits: January – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0878*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1036*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0505*, dated 17.04.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Indo-Malaysia

FLUEGGEA Willdenow

Flueggea virosa (Roxburgh ex Willdenow) Voigt, Hort. Suburb. Calcutta 152.1845; ssp. *virosa*: FB 1(3): 775.1987.

Phyllanthus virosus Roxburgh ex Willdenow, Sp. Pl. 4:578.1805.

Flueggea microcarpa Bl., Bijdr. 580.1825; FBI 5:328.1887.

Local Name: Darim Pate, Phalame (Nep).

Small dioecious glabrous shrubs. Lamina ovate-elliptic to rhomboid or obovate, entire, repand, obtuse/ acute, often mucronate, base cuneate, glaucous beneath. Flowers greenish-yellow in axillary clusters, males many; females 1-5 or more. Fruits depressed globose, fleshy, milky white.

Flowers & Fruits: May – September

Status: Very common.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0890*, dated 04.05. 2002.

Local Distribution: All Terai gardens.

General Distribution: Tropical Africa and Asia, northward to Japan and eastward to Australia and Polynesia.

JATROPHA L.

Jatropha curcas L., Sp. Pl. ed. 1, 1006. 1753; FBI 5: 383. 1887; FEH 1: 179. 1966. FB 1(3): 790.1987.

Local Name: Sada Bharenda (Beng); Poison Nut, Physic Nut (Eng)

Shrubs, soft wooded, young shoots tomentose; bark papery, yellowish-brown. Lamina ovate, sub-orbicular, palmately 3-5 lobed, acute to shortly acuminate, cordate, glabrous. Male and female flowers greenish yellow on long cymes. Fruits 1.75-2.5 cm long, oblong; seeds ecarunculate.

Flowers & Fruits: May – August

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0995*, dated 09.05.2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Pantropic. Possibly a native of Tropical America.

Note: Cultivated as a hedge plant & food plant for silkworms. Sap used by children for bubble blowing, seeds contain a violent purgative and oil used in lamps and the biodiesel.

MACARANGA Thon.

Macaranga denticulata Mull. Arg. in DC., Prodr. 15: 2. 1000. 1866; FB 1(3): 804. 1987.

Local Name: *Malata* (Nep).

Medium trees, 8-12m tall, with rusty pubescent branches. Leaves alternate, broadly ovate, obscurely sinuate-dentate, acute to shortly acuminate, base shallowly cordate or truncete, veins palmately 5-7 at base, glabrous above, densely gland-dotted beneath. Capsules brownish tomentose with persistent styles.

Flowers & Fruits: October - February

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2375*, dated 05.11. 2003

Status: Common; often planted.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kumaon-Sikkim).

MALLOTUS Loureiro

Mallotus philippensis (Lamarck) Mueller in Linnaea 34:196.1865; FBI 5:442.1887; FB 1(3): 802. 1987.

Croton philippense Lam., Enc. Meth. Bot. 2:206.1786.

Local Name: *Sindure* (Nep)

Shrubs or small trees; branchlets tomentose. Lamina ovate/ ovate-lanceolate, entire/ closely toothed, acuminate, glaucous and red-glandular beneath, two glands at petiole tip. Panicles terminal; flowers dioecious; perianth yellowish. Capsules globose, 3-lobed, tomentose, red.

Flowers & Fruits: October – March

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1549*, dated 22.10. 2002;
Kamalpur TE, *AP Das & Chandrâ 0560*, dated 17.04.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Myanmar, China, Malay Islands, and Australia.

Note: The red glands from the capsules are used to prepare a red dye.

OSTODES Blume

Ostodes paniculata Bl., Bijdr. 620. 1826; FBI 5: 400. 1887; Man. Ind. Timb. 616. 1902; Ind. Trees 580. 1906, Fl. Asm. 4: 197. 1940; Fl. Meg. 2: 197. 1987; TBRI 50 (4):121. 1987.

Local Name: *Bepari, Sindure* (Nep).

Trees upto 23 m tall, crown dense and spreading. Bark grayish or brownish. Leaves often crowded at branchlet ends, ovate or ovate-elliptic, margin serrate distantly, acuminate, base rounded or rarely oblique, glabrous, dark green above, paler beneath, 3- nerved. Panicles hairy with pinkish-white flowers. Capsules subglobose.

Flowers & Fruits: March - August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1984*, dated 30.06. 2003

Status: Rare

Local Distribution: Found only in Tamsong gardens.

General Distribution: Himalayas (Nepal-Bhutan), Assam, Meghalaya, Myanmar, S. China, W. Malaysia.

PHYLLANTHUS L.

Phyllanthus amarus Schumacher & Thonning, Kongl. Danske Vidensk. Selsk. Skr. 4:195.1829.

P. nanus Hook.f. FBI 5: 298.1887.

P. niruri auct.non L. (1753): Muell.-Arg. in DC., Prodr. 15(2): 406.1886

Local Name: *Bhnui-amlâ* (Beng)

Tall, erect, annuals with stems simple or branched, glabrous. Leaves petiolate, elliptic-oblong, entire, obtuse, minutely apiculate, base obtuse, slightly oblique. Stipules triangular-acuminate. Flowers axillary unisexual on deciduous branchlets. Capsules oblate, smooth; seeds triangular.

Flowers & Fruits: July – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0955*, dated 04.05. 2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: Probably native to S. America, now pantropical.

Phyllanthus emblica L., Sp.Pl. 982. 1753; FBI 5: 289. 1887; FB 1(3): 772. 1987.

Emblica officinalis Gaertn., Fruct. 122 –123, pl. 108, f. 2. 1790.

Local Name: *Amala* (Nep)

Deciduous trees to 10m, young shoots slender. Leaves appearing with flowers, numerous, distichous, oblong, subacute, glabrous, subsessile; stipules triangular. Male flowers in dense, crowded clusters at base of young leafy shoots, yellow. Female flowers few, sessile, borne above males. Fruits a globose, fleshy, capsules, later splitting into 3 woody 2 –celled valves, 6 seeded.

Flowers & Fruits: March – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1704*, dated 17.05.2003.

Status: Very common; generally planted; also wild.

Local Distribution: In all gardens.

General Distribution: Himalayas, Assam, Myanmar, China.

Phyllanthus glaucus Wallich in Hooker f. FBI 5: 288. 1887; FB 1(3): 774.1987.

Erect unarmed shrubs. Lamina ovate or elliptic, acute or obtuse, base rounded, glabrous or pubescent; stipules membranous. Flowers in axillary clusters of 4-12, usually with 1 female per cluster. Fruits fleshy, 3-seeded, bearing styler remains.

Flowers: April – May

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0925*, dated 04.05. 2002.

Status: Rare

Local Distribution: Found only in Mohurgong & Gulma garden.

General Distribution: Nepal – Bhutan.

Phyllanthus reticulatus Poiret in Lamarck, Enc. Meth. Bot. 5:298. 1804; FBI 5: 288. 1887; FB 1(3): 773 .1987.

Kirganelia reticulata (Poiret) Baillon, Etud. Gen. Euphorb. 613, 614. 1858.

Much-branched glabrous shrubs; branches rambling. Petiole minute; lamina elliptic, obovata, entire, acute, base tapering. Males in axillary fascicles and females solitary, axillary; perianth light yellow. Berries globose, dark purple when ripe.

Flowers & Fruits: May – October..

Status: Less common

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0948*, dated 04.05. 2002.

Local Distribution: In Terai gardens.

General Distribution: India, Myanmar, Bangladesh, Sri Lanka, China, Malayan Islands and tropical Africa.

Phyllanthus simplex Retz., Obs. B. 5: 29. 1789; FBI 5: 295. 1887; FEH 1: 181. 1966.

Annual or perennial glabrous herb with spreading or ascending branches 8-45 cm from woody base; leaves numerous, lanceolate, acute, base rounded, sub sessile, veins not prominent. Flowers 2-4 in axillary fascicles containing both sexes. Capsules globose, minutely warted.

Flowers & Fruits: May – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0814*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1358*, dated 18.10.2002; Tamsong TE, *AP Das & Chandrâ 2034*, dated 30.06. 2003.

Status: Less common

Local Distribution: In all gardens.

General Distribution: Himalayas, Indo-china, China, Malaysia.

Phyllanthus urinaria L., Sp. Pl. 982. 1753; FBI 5: 293. 1887; FEH 1: 181. 1966; Fl. Nep. 3: 198. 1982; FB 1(3): 772. 1987.

Annual, erect, stems with short branches throughout, young shoots pubescent. Lamina oblong, obtuse or sub acute, margins minutely hispidulous, veins prominent beneath. Flowers 1 –2 of only 1 sex in each axil, males towards apex, sessile; seeds with 12 –15 transverse ridges.

Flowers & Fruits: April – November.

Phyllanthus urinaria L., Sp. Pl. 982. 1753; FBI 5: 293. 1887; FEH 1: 181. 1966; Fl. Nep. 3: 198. 1982; FB 1(3): 772. 1987.

Annual, erect, stems with short branches throughout, young shoots pubescent. Lamina oblong, obtuse or sub acute, margins minutely hispidulous, veins prominent beneath. Flowers 1 –2 of only 1 sex in each axil, males towards apex, sessile; seeds with 12 –15 transverse ridges.

Flowers & Fruits: April – November.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ* 1018, dated 09.05.2002.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: Pantropical.

Phyllanthus virgatus Forst. f., Fl. Ins. Austrl. Prodr.65.1786.

P. simplex Retz., Obs. Bot. 5:29. 1789; FBI 5: 295.1887; FB 1(3): 772.1987.

Erect or diffuse herbs with glabrous, rarely branched stems. Leaves distichous, linear-oblong, apiculate, base rounded, glaucous beneath. Stipules sagittate, reddish brown. Flowers solitary, axillary and long pedicelled. Capsules trilobed, long stalked, smooth with red-tubercled seeds.

Flowers & Fruits: July – December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ* 1286, dated 18.10.2002; Tamsong TE, *AP Das & Chandrâ* 2103, dated 30.06. 2003

Status: Less common

Local Distribution: Found in low altitude areas.

General Distribution: India, S. Asia to Pacific Islands.

RICINUS L.

Ricinus communis L., Sp. Pl. 1007.1753; FBI 5:457.1887; FB 1(3): 808.1987.

Local Name: *Reri* (Nep); *Rehrhi* (Beng)

Evergreen short-lived glaucous shrubs; stems fistular, much branched. Leaves alternate, peltate; lamina palmate, 6-12 lobed, glandular, serrate, petiole biglandular at tip. Flowers greenish white, monoecious in terminal panicle. Capsules globose, 3-lobed; seeds oblong, carunculate.

Flowers & Fruits: July – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ* 0930, In all gardens.dated 04.05. 2002.

Status: Common

Local Distribution: In all gardens

General Distribution: Probably native of Africa; cultivated and naturalized in the tropics.

Note: Seed oil used as fuel for lamps and as medicine; seeds poisonous; leaves used for silkworms rearing.

SAUROPUS Blume

Sauropus quadrangularis (Willdenow) Mueller in *Linnaea* 32:73. 1863; FBI 5:335. 1887; var. *compressus* (Mueller) Airy Shaw in *Kew Bull.* 26:337. 1972; EFPN 3:199. 1982; FB 1(3): 783.1987.

S. compressus Mueller in DC., *Prodr.* 15 (2):243. 1866; FBI 5:336. 1887; FEH 1:182. 1966.

Evergreen monoecious undershrubs; branchlets compressed, narrowly winged, glabrous. Leaves alternate; lamina elliptic, entire, glabrous or pubescent beneath, minutely stipulate. Flowers dark red, 1-2 (-4) per axil. Fruits globose, subtended by enlarged calyx.

Flowers & Fruits: April – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0820*, dated 04.05.2002; Hansqua TE, *AP Das & Chandrâ 1672*, dated 13.11.2002; Kamalpur TE, *AP Das & Chandrâ 0568*, dated 17.04.2002; Tamsong TE, *AP Das & Chandrâ 2426*, dated 05.11.2003.

Status: Common

Local Distribution: In all gardens.

General Distribution: Himalayas (Nepal - Bhutan), Myanmar.

TRAGIA L.

Tragia involucrata L., *Sp. Pl.* 980. 1753; FBI 5: 465. 1888; *Fl. Nep.* 3: 199. 1982.

Shrubby climber, thickly covered with stinging hairs. Lamina ovate-lanceolate, acuminate. Inflorescence axillary, separate monoecious. Fruits deeply 3-lobed.

Flowers & Fruits: May – October.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1362*, dated 18.10.2002.

Status: Rare

Local Distribution: Found only in Kamalpur garden.

General Distribution: Warmer areas of Indian subcontinent & China.

TREWIA L.

Trewia nudiflora L., *Sp. Pl.* 1193. 1753; FBI 5: 423. 1887; EFPN 3: 199. 1982; FB 1(3): 779. 1987.

Local Name: *Aule kapase*, *Pitali* (Nep).

Tree 10-15 m, branchlets woolly. Leaves ovate, acuminate, base truncate or cordate, softly pubescent beneath. Flowers greenish in clusters of 2-3 in male and female racemes. Fruit subglobose, greyish-green.

Foliage used as cattle fodder. Wood soft, used for carving, planking, packing cases and plywood.

Flowers & Fruits: February – July.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1227*, dated 18.10.2002.

Status: Common

Local Distribution: Terai gardens.

General Distribution: India, Sri Lanka to Thailand, Malaysia, Indonesia.

FABACEAE Lindley

ABRUS Adanson

Abrus pulchellus Wallich ex Thw., Enum. 91. 1859; FBI 2: 175. 1876; FB 1(3): 655. 1987.

Leaves 5-12cm, rachis ending in a fine bristle. Leaflets 6-10 pairs, oblong, obtuse rounded at apex and base, sparsely appressed white pubescent beneath, glabrous above. Flowers purplish. Pods sparsely appressed white pubescent. Seeds oblong, ± compressed brown with a pale coloured aril.

Flowers & Fruits: August – October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0464*, dated 17.04.2002

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: Tropical Himalayas, S. E. asia, China; Sri Lanka, Malaysia

ATYLOSIA Wight & Arnott

Atylosia scarabaeoides (L.) Bentham in Miq., Pl. Jungh. 245. 1852; FBI 2: 215. 1876.

Dolichos scarabaeoides L., Sp. Pl. 726. 1753.

Densely hispid herbaceous, annual climber; branches wiry; leaves 3-foliolate; lateral leaflets obliquely ovate, entire, acute, terminal leaflet slightly larger, ovate, acute; racemes small, many flowered; flowers dirty yellow; pods oblong, thickly clothed, transversely constricted.

Flowers & Fruits: September – January.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0501*, dated 17.04.2002.

Status: Abundant

Local Distribution: Terai gardens.

General Distribution: India, Nepal, Bhutan, China, Malaysia, introduce to Africa

BUTEA Roxburgh

Butea monosperma (Lamarck) Taub. In Pfamilien. 3(3): 366. 1894; FB 1(3): 688. 1987.

Erythrina monosperma Lamk., Ency. 1: 391. 1783.

Local Name: Palas (Beng), Mauwa (Nep).

Tree to 20m. Leaves coriaceous, leaflets ovate or rhombic, obtuse or emarginate, base cuneate, brownish pubescent especially beneath. Flowers in dense racemes forming terminal panicles 20-40cm, orange red appearing while almost leafless. Pods densely brownish pubescent.

Flowers & Fruits: February – April

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0895*, dated 04.05. 2002.

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Sri Lanka, S.E. Asia, Malaysia Note: Excellent host plant for lac insect.

CAJANUS Adanson

Cajanus cajan (L.) Huth in Helios 11: 133. 1893; FB 1(3): 703. 1987.

Cytisus cajan L., Sp. Pl. 739. 1753.

Common Name: Arharh (Beng); Pigeon pea (Eng).

Cultivated for young pods and seeds, eaten raw or boiled. Mature seeds boiled, eaten as dhal.

Cultivated as a host plant for lac insect. Thick main stems used for firewood.

Erect grey silky shrub 1-4m, young stems angular. Leaves pinnately trifoliate. Leaflets ovate-elliptic, acuminate, base cuneate, greyish pubescent especially beneath. Racemes 10-20-flowered, 5-15cm, forming leafy panicles, bracts deciduous. Flowers yellow or tinged red. Pods acuminate, grooved obliquely between seeds, 3-6-seeded. Seeds subglobose, compressed, white, red, brown or blackish, almost glossy.

Flowers & Fruits: October – December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0690*, dated 20.04.2002

Status: Commonly cultivated; also escapes.

Local Distribution: All Terai gardens.

General Distribution: Cultivated in tropical Asia and Africa

CROTALARIA L.

Crotalaria alata D. Don, Prodr. Fl. Nep. 241. 1825; FBI 2:71. 1876; FEH 3: 61. 1975; EFPN 2: 113. 1979; TBRI 50 (4): 110. 1987; FB 1(3): 735. 1987.

C. bialata Schrank, Pl. Rar. Hort. Monac. t. 13. 1819; FEH 1: 146. 1966; 2: 63. 1971.

Pubescent undershrubs ±60 cm high. Lamina elliptic-obovate, acute, mucronate, appressed hairy. Stipules triangular, decurrent on internodes. Racemes ± 5-flowered. Upper calyx teeth broader, brown silky; petals equaling calyx, yellowish. Pods oblong, black on maturity, glabrous.

Flowers: Sep. - Feb. *Fruits.:* Dec. - Apr.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0886*, dated 04.05. 2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: Himalayas (Kumaon-Bhutan), India, S.E. Asia, China, Malaysia.

Crotalaria cytisoides Roxburgh ex DC., Prodr. 2: 131. 1825; FB 1(3): 732. 1987.

Priotropis cytisoides (Roxburgh ex DC.) Wight & Arnott, Prodr. 180. 1834; FBI 2: 65. 1876.

Shrubs to 5 m, densely appressed sericeous. Leaflets elliptic, acute or acuminate, base cuneate or attenuate, puberulous beneath; stipules minute, subulate. Racemes 10 –30 flowered, leaf-opposed, sometimes terminal. Calyx broadly campanulate. Corolla yellow. Pods oblong–elliptic, scarcely inflated, finely pubescent; seeds 3 –6, brown.

Flowers & Fruits: July – September

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1622*, dated 22.10. 2002; Kamalpur TE, *AP Das & Chandrâ 0728*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 2522*, dated 11.11. 2003; Soom TE, *AP Das & Chandrâ 2643*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2281*, dated 05.09. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Himalayas, Khasia Hills, Myanmar, West China

Crotalaria ferrugina Benth in Hooker, Lond. J. Bot. 2:476. 1843; FBI 2:68. 1876; FEH 1:146. 1966; 2:63. 1971; EFPN 2:113. 1979; FB 1(3):735. 1987; TBRI 50(4):110. 1987.

Annual herbs ±1 m high, pubescent. Stem brownish pubescent. Lamina elliptic-ovate, mucronate, appressed sericeous. Stipules lanceolate. Racemes ±8-flowered, leaf-opposite. Bracts elliptic. Calyx teeth lanceolate, silky; petals equaling calyx, yellow. Ripe pods oblong, glabrous, blackish.

Flowers & Fruits: September – November

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1330*, dated 18.10.2002.

Status: Rare

Local Distribution: All Terai gardens.

General Distribution: Himalayas (Nepal-Bhutan), India, S.E. Asia, Sri Lanka, China, Malaysia.

Crotalaria pallida Ait., Hort. Kew. 3: 20. 1789; FB 1(3): 732. 1987.

Shrub 1-5m, stems densely appressed sericeous. Leaflets obovate, apex rounded, emarginated and shortly mucronate, base cuneate. Racemes terminal, elongate, c 50-flowered i.e. yellow finely lined with reddish purple. Pods oblong, inflated, ± cylindrical with numerous, reniform seeds.

Flowers & Fruits: September – May.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1479*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 1232*, dated 18.10.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, central and tropical America

Note: Fibre prepared from stems.

Crotalaria retusa L., Sp. Pl. 715. 1753; FBI 2: 75. 1876.

Tall annual herb; stem ribbed; stipules broadly subulate; leaves simple, oblong-ovate, entire, acute; racemes terminal; flowers showy, yellow; pods flaccid, oblong.

Flowers & Fruits: August – October

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1658*, dated 13.11.2002

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan

DALBERGIA L.f.

Dalbergia sissoo Roxburgh, Fl. Ind. 3: 223. 1832; FBI 2: 231. 1876; FB 1(3): 652. 1987.

Local Name: *Sissoo* (Nep).

Tree 10-25m. Leaves 10-18cm, rachis ± zigzag, leaflets (3-) 4-6, suborbicular or broadly ovate, abruptly acute or acuminate, base cuneate, appressed pubescent beneath. Panicles axillary, 4-6.5cm, flowers ± sessile, creamy white, bracts caduceous. Pods elliptic.

Flowers & Fruits: March – April

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1446*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 0562*, dated 17.04.2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: Tropical Himalayas, Tropical and sub tropical Africa

Note: Useful timber.

Dalbergia stipulacea Roxburgh in Fl. Ind. 3: 233. 1832; FB 1(3): 653. 1987

Local Name: Lahara Siris (Nep).

Sprawling tree or scandent 17-21, oblong, obtuse base rounded or cuneate, sparsely appressed pubescent beneath. Panicles 8-12cm, branches bearing numerous oblong bracts in lower parts with pale blue flowers. Pods oblong – elliptic, thickened over the solitary seeds.

Flowers & Fruits: April – May.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0566*, dated 17.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China

DESMODIUM Desv. (*nom. cons.*)

Desmodium heterocarpon (L.) DC., Prodr. 2: 335. 1825; FB 1(3): 674. 1987.

Hedysarum heterocarpon L., Sp. Pl. 747. 1753.

Prostrate or ascending, up to 3 m. Leaves usually 3 foliate, leaflets elliptic or obovate, obtuse or emarginate, base rounded, appressed greyish pubescent beneath; stipels subulate; stipules lanceolate. Racemes elongate, axillary or terminal. Corolla purplish. Pods undulate along lower suture.

Flowers & Fruits: January - December

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1030*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 1192*, dated 18.10.2002.

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: Himalayas, China, Japan, Sri Lanka, Pacific Islands, Malaysia, Australia

Desmodium laxiflorum DC., Ann. Sci. Nat. Ser. 1(4):100. 1825; FBI 2:164. 1876; FEH1:151. 1966; 3:63. 1975, incl. subsp. *laxiflorum* Ohashi, EFPN 2:118. 1979; TBRI 50(4):111. 1987; FB 1(3):678. 1987.

Undershrubs, branches gray-hairy. Stem angled. Leaves 3-foliate; leaflets ovate-elliptic, acute to long acuminate, appressed pubescent beneath. Stipules triangular. Racemes c.28cm long. Petals longer than calyx, white, standard obovate. Pods densely pubescent with hooked hairs.

Flowers & Fruits: August - January

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1425*, dated 20.10. 2002; Kamalpur TE, *AP Das & Chandrâ 0503*, dated 17.04.2002; Tamsong TE, *AP Das & Chandrâ 1978*, dated 30.06. 2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Himalayas, India, S.E. Asia, China, Malaysia.

Note: Pods sticky on the clothes as well as on the wools of animals.

Desmodium laxum DC. in Ann. Sci. Nat. Paris 4: 102. 1825; FB 1(3): 676. 1987.

Desmodium gardneri Benth. in Miq., Pl. Jungh. 226. 1852 p.p.; FBI 2: 165. 1876 p.p.

Erect herbs to 150 cm. Leaves 3 foliate, leaflets subcoriaceous, ovate –elliptic, entire, acuminate, rounded or cuneate, sparsely pubescent, lateral veins forming network before reaching margin; stipules ovate –lanceolate. Racemes slender, axillary & terminal. Podsegments 7 –18 x 4 –6 mm.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1598*, dated 22.10. 2002; Hansqua TE, *AP Das & Chandrâ 0257*, dated 09.02.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China, Indo –China, Sri Lanka, Japan

Desmodium multiflorum DC., Ann. Sci. Nat. Ser. 1(4):101. 1825; FEH 2:65. 1971; 3:63. 1975; EFPN 2:118. 1979; TBRI 50(4): 111. 1987; FB 1(3): 676. 1987.

D. floribundum (D. Don) G. Don, Gen. Syst. 2:241. 1832; FBI 2:167. 1876, excl. syn.

Shrubs, upto 2 m high. Leaves 3- foliate, coriaceous; leaflets elliptic-obovate, acute or obtuse, appressed hairy beneath. Stipules lanceolate. Stipels subulate. Racemes upto 10 cm. Corolla upto 0.75cm, purple blue. Fruits 2-3.2cm, undulate at sutures, pubescent, segments upto 8.

Flowers & Fruits: July – November.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1176*, dated 18.10.2002.

Status: Less Common.

Local Distribution: Found only in Kamalpur garden.

General Distribution: Himalayas (Kashmir-Bhutan), Assam, S.E. Asia, China.

Note: Pods sticky.

Desmodium sequax Wall., PAR 2: 46. t. 157. 1831; FBI 2: 170. 1876; FB 1(3): 677. 1987.

Desmodium sinuatum Blume ex Baker in FBI 2: 166. 1876.

Shrubs, 0.5 –2m. Leaves coriaceous, 3 foliate, rhombic or ovate, acute or acuminate, rounded at base, margins undulate, appressed pubescent; stipels filiform; stipules linear, deciduous. Petals obovate. Pods dividing into 9 –14, ellipsoid segments, densely covered with short hooked hairs.

Flowers & Fruits: January - December

Specimen Cited: Soom TE, *AP Das & Chandrâ 3577*, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas, S. E. Asia, China, Malaysia, Formosa

Desmodium triflorum (L.) DC., Prodr. 2: 334. 1825; FBI 2: 173. 1876; FB 1(3): 673. 1987.
Hedysarum triflorum L., Sp. Pl. 749. 1753.

Annual, slender, prostrate, diffuse herbs. Leaves 3 foliate; leaflets ovate, emarginate, base broadly cuneate; stipules ovate. Racemes 2 –5 flowered at leaf axils; corolla purplish; pods oblong, 6 –17 x 2 –3 mm, undulate along lower suture, segments 2 –5.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0026*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1472*, dated 20.10. 2002; Kamalpur TE, *AP Das & Chandrâ 1270*, dated 18.10.2002; Matigara TE, *AP Das & Chandrâ 3138*, dated 10.05. 2004; Tamsong TE, *AP Das & Chandrâ 2160*, dated 30.06. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: India, Nepal, Bhutan, S. E. Asia, China, Pacific Islands, Australia, America, Africa

DUMASIA DC.

Dumasia villosa DC., Mem. Leg. 257. t. 44; FB 1(3): 696. 1987.

Twining perennial herb. Leaves pinnately 3-foliate, leaflets ovate, acute or obtuse, mucronata, base cuneate or rounded, ± appressed pubescent. Racemes 5-30-flowered, flowers widely spaced usually in pairs, yellow. Pods ± appressed pubescent with 2-4 seeds, glaucous, blue-black.

Flowers & Fruits: August – September

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2875*, dated 25.03. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan, S. E. Asia, China, Sri Lanka, Malaysia, Africa

ERYTHRINA L.

Erythrina arborescens Roxburgh, Fl. Ind. ed. 2, 3:256. 1832; FBI 2:190. 1876; FEH 1:156. 1966; 3:63. 1975; EFPN 2:120. 1979; TBRI 50(4):113. 1987; FB 1(3): 684. 1987.

Local Name: *Phaledo* (Nep).

Deciduous prickly trees, 8-20m high. Leaflets 3, broadly ovate, acute to shortly acuminate, pubescent beneath. Stipules lanceolate. Racemes 20-30cm long, axillary; appearing with leaves; calyx campanulate, bilabiate; corolla scarlet. Pods oblong-ellipsoid; seeds reniform, blackish.

Flowers: Jul. - Sep. *Fruits:* Oct. - Jan.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2066*, dated 30.06. 2003

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kumaon – Bhutan), Assam, Myanmar, China.

Note: Planted to assist regeneration of vegetation.

Erythrina stricta Roxburgh, Fl. Ind. 3: 251. 1832; FBI 2: 189. 1876;

Local Name: *Phaledo* (Nep), *Madar* (Beng).

Upto 30 m tall trees. Bark deeply furrowed, gray. Prickles conical. Stipule falcate. leaflets 3, rhomboid-orbicular, laterals oblique, acuminate, glabrous. Peduncles 10-15 cm long. Racemes 12-25 cm long. Bracts subulate. Flowers coral-red. Pods spindle-shaped; seeds 2-3, reniform.

Flowers & Fruits: January - June

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1876*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 1939*, dated 30.06. 2003.

Status: Common

Local Distribution: In all gardens.

General Distribution: Nepal, India, E. Tibet, Myanmar, Indo-China, China.

GLIRICIDIA Humboldt, Bonpland & Kunth

Gliricidia sepium (Jacquin) Kunth ex Walp., Repert. 1: 679. 1842; FB 1(3): 660. 1987.

Robinia sepium Jacq., Enum. Syst. Pl. 28. 1760.

Tree 3-10m. Leaves 15-25cm, leaflets oblong-ovate, bluntly acute, base rounded often oblique, pubescent beneath on veins otherwise glabrous. Racemes 7-15cm with pinkish - white flowers. Pods on basal stalks.

Flowers & Fruits: February - April

Specimen Cited: Soom TE, *AP Das & Chandrâ 3189*, dated 26.06. 2004.

Status: Commonly grown for green manure and as ornamental plant.

Local Distribution: In Terai and low altitude areas.

General Distribution: Native of South America; introduced in India.

INDIGOFERA L.

Indigofera hebeptala Baker in FBI 2: 101. 1876; FEH 3:65. 1975; EFPN 2:123. 1979; FB 1(3):666. 1987.

1-2m tall shrubs. Leaves upto 16 cm long, leaflets 5-13, lamina elliptic, obtuse, mucronate, base cuneate, pubescent. Stipules lanceolate. Racemes c.17cm long. Bracts boat-shaped, narrowing to subulate point. Calyx shortly toothed; corolla crimson. Pods straight; seeds 8-10, glabrous.

Flowers & Fruits: May - November.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1603*, dated 22.10. 2002.

Status: Rare.

Local Distribution: Todey-Tangta, Dhamdhamay Danra, Chouda Feri. 2100-2600m.

General Distribution: Himalayas (Kashmir-Bhutan).

MUCUNA Adans.(nom. cons.)

Mucuna macrocarpa Wallich ex Baker in FBI 2:186.1876; FEH 2:67. 1971; EFPN 2:126. 1979; FPK 27. 1981; TBRI 50 (4):120. 1987; FB 1(3):686. 1987.

Local Name: *Baldengra* (Nep).

Woody liana. Branches terete. Leaves 3-foliolate; petioles 7-12.5 cm, glabrous; lamina ovate cuspidate, entire, acuminate, glabrous, subcoriaceous. Racemes fascicled on old wood, over 14 cm long. Flowers greenish-white; calyx with brown irritating bristles. Pods upto 30 cm.

Flowers & Fruits: March – September.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3175*, dated 26.06. 2004.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), India, S. E. Asia, China, Japan.

Note: Seeds crushed and paste is applied to mumps.

Mucuna pruriens (L.) DC., Prodr. 2: 405. 1825; FBI 2: 187. 1876; FB 1(3): 687. 1987.

Dolichos pruriens L. in Stickman, Diss. Herb. Amb. 23. 1754.

Annual or short-lived perennial. Stems silvery pubescent at first. Leaflets elliptic or ovate, acute, rounded at base. Racemes 5 –30 cm, pendent. Calyx appressed silvery pubescent intermixed with some longer fine brown bristles. Corolla dark purple. Pods S shaped, terete, sometimes fleshy; seeds oblong-ellipsoid, blackish, glossy.

Flowers & Fruits: November – June

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0409*, dated 27.02.2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Himalayas, S. E. Asia, Sri Lanka, Malaysia

PAROCHETUS Buch.-Ham. ex D. Don

Parochetus communis Buch. –Ham.ex D. Don, Prodr. Fl. Nep.: 240. 1825.

Prostrate, perennial, rooting at nodes. Leaflets broadly ovate, subentire, retuse, base cuneate, glabrous above, pubescent beneath; stipules lanceolate. Peduncles longer than petioles, bracts connate in ring. Corolla blue, standard obovate. Pods 15 –20x 3 –4mm, seeds rounded, blackish.

Flowers & Fruits: June - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2365*, dated 05.11. 2003.

Status: Very common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Nepal, Bhutan, S.E. Asia, China, Sri Lanka, Malaysia, Africa

PUERARIA DC.

Pueraria phaseoloides Bentham, J. Linn. Soc. 9: 125. 1867; FB 1(3): 693. 1987 .

Herbaceous twiner, stems and petioles spreading brown hirsute. Leaflets broadly ovate- elliptic with sinuate or lobed margins. Racemes (7-) 25-40cm with purplish flowers. Pods appressed pubescent.

Flowers & Fruits: August – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0928*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0686*, dated 20.04.2002; Tamsong TE, *AP Das & Chandrâ 2220*, dated 05.09. 2003.

Status: Abundant.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, Thailand, Malaysia

SESBANIA Adanson

Sesbania rostrata Bremek & Oberm. in Ann. Transvall Mus. 16: 419. 1935.

Tall annual herbs; leaves pinnate; racemes on lateral branches; flowers yellow; fruits narrowly oblong.

Flowers & Fruits: November – March.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2010*, dated 30.06. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas

TEPHROSIA Persoon

Tephrosia candida (Roxb.) DC., Prodr. 2: 249. 1825; FBI 2: 111. 1876; FB 1(3): 659. 1987.

Robinia candida Roxb., Fl. Ind. 3: 327. 1832.

Local Name: *Bun Mara* (Nep)

Stems erect, 2 m, densely brown tomentose. Leaves 10 –25 cm, leaflets elliptic –oblong, narrowly revolute, acute, mucronate or acuminate, base cuneate, sparsely pubescent above, pale sericeous beneath; stipules lanceolate. Standard 2 x 2 cm, wings & keel 20 x 8 mm. Pods sericeous; seeds ellipsoid.

Flowers & Fruits: January – March

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1119*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 1256*, dated 10.10.2002; Matigara TE, *AP Das & Chandrâ 3123*, dated 10.05. 2004.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, Malaysia

TRIFOLIUM L.

Trifolium repens L., Sp. Pl. 767.1753; EFPN 2:131. 1979; TBRI 50(4): 129. 1987; FB 1(3):731. 1987.

Local Name: *Tin Pattay* (Nep).

Perennial, runners slender herbaceous, rooting at nodes. Stipules oblong- subulate; petioles 3-7 cm, glabrous; leaflets 3, palmate, broadly obovate, denticulate, emarginate, glabrous, pubescent beneath. Heads globose. corolla longer than calyx, white. Pods oblong; 3-4 seeded.

Flowers & Fruits: April – September.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2668*, dated 09.01. 2004; Tamsong TE, *AP Das & Chandrâ 2351*, dated 05.11. 2003.

Status: Abundant.

Local Distribution: All three hill gardens.

General Distribution: Native of Europe, N. Africa, W. & C. Asia.

URARIA Desveaux

Uraria prunellaefolia Graham in Wallich Cat. n. 5686. ; FB 1(3): 679. 1987

Herbaceous, stems 15-30cm, densely pubescent with minute hooked hairs. Leaves 1-foliolate, oblong or ovate, acute or obtuse, base rounded or cordate, pubescent especially on veins beneath. Racemes 3-6cm, pods segments 6-7, triangular becoming coiled into a flat circle.

Flowers & Fruits: April – July

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2272*, dated 05.09. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas, India, Sri Lanka, SE Asia, China, Malaysia.

Uraria rufescens (DC.) Schindl. in Fedde. Repert. 21: 14. 1925; FB 1(3): 680. 1987.

Desmodium rufescens DC. in Ann. Sci. Nat. Paris 4: 101. 1825.

Shrubs, up to 2 m. Leaves 1 –3 foliate, leaflets ovate elliptic, acute or obtuse, base rounded, entire. Inflorescence lax, bracts ovate, 8 –12 mm, long acuminate, deciduous; calyx 3 –4 mm. Petals 6 –7 mm, purplish. Pod segments 5 –6, rounded, 2 mm diameter, black, tightly folded on each other.

Flowers & Fruits: November – January.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0374*, dated 27.02.2002

Status: Rare

Local Distribution: Found only in Kamalpur garden.

General Distribution: India, Nepal, Bhutan, China, Malaysia

VICIA L.

Vicia angustifolia L., Amoen. Acad. 4: 105. 1759; FEH 1: 165. 1966.

Vicia sativa L., Sp. Pl. 2. 1753.

Annual twiner, glabrous. Leaf rachis ending in a branched tendril, leaflets 3 –6 pairs, linear, elliptic, acute, obtuse or emarginate, mucronate, base cuneate; stipules 5 –9 mm. Flowers solitary, sessile. Corolla purplish, standard broadly ovate. Pods leathery; seeds dark brown.

Flowers & Fruits: January - December

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0096*, dated 03.02. 2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Europe, Africa, Australia

VIGNA Savi.

Vigna pilosa Baker in J. D. Hooker, FBI 2: 207.1876; FB 1(3): 700. 1987.

Slender twiner; leaflets usually broader, sparsely hirsute, ovate-lanceolate, acuminate, base rounded. Racemes 3-13cm bearing 10-20 flowers. Pods densely brown hirsute with spreading hairs.

Flowers & Fruits: July – September

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0507*, dated 17.04.2002.

Status: Rare

Local Distribution: Found only in Kamalpur garden.

General Distribution: Tropical and subtropical regions.

FAGACEAE Dumort

CASTANOPSIS Spach

Castanopsis indica (Roxburgh) A. DC. in Journ. Bot. 1: 182. 1863; FBI 5: 620. 1888; Les Chataigniers 280. 1929; Fl. Asm. 4: 321. 1940; FEH 1: 49. 1966; FB 1(1): 80. 1983.

Castanea indica Roxb. [Hort. Beng. 68. 1814, *nom. nud.*] Fl. Ind. ed. 2, 3 : 643. 1832.

Local Name: Aulay Katus (Nep.).

Evergreen trees, 5-20m tall with gray, warty and deeply fissured barks. Leaves oblong-elliptic, margins sharply serrate with subulate teeth, acute to acuminate, base cuneate or often rounded, occasionally unequal sided, coriaceous, glabrous above, rusty-tomentose beneath; Spikes in lax panicles, suberect and tomentose. Cupule globose. Nuts ovoid, pubescent.

Flowers & Fruits: February - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2860*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 3494*, dated 12. 10. 2004.

Status: Rare

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Nepal-Arunachal Pradesh), Meghalaya, Myanmar, W. China.

Note: Nuts edible.

LITHOCARPUS Blume

Lithocarpus elegens (Blume) Hatus ex Soepadmo in Reinwardtia 8: 236. 1970; FB 1(1): 80. 1983.

Quercus elegens Blume, Verh. Bat. Gen. K. & W. 9: 208. 1823.

Local Name: *Arkaula* (Nep).

Tree 10-20 m. Leaves coriaceous, elliptic to oblanceolate or obovate, acute or acuminate, base cuneate to rounded or cordate, glabrous, sessile or on petioles up to 1.5 cm. Flowers in clusters in pubescent spikes 8-23cm.

Flowers & Fruits: Mar - July

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2829*, dated 25.03. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas, Khasia Hills, Nagaland, China, Malaysia.

FLACOURTIACEAE DC.

CASEARIA Jacq.

Casearia glomerata Roxburgh, Fl. Ind. ed. 2, 2:419.1832; FBI 2:591. 1879; FEH 2:83.1971; FB 2(1): 220.1991.

Shrub or tree to 11m. Leaves entire, elliptic to oblong-elliptic, shortly acuminate, base cuneate, sometimes rounded, crenate- serrulate, often denticulate, glabrous on maturity. Flowers bisexual, yellowish green. Capsule ellipsoidal, yellow-orange.

Flowers & Fruits: April - May

Specimen Cited: Soom TE, *AP Das & Chandrâ 2719*, dated 27.01.2004.

Status: Common in low altitude.

Local Distribution: Found in Terai gardens and at Soom.

General Distribution: Himalayas (Punjab-Arunachal Pradesh), India east to China.

FUMARIACEAE DC.

DICENTRA Berntham

Dicentra scandens (D. Don) Walpers, Rep. 1: 228. 1842; FEH 1: 104. 1966; FB 1(2): 382. 1984; FWB 1:200. 1997.

Dielytra scandens D. Don, Prodr. Fl. Nep. 198. 1825.

Dicentra thalictrifolia (Wallich) Hk. f et Thoms., Fl. Ind. 1: 273. 1855; FBI 1: 121. 1872.

Herbaceous slender climbing herb with perennial root-stock. Stem flexuous. Leaves decompose, 2-3 ternate; leaflets ovate-elliptic, entire, obtuse or acute, base cuneate, 4-6 nerved. Flowers on short stalked pendulous corymbs, yellow. Capsules narrowly ovoid-ellipsoid; Pericarp membranous or nearly fleshy.

Flowers & Fruits: June - October.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3453*, dated 12. 10. 2004.

Status: Common

Local Distribution: Found in Soom & Tamsong gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Meghalaya, Myanmar, W. China.

Note: An important folk medicine.

GESNERIACEAE Dumort.

AESCHYNANTHES Jack

Aeschynanthus sikkimensis (C.B. Clarke) Stapf in B. Mag. 148: t. 8938. 1922; FEH 1: 297. 1966; EFPN 3: 133. 1982; 2(3): 274. 2001.

Aeschynanthus maculatus var. *sikkimensis* C.B. Clarke in DC., Monogr. Phan. 5: 24. 1883.

Shrub c1m. Stems spreading, laxly branched. Leaves opposite, fleshy, elliptic, long acuminate, base cuneate, margins entire. Flowers scarlet, several, clustered at tip of stem.

Flowers & Fruits: May – July

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3001*, dated 10.04.2004.

Status: Less Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Eastern Himalaya, Khasia Hills.

DIDYMOCARPUS Wallich

Didymocarpus pulcher C.B. Clarke in DC., Monogr. Phan. 5: 79. 1883; FBI 4: 348. 1884; FEH 3: 105. 1975.

Herbaceous annual, branches few, long, weak, brown at nodes. Lamina oblong-elliptic, incised-serrate, coriaceous, whitish below. Bracts foliaceous. Calyx & corolla brown. Capsule stalk longer than calyx.

Flowers & Fruits: July – October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2971*, dated 10.04.2004.

Status: Less Common.

Local Distribution: Found only in Tamsong garden.

General Distribution: Eastern Himalaya.

LOXOSTIGMA Clarke

Loxostigma kurzii (Clarke) Burt. in NRBGE 34: 104. 1975.

Didymocarpus kurzii Clarke Comm. & Cyrt. Beng. 96, t. 66. 1874.

Chirita kurzii (Clarke) Clarke in J. Lin. Soc. Bot. 15:145. 1876; FBI 4: 358. 1884.

Small villous herb; branches sub-erect, 20-40 cm tall. Lamina elliptic-lanceolate, serrate, acuminate, cuneate, pubescent. Peduncles flowered. Bracts elliptic. Calyx divided to free lanceolate lobes; corolla funnel-like, purplish, lower lip yellow marked, throat purple spotted. Capsule linear.

Flowers & Fruits: July - November

Specimen Cited: Soom TE, *AP Das & Chandrâ 3427*, dated 12.10.2004.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: E. Himalaya (Nepal – Bhutan), N. Myanmar, W. China.

RHYNCHOGLOSSUM Blume

Rhynchoglossum obliquum Blume, Bijdr. 471. 1826; FBI 4:367. 1884; FEH 1:299. 1966; EFPN 3:135. 1982; TBRI 50(4):125. 1987.

R. obliquum var. *β. parviflora* Clarke in DC., Monogr. Phaner. 5:162. 1883; FBI 4:367. 1884.

Scabrid, succulent, erect annual herb, 20-40cm. Stem translucent, nodes swollen. Leaves alternate, elliptic, entire, acuminate, base unequally cordate. Racemes many, upto 16cm with many bluish flowers. Capsules ellipsoid, included.

Flowers & Fruits: August – December

Specimen Cited: Soom TE, *AP Das & Chandrâ 3363*, dated 12.10.2004.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Garhwal-Arunachal Pradesh), India, Sri Lanka, Myanmar, W. & S. China, Malaysia.

HAMAMELIDACEAE R. Brown

EXBUCKLANDIA R. Brown

Exbucklandia populnea (Griffith) R.W. Brown in J. Wash. Acad. Sci. 36: 348. 1946; FEH 2:49. 1971; EFPN 2:166. 1979; FB 1(3):470. 1987; TBRI 50 (4): 114. 1987.

Bucklandia populnea Griff. in Asiat. Res. 19: 95, t. 13 &14. 1836; FBI 2: 429. 1878.

Cymingtonia populnea (R. Brown ex Griffith) Van Steenis in Act. Bot. Neerl. 1:144. 1952; FEH 1: 118. 1966.

Local Name: Peepli (Nep).

Large evergreen tree, glabrous. Leaves alternate, obovate-oblong, ovate-cordate, entire, acuminate, base truncate or shallowly cordate, glabrous, 5-veined at base. Flower heads 2-4 in each axil, many flowered, polygamous. Capsules in compact heads, sub-globose, woody.

Flowers: April - May *Fruits:* June - August to year ahead.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3413*, dated 12.10.2004; Tamsong TE, *AP Das & Chandrâ 3033*, dated 10.04. 2004.

Status: Commonly planted for its timber.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Assam, Manipur, W. China, N. Myanmar, Thailand, Malaysia, Sumatra.

HYPERICACEAE A. Jussieu

HYPERICUM L.

Hypericum hookerianum Wight & Arnott, Prodr. Fl. Ind. Or. 1: 99. 1834; FBI 1: 254. 1874, p.p.; EFPN 2: 61. 1979; FB 1(2): 375. 1984; FI 3:64. 1993; FWB 1:264. 1997.

H. patulum auct. non. Thunb. ex Murray; Prodr. Fl. Nep. 218. 1825.

Local Name: *Mehandi Phool* (Nep).

Small bushy shrub. Branches terete, hollow, slightly pendent. Leaves distichous, sessile, very shortly stalked, thick and comparatively large, lanceolate to narrowly ovate, entire, subacute, sparsely hairy above and indistinctly superficial-glandular beneath. Flowers in terminal clusters. golden yellowish.

Flowers & Fruits: June – December.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3227*, dated 26.06. 2004.

Status: Rare.

Local Distribution: Found only in Soom garden.

General Distribution: E. Himalaya (Nepal-Bhutan), Meghalaya, Mishmi Hills.

Hypericum japonicum Murray, Syst. Veg. ed. 14: 702. 1784; FBI 1:256. 1874; EFPN 2:62. 1979; FI 3:69. 1993; FB 1(2): 376.1984.

Annual erect or decumbent herbs, 8-30 cm long; stem quadrangular, dichotomously branched. Leaves sessile, lamina elliptic-ovate or oblanceolate, obtuse or rounded, cordate. Flowers in monochasia with persistent sepals and yellow petals. Capsules ovoid.

Flowers: Almost year round. *Fruist:* October - February.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0318*, dated 16.02.2002; Hansqua TE, AP Das & Chandrâ 0121, dated 03.02.2002; Kamalpur TE, AP Das & Chandrâ 0521, dated 17.04.2002; Makaibari TE, AP Das & Chandrâ 1779, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3191*, dated 26.06. 2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Subtropical and temperate Himalayas; West Bengal, Sikkim, Orissa, Meghalaya, Assam; Myanmar, Bangladesh, New Zealand, Australia, Japan and China.

Hypericum uralum Buch. –Ham. ex D. Don in Sims, Bot. Mag. t. 2375. 1823; FI 3: 77. 1993; FB 1(2): 375. 1984.

Hypericum patulum auct. non Thunberg ex Murray; Wallich ex Dyer in FBI 1: 254. 1874.

Bushy shrub, branchlets numerous spreading, compressed and 4 – winged or ribbed. Leaves ovate lanceolate, acute, cuneate, sessile, glaucous – white beneath with blackish gland-dots. Cymes 3 –5 flowered; sepals obovate, obtuse, petals asymmetrically obovate; ovary subglobose.

Flowers & Fruits: June - December

Specimen Cited: Soom TE, *AP Das & Chandrâ 0358*, dated 12. 10. 2004.

Status: Less common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas, Khasia Hills, Myanmar, Malaysia.

ICACINACEAE Miers

NATSIATUM Arnott

Natsiatum herpeticum Arnott in Edinb. New Philos. J.16:314.1834; FBI 1: 595. 1875; FEH 1:191. 1966; EFPN 2: 87. 1979; FB 2(1): 135.1991.

Extensive woody climber; shoots strigose. Lamina broadly ovate, acuminate, coarsely dentato-serrate, palmately 7-9 veined at base. Flowers pale green in pendulous racemes. Females similar to males excepting with reduced to staminodes, 2-3 lobed styles. Drupes ovoid, 1-seeded.

Flowers & Fruits: November – April

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0352*, dated 16.02.2002; Hansqua TE, *AP Das & Chandrâ 0091*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0653*, dated 20.04.2002.

Status: Endemic to the Eastern Himalaya and Assam.

Local Distribution: All Terai gardens

General Distrib: E. Himalaya (Darjeeling-Sikkim), Assam, Meghalaya, Nepal, Bangladesh, Myanmar, China, Thailand.

JUGLANDACEAE A. Rich. ex Kunth.

ENGELHARDIA Leschen.

Engelhardia spicata Leschen. ex Bl., Bijdr. 528. 1826; FBI 5: 595. 1888; TBRI 50 (4):113. 1987.

Local Name: *Mauwa* (Nep).

Large deciduous trees to 20-32 m tall, base sometimes buttressed. Bark peeling off in small flakes, gray or grayish-brown, rough. Leaflets 4-13, sub-opposite, oblong-oblanceolate or oblong-elliptic, margin almost entire, acute to shortly acuminate, base rounded oblique, pubescent beneath but ultimately glabrate. Catkins pendulous. Fruiting catkins with nut-like, globose fruits, bristly hairy pale brown on maturity.

Flowers & Fruits: November - May

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1881*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2308*, dated 05.09. 2003.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Nepal-Bhutan), Assam, S. Tibet, east to W. Chinam Malaysia.

LAMIACEAE Lindley, *nom. alt.*

[LABIATAE A. Jussieu, *nom. cons.*]

ACHYROSPERMUM Blume

Achyropermum wallichianum Bentham ex Hooker f., FBI 4: 673. 1885; 2(2): 967.1999.

Stems 28 –100cm, pubescent to glabrescent. Leaves elliptic –ovate, shortly acuminate, base cuneate with lamina extending along petiole, margins serrate, upper surface appressed pilose, lower surface pubescent on veins, otherwise glabrous. Flowers white with pink markings, pink or pale purple.

Flowers & Fruits: October – January.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2496*, dated 11.11. 2003

Status: Less Common.

Local Distribution: All three hill gardens.

General Distribution: Eastern Himalaya, Assam, Myanmar.

AJUGA L.

Ajuga lobata D. Don, Prodr. Fl. Nep. 108. 1825; FBI 4 702. 1885; FEH 1: 271. 1966; 2: 113. 1971; 3:92. 1975; EFPN 3:149. 1982.

Prostrate aromatic perennial herbs; rooting at nodes, brown, softly hairy. Lamina broadly oblong, sinuate-lobed, cordate, white hairy, deep brown beneath. Bracts oblong, dentate. Flowers in lax, axillary whorls, lilac, violet; calyx teeth lanceolate; upper corolla lip violet; fruiting calyx tubular.

Flowers: Apr. - Jun. *Fruits:* Jun. - Sep.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2276*, dated 05.09. 2003; Soom TE, *AP Das & Chandrâ 2681*, dated 09.01. 2004; Makaibari TE, *AP Das & Chandrâ 2793*, dated 25.03. 2004;

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Himalayas, India, Tibet, Myanmar, S. W. China.

Ajuga macrosperma Wallich ex Bentham in Wallich, Pl. As. Rar. 1:58. 1830. var. *breviflora* Hook. f. , FBI 4: 704. 1885; FEH 1:271. 1966; 2:113. 1971; EFPN 3: 149. 1982.

Perennial small prostrate herbs. Branches slender, decumbent, villous. Lamina ovate-oblong, sinuate-crenate, hairy, subcordate; young lamina violet beneath. Spikes terminal, whorls interrupted. Bracts ovate. Calyx obconic, teeth short; corolla base inflated. Nutlets deeply pitted.

Flowers: May – Jul *Fruits:* June - Sep.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2689*, dated 09.01.2004; Tamsong TE, *AP Das & Chandrâ 3092*, dated 10.04. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal-Arunachal Pradesh).

ANISOMELES R. Brown

Anisomeles indica (L.) O. Kuntze, Rev. Gen. Pl. 2:512.1881; FB 2(2): 967.1999.

Nepeta indica L., Sp. Pl. 571. 1753.

Anisomeles ovata R. Br. in Ait., Hort. Kew. (ed.2) 2:364.1811; FBI 4: 672.1885.

Tall, erect herbs; villous-pubescent. Lamina ovate/ broadly ovate, acute or acuminate, serrate-crenate, sparsely hairy to densely villous-pubescent. Flowers sessile or shortly pedicellate in axillary verticel, yellow or greenish-white with red or purple markings.

Flowers & Fruits: September – February

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0763*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1339*, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Bangladesh, Sri Lanka, Malayan Archipelago, China, and the Philippines.

CLINOPODIUM L.

Clinopodium piperitum (D. Don) Press. in EFPN 3: 150. 1982.

Thymus piperitus D. Don, Prodr. Fl. Nep. 112. 1825.

Annual; branches slender; lamina rounded-ovate, serrate, acute, densely pubescent; verticillaster lax, few flowered; corolla pink.

Flowers & Fruits: June - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2379*, dated 05.11. 2003.

Status: Rare.

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan, Pakistan

Clinopodium umbrosum (M.-Bieb.) C. Koch in Linnaea 21: 673. 1848; FEH 1: 272. 1966; 2: 114. 1971; 3: 92. 1975; EFPN 3: 150. 1982.

Melissa umbrossa M.- Bieb., Fl. Taur. Cauc. 2: 63. 1808.

Calmintha umbrosa (M.-Bieb.) Fisch. & Mey., Ind. Sem. Hort. Petrop. 6:6. 1840; FBI 4: 650. 1885.

Procumbent annual aromatic slender herbs, slightly woody base; nearly unbranched above. Lamina ovate, dentate, subacute, pubescent. Verticillaster dense, globose, pubescent. Flowers purple; calyx 13 nerved, bilipped; corolla throat villous; stamens included; Nutlets subglobose.

Flowers & Fruits: June - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2228*, dated 05.09. 2003; Soom TE, *AP Das & Chandrâ 3508*, dated 13.10.2004.

Status: Less common

Local Distribution: In all gardens

General Distribution: Iran, Afganistan, Pakistan, Himalayas (Kashmir-Bhutan), India, Myanmar, Tibet, China.

COLEBROOKIA Sm.

Colebrookea oppositifolia Sm., Exot. B. 2: 111, t. 115. 1805; FBI 4: 642. 1885; FEH 1: 272. 1966; EFPN 3: 151. 1982; 2(2): 990.1999.

Local Name: *Dosro, Chusre* (Nep)

Shrub 1.5 –3m, softly pubescent throughout, often sericeous on young growth. Leaves elliptic to ovate –elliptic, acuminate, base cuneate, margin crenulate to serrulate, whitish tomentose beneath. Flowers whitish in spikes, arranged in panicle, becoming dull pink and plumose in fruit.

Flowers & Fruits: December –February

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2087*, dated 30.06. 2003

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Nepal, Bhutan, Myanmar, China, Indo –China

CRANEOTOME Reichb.

Craneotome furcata (Link.) O. Kuntze, Rev. Gen. Pl. 2:516. 1891; EFPN 3:152. 1982; TBRI 50(4):110. 1987.

Ajuga furcata Link., Enum. Pl. H. Berol. 2: 99. 1822.

A. versicolor Reichb., Icon. Exot. 1:39. 1824; FBI 4:672. 1885; FEH 1:273. 166; 3:92. 1975.

Much branched, erect, hispid herb, 20-55 cm, with small perennial root-stock. Leaves broadly ovate-cordate, crenate, acuminate, densely hispid. Cymes in dense terminal panicles with mauve-purple flowers. Nutlets minute, subglobose, shiny.

Flowers & Fruits: July – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1997*, dated 30.06. 2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: W. Pakistan, Himalayas (Kashmir-Bhutan), Myanmar, S. W. China.

ELSHOLTZIA Willdenow

Elsholtzia blanda (Benth) Benth, Lab. Gen. Sp. 162. 1833; FBI 4:643. 1885; FEH 1: 273. 1966; EFPN 3:152. 1982; TRBI 50(4):113. 1987.

Aphanochilus baldus Benth in Wallich, Pl. As. Rar. 1:29. 1830.

Suffrutescent, slender, strongly aromatic undershrubs, 55-110cm, pubescent, scarcely branched. Leaves elliptic-lanceolate, serrate, acuminate, base narrowed, puberulous above, gland-dotted beneath. Spikes terminal and short lateral branches, paniced, secund. Flowers sessile, white. Nutlets minute, ellipsoid.

Flowers & Fruits: September – February.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2254*, dated 05.09. 2003.

Status: Common

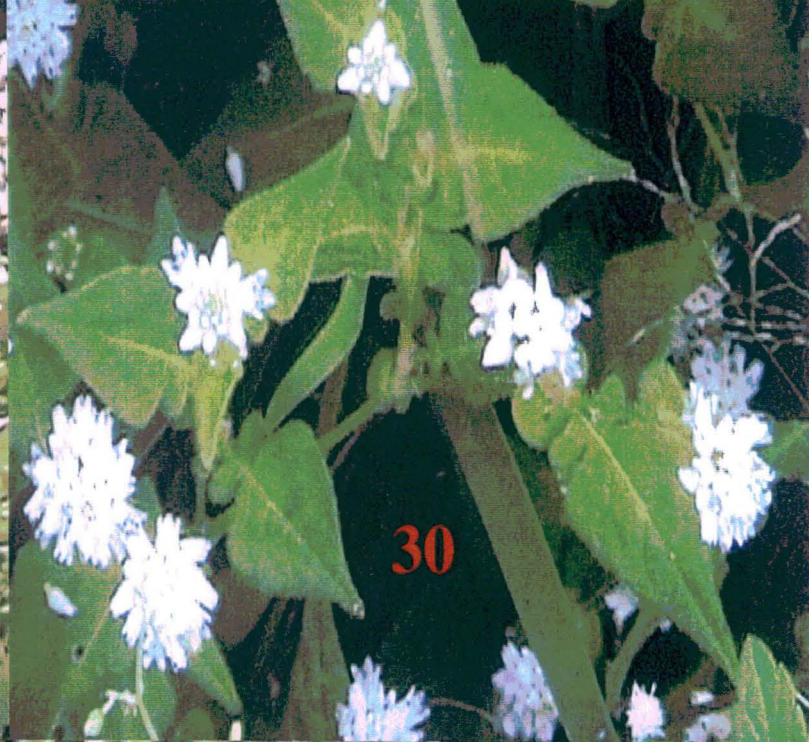
Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalaya (Nepal-Bhutan), Assam, Myanmar, China, Malaysia.

HYPTIS Jacquin, *nom. cons.*

Hyptis suaveolens (L.) Poiteau, Ann. Mus. Hist. Nat. Paris 7:472, t. 29. f. 2. 1806; FBI 4: 630. 1885; FB 2(2): 990. 1999.

Ballota suaveolens L., Syst. ed. 10:1100.1759.



Local Names: *Gande Jhar* (Nep); *Bon Tulsi* (Beng)

Annual, erect, strongly aromatic; stems 4-angled, hispid. Lamina broadly ovate, serrulate, acuminate, base cuneate, sparsely pilose above and densely pubescent beneath. Flowers blue in lax 2-5-flowered second cymes in the axils of smaller leaves. Nutlets ovoid, flat, brown.

Flowers & Fruits: August – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0968*, dated 04.05. 2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Naturalized in India, tropical Asia; native of tropical America.

ISODON (Schrad. ex Bentham) Kudo

Isodon coetsa (Buch.–Ham. ex D. Don) Kudo in Mem. Fac. Sci. Agr. Taihoku Univ. 2: 113. 1929; FEH 1: 275. 1966; 2(2): 998.1999.

Plectranthus coetsa Buch.–Ham. ex D. Don, Prodr. Fl. Nep. 117. 1825; FBI 4: 619. 1885.

Perennial herb or subshrub. Stems branched pubescent. Leaves broadly ovate to narrowly ovate, base truncate –cuneate, or rounded –cuneate, apex acuminate, margins crenate –serrate, both surfaces densely pilose. Flowers purple or purple –blue in narrowly paniculate cymes, 2 –7 flowered terminal and axillary.

Flowers & Fruits: August –November

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2376*, dated 05.11. 2003; Soom TE, *AP Das & Chandrâ 3364*, dated 12.10.2004.

Status: Abundant

Local Distribution: All three hill gardens.

General Distribution: India, Sri Lanka, Myanmar, China.

LEUCAS R. Brown

Leucas indica (L.) R. Brown ex Vatke in Oesterr. Bot. Zeits. 25:95.1875; FB 2(2): 963.1999.

Leonurus indicus L., Syst. ed. 10:1101.1760.

Leucas linifolia (Roth) Sprengel, Syst. 2:743.1825; FBI 4: 690.1885.

Local Name: *Dandakalash* (Beng)

Erect, much branched annual; stems 4-gonous. Leaves sessile, opposite; lamina linear-lanceolate, entire, membranous, apex and base narrowed, both surfaces pubescent. Bracts subulate; verticillasters upto 1.5 cm in diameter; flowers many; corolla 2-lipped, white. Nutlets black.

Flowers & Fruits: August – February

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0075*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0247*, dated 09.02. 2002; Kamalpur TE, *AP Das & Chandrâ 1268*, dated 18.10.2002; Matigara TE, *AP Das & Chandrâ 3625*, dated 20.10.

2004; Soom TE, *AP Das & Chandrâ 3582*, dated 12.10. 2004; Tamsong TE, *AP Das & Chandrâ 2393*, dated 05.11. 2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: The plains of India, Bangladesh, Sri Lanka, Myanmar, Malayasia, China, Nepal.

Leucas mollissima Wallich *ex* Benth in Wallich, Pl. As. Rar. 1: 62. 1830; FBI 4: 682. 1885; FB 2(2): 962. 1999.

Perennial herbs, branches ascending, slender, to 120 cm, densely appressed retrorsely hairy. Lamina ovate-oblong, serrate, acute, base cuneate. Verticillasters distant, in leaf axils. Calyx apex straight; teeth 10, triangular. Corolla white, annulate; upper lip 4 mm.

Flowers & Fruits: April – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2944*, dated 10.04. 2004; Makaibari TE, *AP Das & Chandrâ 2513*, dated 11.11. 2003

Status: Less common

Local Distribution: Found only in Makaibari & Tamsong gardens.

General Distribution: India, Nepal, Bhutan, China, Sri Lanka, Myanmar

LEUCOCEPTRUM Smith

Leucocephtrum canum Smith, Exot. Bot. 2: 113. t.116. 1805; FBI 4:699. 1885; FEH 1:278. 1966; 2:115. 1971.

Local Name: *Ghurpis* (Nep).

Small trees to 10 m tall. Bark greyish. Branches horizontal, densely tomentose. Lamina elliptic-lanceolate, crenate-serrate, acute, coriaceous, grey tomentose beneath, Spikes cylindric, terminal. Bracts oblong. Flowers dull white or yellowish white; corolla exceeding calyx; stamens exerted. Nutlets obovoid.

Flowers & Fruits: January - April.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2513*, dated 11.11. 2003; Tamsong TE, *AP Das & Chandrâ 2944*, dated 10.04. 2004.

Status: Common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kumaon – Bhutan), Assam, Myanmar, S. W. China.

Note: Corolla stores sweet juice.

NOTOCHAETE Benth

Notochaete hamosa Benth in Wallich, Pl. As. Rar. 1:63. 1830; FBI 4:694. 1885; FEH 1: 279. 1966; 2: 116. 1971; 3: 94. 1975; EFPN 3: 159. 1982.

Erect, small suffrutescent herbs, thinly pubescent, stem 4-angled, stout. Lamina broadly ovate, toothed, acuminate, white hairy. Verticillaster axillary, c.3.5cm in diam., many flowered, spiny. Bracts slender. Calyx tube teeth spinous, hooked; corolla white. Nutlets oblong, narrow, smooth.

Flowers & Fruits: July – November.

Specimen Cited: Soom TE, *AP Das & Chandrâ* 3370, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: E. Himalaya (Nepal – Bhutan), India, Myanmar.

PLECTRANTHUS L'Herit.

Plectranthus barbatus Andr., Bot. Rep. 9: t. 594. 1809; FB 2(2): 993. 1999.

Semi –succulent herb with fleshy root stock. Stems 25 –80cm, lanate –villose often branched near base. Leaves ovate to elliptic, base cuneate to attenuate, apex acute to obtuse, margin crenate –serrate, both surfaces villose. Flowers blue-purple, rarely white in long lax spike.

Flowers & Fruits: August – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ* 2424, dated 05.11. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas, India, Myanmar, Malaysia.

Plectranthus gerardianus Benth in Wallich, Pl. As. Rar. 2: 17. 1831; FBI 4: 617. 1885; FB 2(2): 996. 1999.

Perennial herb, upto 150cm with stems erect to ascending slender, distinctly quadrangular, white tomentose. Leaves larger, ovate, serrate –dentate margin, more attenuate base and longer petioles. Flowers white, pink or mauve with purple or crimson marking.

Flowers & Fruits: September – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ* 2369, dated 05.11. 2003.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, China, Indo –China, Myanmar

Plectranthus rugosus Wallich ex Benth in Wallich, Pl. As. Rar. 2: 17. 1831; FBI 4: 620. 1885; FB 2(2): 997. 1999.

Aromatic, bushy shrub 1 –2m. Stems much branched. Leaves ovate to oblong –ovate, base cuneate to rounded, apex acute to rounded, margin crenulate –serrulate, densely white dendroid tomentose on lower surface. Flowers white tinged with pink, lilac or pale blue in terminal and axillary panicles.

Flowers & Fruits: September – January.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ* 1368, dated 18.10.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China, Afghanistan, Pakistan

POGOSTEMON Desf.

Pogostemon andersoni (Prain) Panigrahi in Phytologia 32: 479. 1976; FB 2(2): 985. 1999.

Dysophylla andersoni Prain in JASB 59: 298. 1891.

Small herb, 8 –15cm. Stems erect, appressed pubescent. Leaves lanceolate or oblong lanceolate, acute, margins entire, appressed pubescent. Spikes softly pubescent.

Flowers & Fruits: December – March.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1195*, dated 18.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Myanmar.

Pogostemon benghalensis (Burman f.) O. Kuntze, Rev. Gen. Pl. 2: 529. 1891; FB 2(2): 987.1999.

Origanum benghalense Burm.f., Fl. Ind. 128. t. 38. f.e. 1768.

Pogostemon plectranthoides Desf. in Ann. Mus. Natl. Hist. Nat. 2: 155.t.6. 1803; FBI 4: 632. 1885.

Undershrubs, to 3 m, erect, stout, branched, glabrescent, often dark purple. Lamina ovate, doubly serrate, acuminate, base truncate or cuneate. Spikes subsecund, pubescent, panicle; bracts ovate. Calyx teeth narrowly triangular. Corolla pink or white. Nutlets ellipsoid.

Flowers & Fruits: January – March.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1767*, dated 17.05.2003.

Status: Less common

Local Distribution: Found in low altitude areas.

General Distribution: Himalayas, India.

PRUNELLA L.

Prunella vulgaris L., Sp. Pl. ed. 1: 600. 1753; FBI 4: 670. 1885; FEH 1: 281. 1966; 2: 117. 1971; 3: 95. 1975; EFPN 3: 162. 1982.

Small, erect, suffrutescent hispid herb. Root-stock creeping. Upper leaves sessile; lamina ovate, dentate-ciliate, rounded-acute. Spike compact, 1-2.8cm, cylindric. Bracts ovate-cordate. Flowers deep purple; calyx reticulate, teeth variable; stamens 4, exerted. Nutlets oblong, smooth.

Flowers & Fruits: September – March.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2107*, dated 30.06. 2003

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: All over Europe and Temperate Asia.

SALVIA L.

Salvia coccinea Buc'hoz ex Etl., Comm. Bot. Med. Salvia 23. 1777; FB 2(2): 975. 1999.

Erect herb with stems 40 –100cm and leaves ovate to triangular –ovate, acute, base truncate to cordate, serrulate, pubescent. Flowers scarlet to deep red in distant 2 –8 flowered verticillasters.

Flowers & Fruits: October – March.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3326*, dated 26.06. 2004.

Status: Cultivated ornamental; often escapes.

Local Distribution: Rare as escape. Found only in Soom garden.

General Distribution: Native of South America.

SCUTELLARIA L.

Scutellaria violacea Heyne ex Benth in PAR1: 66. 1830; FBI 4: 668. 1885; FB 2(2): 951. 1999.

Decumbent herb with stems upto 68cm, pubescent with longer hairs. Leaves distributed along stem, ovate –ovate elliptic, acute or obtuse, base rounded to cordate, margin clearly serrulate or serrate –crenate, both surface hairy. Flowers blue –violet, or mauve, always opposite in verticillasters arranged in lax spike.

Flowers & Fruits: August – November.

Specimen Cited: Soom TE, AP Das & Chandrâ 3183, dated 26.06. 2004.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Nepal, Bhutan, Sri Lanka

LAURACEAE A. Jussieu

ACTINODAPHNE Nees

Actinodaphne obovata (Nees) Blume Mus. B. Lugd.–Bat. 1: 342. 1851; FBI 5: 153. 1886; EFPN 3: 182. 1982; FB 1(2): 280. 1984.

Tetradenia obovata Nees in Wallich, Pl. As. Rar. 2: 64. 1831.

Local Name: *Runchey*, *Runchey kath*, *Runchepat* (Nep)

Tree to 20m. Young stems red –brown tomentose. Leaves drooping, obovate, acute or apiculate, base cuneate, glaucous and thinly pubescent beneath. Flowers in male panicles and female panicles. Fruits ellipsoid, born on enlarged perianth cup.

Flowers & Fruits: March – May.

Specimen Cited: Soom TE, AP Das & Chandrâ 3546, dated 12.10.2004.

Status: Common

Local Distribution: Found in low altitude areas.

General Distribution: India, Nepal, Bhutan, Myanmar, Thailand, Malaysia

Actinodaphne sikkimensis Meisner in DC., Prodr. 15(1):213. 1864; FBI 5:147. 1886; FEH 2: 99. 1966; EFPN 3: 183. 1982; FB 1(2):281. 1984; TBRI 50 (4):104. 1987.

Local Name: *Siksiki*, *Rudilo*, *Phurkay Sissi* (Nep).

Large shrub to medium tree, 6-10m high, branching from base. Leaves crowded; lamina lenceolate, acuninate, glabrous, pale beneath, lateral veins c.11 pairs. Flowers in sub-sessile clusters; bracts 2-4; tepals 6. Fruits ellipsoid, embedded on penianth cup.

Flowers & Fruits: October – August.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2781, dated 25.03. 2004; Soom TE, AP Das & Chandrâ3511 , dated 12.10.2004.

Status: Common

Local Distribution: Found in low altitude areas.

General Distribution: E. Himalayas (Nepal – Bhutan), Manipur.

CINNAMOMUM Blume

Cinnamomum bejolghota (Buch.–Ham.) Sweet, H. Br. 344. 1827; EFPN 3: 183. 1982; FB 1(2): 258. 1984.

Laurus bejolghota Buch. –Ham. in Tr. Linn. Soc. 13: 559. 1822.

Local Name: *Bhale Sinkoli, Sinkaule* (Nep).

Tree upto 20m. Leaves coriaceous, opposite or sub –opposite, elliptic, obtuse or shortly and bluntly acuminate, base cuneate, glossy above. Panicles 12 –20cm. Fruits ellipsoid born on enlarged perianth cup.

Flowers & Fruits: March –May.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 2756, dated 25.03. 2004

Status: Less Common.

Local Distribution: All three hill gardens.

General Distribution: India, Andaman Island, Nepal, Bhutan, Tibet, Myanmar, China

Cinnamomum impressinervium Meisner in DC., Prodr. 15(1): 21. 1864; EFPN 3: 183. 1982; FB 1(2): 258. 1984.

Local Name: *Khorsanay* (Nep).

Small trees. Branches green, slender; buds silky. Leaves subopposite; lamina curved downwards, elliptic-lanceolate, acuminate, drying brown, pale beneath, glabrous, 3-nerves impressed. Panicles pubescent. Flowers few, greenish-yellow; fruiting perianth cupular. Fruits obovoid to globose.

Flowers & Fruits: June – December.

Specimen Cited: Makaibari TE, AP Das & Chandrâ 1844, dated 10.06. 2003.

Status: Rare

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal – Bhutan), India, Myanmar, S.W. China.

LITSEA Lamkarck (*nom. cons.*)

Litsea citrata Blume, Bijdr. 565. 1826; FBI 5: 155. 1886.

Local Name: *Timur* (Nep).

Evergreen shrub or small tree to 6m. Leaves membranous, aromatic when crushed, lanceolate, long acuminate, base cuneate, dark green above when dry, pale beneath. Umbels 5 –10 flowered. Fruit subglobose, 6 –7mm.

Flowers & Fruits: December – May

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1820*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2099*, dated 30.06.2003.

Status: Less common

Local Distribution: All three hill gardens.

General Distribution: Nepal to Bhutan, Assam, Myanmar, China.

Note: Silkworms are reared on the leaves.

Litsea cubeba (Loureiro) Persoon, Pl. 2(1): 4. 1806; FEH 1: 101. 1966; 2: 38. 1971; EFPN 3: 185. 1982; FB 1(2): 274. 1984.

Laurus cubeba Loureiro, Fl. Cochinch. 1:252. 1790.

Local Name: *Siltimbur* (Nep).

Small trees to 6 m, aromatic, deciduous, no proper winter buds. Branches slender, smooth, drying black. Leaves sub-opposite to alternate; lamina lanceolate, half contortate, acuminate, bright green, glabrous. 2-4-umbel clusters, 4-10 flowered. Flowers silky hairy. Fruits subglobose.

Flowers & Fruits: December – May.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2911*, dated 10.04.2004.

Status: Less common

Local Distribution: Found only in Tamsong garden.

General Distribution: Nepal to Bhutan, Assam, Meghalaya, Myanmar, Taiwan, China.

Note: Fruits edible as well as medicinal.

Litsea monopetala (Roxb.)Pers. Syn. Pl. 2: 4. 1807; FEH 1: 102. 1966; EFPN 3: 185. 1982.

Tetranthera monopetala Roxb., Pl. Corom. 2. 26.t. 148. 1798.

Local Name: *Bonsum, Kut mero, Pat mero* (Nep).

Tree to 12m, branchlets brownish tomentose. Leaves broadly elliptic, obtuse or apiculate, base rounded, greenish beneath when dry, softly tomentose and prominently reticulate beneath. Umbels densely pubescent forming dense clusters. Fruit subglobose.

Flowers & Fruits: March – August.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0114*, dated 03.02.2002; Soom TE, *AP Das & Chandrâ 3107*, dated 03.05.2004.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Kumaun to Sikkim, Pakistan, Myanmar, China.

Note: Silkworms reared on leaves.

Litsea sebifera (Willd.) Pers., Syn. Pl. 2: 4. 1807; FB 1(2): 277. 1984.

Tomex sebifera Willd., Sp. Pl. 2 (2): 840. 1799.

Local Name: *Kawala* (Nep).

Tree to 15m, young shoots whitish pubescent: Leaves coriaceous, ovate – lanceolate, ovate or elliptic, acute, base rounded or cuneate, glabrous or pale pubescent beneath. Umbels large, whitish pubescent on slender peduncles. Fruit globose.

Flowers & Fruits: May – August.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1582*, dated 22.10. 2002;
Hansqua TE, *AP Das & Chandrâ 0214*, dated 09.02.2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Himalayas (Kashmir – Bhutan), India, Sri Lanka, Myanmar, China, Malaysia.

PHOEBE Nees

Phoebe attenuata (Nees) Nees, Syst. Laurie. 104. 1836; FBI 5: 143. 1886;

Ocotea attenuata Nees in Wallich, Pl. As. Rar. 2: 71. 1831.

Large trees to 22 m high, branches horizontal. Young shoots rusty-tomentose. Leaves crowded at branch ends; lamina oblanceolate, subacute, attenuate, cariateous, tomentose beneath. Peduncles 13-24 cm long. Flowers yellowish-white, perianth campanulate, cariateous. Fruits ellipsoid.

Flowers & Fruits: March - Oct.ober.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1768*, dated 17.05.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas (Nepal – Bhutan), Assam.

Note: Good quality timber.

LINACEAE A. Gray

REINWARDTIA Dumortier.

Reinwardtia indica Dumort., Comm. Bot. 19. 1822; FB 1(3): 752. 1987; FI 3: 581. 1993.

Shrub to 1m. Leaves obovate –oblanceolate, acute or obtuse, base attenuate, margins entire or minutely serrulate, glabrous. Flowers yellow, solitary or few in axillary and terminal clusters or cymes.

Flowers & Fruits: October-December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2399*, dated 05.11. 2003; Makaibari TE, *AP Das & Chandrâ 2514*, dated 11.11. 2003

Status: Less common.

Local Distribution: Found only in Soom & Makaibari gardens.

General Distribution: India, Nepal, Bhutan, China, Indo –China, Myanmar, Thailand

LOBELIACEAE R. Brown

LOBELIA L.

Lobelia heyneana Roth ex Roem. & Schult., Syst. Veg. 5: 50. 1819; FB 2 (3): 1394.2001.

Lobelia trialata Buch. – Ham. ex D.Don, Prodr. Fl. Nep. 157. 1825; FBI 3: 425. 1881.

Glabrous or subglabrous annual. Stems ascending to erect, narrowly winged. Lamina ovate to elliptic, serrulate – crenate, upper narrower than lower, base cuneate or truncate. Pedicels to 18 mm. Calyx lobes linear. Corolla pink or lilak. Seeds ellipsoid, sometimes trigonous.

Flowers & Fruits: October - March.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1602*, dated 22.10. 2002.

Status: Very common.

Local Distribution: All Terai gardens

General Distribution: Africa, Himalayas, India, Sri Lanka, Thailand, China, Malaysia.

Lobelia nummularia Lamkarck, Encyclimber Meth. 3:589. 1791-92; FB 2(3): 1395. 2001.

Pratia nummularia (Lamarck) A. Brown & Ascherson, Ind. Sem. Hort. Berol 1861, app. 6: 1861; FEH 1: 328. 1966; EFPN 3: 53. 1982; TBRI 50(4): 124. 1987;

Pratia begonifolia (Wallich) Lindley in Bot. Reg. t. 1373. 1830; FBI 3: 422. 1881.

Small creeping, much branched, rooting at nodes, densely pubescent, greenish. Leaves alternate; lamina ovate, denticulate, acute, oblique. Flowers axillary, solitary; calyx bulbous, greenish, teeth 5, linear, persistent; corolla bilabiate, pinkish; anthers blackish. Berries ellipsoid, purplish red.

Flowers: Apr. - Sep. *Fruits:* Aug. - Nov.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1895*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 2661*, dated 27.12.2003; Tamsong TE, *AP Das & Chandrâ 2282*, dated 05.09. 2003.

Status: Common

Local Distribution: In all gardens

General Distribution: Himalayas, Meghalaya, Myanmar, east to China, Malaysia.

Lobelia pyramidalis Wallich in As. Res. 13:376. 1820; FBI 3:426. 1881, p.p. FEH 1: 327. 1966; EFPN 3:52. 1982; TBRI 50 (4):118. 1987; FB 2(3): 1395. 2001.

Upto 1 m tall annual, branched upward. Stem ±terete, glabrous. Leaves alternate, rarely opposite, sessile upwards; lamina linear-lanceolate, serrulate, acuminate. Recemes terminal & axillary. Calyx bell-shaped; corolla oblique, bilabiate, with white vertical lines. Capsules subglobose.

Flowers: Mar. - Jun. *Fru.:* May - Aug.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2416*, dated 05.11. 2003

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: Himalayas (Kumaon – Arunachal Pradesh), Meghalaya, Myanmar, China.

Lobelia zeylanica Clarke in Hook.f., FBI 3: 425. 1881; FB 2 (3): 1395.2001.

Lobelia dichotoma Miq., Fl. Ind. Bat. 2: 576. 1856.

Stems ascending to suberect, 7 –28 cm, 4-angled, succulent. Lamina broadly ovate, serrulate – crenate, truncate, somewhat decurrent,. Pedicels 5 –15 mm, slightly longer in fruit. Calyx lobes linear. Corolla purplish –blue. Anthers tips bearded. Capsules 5 –7 x 3 –4 mm. Seeds trigonous.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1265*, dated 18.10.2002.

Status: Rare

Local Distribution: Found only in Kamalpur garden

General Distribution: Tropical Himalayas, India, Sri Lanka, Thailand, China, Malaysia, Fiji.

LYTHRACEAE Jaume St. Hil

AMANNIA Blume

Amannia baccifera L., Sp. Pl. 120. 1753; FBI 2: 569. 1879; 2(1): 271.1991..

Erect, much branched herb 10 –60cm. Leaves oblong to oblanceolate, acute, base cuneate, rounded or weakly cordate. Cymes dense, sessile, 5 –20 flowered. Capsules globose, irregularly circumscissile.

Flowers & Fruits: October –January

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0529*, dated 17.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China, Japan, Malaysia, Australia, Tropical Africa

CUPHEA Browne

Cuphea procumbens Cavanilles, Ic. 4: 55.t. 380. 1798; FB 2(1): 274.1991.

Erect, annual, bristly-pubescent herbs. Lamina lanceolate, bluntly pointed, cuneate, sparsely bristly; lower leaves petiolate, upper sessile. Flowers borne laterally between petioles; calyx tube purplish; corolla bright pink. Capsules ellipsoid, enclosed in persistent calyx tube.

Flowers: July – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0294*, dated 16.02.2002;
Kamalpur TE, *AP Das & Chandrâ 0712*, dated 20.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Native to Mexico, cultivated and naturalized in India.

LAGERSTROEMIA L.

Lagerstroemia reginae Roxburgh, Pl. Corom. 46, t. 65. 1795.

Local Name: *Jarul* (Beng, Nep).

Tree 6 –10 (–20)m, branchlets smooth. Leaves thinly coriaceous, elliptic –oblong, shortly acuminate or acute, base rounded, glabrous. Flowers bluish-purple in terminal panicles, brown puberulous. Capsule subglobose, woody.

Flowers & Fruits: May – September.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1442*, dated 20.10.2002.

Status: Commonly planted

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, Indo -nesia, Thailand
Note: Cultivated for it's showy flowers and valuable timber.

MAGNOLIACEAE A. Jussieu

MICHELIA L.

Michelia champaca L., Sp. Pl. 536. 1753; FBI 1: 42. 1872; FB 1(2): 236. 1984; FI 1: 175. 1993.

Local Name: *Chanp, Aule Champ* (Nep); *Swarna Chanpa* (Beng)

Ever-green trees to 20 m tall. Lamina ovate-lanceolate, entire, acute/ acuminate; flowers axillary, sweet-scented; tepals 3 x 3, fleshy, creamy/ yellow; infructescence 15 cm or longer.

Flowers & Fruits: September – May

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ1292*, dated 18.10.2002

Status: Commonly planted.

Local Distribution: All Terai gardens & Makaibari

General Distribution: Indian subcontinent.

Note: Much valuable timber species.

Michelia doltsopa DC., FEH 2:37. 1971; FB 1(2):235. 1984; TBRI 50(4):120. 1987.

Magnolia excelsa Wallich, Tent. Fl. Nep. 1:5, t. 2. 1824.

Michelia excelsa (Wallich) Blume ex Wight, Ill. Ind. Bot. 1:14. 1838; FBI 1:43. 1872.

Local Name: *Seto Champ, Rani Champ* (Nep).

Evergreen tree, 10-25m tall with sericeous greyish-brown buds. Branches silky pubescent. Lamina oblong- lanceolate, acuminate, base cuneate, brownish pubescent beneath, mid-rib silky above. Flowers terminal whitish scented; Fruits aggregate, suborbicular.

Flowers: April- June *Fruits:* October - December

Specimen Cited: Soom TE, *AP Das & Chandrâ 3371*, dated 12. 10. 2004.

Status: Less common; often planted.

Local Distribution: Soom & Tamsong gardens.

General Distribution: E. Himalaya (Nepal-Arunachal Pradesh), Meghalaya, S. Tibet, Manipur N. Myanmar, Yunnan.

Note: The species is a threatened plant. It has got a high price timber value.

TALAUMA A. Jussieu

Talauma hodgsonii Hk.f. et Thom., Fl. Ind. 74. 1855, *Fl. Asm.* 1(1): 17. 1935; TBRI 50 (4) 128. 1987.

Local Name: Bhalu Kath (Nep.).

Large tree upto 25 m tall. Branches spreading. Leaves simple; lamina oblanceolate, elliptic margin entire, acuminate, base narrowly cuneate, glabrous greenish and glossy above, nerve: prominent beneath. Flowers solitary, terminal, white; Follicles dehiscent by ventral suture and separating off from axis; Seeds red.

Flowers & Fruits: April - June

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2214*, dated 05.09. 2003

Status: Rare

Local Distribution: Found only in Tamsong garden

General Distribution: E. Himalaya (Nepal-Bhutan), Meghalaya, Naga Hills and Myanmar.

MALVACEAE A. Jussieu

MALVA L.

Malva neglecta Wallr., Syll. Pl. Nov. Ratisbon 1: 140. 1824; FB 2(1):189.1991; FI 3: 359. 1993.

Malva rotundifolia L., Sp. Pl. 689. 1753; FBI 1: 320. 1874.

Annual, prostrate to ascending, sparsely pubescent to glabrescent with short, stellate and long, simple hairs. Lamina unlobed or 3 –5 lobed, cordate, crenate, pubescent; stipules lanceolate. Flowers axillary; petals 1 –1.5 cm, much exceeding calyx. Mericarps 13 –15, smooth, pubescent.

Flowers & Fruits: February – April.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2761*, dated 25.03. 2004.

Status: Common; cultivated as vegetable.

Local Distribution: All Terai gardens.

General Distribution: India, Pakistan, Afghanistan, Nepal, Bhutan, Myanmar, Australia, Europe

MALVASTRUM A. Gray

Malvastrum coromandelianum (L.) Garcke in Bonplandia 5: 295. 1857; FI 3: 277. 1993.

Malva coromandeliana L., Sp. Pl. 687. 1753.

Annual, much branched herbs, 4 armed appressed stellate hairy. Lamina ovate to oblong, serrate. Epicalyx linear to lanceolate. Calyx lobes deltoid to ovate. Petals obliquely obovate, emarginate. Staminal column 1.5 –3cm. Mericarp 10 –14, strongly curved. Seeds glabrous, blackish.

Flowers & Fruits:

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1526*, dated 22.10. 2002;

Hansqua TE, *AP Das & Chandrâ 0991*, dated 09.05.2002.

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: Pantropical

MALVAVISCUS Adanson

Malvaviscus arboreus Cav., Diss. 3: 131, t. 48. f. 1. 1787; FI 3: 393. 1993.

Hibiscus malvaviscus L., Sp. Pl. 694. 1753

Local Name: *Lanka Jaba* (Beng)

Erect or climbing shrub, shoots stellate-pubescent and with simple hairs. Leaves ovate to broadly ovate, entire or 3-5-lobed, acute, base rounded or cordate, margin serrate, thinly pubescent. Flowers scarlet.

Flowers & Fruits: January – December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2127*, dated 30.06. 2003

Status: Often grown for ornamental flowers

Local Distribution: In Terai and low altitude areas.

General Distribution: Tropical America; introduced as an ornamental.

SIDA L.

Sida acuta Burman f., Fl. Ind. 147. 1768 ssp. *acuta*; Blumea 14: 186. 1966; FB 2(1): 192.1991
FWB 1:308. 1997.

S. carpinifolia sensu Masters in FBI 1: 323. 1874 (*non* L.f.. 1781).

Local Name: *Jharoo/ Khareto* (Nep).

Erect annual herbs to 1m tall, branched throughout. Lamina narrowly lanceolate to lanceolate serrate, acute, base cuneate to rounded, glabrescent; stipules in unequal pairs, narrow lanceolate. Flowers solitary, axillary, yellow. Mericarps reticulate, awns 2; seeds triangular.

Flowers & Fruits: December – May

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0321*, dated 16.02. 2002
Hansqua TE, *AP Das & Chandrâ 1079*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0547*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 1889*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 3401*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2411*, dated 05.11. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Pantropical.

Note: Sweeping-broom is made from its dried shoots.

Sida cordifolia L., Sp. Pl. 684. 1753; FBI 1: 324. 1874; FB 2(1): 192.1991; FI 3: 285. 1993.

Erect annual woody herb to 1 m, branched, densely stellate-tomentose. Lamina ovate to oblong rarely orbicular, crenate, obtuse to acute, cordate, tomentose. Flowers cream to pale yellow axillary, solitary below, crowded at the ends of branches. Mericarps reticulate, awns hairy.

Flowers & Fruits: July – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1512*, dated 22.10. 2002
Kamalpur TE, *AP Das & Chandrâ 0572*, dated 20.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Pantropical.

Sida rhombifolia L., Sp. Pl. 684. 1753 ssp. *Rhombifolia*: Borssum in Blumea 14: 195. 1966
FEH 1: 205. 1966; FWB 1:310. 1997, FB 2(1): 193.1991.

S. rhombifolia var. *rhomboidea* (DC.) Masters in FBI 1: 324. 1874.

S. rhombifolia var. *obovata* Wallich ex Masters in FBI 1: 324 1874.

Erect or prostrate, annual to perennial, stellate-pubescent undershrub, upto 1 m tall. Leaves lanceolate – orbicular or rhombic, acute/ rounded/ retuse, serrate, pubescent beneath. Flowers axillary solitary or fascicles of 2-3, orange or yellow. Mericarps reticulate, glabrous or hairy.

Flowers & Fruits: July – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0367*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 1102*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0570*, dated 17.04.2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: S.E. Asia.

Note: Fibers obtained from this plant is used to make rope.

URENA L.

Urena lobata L., Sp. Pl. ed. 1, 2:692. 1753; FBI 1:329. 1874; FEH 1:206. 1966; EFPN 2:69. 1979; FI 19.228. 1988; FB 2(1): 194.1991. FWB 1: 312. 1997.

Local Name: *Kurey Paat* (Nep).

Tall annual herbs. Lamina ovate to orbicular, unlobed or shallowly to deeply 5 lobed, apex and base obtuse to acute or rounded, entire or serrate, stallate hairy, glabrescent. Epicalyx segments 5. Flowers solitary or few in clusters, axillary, pink. Mericarps with hooked bristles.

Flowers & Fruits: August – February

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0829*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0241*, dated 09.02. 2002; Kamalpur TE, *AP Das & Chandrâ 1346*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1802*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3377*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2337*, dated 05.11. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Pantropical.

Note: A fiber yielding plant.

MELASTOMATACEAE A. Jussieu

MELASTOMA L.

Melastoma malabathricum L., Sp. Pl. ed. 1(1): 390. 1753 -*ut malabathrica* FBI 2:523. 1879; FEH 1:221. 1966; EFPN 2:170. 1979; TBRI 50(4): 119. 1987; FB 2(1): 296.1991.

Local Name: *Chulasi* (Nep); *Dnatrangi* (Beng)

Bushy shrub, >4m high, young parts densely appressed hairy. Stem and petioles strigose with subulate-echinate scales. Leaves opposite, lanceolate-elliptic, acuminate, 5-veined, shortly hairy below. Flowers mauve-purple, clustered at branch ends. Fruits subglobose, apically truncate.

Flowers & Fruist: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0750*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0218*, dated 09.02.2002; Kamalpur TE, *AP Das & Chandrâ 0654*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1722*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2125*, dated 30.06. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Tropical Himalayas, India, China, Sri Lanka, Myanmar, Malaysia and Australia.

OSBECKIA L.

Osbeckia muralis Naud.in Ann. Sci. Nat. Bot. Ser.3, 14: 56. 1850.

Erect annual herb 16-30cm. Stems branched or not, ± villous, hairs spreading. Leaves ovate-elliptic, acute, base rounded to cuneate, appressed hairy on both surfaces. Flowers purple in terminal cluster of few to 12 flowers.

Flowers & Fruits: April – October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0553*, dated 17.04.2002.

Status: Rare.

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Bangladesh.

Osbeckia nepalensis Hooker, Exot. Fl. t. 31. 1822; FB 2(1): 295.1991.

Upto 2m tall undershrubs; stems appressed hairy. Leaves sessile or petiolate, narrowly ovate-oblong to elliptic, acute, base cordate, appressed hairy, upper surface striate. Flowers in terminal, panicle, few-to many, white. Capsules hairy at tip.

Flowers: July - October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0794*, dated 04.05. 2002;
Tamsong TE, *AP Das & Chandrâ 2176*, dated 30.06. 2003.

Status: Very common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Eastern Himalayas, Khasia, Myanmar, Thailand, Indo –China.

Osbeckia stellata Ker-Gawl. in Edgw. Bot. Reg. 8: t. 674. 1822; FBI 2: 517. 1879; FEH 1: 222. 1966.

O. crinita Naud. in Ann. Sci. Nat. Bot. Ser. III, 14: 72. 1850; FBI 2: 517. 1879 p.p.

A small shrub to 150 cm tall. Stem much branched, hairy. Leaves ovate to oblong-lanceolate, acuminate, base narrowed or subcordate to rounded, appressed hairy both sides. Flowers 4-merous, or very rarely 5-merous, calyx-tube with dense tufts of stellate hair.

Flowers: July - October *Fruits:* November - January

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2421*, dated 05.11. 2003.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Himalayas, Assam, Myanmar and China.

OXYSPORA A. DC.

Oxyspora paniculata (D. Don) DC., Prodr. 3:123. 1828; FBI 2:525. 1879; FEH 1:222. 1966; 2:89. 1971; EFPN 2:171. 1979; TBRI 50 (4): 121. 1987; FB 2(1): 297. 1991.

Arthrostemma paniculatum D. Don. in Mem. Wern. Nat. Hist. Soc. 4:299. 1822.

Local Name: Tulashi (Nep).

Shrubs to 2 m; branches drooping, stellate-pubescent. Leaves opposite; lamina ovate to ovate-elliptic, shortly acuminate, rounded, coarse, rusty stellate beneath, nerves 5. Panicles terminal, drooping, decussate. Flowers pendulous; calyx 4-toothed; petals deep pink; Capsule ellipsoid.

Flowers: Aug. - Oct. *Fruits:* Oct. - Dec.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2407*, dated 05.11. 2003; Soom TE, *AP Das & Chandrâ 3500*, dated 12.10.2004.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Nepal – Arunachal Pradesh), Assam, W. China.

MELIACEAE A. Jussieu

AMOORA Roxburgh

Amoora rohituka (Roxburgh) Wight & Arntt in Wight, Cat. Ind. Pl. 24. 1833; FBI 1: 559. 1875.
Andersonia rohituka Roxb., Fl. Ind. 2: 213. 1832.

Local Name: *Lali* (Beng); *Lahasune* (Nep)

Tree 6-10m with leaves 60 -75cm, leaflets ovate, acute, base obliquely rounded, glabrous. Panicles as long as leaves. Fruit obovoid, glabrous.

Flowers & Fruits: Not recorded.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0741*, dated 04.05. 2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Himalayas.

AZADIRACHTA A. Jussieu

Azadirachta indica A. Jussieu in Mem. Mus. Hist. Nat. 19: 221.t.13.f. 5. 1830; FI 4: 478. 1997; FB 2(1): 32. 1991.

Melia azadirachta L., Sp. Pl. 385. 1753; FBI 1: 544. 1875.

Local Name: *Neem* (Beng)

Tree, 8 –25m. Leaves 15 –30cm; leaflets 5 –9 pairs, ovate –lanceolate, acuminate, cuneate, serrate, glabrous at maturity. Thyrses axillary; flowers white. Calyx 1mm. Petals oblanceolate. Staminal tube 4mm. Drupes ovoid, greenish –yellow, 1 –seeded.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0899*, dated 04.05. 2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: A native of Myanmar; growing in warm areas of Southeast Asia including India.

CHUKRASSIA A. Jussieu

Chukrassia tabularis A. Juss. in Mem. Mus. Hist. Nat. 19: 251. t. 22. 1830; FBI 1: 568. 1875; FI 4: 481. 1997.

Local Name: *Hallonre, Chukrassi* (Nep)

Tree 20m with leaves 40-75cm, leaflets ovate or oblong, acuminate, base obliquely rounded, pubescent. Panicles terminal with yellow flowers. Capsule ovoid-ellipsoid.

Flowers & Fruits: May – September.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2823*, dated 25.03. 2004

Status: Often planted

Local Distribution: Common in low altitude areas.

General Distribution: Nepal, India, China, Malaysia.

Note: Cultivated for its valuable timber.

CIPADESSA Blume

Cipadessa baccifera (Roth) Miquel in Ann. Mus. Bot. Lugduno-Batavum 4: 6. 1868; FI 4: 482. 1997; FB 2(1): 33.1991.

Melia baccifera Roth, Nov. Pl. Sp. 215. 1821.

Shrubs or trees, 2 –4m. Leaves 15 –40cm; leaflets 3 –6 pairs, ovate –elliptic, acuminate, rounded, entire or bluntly serrate, sparsely pubescent along veins beneath. Thyrses small. Calyx lobes 1 mm. Petals white. Stamens 2.5 mm. Drupes 5 –6mm in diameter, 5 –lobed, scarlet.

Flowers & Fruits: January - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1870*, dated 10.06. 2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas, India, Sri Lanka, Myanmar, Thailand, Malaysia.

MELIA L.

Melia azedarach L., Sp. Pl. 384. 1753; FBI 1: 544. 1875; FI 4: 494. 1997; FB 2(1): 31.1991.

Local Name: *Bakaina, Bakain, Lapsi* (Nep) *Ghora Neem* (Beng)

Deciduous trees, >10m high; bark reddish. Leaves 2-pinnate, leaflets 3-6-jugate, ovate-lanceolate, crenate, acuminate, glabrescent. Flowers white or purplish, in axillary stellately tomentose scurfy panicles. Drupes ellipsoid, yellow, glabrous, pulpy, 1- seeded.

Flowers & Fruits: March – November

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0765*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0982*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0700*, dated 20.04.2002; Soom TE, *AP Das & Chandrâ 3319*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2044*, dated 30.06. 2003.

Status: Commonly planted

Local Distribution: In all gardens.

General Distribution: Tropical regions of Africa, S.E. Asia and Australia.

Note: Rapid-growing species often planted as ornamental and temporary shade trees in tea gardens. Wood used to make furniture. Sometimes fruit extract used as biopesticide. Stones from fruit used as beads.

SWIETENIA Jacq.

Swietenia macrophylla King in Hooker's Ic. Pl. 16, t. 1550. 1886; FI 4: 526. 1997.

Flowers & Fruits: March to June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0962*, dated 04.05. 2002.

Status: Commonly planted

Local Distribution: All Terai gardens.

General Distribution: Myanmar, Malaysia.

Swietenia mahagoni (L.) Jacq., Enum. Syst. Pl. 20. 1760; FI 4: 525. 1997.

Flowers & Fruits: March to June

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1486*, dated 20.10.2002.

Status: Commonly planted.

Local Distribution: All Terai gardens.

General Distribution: Myanmar, Malaysia.

TOONA (Endlicher) Roemer

Toona ciliata Roem., Syn. Hesper 139. 1846; Nam. Chang. Flowers Pl. 268. 1987; FB 2 (1): 38. 1991; FWB 1:406. 1997.

Cedrela toona Roxb. ex Rottl., Ger. Naturf. Fr. Neve Schr. 2: 198. 1803; FBI 1: 568. 1875.

Local Name : *Toon* (Beng); *Tooni* (Nep).

A large deciduous tree to 16-37 m tall. Leaves generally paripinnate, 30-60 cm long; leaflets 5-24, opposite or alternate, obscurely ovate - lanceolate or oblong-lanceolate, margin entire or subentire, obtuse, glabrous. Panicles large, pyramidal with white, slightly fragrant flowers. Capsule ellipsoid, 5-valved, usually smooth.

Flowers & Fruits: November - September

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0773*, dated 04.05. 2002; Makaibari TE, *AP Das & Chandrâ 2820*, dated 25.03. 2004

Status: Common. Often planted.

Local Distribution: Common in low altitude.

General Distribution: Afganistan, Himalayas, India, Sri Lanka, East to China.

Note: Wood is a good quality timber used to make furniture, doors, windows etc. The timber of this tree is much in demand.

MENISPERMACEAE A. Jussieu

CYCLEA Arnott ex Wight

Cyclea bicristata (Griff.) Diels in Pfl.-reich, 4-94. Ht. 46. 317. F. 93 A-E. 1910; FEH 2:35. 1971; FB 1(2):338. 1984;

Lophophyllum bicristatum Griff., Notul. 4:313. 1854; FBI 1:105. 1872.

Shrubby dextrorse climbers with whitish bark. Stem terete, pubescent. Leaves ovate-cordate, acute cordate at base, margin entire, pilose beneath. Panicles axillary, tomentose with green flowers. Drupes stony, tubercled.

Flowers: March - April *Fruits:* April - May

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2877*, dated 25.03. 2004.

Status: Rare

Local Distribution: Found only in Makaibari garden

General Distribution: E. Himalaya (Darjeeling-Bhutan), Meghalaya, Manipur.

PERICAMPYLUS Miers

Pericampylus glaucus (Lamarck) Merrill, Interpr. Rumph. Herb. Amboin. 219. 1917; FB 1(2): 336. 1984; FI 1: 330. 1993.

Menispermum glaucum Lamarck, Encycl. Meth. 4: 100. 1797.

Local Name: *Pipal-pati lahara* (Nep)

Twinner with a root-stock. Lamina broadly ovate, acute, base rounded, truncate or cordate, not peltate, slightly repund, finely pilose above, pubescent beneath. Flowers in axillary paniculate cyme, brownish-pubescent. Fruits suborbicular, purple or blackish.

Flowers: March - May

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0353*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 0130*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0726*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1885*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2224*, dated 05.09. 2003.

Status: Common

Local Distribution: All gardens.

General Distribution: Eastern Himalaya, Assam, Myanmar, Thailand, China, Taiwan, Japan, Malaysia.

STEPHANIA Loureiro

Stephania glandulifera Miers, Contr. Bot. 3:220. 1871; FEH 1:95. 1966; 2:36. 1971; EFPN 2:28. 1879; FB 1(2):37. 1984; TBRI 50(4):101. 1987; FI 1: 334. 1993.

Stephania rotunda auct. non Loureiro: Hook. f. & Thomson, Fl. Ind. 197. 1855; FBI 1:103. 1872 p.p., non Loureiro

Local Name: *Tamarkay* (Nep).

Sinistrorse shrubby twinner; rootstock tuberous. Lamina peltate, ovate, base rounded, entire, glabrous. Cymes umbellate, on old stem. Male sepals flowers obovate, glandular papillose near apex; petals 0; staminal column to 0.2cm across; females like males. Fruits globose.

Flowers: Feb. - May *Fruits:* Aug. - Nov.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1811*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2009*, dated 30.06. 2003.

Status: Common

Local Distribution: All three hill gardens. Rarely in Terai.

General Distribution: E. Himalaya (Nepal – Bhutan), Meghalaya.

Note: Ethnobotanically much important plant.

Stephania japonica (Thunbergh) Miers in Ann. Mag. Nat. Hist. ser.3, 18:14.1866; FBI 1:103. 1872; FB 1(2): 337.1984; FI 1:335.1993.

Menispermum japonicum Thunberg, Fl.Jap. 193. 1784.

Cissampelos hernandifolia Willdenow, Sp. Pl. 4: 861. 1806.

Slender twiner. Lamina deltoid, acuminate, rounded, entire, pale and sparsely pubescent beneath; Umbels axillary, 6 –7 rayed, peduncles 2 –6 cm; male flowers sessile in dense capitate clusters, sepals 6–8, oblanceolate, petals 3–4, obovate; females similar, sepals fewer. Fruits suborbicular.

Flowers & Fruits: May – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0299*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 1414*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 1370*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1811*, dated 11.11. 2003.

Status: Common

Local Distribution: In all gardens

General Distribution: Tropical to temperate regions of Asia and Africa.

TINOSPORA Miers

Tinospora cordifolia (Willdenow) Hook.f. & Thomson, Fl. Ind. 184. 1855; FBI 1: 97. 1872; FB 1(2): 335. 1984; FI 1: 347. 1993.

Menispermum cordifolium Willdenow, Sp. Pl. 4: 826. 1806.

Large twiner. Lamina broadly ovate, abruptly acuminate, cordate, glandular domatia in vein axils below, otherwise glabrous. Inflorescence 5 –12 cm; male in few flowered clusters, females borne singly along axis. In males outer sepals ovate, inner elliptic, petals obovate. Females with sepals and petals similar to male; staminodes linear. Drupes red.

Flowers & Fruits: January - December

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1017*, dated 09.05.2002.

Status: Common

Local Distribution: All Terai gardens

General Distribution: Nepal, India, Sri Lanka, Myanmar.

Tinospora sinensis (Loureiro) Merrill in Sunyatsenia 1: 193. 1934; FB 1(2): 335. 1984; FI 1: 349. 1993.

Campylus sinensis Loureiro, Fl. Cochinch. 113. 1790.

Twiner. Leaves broadly ovate, abruptly acuminate, cordate, pubescent. Inflorescence 5 –12 cm; male in few flowered clusters, female flowers borne singly along axis. Outer sepals ovate, inner elliptic, petals obovate; stamens club –shaped; staminodes linear. Drupes red; stones warted.

Flowers & Fruits: May – September.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1758*, dated 17.05.2003.

Status: Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Nepal, India, Sri Lanka, Myanmar, Thailand, Vietnam, China, Malaysia.

MIMOSACEAE R. Brown

ACACIA Miller

Acacia auriculiformis A. Cunn. ex Benth in Hooker Lond. J. Bot. 1: 377. 1842.

Local Name: *Swarna Jhuri* (Beng).

Tall trees, bark fissured; normal leaves replaced by phyllodes; spikes axillary, dense-flowered; flowers yellow; fruits spirally coiled, constricted; seeds shiny, black with elongated golden funiculus.

Flowers & Fruits: April – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0740*, dated 04.05. 2002;

Kamalpur TE, *AP Das & Chandrâ 0584*, dated 20.04.2002.

Status: Very common; frequently planted.

Local Distribution: All Terai gardens.

General Distribution: Native of Australia.

Acacia pennata (L.) Willd., Sp. Pl. 4: 1090. 1805; FBI 2: 297. 1878; FB 1(3): 641. 1987.

Mimosa pennata L., Sp. Pl. 1507. 1753.

Local Name: *Arare* (Nep).

Climber or tree 3-8m, shoots bearing scattered recurved prickles. Leaves bipinnate, 15-20cm, pinnae 12-26 pairs; leaflets 60-70 pairs, linear-oblong, obtuse or subacute, base truncate, asymmetric, attached very obliquely, finely ciliate. Flower heads globose, forming terminal panicles. Pods leathery.

Flowers & Fruits: June – August

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1717*, dated 17.05.2003.

Status: Less Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Nepal, Bhutan, South East Asia, china, Sri Lanka, Malaysia

Note: Stems and fruit used to poison fish.

ADENANTHERA L.

Adenanthera pavoniana L., Sp. Pl. 384. 1753.

Trees to 20 m. Leaf rachis 15 –25 cm, pinnae 3 –5 pairs, leaflets 11 –19 per pinna, oblong, obtuse or emarginate, base rounded, sparsely appressed pubescent, pale beneath. Panicle to 15 cm. Calyx pubescent. Petals yellow, elliptic. Pods 12 –20 x 1 –2 cm; seeds 10 –15, red.

Flowers & Fruits: January - December

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1663*, dated 13.11. 2002.

Status: Commonly planted

Local Distribution: All Terai gardens.

General Distribution: Asia, Australia, Pacific Islands.

ALBIZIA Durazzini

Albizia chinensis (Osbeck) Merrill in Amer. J. Bot. 3: 575. 1916; FB 1(3): 646. 1987.

Mimosa chinensis Osbeck, Dagbok Ostind Resa 233. 1757.

Local Name: *Rato siris* (Nep); *Kalo Siris* (Beng).

Tree to 40m. Leaf pinnae (4-)7-12(-14) pairs, 4-10cm, leaflets 18-35 pairs, oblong-lanceolate, acute, very asymmetric, base obliquely truncate, glabrous above, pubescent beneath. Stipules deciduous. Panicles 15-20cm, heads 15-25-flowered. Pods thinly coriaceous.

Flowers & Fruits: April – July

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1475*, dated 20.10.2002; Tamsong TE, *AP Das & Chandrâ 1955*, dated 30.06. 2003.

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Nepal, Bhutan, China, Sri Lanka, Malaysia

Note: Used as a shade tree in tea gardens. Branched lopped for cattle fodder.

Albizia lebbeck (L.) Benth in Hooker, Lond. J. Bot. 3:87. 1844; FBI 2:298. 1878; FEH 1:136. 1966; 2:61. 1971; EFPN 2: 104. 1979; FB 1(3): 644. 1987.

Mimosa lebbeck L., Sp. Pl. 516. 1753.

Local Name: *Siris* (Nep).

Trees to 28 m tall, deciduous. Leaf rachis c.14 cm long, glandular at base & apex, glands oval; pinnae 2-4 pairs; leaflets upto 16 pairs, obovate, asymmetric, glabrous, pale-green. Heads many flowered, solitary, axillary. Calyx pubescent; corolla segmented to middle; Pods oblong.

Flowers & Fruits: April - December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1389*, dated 20.10.2002; Makaibari TE, *AP Das & Chandrâ 1849*, dated 10.06. 2003.

Status: Very common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Tropical Himalayas, S.E.Asia, Sri Lanka, China

Note: Produce timber and firewood. Extensively planted in tea gardens for shade.

Albizia odoratissima (L.f.) Benth in Lond. J. Bot. 3: 88. 1844; FBI 2: 299. 1878; FB 1(3): 644. 1987.

Mimosa odoratissima L.f., Suppl. Pl. 437. 1781.

Trees to 25m; leaves 10 –20 cm, pinnae 3 –5 pairs, leaflets oblong, 6 –18 pairs, acute, base rounded, glabrous above, appressed pubescent beneath, leaf rachis with gland at base & apex;

panicles much branched, heads 12 flowered; corolla tubular. Pods thinly coriaceous; seeds 6–12, ovoid, compressed.

Flowers & Fruits: January - December

Specimen Cited: Soom TE, *AP Das & Chandrâ 3234*, dated 26.06. 2004.

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Nepal, Bhutan, Sri Lanka

LEUCAENA Bentham

Leucaena leucocephala (Lam.) de Wit in *Taxon* 10: 54. 1961.

Mimosa leucocephala Lam., *Enc. Meth. Bot.* 1: 12. 1783.

Small trees to 12m; Leaf rachis 15–20 cm, pinnae 3–8 pairs, leaflets 7–20 pairs, obliquely oblong-ovate, acute, base cuneate, glabrous. Heads 1.5 cm in diameter, creamy white, on peduncles. Corolla oblong, 4 x 1 mm, pubescent. Pods glabrous; seeds 15–25, ovate, brown, glossy, transversely arranged.

Flowers & Fruits: April – November.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1554*, dated 22.10.2002; Hansqua TE, *AP Das & Chandrâ 1006*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0719*, dated 20.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Tropical and sub tropical regions

MIMOSA L.

Mimosa himalayana Gamble, *KB* 1920:4. 1920; *FB* 1(3):639. 1987.

M. rubicaulis sensu *FBI* 2:291. 1878, p.p.; *FEH* 1:159. 1966; 3:67. 1975.

M. rubicaulis Lamk. subsp. *himalayana* (Gamble) Ohashi, *EFPN* 2:126. 1979.

Local Name: *Arhari Kanra* (Nep).

4-5m high woody scrambler, prickles recurved. Leaves bipinnate; pinnae 6-9 pairs; leaflets 12-20 pairs, oblong, thinly appressed hairy beneath. Stipules subulate. Flower heads in axillary clusters, c.1.5cm across, pinkish. Corolla oblong; stamens 8. Pods jointed; seeds ovoid, brownish.

Flowers: August - October; *Fruits:* November - February.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1466*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 1258*, dated 18.10.2002.

Status: Frequent in lower hill belts.

Local Distribution: In Terai and low altitude areas.

General Distribution: Himalayas (Kashmir – Bhutan).

Note: Prickly twigs of this plant are used in the death-ceremony (Anthesti kriya) in Hindu rituals.

Mimosa pudica L., *Sp. Pl.* 1, 518 1753; *FEH* 1: 159. 1966.

Local Name: *Lajjaboti* (Beng); *Bhuwari Jhar* (Nep.).

Highly sensitive, spreading & straggling undershrub. Branches prickly. Stipules linear-lanceolate. Leaves sensitive, pinnae 4, digitate; leaflets 11-19 pairs, narrowly oblong acute, adpressed bristly beneath. Heads axillary. Flowers pink or white. Pods prickly along sutures, joints 3-5.

Flowers & Fruits: July – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0060*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0163*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0414*, dated 27.02. 2002; Makaibari TE, *AP Das & Chandrâ 1821*, dated 17.05.2003.

Status: Common.

Local Distribution: In all gardens.

General Distribution: Pantropic

SAMANIA (DC.) Merrill

Samanea saman (Jacquin) Merrill in J. Wash. Acad. Sci. 6: 47. 1916; FB 1(3): 647. 1987.

Mimosa saman Jacq., Fragm. 15, t. 19. 1809

Common Name: *Khirish* (Beng); *Rain tree* (Eng)

Tree 20(-50)m. Leaf pinnae 2-6 pairs each with 3-9 pairs of leaflets with a small gland near insertion of each pair, rhombic-oblong, asymmetric, increasing in size from base to apex, acute or obtuse, base cuneate, glabrous above, softly pubescent beneath. Heads c20 flowered on peduncles. Pods thick, brown or blackish.

Flowers & Fruits: March – June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0959*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0627*, dated 20.04.2002.

Status: Common; also planted.

Local Distribution: All Terai gardens.

General Distribution: Native of Tropical Central America, planted as a wayside tree.

Note: Pods edible and are relished by cattle and pigs.

MORACEAE Link

ARTOCARPUS Forster

Artocarpus heterophyllus Lam., Encyl. Meth. B. 3: 209. 1789; Fl. Nep. 3: 208. 1982.

Evergreen monoecious tree, shoots glabrous. Leaves ovate, elliptic to obovate, apiculate, base cuneate, glabrous. Heads club-shaped, dioecios. Infructescence giant.

Flowers & Fruits: December – July.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1173*, dated 18.10.2002.

Status: Very common; generally cultivated

Local Distribution: All Terai gardens.

General Distribution: Native of S.W. India.



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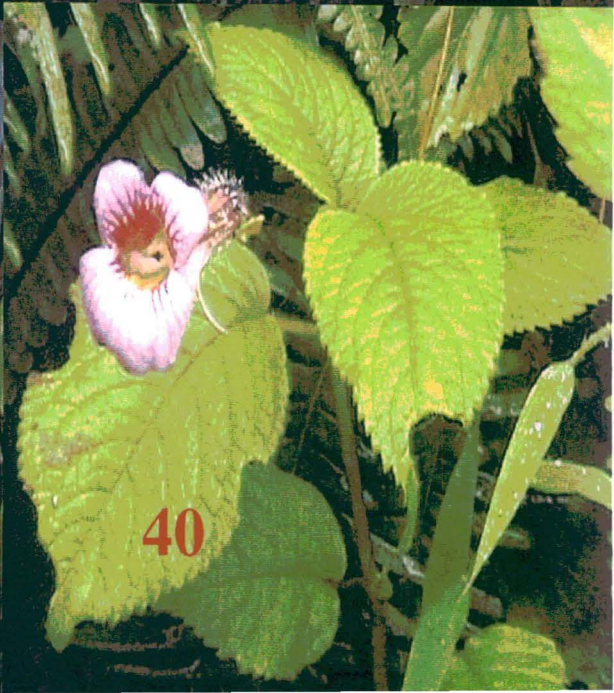
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Artocarpus lacucha Buch.-Ham. in Mem. Wern Soc. 5:333. 1826; EFPN 3: 209.1979; FB 1(1):101.1983.

A. lakoocha Roxburgh, Fl. Ind. 3:524.1832; FBI 5:543.1888 p.p.

Deciduous, erect trees to 33m high. Petioles 2-5cm long. Leaves alternate, lamina to 25-34 x 12-21cm, elliptic-obovate, glossy greenish and glabrous above; juvenile foliage often pinnatifid. Stipules lateral, smooth. Flowers partially crowded into fleshy and subglobose heads. Syncarps subglobose, smooth and irregularly lobed.

Flowers & Fruits: February - May

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1025*, dated 09.05.2002.

Status: Common

Local Distribution: Terai gardens.

General Distribution: Himalayas (Kumaon-Bhutan), India, Sri Lanka, Myanmar, Malaysia.

Note: Fruits are eaten.

FICUS L.

Ficus benghalensis L., Sp. Pl. 1059. 1753; Fl. Nep. 3: 209. 1982.

Local Name: *Bot* (Beng); *Bar* (Nep)

Wide branching tree to 30m with numerous aerial roots from branches forming additional props, often epiphytic. Leaves ovate, obtuse or bluntly apiculate, base rounded or sub-cordate, finely puberulous beneath at first, glabrous, shiny above. Figs subglobose, solitary or in axillary pairs, sessile.

Flowers & Fruits: January - December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1550*, dated 22.10.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Pakistan, Bangladesh.

Note: Planted as a sacred tree.

Ficus glomerata Roxburgh, Pl. Corom. 2: 13, t. 123. 1798; FBI 5: 535. 1888.

Local Name: *Dumur* (Beng); *Dumri* (Nep)

Tree 3-10m. with leaves more coriaceous, ovate-elliptic, base rounded, sometimes cuneate, margins entire, glabrous. Figs borne on longer more slender lateral leafless shoots, rarely axillary, subglobose, glabrous or pubescent.

Flowers & Fruits: January - December.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0475*, dated 17.04.2003

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Nepal, India, Pakistan, Sri Lanka, China, Malaysia, Australia.

Ficus hederacea Roxburgh, Fl. Ind. ed. 2(3):538. 1832; FEH 1:53. 1966; EFPN 3:210. 1982; FB 1(1):98. 1983; TBRI 50(4):100. 1987.

F. scandens Roxburgh, Fl. Ind. ed. 2 (3):536. 1832; FBI 5:526. 1888, *non* Lamarck.

Shrubby climber on rocks and trees, rooting from nodes. Leaves alternate, ovate-elliptic, acute, base rounded, margin entire, coriaceous, scabrid above, pubescent beneath. Hypanthodia globose, either solitary or axillary pairs, hairy, greenish yellow on ripening.

Flowers & Fruits: July – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2784*, dated 25.03. 2004.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: Himalayas (Kashmir-Arunachal Pradesh), Assam, Myanmar, S. China.

Ficus heterophylla L.f., Suppl. Pl. 442. 1781; Fl. Nep. 3: 210. 1982.

Creeping shrub, stems pubescent at first. Leaves broadly ovate, acute, base obliquely cordate, unlobed or 1-5 lobed, denticulate, scabrid above, softly pubescent beneath. Figs solitary, axillary obovoid, pubescent at first, borne on peduncles.

Flowers & Fruits: January – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3044*, dated 10.04. 2004.

Status: Less common

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Bangladesh, Sri Lanka, China, Malayan Islands.

Ficus hirta Vahl, Enum. Pl. 2:201. 1806; FBI 5:531. 1888; EFPN 3:210. 1982; FB 1(1): 93. 1983.

F. triloba Wallich, Cat. 160, n. 4491.1831, *nom. nud.*

Local Name: *Khasray* (Nep).

Shrub to small tree, 2-3.5m high, hirsute. Petioles 4-13cm long. Lamina 12-38 x 9-30 cm, broadly ovate, usually unlobed or sometimes 3-5 lobed, acuminate, base rounded, margins serrulate, rarely cordate, thickly hirsute beneath, scabrid above. Figs sessile, axillary and in pairs, 2-4 cm, globose or ovoid, brownish hirsute.

Flowers & Fruits: June - March

Specimen Cited: Soom TE, *AP Das & Chandrâ 3542*, dated 12.10.2004.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Nepal-Arunachal Pradesh), Myanmar, S. China, Malaysia.

Note: Figs are edible.

Ficus hispida L.f., Suppl. 442.1781; FBI 5: 522.1888; FB 1(1): 89.1983.

Local Name: *Koksa* (Nep)

Small trees without aerial roots; branches hispid; bark grey. Leaves decussate, ovate- oblong, coriaceous, dentate, acute, scabrid. Petiole hairy with a sub-nodal gland. Figs in cauliflorous clusters, dioecious, green, obovoid, stiff-grey hairy.

Flowers & Fruits: April – January

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1451*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 1276*, dated 18.10.2002.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Bangladesh, Myanmar, Malayan Islands, China, Australia.

Note: Foliage used as fodder; figs edible.

Ficus neriifolia J.E. Smith in Rees, Cyclop. 14. no. 21. 1810; FEH 1: 54. 1966; FB 1(1): 95. 1983; TBRI 50 (4): 114. 1987.

F. gemella Wallich ex Miquel in Hooker's Lond. J. Bot. 7: 454. 1848.

F. nemoralis Wallich ex Miquel var. *gemella* (Wallich ex Miq.) King in ARBGC 1(2): 162. 1888; FBI 5: 534. 1888.

Local Name: *Dudhilo* (Nep).

Shrub or small tree, 4-9 m tall. Stem much branched and branchlets reddish. Leaves lanceolate or elliptic-lanceolate, entire, sharply acuminate, base cuneate, glabrous both surfaces, dark coloured beneath. Figs ellipsoidal-globose, scaly at base, sessile, sometimes peduncled.

Flowers & Fruits: July – February.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2090*, dated 30.06. 2003; Makaibari TE, *AP Das & Chandrâ 2842*, dated 25.03. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Nepal-Arunachal Pradesh), E. Tibet, S.W. China.

Note: Figs are edible. Foliage excellent fodder for cattle.

Ficus religiosa L., Sp. Pl. 1059. 1753; FEH 1: 54. 1966; Fl. Nep. 3: 211. 1982.

Local Name: *Asatthwa* (Beng); *Pipli* (Nep)

Tree to 20m, often epiphytic, leaves more abruptly and longer caudate-acuminate, margins sinuate, petioles slender. Figs smaller, purplish when ripe.

Flowers & Fruits: April – September.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1004*, dated 09.05.2002.

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Bangladesh, Myanmar, Malaysia & China.

Note: Planted as a sacred tree used as a host for the lac insect.

MORUS L.

Morus australis Poiret in Lamarck, Ency. 4:380.1797; FB 1(1): 101. 1983.

M. indica auct. non L.: Hook.f., FBI 5:492. 1888.

Local Name: *Sano Kimbu* (Nep), *Tunt* (Beng).

Deciduous shrub to small tree. Stipules upto 1cm, lateral; lamina, ovate, caudate-acuminate, cordate, coarsely serrate, sometimes trilobed, pubescent beneath, strigose above. Male spikes ± 2.5 cm, axillary. Females shorter; tepals ovate, succulent in fruit. Infructescens purplish-black.

Flowers & Fruits: March - May.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1703*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2000*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 3103*, dated 03.05. 2004.

Status: Sparse.

Local Distribution: In all gardens.

General Distribution: Himalayas (Kumaon – Bhutan), Assam, Myanmar, W. China.

Note: Fruits are eaten.

Morus macroura Miquel, Pl. Jungh. 42. 1851; FEH 1:55. 1966; 2:20. 1971; EFPN 3:212. 1982; FB 1(1):102. 1983.

M. laevigata Wallich ex Brandis, For. Fl. Ind. 409. 1874; FBI 5:492. 1885.

Local Name: Kimbu (Nep).

Large deciduous trees to 30m high. Leaves alternate; lamina 6-16.5 x 6-13cm, elliptic-ovate, unlobed, base rounded, finely serrate, thinly pubescent. Male catkins subsessile, long, villous. Female catkins 3.2 – 5.2cm; styles bifid. Fruiting catkins elongated, yellowish white on ripening.

Flowers & Fruits: March – June

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1860*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2177*, dated 30.06. 2003.

Status: Only few plants seen.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kumaon – Bhutan), India, S.W. China.

STREBLUS Loureiro

Streblus asper Lour., Fl. Cochinch. 615. 1790; FBI 5: 489. 1888; FEH 1: 55. 1966; EFPN 3: 212. 1982.

Local Name: Ayash Saorha (Ben.); Kakshi (Nep)

Unarmed evergreen shrub or tree to 12m. Shoots pubescent at first. Leaves elliptic-obovate, acute, base cuneate, margins sinuate or weakly serrate, scabrid, sessile or petiolate.

Flowers & Fruits: March – December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0156*, dated 03.02.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Bangladesh, Malayan Islands, China, Thailand.

MYRSINACEAE R. Brown

ARDISIA Swartz, *nom. cons.*

Ardisia colorata Roxburgh, Hort. Bengal. 16. 1814; FB 2(2): 513. 1999.

Shrub or small tree to 4m, glabrous. Leaves coriaceous, elliptic, acute or shortly acuminate, base cuneate, margin entire, with short petioles. Flowers pink, borne in terminal panicles. Fruit red.

Flowers & Fruits: November – March

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0042*, dated 27.01.2002.

Status: Rare

Local Distribution: Found only in Mohurgong & Gulma gardens.

General Distribution: Nepal, India, Sri Lanka, China, Malaysia, Singapore.

Ardisia solanacea Roxburgh, Cor. Pl. 1:27, t.27.1795; FB 2(2): 514 .1999.

A. humilis sensu Wight, Ic. t. 1212.1848; FBI 3:529.1882, *p.p.*

Shrubs; branches glabrous. Lamina coriaceous, obovate, entire, apiculate, base attenuate, glabrous with scattered minute gland dots beneath; petiole winged. Flowers pink in axillary sub-umbellate racemes (3-12 flowered). Fruits crimson, globose.

Flowers & Fruits: April – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0080*, dated 27.01.2002.

Status: Less common

Local Distribution: Common in low altitude areas.

General Distribution: India, Pakistan, Sri Lanka, Southwestern China, Singapore, etc.

MAESA Forskal

Maesa chisia Buch.–Ham. ex D. Don, Prodr. Fl. Nep. 148. 1825; FBI 3: 509. 1882; FEH 1: 243. 1966; EFPN 3: 76. 1982; FB 2(2): 507. 1999.

Shrub or more rarely small tree, 2 –6m, branchlets glabrous. Leaves membranous, lanceolate or elliptic, acuminate, base cuneate, margins subentire, sinuate or distantly and shallowly serrate, glabrous. Flowers white in simple or branched racemes.

Flowers & Fruits: February – August

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2497*, dated 11.11. 2003; Soom TE, *AP Das & Chandrâ 3447*, dated 12. 10. 2004.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, Northern Myanmar

Maesa montana A. DC. in DC., Prodr. 8: 79. 1844; FEH 1: 243. 1966.

M. indica auct. non (Roxb.) A. DC.: Cl. in FBI 3: 509. 1882 p.p.

M. elongata Mez in Pfreich. Ht. 9: 31. 1902.

Shrub to 4.5 m high. Branches slender. Bark warty, dark brown. Leaves highly variable from ovate or obovate-elliptic, oblanceolate, elliptic-lanceolate, obscurely dentate at distant, acute to

caudate-acuminate, base cuneate, rounded, sometimes obtuse, glabrous. Racemes branched with white flowers. Fruits subglobose, creamy white, many seeded.

Flowers & Fruits: February – November.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1547*, dated 22.10. 2002.

Status: Less common

Local Distribution: Common in low altitude areas.

General Distribution: Tropical Himalayas (Nepal-Bhutan), Assam, east to West China.

MYRTACEAE A. Jussieu

SYGYGIUM Gaertner

Syzygium cumini (L.) Skeels in U.S. Dept. Agric. Bur. Pl. Ind. Bull. 248. 25. 1912; FB 2(1): 284.1991.

Myrtus cumini L., Sp. Pl. 471. 1753.

Trees to 25 m. Leaves coriaceous, elliptic/ ovate / obovate, acuminate, cuneate, glaucescent. Cymes borne in axils of older and fallen leaves, many flowered. Flowers sessile. Calyx funnel-shaped, tapering to stalk-like base, persistent. Petals creamy, shed as a cap. Ripe fruits black.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1137*, dated ; 09.05.2002; Makaibari TE, *AP Das & Chandrâ 2834*, dated 25.03. 2004

Status: Very common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Tropical and Subtropical India; Sri Lanka, Malaya and Australia.

Syzygium operculatum (Roxburgh) Niedenzu in Pfamilien. 3, 7: 85. 1893; FB 2(1): 284. 1991.

Eugenia operculata Roxburgh, Fl. Ind. 2: 486. 1832; FBI 2: 498. 1878.

Tree with leaves thinly coriaceous, broadly ovate or elliptic, obtuse or bluntly apiculate base rounded to truncate or cuneate; turn bright red in cool season. Flowers white in cymes in axils of lower and fallen leaves, many flowered. Fruit globose, black, crowned.

Flowers & Fruits: July – September.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2174*, dated 30.06. 2003.

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: Eastern Himalaya (Nepal – Bhutan), China.

NYCTAGINACEAE A. Jussieu

BOERHAVIA L.

Boerhavia coccinea Mill., Gard. Dict., ed. 8. n. 4. 1768; FB 1(2): 194 .1984.

Local Name: *Punarnava* (Beng)

Diffuse, perennial scandent with terete stems, purple tinged, glandular hairy, nodes swollen. Leaf pairs unequal, broadly ovate, oblong or orbicular, entire, rounded at both ends, slightly hairy beneath. corymbose umbels axillary; flowers pink or purple. Fruits 5-ribbed, glandular hairy.

Flowers & Fruits: April – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0064*, dated 27.01.2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: Pantropical.

MIRABILIS L.

Mirabilis jalapa L., Sp. Pl. 177. 1753; Fl. Nep. 3: 167. 1982; FB 1(2): 192. 1984.

Common Name: *Four-O-Clock Plant*

Robust herb, 60-150cm with leaves triangular-ovate, acuminate, base truncate glabrous or sparsely puberulous. Flowers with red or white, trumpet-shaped or narrowly funnel shaped perianth.

Flowers & Fruits: April – November

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1178*, dated 18.10.2002.

Status: Common; grown as an ornamental.

Local Distribution: All Terai gardens.

General Distribution: Native of tropical America; seminaturalised.

OLEACEAE Hoffmann & Link

JASMINUM L.

Jasminum caudatum Wallich ex Lindl. in B. Reg. 28: t. 26. 1842; FBI 3: 601. 1882; Fl. Nep. 3: 80. 1982.

Local Name: *Kagaji phul* (Nep)

Large twining or sprawling climber to 3m tall. Leaves opposite, (1-)3-foliolate, indistinct. Leaflets ovate-lanceolate, apex acuminate to acute, base obtuse to cuneate, glabrous but not coriaceous. Terminal leaflet large, lateral smaller. Flowers large, sweet-scented, white in terminal or axillary cyme, wide spreading.

Flowers & Fruits: June – November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2499*, dated 11.11. 2003

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan.

Jasminum dispernum Wallich in Roxburgh, Fl. Ind. ed. Carey, 1:99. 1820; FBI 3: 602. 1882; FEH 1:251. 1966; EFPN 3:80. 1982; TBRI 50(4): 117. 1987.

Local Name: *Harhey Lahara, Charpatay Lahara* (Nep).

Climbing shrub or liana, glabrous, woody, terete. Leaves opposite 3-foliolate; laterals smaller, terminal one 4-8.5 x 1.7-3.7cm, ovate-lanceolate, entire, acuminate. Cymes terminal & axillary, 5-15 flowered. Flowers ebracteate; sepal teeth triangular; corolla white-pinkish; stamens included.

Flowers & Fruits: February – March.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1946*, dated 30.06. 2003.

Status: Less Common.

Local Distribution: Found only in Tamsong garden

General Distribution: Himalayas (Kashmir – Arunachal Pradesh), N. Assam, Thailand, W. China.

Jasminum grandiflorum L., Sp. Pl. ed. 2, 9. 1762; Fl. Ind. 1: 98. 1820; FB 2(2): 592. 1999.

Robust, scrambling shrub to 3m tall. Leaves opposite, pinnate with (5-) 7-13 sub-sessile leaflets. Leaflets very variable, apex acute, base obtuse to cuneate, hirsute to glabrous. Flowers sweet-scented, white, rarely solitary in widely branching cyme, 3-many flowered.

Flowers & Fruits: June – October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2802*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 3552*, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Nepal.

Jasminum nervosum Lour., Fl. Cochinch. 20. 1790; FB 2(2); 587. 1999

Twining shrub 3-10m tall; Leaves opposite, simple, ovate to ovate-lanceolate, apex acuminate to acute, base truncate to cuneate, glabrous. Terminal or axillary cyme of 1-5-flowered. Fruit ellipsoid.

Flowers & Fruits: March – July.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2871*, dated 25.03. 2004.

Status: Less Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Indian subcontinent.

Jasminum pubescens (Retz.) Willd., Sp. Pl. 1: 37. 1797; FBI 3: 592. 1882.

Nyctanthes pubescens Retz., Obs. 5: 9. 1788.

Local Name: *Kunda* (Beng).

Shrubby slimmer, twining; leaves simple; lamina ovate, entire, acute to acuminate, pubescent; flowers in dense cymose panicle, white, aromatic; fruits globose, black on ripening.

Flowers & Fruits: April – september.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0070*, dated 27.01.2002.

Status: Common; generally cultivated for flowers.

Local Distribution: All Terai gardens.

General Distribution: Subtropical Himalaya, India, Sri Lanka, Myanmar, China.

Jasminum scandens Vahl, Symb. Bot. 3: 2. 1794; FB 2(2): 588.1999.

Local Name: Hara Lahara (Nep).

Large shrubby climber; young stems minutely hirsute. Leaves opposite, simple; lamina ovate-lanceolate, acuminate, broadly cordate to rounded, semi-coriaceous, glabrous. Flowers sweetly scented, white, sometimes pink-flushed in axillary or terminal contracted cymes.

Flowers: December – March

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2835*, dated 25.03. 2004.

Status: Less Common.

Local Distribution: Found only in Makaibari garden

General Distribution: India, Sri Lanka

ONAGRACEAE A. Jussieu

LUDWIGIA L.

Ludwigia octovalvis (Jacq.) Raven in KB 15: 476. 1962; FB 2(1): 312. 1991.

Oenothera octovalvis Jacq., Enum. 19. 1760.

Robust, much branched perennial herb, sometimes woody at base to 4m tall, subglabrous or with appressed or spreading pubescent. Leaves sublinear to subovate, apex attenuate, base cuneate. Flowers yellow. Capsules terete, readily and irregularly loculicidal.

Flowers & Fruits: January – March

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0476*, dated 17.04.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Japan, Malaysia, Australia, Polynesia, Africa, Tropical America.

Ludwigia perennis L., Sp. Pl. ed. 1(1): 119. 1753; FEH 1:225. 1966; EFPN 2:176. 1979; FB 2(1): 312.1991.

L. parviflora Roxburgh, Fl. Ind. ed. Carey 1:440.1820; FBI 2:588. 1879.

Annual herbs, >1m; young parts puberulous. Lamina narrowly elliptic to lanceolate, subacute, entire; petioles long, winged. Flowers with yellowish elliptic petals, borne singly or clustered, axillary. Capsules glabrous or puberulent, loculicidal, sessile or stalked.

Flowers & Fruits: August – March

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0431*, dated 05.04.2002; Matigara TE, *AP Das & Chandrâ 3615*, dated 20.10.2004; Makaibari TE, *AP Das & Chandrâ 1708*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3556*, dated 12. 10. 2004.

Status: Abundant

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Sri Lanka, Madagascar, Continental S.E. Asia and Malaysia to tropical Africa, Australia and New Caledonia.

OXALIDACEAE R. Brown

BIOPHYTUM DC.

Biophytum sensitivum (L.) DC., Prodr. 1: 690. 1824; FBI 1: 436. 1874. FB 1(3): 1987; FI 4:238. 1997.

Oxalis sensitiva L., Sp. Pl. 434. 1753.

Small, erect, unbranched annual, pubescent. Leaves sensitive, crowded at tip; rachis 5–10 cm; leaflets opposite, 5–15 pairs. Peduncles appressed–strigose & glandular hairy. Bracts lanceolate. Sepals ovate–lanceolate, strigose & glandular hairy. Petals lanceolate, yellow.

Flowers & Fruits: June – December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1147*, dated 14.06.2002

Status: Abundant

Local Distribution: In all gardens

General Distribution: Tropica Asia, Africa & America.

OXALIS L.

Oxalis corniculata L., Sp. Pl. 435. 1753; FBI 1: 436. 1874; FEH 1:168. 1966; EFPN 2: 77. 1979; FWB 1:373. 1997; FB 1(3): 742.1987. var. *corniculata*

Local Name: *Chari-amilo* (Nep), *Amruli*, *Amrul* (Beng).

Annual prostrate herbs; runners spreading, leafy, pubescent. Leaves palmate-trifoliate, radicals clustered; stipules adnate. Leaflets broadly obcordate, lobes rounded, base cuneate. Peduncles axillary, 2-5 yellow flowered. Capsules subcylindric, pubescent, transversely ribbed, many seeded.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0053*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0150*, dated 03.02.2002; Makaibari TE, *AP Das & Chandrâ 1743*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2648*, dated 27.12.2003; Tamsong TE, *AP Das & Chandrâ 2143*, dated 30.06.2003.

Status: Abundant.

Local Distribution: In all gardens

General Distribution: Cosmopolitan.

Note: Edible and medicinal; leaves used to cure scurvy, dysentery, to improve appetite, also taken as sauce after cooking.

Oxalis corniculata L. var. *villosa* Watson

Like the type variety but a smaller and densely branched plant; leaves smaller, densely villous.

Flowers & Fruits: January – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2870*, dated 25.03.2004; Soom TE, *AP Das & Chandrâ 2710*, dated 27.01.2004; Tamsong TE, *AP Das & Chandrâ 2260*, dated 05.09.2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens

General Distribution: Eastern Himalaya.

Oxalis corymbosa DC., Prodr. 1:696. 1824; FEH 1: 168. 1966; EFPN 2:77. 1979; FB 1(3): 743.1987.

Small rosette herb with tunicated bulbs. Bulbils many, ovoid, outer scales 3-nerved. Leaflets obcordate, pilose, gland dotted beneath. Umbels compound, upto 12 flowered with spatulate pink petals. Capsules subcylindric, many seeded.

Flowers & Fruits: March – July

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1933*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 0661*, dated 20.04.2002; Soom TE, *AP Das & Chandrâ 3597*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2883*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: In all gardens

General Distribution: Native of tropical America naturalized in Asia.

Oxalis latifolia Humboldt, Bonpland & Kunth., Nov. Gen. Sp. 5:184, t. 467. 1821; FEH 1: 168. 1966; EFPN 2:77. 1979; TBRI 50(4): 121. 1987; FB 1(3): 743. 1987.

Like *O. corymbosa* but bulbil scales many nerved; leaflets 3-6 x 2.5-4cm, obtriangular, shallowly emarginate, eglandular, glabrous; umbels simple; flowers campanulate; sepals with 2 hastate apical glands; petals red-pink.

Flowers: May - July; *Fruits.:* Jun. - Aug.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2419*, dated 05.11. 2003.

Status: Frequent in open places.

Local Distribution: All three hill gardens

General Distribution: Native of tropical America naturalized in Asia.

PAPAVERACEAE A. Jussieu

ARGEMONE L.

Argemone mexicana L., Sp. Pl. 508.1753; FBI 1:117.1872; FI 2:2.1993; FB 1(2): 402.1984.

Local Name: *Siyalknata* (Beng), *Mexican Poppy*, *Prickly Poppy* (Eng)

Erect annual herbs; sap yellowish. Leaves deeply pinnatifid, spinulose-dentate, both surfaces prickly, shortly petioled, upper sessile, clasping at base. Bracts leafy. Flowers yellow, terminal, solitary on short branches, shortly pedicelled. Capsules oblong-ellipsoid, spiny, many seeded.

Flowers & Fruits: December – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0015*, dated 27.01.2002; Kamalpur TE, *AP Das & Chandrâ 1189*, dated 18.10.2002.

Status: Common.

Local Distribution: All Terai gardens

General Distribution: A native of America naturalized throughout India.

Note: Seeds used as adulterants to mustard seeds, produces oil used for burning lamps and also to treat skin diseases.

PASSIFLORACEAE A. Jussieu

PASSIFLORA L.

Passiflora foetida L., Sp. Pl. 969. 1753; FBI 2: 599. 1879.

Annual climber, thickly glandular hairy, sticky; stipuled much dissected; tendril axillary, simple; lamina ovate, trilobed; flowers axillary, corolla white; corona purple; fruits globose, yellow on ripening, remain covered with enlarged bipinnatisect & glandular-tipped bracts.

Flowers & Fruits: August – April.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0436*, dated 05.04.2002; Kamalpur TE, *AP Das & Chandrâ 1287*, dated 18.10.2002.

Status: Very common.

Local Distribution: All Terai gardens

General Distribution: Native of Tropical America; naturalized in the tropics.

PIPERACEAE C. A. Agardh.

PEPEROMIA Ruiz. et Pav.

Peperomia pellucida (L.) Humboldt, Bonpland & Kunth, Nov. Gen. 1: 64. 1815; FEH 1: 42. 1966; FB 1(2): 345. 1984.

Piper pellucidum L., Sp. Pl. 1: 30. 1753.

Succulent creeping or erect herb, 15 –40 cm, glabrous throughout. Leaves thin, broadly ovate, acute base cordate, palmately 5 –veined from base. Spikes 2.5 –5 cm, terminal, leaf –opposed. Drupes 0.5 mm.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1555*, dated 22.10. 2002; Hansqua TE, *AP Das & Chandrâ 1101*, dated 09.05.2002; Makaibari TE, *AP Das & Chandrâ 1933*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 3518*, dated 12.10.2004; Tamsong TE, *AP Das & Chandrâ 1837*, dated 10.06. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Native of South America; now a pantropic weed.

PIPER L.

Piper attenuatum Buch.–Ham. ex Miquel, Syst. Pip. 306. 1843; FBI 5: 92. 1886; FB 1(2): 347. 1984.

Piper trioicum Roxburgh, Fl. Ind. 1: 151. 1820.

Climbing shrub. Leaves membranous, green or yellow –green when dry, broadly ovate, shortly acuminate, truncate or weakly cordate, 7 –9 veined, glabrous or sparsely pubescent beneath;

stipules narrow, adnate to petiole. Flowering spikes slender, 6–12cm. Drupes globose, sessile, loosely aggregated.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1513*, dated 22.10.2002; Makaibari TE, *AP Das & Chandrâ 1904*, dated 10.06.2003.

Status: Less common

Local Distribution: Found in Terai gardens.

General Distribution: India, Bangladesh, Bhutan, Sri Lanka, Myanmar, China.

Piper boehmeriifolia (Miquel) DC., Prodr. 16(1) : 348. 1869; FBI 5: 85. 1886; FEH 1: 43. 1966; Fl. Nep. 3: 183. 1982.

Chavica boehmeriaefolia Miq., Syst. Pip. 265. 1843.

Flowers & Fruits: September – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2410*, dated 05.11.2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas, Meghalaya, Assam & Myanmar.

Piper chuvya (Miquel) C. DC. : FB 1(2): 350. 1984.

Local Name: *Chaba* (Nep)

A stouter climber, leaves thinly coriaceous ovate, often broadly ovate, puberulous and gland-dotted beneath. Female spikes elongated than male spikes. Fruiting spikes interrupted with only some drupes ripening.

Flowers & Fruits: January – April.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2028*, dated 30.06.2003.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Eastern Himalaya

Piper longum L., Sp. Pl. 29. 1753; FBI 5: 83. 1886; FEH 2: 14. 1971; EFPN 3: 183. 1982; FB 1(2): 348. 1984.

Local Name: *Peepla* (Nep).

Slender climbing-shrub, stems puberulous, striate when dry. Leaves membranous, broadly ovate on creeping stems, sub-acute or shortly and bluntly acuminate, base deeply cordate-auriculate, symmetric. Male spikes slender and female spikes cylindrical. Fruiting spikes swollen with densely arranged drupes.

Flowers & Fruits: September – January.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1342*, dated 18.10.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Bangladesh, Bhutan, Malaysia, Nepal, Sri Lanka.

Note: Cultivated and possibly naturalised. Fruit used as a pepper and roots used medicinally.

Piper mullesua D. Don, Prodr. 20. 1825; FEH 1: 43. 1966; FB 1(2): 347. 1984.
P. brachystachyum Wallich ex Hook. f., FBI 5: 87. 1886.

Local Name: *Peepla* (Nep).

Shrubby climbers; branches ascending; nodes swollen, rooting. Old stem warted. Lamina ovate-cordate or elliptic-ovate, long acuminate, base cuneate, glabrescent, 5-nerved. Male spikes to 7 cm long, erect. Stamens 2; anthers reniform. Female spikes cylindric or globose. Drupes densely clustered.

Flowers & Fruits: March - October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2511*, dated 11.11. 2003.

Status: Common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kumaon – Bhutan), India.

Piper pedicellatum C. DC. in Prodr. 16 (1): 343. 1869; FBI 5:81. 1886; FB 1(2):349. 1984; TBRI 50(4):123. 1987.

P. boehmeriifolium sensu Wallich ex C. DC., Prodr. 16(1):348. 1869; FBI 5:85. 1886; FEH 1:43. 1966; EFPN 3:181. 1982.

Local Name: *Bhalay Chabo* (Nep).

Shrubby climber; stem glabrous, soft, warted; lamina broadly ovate, acuminate, base narrowed, nerves 5-8 with lateral nervules, glabrous, upper sessile, elliptic. ♂ spikes 10-21 cm long, flexuous; bracts peltate; stamens 2; anthers sessile. ♀ spikes 5-10cm. Drupes c.0.15cm across.

Flowers & Fruits: March – January.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3441*, dated 12.10.2004.

Status: Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Nepal – Bhutan), India, Myanmar.

Note: Leaves are sometimes chewed with betle-nuts; used as a sacred plant in Hindu rituals.

Piper peepuloides Roxb., Fl. Ind. 1: 159. 1820; FBI 5: 83. 1886; FEH 1: 43. 1966; EFPN 3: 183. 1982; FB 1(2): 348. 1984.

Local Name: *Ruk peepla* (Nep).

Terrestrial or epiphytic shrub, sometimes climbing, stems pubescent. Leaves on aerial branches tapering to a round, shallowly cordate, usually oblique base, prominently 5-veined in basal. Female spikes shortly cylindric, rarely subglobose in fruit.

Flowers & Fruits: November – February.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2250*, dated 05.09. 2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Temperate Himalayas, Meghalaya, Assam & Manipur.

Piper suiipiqua Ham. ex D. Don, Prodr. Fl. Nep. 20. 1825; EFPN 3:181. 1982; FB 1(2):350. 1984.

P. nepalense Miquel, Syst. Pip. 318. 1843; FBI 5:49. 1886; FEH 1:43. 1966; EFPN 3:186. 1982.

Local Name: *Dankhlay Chabo* (Nep).

Large climbing shrub, with glabrous stem. Leaves petiolate, ovate, acuminate, base obliquely cuneate, coriaceous, glabrous. Fruiting spikes whitish pubescent. Drupes sessile, ovoid.

Flowers & Fruits: May – January.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2503*, dated 11.11. 2003.

Status: Less common

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas (Garhwal-Bhutan).

Piper sylvaticum Roxburgh, Fl. Ind. 1: 156. 1832; FBI 5: 84. 1886; FB 1(2): 348. 1984.

Climbing shrub, stems deeply striate when dry. Leaves broadly ovate-cordate, membranous, ovate to lanceolate, acuminate, base cuneate or rounded, symmetric or slightly oblique, 5 veined at base. Drupes globose, densely arranged on fruiting spikes.

Flowers & Fruits: March – July

Specimen Cited: Soom TE, *AP Das & Chandrâ 3539*, dated 12. 10. 2004.

Status: Rare.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Bhutan, Nepal, China.

PLANTAGINACEAE A. Jussieu

PLANTAGO L.

Plantago erosa Wallich in Roxburgh, Fl. Ind. 1: 423. 1820; FEH 1: 306. 1966; EFPN 3:166. 1982; TBRI 50(4): 123. 1987.

P. major auct. non. L.: Hook.f. in FBI 4: 705. 1885 p.p.

Small rosette scapigerous perennial herbs. Leaves radical; lamina oblong/ oblong-ovate, entire to repand/ irregular-dentate, acute/ obtuse, glabrous, 3-5 nerved. Spikes to 3.5cm, axillary. Flowers sessile, crowded, white; sepals 4, glabrous, medianly black thick-lined. Capsules few seeded.

Flowers: April - July; *Fruits:* June - October.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1905*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 3202*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2427*, dated 05.11. 2003.

Status: Abundant.

Local Distribution: Makaibari, Soom, Tamsong

General Distribution: India, Sri Lanka, Himalayas (Kumaon – Bhutan), Assam, Meghalaya, Myanmar, S.E. Tibet, W. China.

POLYGALACEAE A. Juss.

POLYGALA L.

Polygala glomerata Loureiro, Fl. Cochinch. 426. 1790.

Polygala chinensis L., Sp. Pl. 2: 704. 1753; FBI 1: 204. 1872; FI 2: 464. 1993.

Small, erect annual herb, to 30 cm tall, densely pubescent; leaves sessile, linear-lanceolate, glabrous; racemes slightly extra-axillary, 2-3 flowered; flowers nodding, outer sepals acuminate, ciliate; wings acuminate, awned.

Flowers & Fruits: July – October.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2812*, dated 25.03. 2004

Status: Less common

Local Distribution: Terai & low altitude hills.

General Distribution: Tropical Asia.

POLYGONACEAE A. Jussieu

ACONOGONUM (Meisner)Reichenbach

Aconogonum molle (D. Don) Hara in FEH 1:68. 1966; 2:21. 1971; EFPN 3: 172. 1982; FB 1(1): 156. 1983; TBRI 50(4): 104. 1987. var. *molle*.

Polygonum molle D. Don, Prodr. Fl. Nep. 72. 1825; FBI 5: 50. 1886.

Local Name: *Thotney* (Nep).

Bushy straggling shrubs. Branches zigzag, terete, grooved. Stipules oblique tubular, caducous; lamina elliptic-lanceolate, entire, acute/ acuminate, lateral nerves 12-17 pairs. Panicles axillary & terminal, hirsute. Flowers white; tepals 5, spreading; stamens 8; ovary cylindrical. Nutlets 3-angled.

Flowers & Fruits: June - September.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3452*, dated 12.10.2004.

Status: Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas, Meghalaya, Malaysia, Indo-Chin and China.

Note: Young stems are taken raw and also consumed as curry.

PERSICARIA L.

Persicaria barbata (L.) Hara in FEH 1: 70. 1966; Fl. Nep. 3: 175. 1982.

Polygonum barbatum L., Sp. Pl. 362. 1753; FBI 5: 37. 1886.

Tall annual, much brached; stipules cylindrical, with numerous long bristles; panicles dense-flowered; perianth white; achenes triangular.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0856*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1364*, dated 18.10.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Pantropical.

Persicaria capitata (D. Don) H. Gross in Engler, Bot. Jahrb. 49:277. 1913; FBI 5:44. 1886; FEH 1:70. 1966; FB 1(1): 165. 1983.

Polygonum capitatum D. Don, Prodr. Fl. Nep. 73. 1875.

Prostrate annual with leafy stems. Ocreae truncate, pubescent. Lamina ovate-elliptic, entire-ciliate, acute, base cuneate or rounded. Peduncles 1.5-4 cm long, glandular at apex with globose, solitary flower heads.

Flowers & Fruits: April – September

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2792*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 3531*, dated 12.10.2004

Status: Abundant.

Local Distribution: All hill gardens.

General Distribution: Himalayas (Punjab – Bhutan), Assam, N. Myanmar, Tibet, Indo-China, W. China.

Note: Medicinal.

Persicaria chinensis (L.) H. Gross in Engler, Bot. Jahrb. 49:269. 277 & 315. 1913; FB 1(1):163. 1983; TBRI 50(4):122. 1987.

Polygonum chinense L., Sp. Pl. ed. 1, 1:363. 1753; FBI 5:44. 1886. var. *ovalifolia* (Meisn.) Hara in FEH 1:71. 1966; 2:22. 1971; EFPN 3:175. 1982.

Polygonum auriculatum Meisner, Monog. Polu. 59, t. 6. 1826.

Local Name: Ratnewlo (Nep).

Erect or rambling, pubescent; stem grooved. Stipule membranous; leaves amplexicaule, lamina variable, oblong-lanceolate to oblong-ovate. Flowers in corymbose glandular hairy heads, pinkish-white; stamens 8; filaments glandular; styles united below. Nuts red-turning black.

Flowers: Jun. - Oct. *Fruits:* Aug. - Dec.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0024*, dated 27.01.2002; Makaibari TE, *AP Das & Chandrâ 2757*, dated 25.03. 2004; Tamsong TE, *AP Das & Chandrâ 3053*, dated 10.04.2004; Soom TE, *AP Das & Chandrâ 3182*, dated 26.06. 2004.

Status: Common.

Local Distribution: In all gardens.

General Distribution: Himalayas, India east to China, Japan, Malaysia.

Note: Good fodder for cattle

Persicaria chinensis var. *auriculata* [= *Per auriculata*]

Polygonum auriculatum Meisn., Mon. Gen. Polyg. 59, t. 6. 1826;

Like the type variety but leaves auriculate at base and flower-heads & flowers smaller.

Flowers & Fruits: June – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1700*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3180*, dated 26.06. 2004.

Status: Common

Local Distribution: All hill gardens.

General Distribution: Himalayas, India east to China, Japan, Malaysia.

Persicaria hydropiper (L.) Spach, Hist. Veg. 10:536. 1841; FEH 2:23. 1971; EFPN 3:176. 1982; FB 1(1):162. 1983; TBRI 50 (4):122. 1987.

Polygonum hydropiper L., Sp. Pl. 361. 1753; FBI 5:39. 1886.

Ascending weak herbs to 60cm, much branched. Ocrea glabrous, mouth ciliated. Upper leaves sessile; lamina lanceolate, aciminate, glabrous, punctate, margins setulose. Racemes \pm 8 cm long, slender. Perianth 4-5 cleft; stamens 6; styles 2, capitate. Achenes biconvex, dark brown.

Flowers & Fruits: May - August.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0461*, dated 17.04.2002; Soom TE, *AP Das & Chandrâ 2702*, dated 09.01.2004; Tamsong TE, *AP Das & Chandrâ 2057*, dated 30.06. 2003.

Status: Sparse.

Local Distribution: in all gardens

General Distribution: Europe, N. Africa, Himalayas, India, Meghalaya, Japan, N. America.

Persicaria lapathifolia (L.) S.F.Gray, Nat. Arr. Br. Pl. 2: 270. 1821; EFPN 3: 176. 1982; FB 1(1): 161. 1983.

Polygonum lapathifolium L., Sp. Pl. 360. 1753; FBI 5: 35. 1886.

Glabrous herb – c1m, stems lanate. Leaves lanceolate, sparsely lanate above, more densely white or pink in drooping racemes, racemously arranged.

Flowers & Fruits: July - December

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1026*, dated ; Kamalpur TE, *AP Das & Chandrâ 0561*, dated 17.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, Taiwan, Malaysia

Persicaria microcephala (D. Don) H. Gross in Engl., Bot. Jahrb. 49: 277. 1913; FEH 1: 72. 1966; 2: 23. 1971; EFPN 3: 170. 1982; FB 1(1): 165. 1983.

Polygonum microcephalum D. Don, Prodr. Fl. Nep. 72. 1825; FBI 5:42. 1886. var. *microcephala*.

Small herbs, root-stock woody. Branches dichotomous, grooved, sparsely short hairy; stipules membranous, sparsely hairy. Leaves swollen at base, thick, ovate-lanceolate, slightly repund, acuminate, densely white glandular-dotted. Heads sub-terminal; perianth white or pinkish-white.

Flowers & Fruits: April - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1924*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2386*, dated 05.11.2003; Soom TE, *AP Das & Chandrâ 3176*, dated 26.06. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Garhwal-Bhutan), Meghalaya, Manipur, Naga Hills, S. and W. China.

Persicaria nepalensis (Meisner) H. Gross in Engl., Bot. Jahrb. 49:277. 1913; FBI 5: 41. 1886; FEH 1:72. 1966; EFPN 3:177. 1982; FB 1(1): 164. 1983;
P. nepalense Meisner, Monog. Polyg. 84, t. 7. fig. 2: 1826.
P. alatum Hamilton ex Sprengel, Syst. Veg. Cur. Post. 154. 1827.

Erect or procumbent small annual, sparsely hairy. Lamina ovate or deltoid-ovate, slightly repund, acute, narrowed to winged petiole, dark green above, sparsely glandular hairy beneath. Heads axillary & terminal, involucre green; bracts ovate, glabrous, membranous; perianth light pink.

Flowers & Fruits: May - November

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2905*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 3194*, dated 26.06. 2004.

Status: Abundant

Local Distribution: All three hill gardens.

General Distribution: Tropical Africa, Afghanistan, Himalayas, India, Sri Lanka, Malaysia, China, Korea and Japan.

Persicaria orientalis (L.) Assenov, Fl. Reip. Pop. Bulgar. 3: 250. 1966' FB 1(1); 161. 1983.

Polygonum orientale L., Sp. Pl. 362. 1753.

Densely pubescent herb, 1-3m. Leaves ovate, acuminate, base rounded or cordate. Flowers in small fascicles in spike like racemes with white or pink perianth.

Flowers & Fruits: April – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0450*, dated 05.04.2002; Hansqua TE, *AP Das & Chandrâ 1668*, dated 13.11. 2002; Kamalpur TE, *AP Das & Chandrâ 0669*, dated 20.04.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Tropical Asia.

Persicaria perfoliata (L.) H. Gross in Engler, Bot. Jahrb. 14: 275 & 281. 1913; EFH 1: 72. 1966.

Much priky climber; leaves long petiolate; lamina deltoid-cuspidate, entire; flowers in heads; fruits globose with fleshy pericarp.

Flowers & Fruits: September – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2352*, dated 05.11. 2003

Status: Less Common.

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, China, Korea, Japan, Malaya

Persicaria posumbu (Hamilton ex D.Don) Gross in Bot. Jahrb. 49: 313. 1913; FEH. 1: 73. 1966; FB 1(1): 162.

Polygonum posumbu Ham.ex D.Don, Prodr. 71. 1825; FBI 5: 38. 1886 *p.p.*

Slender flaccid herb, 15-60cm, stems glabrous. Leaves ovate-elliptic, acuminate base cuneate, sparsely pilosa on both surfaces, sometimes minutely whitish dotted beneath. Racemes very slender, interrupted with glandular, white or pink perianth.

Flowers & Fruits: April – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1835*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 2662*, dated 27.12.2003.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, China, Malaysia

Persicaria runcinata (D. Don) H. Gross in Engler, Bot. Jahrb. 49:277. 1913; FBI 5:43. 1886.FEH 1:74. 1966; EFPN 3:178. 1982; FB 1(1): 164. 1983.

Polygonum runcinatum D. Don, Prodr. Fl. Nep. 73. 1825.

Local Name: *Ratnawlo* (Nep).

Small ascending annual herbs, >33cm. Stem flaccid, grooved, basal part creeping; stipules cylindrical, truncate. Lamina runcinate, terminal lobe rhombic-ovate, laterals linear-oblong, 1-3 pairs, amplexicled, dotted above. Heads globose; perianth & bracts membranous, pink or white.

Flowers & Fruits: April - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1906*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 2617*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2235*, dated 05.09. 2003.

Status: Abundant

Local Distribution: In all Hill gardens.

General Distribution: Himalayas, Meghalaya, Myanmar, Thailand, W. and C. China, Formosa and Malaysia.

Note: Good fodder for cattle.

Persicaria tenella (Blume) Hara in J.Jap. B. 44: 375. 1969; EFPN 3: 178. 1982; FB 1(1): 163. 1983.

Polygonum tenellum Blume, Bijdr. 530. 1825.

Weak herb, 10-25cm, sometimes prostrate. Leaves narrowly elliptic-lanceolate, acuminate, base attenuate, subsessile, margins and veins beneath sparsely setulose. Racemes slender, terminal with eglandular, pink perianth.

Flowers & Fruits: April - December

Specimen Cited: Soom TE, *AP Das & Chandrâ 3380*, dated 12. 10. 2004.

Status: Less Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Nepal, Bhutan, China, Japan, Malaysia

POLYGONUM L.

Polygonum plebeium R.Brown, Prodr. 420. 1810 ('*plebejum*'); FBI 5: 27. 1886; FB 1(1): 170. 1983.

Smaller, prostrate or ascending annual, internodes often shorter than leaves. Leaves linear or oblanceolate, obtuse, glabrous. Perianth white or pink.

Flowers & Fruits: December – June.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0242*, dated 09.02.2002; Kamalpur TE, *AP Das & Chandrâ 0413*, dated 27.02.2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Bangladesh, Myanmar, Nepal.

RUMEX L.

Rumex nepalensis Sprengel, Syst. Veg. 2:159. 1825; FBI 5:60. 1886; FEH 1:75. 1966; EFPN 3:179. 1982; FB 1(1): 173. 1983.

Local Name: *Halhaley* (Nep).

Perennial rosette herbs, >90 cm tall; root-stock woody. Stem vertically ridged; ochrea transparent, membranous, persistent. Lamina oblong-ovate, repund, subacute, cordate, mucilagenous, thinly pubescent beneath. Racemes axillary and terminal; flowers polygamous, yellowish-green.

Flowers & Fruits: June – October

Specimen Cited: Soom TE, *AP Das & Chandrâ 3113*, dated 03. 05.2004; Tamsong TE, *AP Das & Chandrâ 2144*, dated 30.06. 2003.

Status: Very common

Local Distribution: All hill gardens.

General Distribution: S. W. Europe, W. Asia, Afganistan, Himalayas, Nilgiri, Meghalaya, Manipur, Myanmar, Tonkin, W. and C. China, C. Japan and Java.

Note: Leaves used as vegetable; also reported to use against eczema.

PORTULACACEAE A. Jussieu

PORTULACA L.

Portulaca oleracea L., Sp. Pl. ed. 1, 1: 445. 1753; FBI 1: 246. 1874; FEH 1: 79. 1966; FB 1(2): 196. 1984; TBRI 50 (4):123. 1987; FWB 1:254. 1997.

Prostrate or decumbent fleshy annuals. Leaves closely spiral, shortly petiolate; lamina spathulate or obovate, obscurely emarginate or rounded, cuneate, fleshy. Flowers 5-10 in axillary or terminal clusters, bisexual, actinomorphic; sepals strongly keeled; petals yellowish; Capsule ovoid.

Flowers & Fruits: January - December

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1094*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0655*, dated 20.04.2002.

Status: Common.

Local Distribution: All Terai Gardens.

General Distribution: Pantropic.

Portulaca quadrifida L., Mant. Pl. 1: 73. 1767; FBI 1: 247. 1874; FI 3: 6. 1993.

Flowers & Fruits: January – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0454*, dated 05.04.2002;
Hansqua TE, *AP Das & Chandrâ 1120*, dated 09.05.2002.

Status: Rare

Local Distribution: In Terai gardens.

General Distribution: Pantropic.

PRIMULACEAE Ventenat

LYSIMACHIA L.

Lysimachia alternifolia Wallich in Roxburgh, Fl. Ind. ed. Carey, 2:26. 1824; FBI 3:504. 1882; FEH 1:345. 1966; EFPN 3:64. 1982; TBRI 50(4):119. 1987.

Erect herb, 15-40cm high; branches many, upto 24cm long, ridged, pubescent. Leaves subsessile; lamina ovate-elliptic, acute, entire. Peduncles axillary, 1-flowered. Sepals lanceolate; corolla shorter than sepals, rotate, yellowish, gland-dotted. Capsules glabrous, dehiscent by valves.

Flowers & Fruits: May – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2561*, dated 11.11. 2003; Tamsong TE, *AP Das & Chandrâ 2943*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 3276*, dated 26.06. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Garhwal – Bhutan), Meghalaya, Myanmar.

Lysimachia debilis Wallich in Roxburgh, Fl. Ind. ed. Carey 2: 25. 1824; FEH 1:245. 1966; 2:101. 1971; EFPN 3:64. 1982; TBRI 50(4):119. 1987.

L. japonica auct. non Thunberg in Hook. f., FBI 3:505. 1882, p.p.

Like *L. congestiflora* but branches ferruginous-villous; peduncles axillary, elongating in fruit, 1-flowered, not congested; corolla campanulate, lobes smaller, reflexed in fruit.

Flowers & Fruits: May – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2037*, dated 30.06. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas (Kashmir – Sikkim), Meghalaya, N. Assam, Myanmar, Thailand.

Lysimachia evalvis Wallich in Roxburgh, Fl. Ind., ed. Carey & Wallich 2: 27. 1824; FB 2(2): 567. 1999.

Stems erect or creeping, upto 75cm, glabrous. Leaves alternate, broadly ovate to elliptic, acuminate, glabrous, base abruptly attenuate. Flowers yellow, solitary, axillary on pedicels forming loose leafy racemes. Capsule subglobose.

Flowers & Fruits: May – August.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2020*, dated 30.06. 2003.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalaya, Khasi Hills, Myanmar

Lysimachia oppositifolia Fletcher, Kew Bull. 41. 1936.

Erect annual herbs; leaves opposite, lamina ovate lanceolate, entire, ciliated, acute; flowers axillary, solitary; small dull yellow; fruits globose.

Flowers & Fruits: June – September.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2405*, dated 05.11. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Eastern Himalaya, Myanmar, Thailand, China.

PRIMULA L.

Primula melacoides. Franchet in Bull. Soc. Bot. France 33:64. 1886; TBRI 50(4): 124. 1987.

Local Name: *Pandar Phul* (Nep.).

Annual rosette herbs, upto 30 cm high. Lamina ovate-spathulate, double serrate, obtuse, cordate, nerves hispid, mealy beneath. Scapes c.21 cm, glandular, mealy hairy. Flowers in 2-3 whorls; calyx subcampanulate, farinose; corolla funnel-shaped, pinkish purple. Capsule subglobose.

Flowers: November - February; *Fruits:* February - March.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2699*, dated 09.01. 2004; Tamsong TE, *AP Das & Chandrâ 2005*, dated 30.06. 2003.

Status: Frequent.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Native of China & Myanmar; naturalized in Darjeeling and Sikkim.

PROTEACEAE A. Juss.

GRAVELLEA

Grevillea robusta A. Cunn.ex R. Br., Bot. Nov. 24. 1830.

Tall tree; leaves alternate; lamina deeply dissected, silvery below. Flowers and fruits not seen.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0970*, dated 04.05. 2002.

Status: Often planted.

Local Distribution: In Terai gardens only.

General Distribution: A native of Australia.

RANUNCULACEAE A. Jussieu

CLEMATIS L.

Clematis acuminata DC., Syst. Nat. 1:148. 1817 & Prodr. 1:6. 1824; FBI 1:5. 1872; FEH 2:29. 1971; FB 1(2):289. 1984; FI 1:154. 1993; FWB 1:121. 1997.

A large woody climber with slender, terete branches. Leaves ternate, 3-foliolate; lanceolate or ovate, serrate, acuminate, base rounded, veins 5 at base, usually glabrous or sparsely pubescent. Panicles axillary, few-flowered, branches slender. Achenes with slender, elongated persistent styles.

Flowers & Fruits: October - February

Specimen Cited: Soom TE, *AP Das & Chandrâ 3454*, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only at Soom.

General Distribution: Himalayas (Punjab-Arunachal Pradesh), Meghalaya, Assam.

Clematis buchananiana DC., Syst. Nat. 1:140. 1817; FBI 1:6. 1872, p.p.; FEH 1: 88.1966; FB 1(2): 289.1984; FI 1:60. 1993; FWB 1:121. 1997.

Local Name: Pinasay Lahara (Nep.).

Shrubby perennial pubescent climbers; leaves pinnately 1-5 foliate, exstipulate, broadly thickened and narrowly connate at base, brownish pubescent, straight or loosely tendrillar, broadly ovate, 3-lobed, coarsely serrate, acute to acuminate, base slightly cordate, dark-green, thinly pubescent above, shining pale and more densely hairy. Flowers large, fragrant in axillary and terminal, many flowered panicles.

Flowers: July - October *Fruits:* November - January

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2794*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 3522*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2313*, dated 05.09. 2003.

Status: Less common.

Local Distribution: Makaibari, Soom & Tamsong gardens.

General Distribution: Himalayas (Kashmir-Arunachal Pradesh), Meghalaya, N. Myanmar, W. China.

RANUNCULUS L.

Ranunculus diffusus DC., Prodr.1:38. 1824; FBI 1:19.1872; FEH 1:90. 1966; FB 1(2):303. 1984; FI 1:119. 1993; FWB 1:130. 1997.

Small diffuse herb; root-stock perennial; branches decumbent or prostrate. Stem soft, basally branched, densely hirsute, hairs yellowish, spreading. Leaves 3-lobed or deeply divided; lobes obovate, sharply and shallowly lobed/toothed, rounded or acute, pubescent. Flowers solitary, axillary and terminal, yellow.

Flowers: April - September; *Fruits:* June - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ* 2372, dated 05.11. 2003; Soom TE, *AP Das & Chandrâ* 3416, dated 12. 10. 2004.

Status: Common

Local Distribution: Makaibari, Soom & Tamsong gardens.

General Distribution: Himalayas (Kashmir-Arunachal Pradesh), Meghalaya, N. Myanmar, China.

ROSACEAE A. Jussieu

AGRIMONIA L.

Agrimonia pilosa Lodebour in Ind. Sem. Hort. Derpat. Suppl. 1:1823; TBRI 50 (4):105. 1987
var. *nepalensis* (D. Don) Nakai in Bot. Mag. Tokyo 47:247. 1933; FEH 1:118. 1966; EFPN 2:133. 1987; FB 1(3):582. 1987.

A. nepalensis D. Don, *Prodr. Fl. Nep.* 229. 1825.

A. eupatorium L. *sensu* FBI 2:361. 1878, p.p.

Perennial erect pilose herbs with woody root-stock. Stem 40-95cm tall, covered with spreading hairs. Leaves interruptedly pinnate, leaflets extremely variable in size, suborbicular or elliptic-obovate, serrate, acute, base cuneate to rounded, glandular pilosa. Racemes many flowered, terminal.

Flowers & Fruits: May - November

Specimen Cited: Soom TE, *AP Das & Chandrâ* 3548, dated 12. 10. 2004.

Status: Less common.

Local Distrib: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas(Kashmir-Bhutan), Meghalaya, S. Tibet, Myanmar, Indochina, China.

DUCHESNEA Small

Duchesnea indica (Andrews) Focke in Pfamilien. III, 3: 33. 1888; FEH 1: 120. 1966; FB 1(3): 579. 1987.

Fragaria indica Andrews, Bot. Refxs. 7: t. 479. 1807; FBI 2: 343. 1878.

Silky pubescent herb; runners slender. Stipules foliaceous, adnate. Leaflets 3, obovate, toothed, cuneate, nerves parallel, pubescent. Peduncles equalling petioles. Flowers solitary, axillary; calyx & bracteoles persistent; petals obovate. Achenes numerous on spherical fleshy red receptacle.

Flowers & Fruits: Often throughout the year.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ* 2213, dated 05.09. 2003; Soom TE, *AP Das & Chandrâ* 3224, dated 26.06. 2004.

Status: Abundant.

Local Distribution: In all gardens; but as winter weed in Terai.

General Distribution: Afghanistan, Himalayas, India, east to China, Japan.

ERIOBOTRYA Lindley

Eriobotrya petiolata Hook. f., FBI 2:370. 1878; FEH 3:51. 1975; TBRI 50 (4):113. 1987; FB 1(3):602. 1987.

Local Name: *Maya* (Nep.).

Tree, 8-15m high with spreading branches. Leaves simple, oblong-elliptic, acuminate, base cuneate, margin entire to shallowly serrate above middle, glabrous. Panicles upto 16cm, tomentose. Pomes 1-1.5cm across, subglobose with persistent calyx lobes.

Flowers: March - June *Fruits:* May - August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3046*, dated 10.04. 2004.

Status: Less common; often planted.

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Darjeeling-Bhutan), Assam, E. India.

POTENTILLA L.

Potentilla fulgens Wallich ex Hooker in Bot. Mag. 53: t. 2700. 1826; FB 1(3): 571. 1987.

Rosette perennial. Stems 20 –45 cm, whitish hairy. Leaves interruptedly pinnate; larger lateral leaflets 4 –8 pairs, elliptic or narrowly obovate, obtuse, base rounded or cuneate, sharply serrate, silvery white sericeous beneath. Flowers in corymbose cymes. Corolla yellow. Achenes glabrous.

Flowers & Fruits: September – February.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1965*, dated 30.06. 2003.

Status: Less common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Eastern Himalaya, Meghalaya, China.

Potentilla sundaica (Blume) O. Kuntze, Rev. Gen. 1:219. 1891; FB 1(3): 567. 1987.

Potentilla kleiniana Wight et Arnott in Wallich, Ill. Ind. Bot. 1: t. 85. 1831; FBI 2:359. 1878.

Rosette sarmentose herbs, appressed pubescent. Stipules adnate; leaflets 3-5, obovate, serrate, rounded, cuneate, glabrous, nerves silky pubescent beneath. Flowers 2-5 in terminal cymes; calyx lobes 5, unequal; epicalyx lobes 5; petals obovate, yellowish. Achenes ellipsoid, glabrous.

Flowers: October – December; *Fruits:* December - March.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2267*, dated 05.09. 2003.

Status: Less Common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kashmir – Arunachal Pradesh), Meghalaya, S. China, Java.

PRUNUS L.

Prunus cerasoides D. Don, Prodr. 239. Feb. 1825; EFPN 2:141. 1979; FB 1(3):540. 1987.

Prunus puddum (Wallich) Roxburgh ex Brandis, FBI 194. 1874; FBI 2:314. 1878

Maddenia podicellata Hook. f., FBI 2: 318. 1878.



Local Name: Painyun (Nep).

Large deciduous trees to 20m high. Bark peeling off in strips. Stipules linear, glandular-fimbriate. Leaves simple; lamina ovate-elliptic/-lanceolate, glandular serrate, acuminate. Flowers 1-3 in corymbs, pink, fading to white; calyx-tube campanulate; petals obovate. Drupes ellipsoid, yellow.

Flowers & Fruits: October - June

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2959*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 3185*, dated 26.06. 2004.

Status: Frequent.

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal – Bhutan), Naga Hills, Manipur, N. Myanmar, W. China.

Note:

1. Branchlets are used to make handles for khukuri, sickle (traditional weapons of Nepali community) etc.
2. Twigs are also used as walking stick.
3. Highly ornamental as its bloom adds scenic beauty to its habitat

RUBUS L.

Rubus calycianus Wallich ex D. Don, Prodr. Fl. Nep. 235. 1825; FBI 2: 327. 1878.

Long creeping, slightly woody; prickles scattered, slender. Leaves simple, cordate –orbicular to reniform, denticulate, apex rounded, deeply cordate, unlobed or shallowly lobed, veins prickly beneath; stipules broadly ovate, serrulate. Flowers white; Petals obovate. Fruits red, globose.

Flowers & Fruits: July – October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2960*, dated 10.04. 2004.

Status: Less common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Eastern Himalaya, Meghalaya, Manipur, Myanmar, China.

Rubus ellipticus Smith in Rees, Cyclop. 30: no.16. 1819; FBI 2:336. 1878; FEH 1:129. 1966; EFPN 2:144. 1979; TBRI 50(4):125. 1987; FB 1(3):557. 1987.

Local Name: *Ainselu* (Nep).

Bushy shrub; branches angled, densely pubescent with flexuous stiff brown hairs; prickles deflexed, scattered. Stipules linear; leaflets 3, pinnate, terminal one larger, suborbicular, serrate. Panicles terminal, many flowered; calyx segments 5, ovate. Drupes orange-yellow, crowded.

Flowers: December - February; *Fruits:* March - May.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1831*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2078*, dated 30.06. 2003.

Status: Abundant.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Sirmore – Arunachal Pradesh), Assam, Meghalaya, Sri Lanka, Myanmar, Indo-China.

Note: Fruits edible; also sold in market.

Rubus moluccanus sensu Hooker f., FBI 2: 330. 1878 *p.p. non* L.; FB 1(3): 554. 1987.

Rubus alceifolius Poir. in Lamk., Ency. 6: 247. 1804.

Local Name: *Thalumbo* (Nep)

Scrambling with slender shoots; branchlets dense gland-tipped bristly, much prickly. Lamina suborbicular, 3–5 lobed, cordate, lobes broadly acute, serrate, softly pilose beneath. Flowers 3–5 in short axillary racemes. Calyx lobes ovate, 3–5 toothed, tomentose, bristly & prickly. Petals pink. Fruits with many drupelets.

Flowers & Fruits: January - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2768*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 3314*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2907*, dated 10.04. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: India, Sri Lanka, Myanmar, China.

RUBIACEAE A. Jussieu

BORRERIA G.F.W. Meyer, *nom. cons.*

Borreria alata (Aublet) DC., Prodr. 4:544. 1830; EFPN 2:200. 1979; FEH 1:307. 1966.

Borreria latifolia Schumann in Mart., Fl. Braz. 6 (6):61. 1888; FEH 1:307. 1966; TBRI 50(4):107. 1987.

Spermococce alata Aubl., Hist. Pl. Guien. 1:60. T. 22. F. 7. 1775; FB 2(2): 817. 1999.

Local Name: *Bakkhu Jhar* (Nep).

Perennial or annual ramous herbs; root-stock stout; stem procumbent; branches >40cm, 4-angled, glabrous, angles obscurely winged. Lamina ovate, acuminate, entire. Stipules with long setae. Flowers crowded in dense fascicles, white. Capsules with single-seeded 2 lobes,.

Flowers & Fruits: August – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0300*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 0112*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0617*, dated 20.04.2002; Matigara TE, *AP Das & Chandrâ 3148*, dated 10.05. 2004; Makaibari TE, *AP Das & Chandrâ 1918*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 3437*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 3098*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Native of tropical America; naturalized in tropical and subtropical Asia.

Borreria ocymoides (Burman f.) DC., Prodr. 4: 544. 1830; PPB 238. 2002.

Spermococce ocymoides Burman f., FBI 3: 200. 1881.

Small diffuse herb; stem narrowly winged; lamina broadly ovate; flowers white, minute, crowded at the nodes.

Flowers & Fruits: July – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0938*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0124*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0373*, dated 27.02.2002; Soom TE, *AP Das & Chandrâ 3507*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2461*, dated 05.11. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Tropical America, Africa, Subtropical Himalayas, India, West Indies, Malaysia & Philippines.

COFFEA L.

Coffea arabica L., Sp. Pl. 172. 1753.

Much branched shrub; lamina oblong-ovate, lateral veins parallel; flowers crowded at nodes, white; fruits globose turns red on ripening.

Flowers & Fruits: September – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1915*, dated 10.06. 2003.

Status: Sometimes planted.

Local Distribution: Some Terai & hill gardens.

General Distribution: Arabian plant, cultivated in moist tropical regions.

DENTECLA J. & G. Forster

Dentella repens (L.) J. et G. Forster, Charact. Gen. 26.t. 13. 1776; FBI 3: 42. 1880; FB 2(2): 755. 1999.

Oldenlandia repens L., Mant. Pl. 40. 1767.

Leaves elliptic or somewhat obovate, apex acute and minutely apiculate, base attenuate with few pellucid submarginal hairs. Flowers white. Hypanthium and fruit covered in pellucid trichomes.

Flowers & Fruits: February – June.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0625*, dated 20.04.2002.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: India, China, Malaya, Tropical Australia

Dentella serpyllifolia Wallich ex Craib., Fl. Siam. Enum. 2: 27. 1932; FB 2(2): 755. 1999.

Similar to *Dentella repens* but differs in its glabrous hypanthium, fruit and larger corolla.

Flowers & Fruits: February – June.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0635*, dated 20.04.2002.

Status: Rare

Local Distribution: Found only in Kamalpur garden.

General Distribution: Tropical Asia.

GALIUM L.

Galium asperifolium Wallich ex Roxburgh, Fl. Ind. 1: 391. 1820; FEH 1: 308. 1966; EFPN 2: 201. 1979; TBRI 50(4):114.1987.

G. mollugo L. *sensu* FBI 3: 207. 1881.

Highly variable, perennial scrambler; branches short, filiform. Leaves 3-6 in whorls, sessile; lamina linear or linear-obovate, entire, acute, slightly scabrid, mid-vein strong beneath. Cymes divaricately branched. Pedicels recurved in fruits. Corolla white. Fruit small, granulated, black.

Flowers: June - September; *Fruits:* October - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2148*, dated 30.06. 2003

Status: Abundant at places.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Punjab - Bhutan), Sri Lanka, Myanmar, China.

Galium elegans Wallich ex Roxburgh, Fl. Ind. 1: 382. 1820; FEH 1: 308. 1966; TBRI 50(4):114. 1987; FB 2(2): 828. 1999

G. rotundifolium L. *sensu* FBI 3:204. 1881.

Small trailing diffuse scrambler, unbranches few, white pubescent. Leaves in whorl of 4, sub sessile; lamina ovate to rounded, entire, mucronate, hirsute and scabrid, basally 3-nerved. Cyme branches divaricate; corolla white, small. Fruits with adpressed hooked hairs.

Flowers: June - August; *Fruits:* July - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2923*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Kashmir - Bhutan), Meghalaya, Assam, Myanmar, Thailand, China.

HEDYOTIS L.

Hedyotis scandens Roxburgh, Fl. Ind. 1:361. 1820; FBI 3: 57. 1880; FEH 1: 310. 1966; FB 2(2): 758. 1999.

Oidenlandia scandens (Roxburgh) O. Kuntze, Rev. Gen. Pl. 293. 1891.

Local Name: *Bokri Lahara, Baksi Lahara, Pinase Lahara* (Nep).

Shrubby climber; stems glabrous or minutely pubescent, ± terete. Leaves ± sessile, opposite, glabrous, thick, elliptic-lanceolate, acuminate, margin revolute. Flowers white, sweet scented, in terminal, trichotomously branched cymose panicle. Capsules globose; seeds numerous.

Flowers & Fruits: March - December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0674*, dated 20.04.2002; Tamsong TE, *AP Das & Chandrâ 2391*, dated 05.11. 2003; Soom TE, *AP Das & Chandrâ 3423*, dated 12.10.2004.

Status: Very common

Local Distribution: In all gardens.

General Distribution: Himalayas (Nepal - Bhutan), Meghalaya, Myanmar, China.

Hedyotis stipulata R. Brown ex Hook.f. in FBI 3: 63. 1880; TBRI 50 (4): 116. 1987.

Local Name: *Guyelo* (Nep.).

Diffuse small hairy herb with decumbent branches, rooting from nodes. Leaves ovate, entire, acute, base rounded, membranous, white pubescent both sides. Cymes capitate, sessile with white, glabrous flowers. Fruits globose, indehiscent.

Flowers & Fruits: August - October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0017*, dated ; Hansqua TE, *AP Das & Chandrâ 1055*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0634*, dated 20.04. 2002.

Status: Rare

Local Distribution: All Terai gardens.

General Distribution: Himalayas, Meghalaya, Java, Japan.

LUCULIA Sweet

Luculia gratissima (Wallich) Sweet, Brit. Fl. Gard. 2: t. 145. 1826; FBI 3: 36. 1880; FEH 1: 311. 1966; FB 2(2): 748. 1999.

Cinchona gratissima Wallich in Roxburgh, Fl. Ind. ed. Carey 2: 154. 1824.
748/August - October/

Local Name: *Gadauri, Dawari* (Nep)

Shrub 1-3m with leaves elliptic to oblanceolate, abruptly or gradually acuminate, base acute or attenuate, glabrous and shiny above, pale green beneath, matt and pilose. Flowers white or pink, very fragrant. Inflorescence and hypanthium tomentosa or puberulous.

Flowers & Fruits: September to April

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2443*, dated 05.11. 2003.

Status: Rare; sometimes grown in gardens.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Eastern Himalaya, Mrghalaya, Tibet & China.

Note: Leaves used for dyeing.

MITRACARPUS Zucc.

Mitracarpus verticillatus (Schumann & Thonn.) Vatke in Linnaea 40: 196. 1876; PPB. 251. 2002.

Staurosperrum verticillatum Schumann & Thonn. In Beskr. Guin. Pl. 73, 1827

Mitracarpus hirtus (L.) DC. sensu FB 2(2): 820. 1999.

Tall erect annual; branches few; lamina ovate-lanceolate; flowers minute, white, crowded at nodes, calyx lobes 2, narrow, unequal.

Flowers & Fruits: January to December.

Specimen Cited: Matigara TE, *AP Das & Chandrâ 3115*, dated 10.05. 2004

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: Native of South America & West Indies; naturalized in tropical other areas.

MORINDA L.

Morinda angustifolia Roxburgh, Pl. Corom. 3 (2): t. 237. 1815; FBI 3: 156. 1880; FEH 1: 312. 1966; FB 2(2): 804. 1999; PPB 251. 2002.

Local Name: *Haldi Kath* (Nep); *Nani* (Beng)

Large shrub to 10 m high. Bark grayish -brown, peeling off. Lamina oblanceolate, oblong-elliptic or narrow-lanceolate, entire, long acuminate, glabrescent, lateral nerves 10-15 on each side. Heads pedunculate, globose. Flowers white, fragrant; corolla salver- shaped. Drupes turbinate.

Flowers & Fruits: February – September.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1508*, dated 22.10. 2002; Hansqua TE, *AP Das & Chandrâ 0983*, dated 09.05.2002.

Status: Less Frequent.

Local Distribution: Terai gardens.

General Distrib: Himalyas (Nepal – Bhutan), Myanmar, Meghalaya.

MUSSAENDA L.

Mussaenda macrophylla Wallich in Roxburgh, Fl. Ind. 2:228. 1824; FBI 3:89. 1880; EFPN 2:205. 1979; TBRI 50(4):120. 1987; FB 2(2): 783. 1999; PPB 253. 2002.

Local Name: Dhobini Phul, Shitalu (Nep.).

Erect shrubs, 2-4m high. Branches straggling, hirsute or villous. Lamina elliptic or oblong-lanceolate, entire, acuminate, pubescent, lateral nerves subparallel. Stipules bifid, recurved. Cymes trichotomous; one calyx-lobe white-petaloid; corolla orange yellow. Berries globose.

Flowers: Jun. - Nov. *Fruits.:* Oct. - Jan.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2982*, dated 10.04. 2004.

Status: Rare.

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas (Nepal – Bhutan), Assam, Myanmar, W. China.

Mussaenda roxburghii Hook.f. in FBI 3: 87. 1880; FEH 1: 312. 1966; FB 2(2): 782. 1999; PPB 253. 2002.

Local Name: *Dhobi Kat*, *Dhobine ghas*, *Dhobine* (Nep).

Much branched shrub 1-4.5m. Stems glabrous or pilose with spreading hairs. Leaves petiolate, elliptic, rarely ovate or oblong acuminate at both ends, sub-glabrous or thinly pilose above. Flowers densely covered in long silky hairs in a dense terminal heads, many flowered.

Flowers & Fruits: June to October.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1058*, dated 09.05.2002; Makaibari TE, *AP Das & Chandrâ 1688*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2370*, dated 05.11. 2003

Status: Common

Local Distribution: In all gardens.

General Distribution: Eastern Himalaya, Meghalaya, Bangladesh, Myanmar.

NEANOTIS W.H. Lewis

Neanotis gracilis (Hook. f.) W. H. Lewis in Ann. Miss. Bot. Gard. 53:38. 1966; FEH 1:313. 1966; EFPN 2:205. 1979; TBRI 50(4):120. 1987; FB 2(2): 768. 1999; PPB 255. 2002.

Anotis gracilis Hook.f. in FBI 3: 71. 1880.

Small diffuse herbs, perennial. Branches slender, prostrate, nodes rooting. Lamina ovate, entire, acuminate, thinly hairy. Cymes axillary and terminal, dichotomously forked. Flowers clustered; corolla slightly longer than sepals,, white, glabrous. Capsules laterally compressed.

Flowers & Fruits: July – January.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3419*, dated 12. 10. 2004.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Nepal – Bhutan), Meghalaya.

Neanotis hirsuta (L.f.) Lewis in Ann. Miss. Bot. Gard. 53: 38. 1966; FB 2(2): 768. 1999; PPB 256. 2002.

Oldenlandia hirsuta L.f., Suppl. Pl. 127. 1781.

Hedyotis stipulata R. Brown ex Hook. f. in FBI 3: 63. 1880; TBRI 50 (4): 116. 1987.

Local Name: Guyelo (Nep).

Diffuse small herb; branches decumbent, rooting at nodes. Stipules long-bristled, membranous, with long teeth. Lamina ovate, entire, acute, base rounded, membranous, white pubescent. Cymes capitate, sessile; flowers white, glabrous. Fruits globose, indehiscent.

Flowers & Fruits: August - October

Specimen Cited: Soom TE, *AP Das & Chandrâ 3444*, dated 12.10.2004

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas, Meghalaya, Java, Japan.

Neanotis wightiana (Wallich ex Wight et Arnott) W. H. Lewis in Ann. Miss. Bot. Gard. 53: 40. 1966; FEH 1:313. 1966; EFPN 2:205. 1979; TBRI 50(4):12. 1987; FB 2(2): 770. 1999.

Anotis wightiana Wallich ex Hook.f., FBI 3:65. 1880.

Small perennial diffuse tomentose herbs. Branches prostrate. Lamina ovate, entire, acute, pubescent. Stipules deeply toothed. Cymes terminal and axillary, capitate, involucrate. Flowers few, minute, white; corolla longer than sepals. Capsule orbicular, flattened; seeds rugose.

Flowers & Fruits: May - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2437*, dated 05.11. 2003; Soom TE, *AP Das & Chandrâ 3532*, dated 12.10.2004.

Status: Very common

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Nepal – Sikkim), India, Myanmar.

NEOLAMARCKIA Boissier

Neolamarckia cadamba (Roxburgh) J. Bosser in Bull. Mus. Nation Hist. Nat. 3: 247. 1984; FB 2(2): 739. 1999.

Nauclea cadamba Roxburgh in Fl. Ind. 1: 512. 1820.

Anthocephalus cadamba (Roxburgh) Miquel, Fl. Ind. Bot. 2: 135. 1856; FBI 3: 23. 1880.

Anthocephalus chinensis (Lamarck) A. Rich ex Walper, Repert. 2: 491. 1843; PPB 236. 2002.

Local Name: Kadam (Nep); Kadamba, Kadam (Beng).

Evergreen trees to 60 m; branches spreading, subwhorled. Lamina ovate/ oblong-elliptic, bluntly acuminate, entire, base rounded, coriaceous, shiny, glabrous. Flower heads c 3.5-cm in diameter, orange, scented at night. Pseudocarps fleshy, turns orange on ripening.

Flowers & Fruits: May – January

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0845*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1021*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0606*, dated 20.04.2002.

Status: Abundant; commonly planted.

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Nepal, Pegu, Malacca, Sumatra and Borneo.

Note: Timber useful; an ornamental tree; fruits edible.

OLDENLANDIA L.

Oldenlandia corymbosa L., Sp. Pl. ed. 1 (1): 119. 1753; FBI 3:64. 1880. FEH 1:309. 1966; FB 2(2): 766.1999.

Hedyotis corymbosa (L.) Lamarck, Tab. Encyclo. Meth. 1:272. 1791; PPB 243. 2002.

Small diffuse, prostrate or sprawling to 30cm annual herbs; stem 4 angled, slender, branched, scabrid. Leaves opposite, sessile, linear to elliptic-lanceolate, entire, contorted, acuminate with false petiole. Stipules membranous. Flowers white in axillary pedunculate (1-) 3-5 flowered cymes.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0030*, dated 27.01.2002; Matigara TE, *AP Das & Chandrâ 3141*, dated 10.05. 2004; Soom TE, *AP Das & Chandrâ 3366*, dated 12.10.2004

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Himalayas, India, Sri Lanka, Tropical Asia, Africa, America.

Oldenlandia diffusa (Willdenow) Roxburgh, Hort. Beng. 11.1814 & Fl. India 1:444.1820; FBI 3: 65. 1880. FB 2(2): 764.1999.

Hedyotis diffusa Willdenow, Sp. Pl. 1:566.1797; PPB 244. 2002.

Diffuse, glabrous, annual herbs; branches >25 cm or longer. Lamina linear, base decurrent. Flower solitary or in axillary pairs, short pedicelled, white. Capsules loculicidal with persistent calyx lobes.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0049*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 1423*, dated 18.10.2002; Kamalpur TE, *AP Das & Chandrâ 0531*, dated 17.04.2002; Matigara TE, *AP Das & Chandrâ 3124*, dated 10.05.2004; Soom TE, *AP Das & Chandrâ 3445*, dated 12. 10. 2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Tropical and sub-tropical eastern Asia, India, S. China, Japan, Malaysia, Borneo and Philippines.

OPHIORRHIZA L.

Ophiorrhiza nutans C. B. Clarke ex Hooker f. in FBI 3: 84. 1880; FB 2(2): 779. 1999.

Stems 15-30cm, herbaceous, pubescent with brown multicellular hairs. Leaves equal, oblong-elliptic, shortly acuminate, base cuneate, thinly pilose above, pubescent with multicellular hairs on beneath, dark green above, paler beneath. Cymes solitary, and terminal, nodding, pilose with multicellular hairs, compact, subcapitate.

Flowers & Fruits: May – August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2413*, dated 05.11. 2003.

Status: Common

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan

Ophiorrhiza thomsonii Hk. f., FBI 3:82. 1880; FEH 1:314. 1966; TBRI 50(4):121. 1987.

Perennial herb, 15-30 cm. Older stem prostrate, pubescent and rooting below. Leaves elliptic-ovate, acute, entire, pubescent beneath. Cymes both axillary and terminal with whitish flowers. Capsule glabrous.

Flowers: July - September *Fruits:* August - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2968*, dated 10.04. 2004.

Status: Less common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution : E. Himalaya (Darjeeling-Bhutan).

PAEDERIA L.

Paederia foetida L., Mant. Pl. 1: 52. 1767; Fl. Ind. 2:517. 1824; FBI 3:195. 1881; FEH 1:314. 1966; EFPN 2:206. 1979; TBRI 50(4):121. 1987; FB 2(2): 812. 1999; PPB 260. 2002.

Slender shrubby twinner, foetid. Lamina ovate-lanceolate, entire, acuminate, hairy on nerve axils. Panicles terminal or axillary, oppositely branched. Calyx teeth triangular; corolla infundibular, grey purple, red tinged. Fruits ellipsoid, compressed; pyrenes separating from carpophore.

Flowers & Fruits: July - January.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0266*, dated 09.02. 2002; Makaibari TE, *AP Das & Chandrâ 2772*, dated 25.03. 2004

Status: Common

Local Distribution: In all gardens.

General Distribution: Himalaya, C. and E. India-China and Malaysia.

Note: An important medicinal plant.

PSILANTHUS Hook.f.

Psilanthus bengalensis (Schultes) Leroy: FB 2(2): 803. 1999.

Coffea bengalensis Schultes, Fl. Ind. 1: 540. 1820; FBI 3: 153. 1880; FEH 1:308. 1966; PPB 239. 2002.

Local Name: *Kafi, Chitu, Morichi-kat* (Nep); *Chaiti phul* (Beng).

Deciduous shrubs, >5 m tall; branches spreading. Lamina, elliptic/ obovate-lanceolate to ovate-lanceolate, entire, caudate-acuminate, base rounded to acute, nerves hairy beneath. Flowers white, fragrant. Drupes ovoid or subglobose, black on ripening; seeds grooved.

Flowers & Fruits: February – November.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0356*, dated 16.02. 2002; Tamsong TE, *AP Das & Chandrâ 3083*, dated 10.04. 2004.

Status: Very common

Local Distribution: All Terai gardens and at Tamsong.

General Distribution: Subtropical Himalayas (Kumaon-Bhutan), Assam, W. Bengal, Bangladesh, Myanmar.

Note: Berries reputedly used for coffee by Terai inhabitants.

PSYCHOTRIA L.

Psychortia erratica Hook.f., FBI 3:168. 1880; FEH 1:315. 1966; EFPN 2:206. 1979; TBRI 50(4):124. 1987; PPB 262. 2002.

Evergreen bushy shrub upto 3.5 m high. Bark greyish or pale brown. Leaves elliptic-lanceolate, oblanceolate, entire, acuminate, base cuneate, narrowing to the petiole, glabrous both sides. Cymes terminal, trichotomous with white or greenish-white flowers. Fruit globose, red to reddish-yellow.

Flowers & Fruits: May - January

Specimen Cited: Soom TE, *AP Das & Chandrâ 3566*, dated 12.10.2004.

Status: Rare.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Nepal-Bhutan), Assam, Meghalaya.

RICHARDIA Houst.

Richardia scabra L., Sp.Pl. 330. 1753; PPB 264. 2002.

Tufted, much branched, prostrate annual herb; lamina rounded-ovate, acute, hirsute; flowers crowded at tips of branches, white.

Flowers & Fruits: August to February.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0107*, dated 03.02. 2002

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Native of Tropical America; naturalized in India.

RUBIA L.

Rubia charaefolia Wallich ex G. Don, Gen. Hist. 3:643. 1834; FEH 1:315. 1966; EFPN 2: 207. 1979; TBRI 50 (4):101. 1987; PPB 264. 2002.

R. angustissima Wallich, *sensu* FBI 3: 203. 1881, p.p.

Highly branched scandent climber with perennial root-stock. Stems ribbed, scabrid. Leaves sessile in whorls of 4-8; linear, keeled, sparingly scabrid. Cymes 3-4 flowered. Fruits globose, didymous.

Flowers : September - October; *Fruits:* October - March

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2568*, dated 11.11. 2003.

Status: Less common.

Local Distribution: Found only in Makaibari garden..

General Distribution: E. Himalaya (Nepal-Bhutan).

Rubia manjith Roxburgh ex Fleming in Asia Res. 11: 177. 1810; FEH 1:315. 1966; EFPN 2: 207. 1979; TBRI 50(4):125. 1987.

R. cordifolia L. *sensu* Hook. f., FBI 3: 202. 1881, p.p.

Local Name: *Majito* (Nep).

Suffrutescent climber, branches herbaceous. Stem 4-angled, old part armed with deflexed prickly-bristles; stipules normal-leafy. Leaves whorl of 4 those includes 2-stipules; lamina ovate, entire, scabrid, rusty when young. Panicles axillary. Corolla rust-coloured. Ripe berries globular, black.

Flowers: July - September; *Fruits:* September - March

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3026*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 3505*, dated 12.10.2004.

Status: Abundant.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Simla-Bhutan), Meghalaya.

Note: Red dye obtained from fruits is used as ink and as mehendi by teenagers. Also used as medicine in Ayurvedic system. Plant is indiscriminately collected and sold threatening its status.

SPERMACOCE L.

Spermacoce mauritiana O. Gideon in Kew Bull. 37(4): 547. 1983; FB 2(2): 760 .1999;

Robust suberect annual, densely but minutely pubescent. Lamina upper surface drying deep green or yellow-green, minutely scabrid, ovate to narrowly lanceolate, acuminate, base attenuate; petiole short or missing. Flowers white or lilac, sessile, on axillary, dense, sessile cymes.

Flowers & Fruits: April – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0756*, dated 04.05. 2002.

Status: Rare

Local Distribution: Found only in Mohurgong & Gulma TE.

General Distribution: India, Nepal, Bhutan, Myanmar, China, Malaya, Australia, Tropical Africa

RUTACEAE A. Jussieu

CLAUSENA Burman f.

Clausena excavata Burm.f., Fl. Ind. 87, t. 29, 2. 1768; FBI 1: 504. 1875; FB 2(1): 16. 1991; FI 4: 325. 1997.

Shrub or small tree, branchlets and leaf rachises spreading pubescent. Leaves upto 50cm, with 7-15 pairs leaflets, ovate, acuminate, base very asymmetrically cuneate, margin entire, pubescent especially beneath. Flowers in terminal panicles. Fruit broadly oblong.

Flowers & Fruits: April – May.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1274*, dated 18.10.2002.

Status: Rare.

Local Distribution: Found only in Kamalpur gardens.

General Distribution: India, Nepal, Bhutan, Indochina, Malaysia.

MURRAYA L.

Murraya koenigii (L.) Sprengel, Syst. Veg. 2:315.1825; FBI 1:503.1875; FEH 3:75. 1975; EFPN 2:82. 1979; FB 2(1): 17.1991.

Bergera koenigii L., Mant. Pl. 2:563. 1771; Fl. Ind. ed. 2, 2:375. 1832.

Local Name: *Mechia Saag* (Nep), *Curry pata* (Beng).

Evergreen shrubs upto 3 m tall. Leaves 13-23 foliolate, pinnate. Leaflets alternate, ovate, crenate, acuminate, base asymmetrically rounded or cuneate, sparsely pubescent or glabrous. Corymbs with numerous bisexual white flowers. Fruits ovoid, crimson.

Flowers & Fruits: February – April

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0323*, dated 16.02. 2002.

Status: Common. Sometimes grown.

Local Distribution: In all gardens.

General Distribution: Tropical Himalayas (Garhwal-Bhutan), India, Sri Lanka.

Note: Leaves used as aromatic agent in food.

PARAMIGYNA Wight

Paramignya monophylla Wight, Ill. Ind. Bot. 1: 108, t. 42. 1840; FBI 1: 510. 1875; FB 2(1): 19. 1991; FI 4: 312. 1997.

Local Name: *Natkanta* (Nep)

Evergreen scrambler, spines axillary recurved. Lamina oblong –elliptic, acute or shortly acuminate, base rounded; petioles 5 –15mm. Calyx 3 mm, lobes rounded. Petals white, oblong –elliptic. Ovary & styles densely pubescent, 3 –5 celled. Fruits globose, ±3.5cm; rind thick yellow.

Flowers & Fruits: June - December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1797*, dated 17.05. 2003

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan.

SKIMMIA Thunberg

Skimmia arborescens T. Anderson ex Gamble in J. Linn. Soc. Bot. 43: 491. 1916; FB 2(1): 19.1991; FI 4: 398. 1997.

Local Name: *Tsaulane, Chumlani, Limbuniphul* (Nep)

Shrub or small trees, 2 –10 m. Leaves coriaceous, elliptic –oblanceolate, 6 –15 x 2 –5.5 cm, caudate acuminate, base cuneate, membranous, primary lateral veins 5 –8 pairs; racemes small. Calyx 1 –1.5 mm; petals 3 –5 mm. Stamens 2 –4 mm. Ovary 1.5 mm; fruits ellipsoid, red.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3049*, dated 10.04. 2004.

Status: Rare.

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan, Thailand, Western China.

TETRADIUM Loureiro

Tetradium fraxinifolium (Hooker) T.G. Hartley in Gard. Bull. Straites Settlem. 34: 102. 1981; FB 2(1): 8. 1991; FI 4: 371. 1997.

Philagonia fraxinifolia Hooker, Ic. Pl. t. 710. 1848.

Evodia fraxinifolia (Hooker) Bentham, Fl. Hongkong 59. 1861; FBI 1: 490. 1875.

Trees to 12 m. Leaves 25 –60 cm; leaflets 2 –7 pairs, ovate –elliptic, crenulate, acuminate, base asymetrically rounded, glabrous, marginal oil glands larger. Inflorescence branches pubescent. Flowers 4 –merous. Petals greenish. Fruits 4 carpilate. Seeds 2 per cell.

Flowers & Fruits: December – April

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1806*, dated 17.05. 2003.

Status: Rare.

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, China, Indo –China, Malaya.

TODDALIA A. Jussieu (nom. cons.)

Toddalia asiatica (L) Lamk., Tab. Encycl. 2:116. 1797; FEH 1:171.1966; FB 2(1):11. 1991.
Paulinia asiatica L., Sp. Pl. 1:365. 1753.

Local Name: *Main Kanra, Singhanay Kanra* (Nep).

Large evergreen, prickly scandent shrub. Leaves long, palmately 3 foliate, oblanceolate, acute or acuminate, base narrowed, rounded or truncate, margin crenate, glabrous. Inflorescence upto 9cm long with unisexual yellow flowers; Fruit upto 1cm in diam., globose, obscurely grooved, orange yellow.

Flowers: February – May; *Fruits:* July - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2785*, dated 25.03. 2004.

Status: Rare.

Local Distribution: Found only in Makaibari garden.

General Distribution: Tropical Africa, Sub-Tropical Himalayas, Meghalaya, Sri Lanka, Myanmar, Indo-China, China, Malaysia.

Note: Fruits edible (Cowan & Cowan 1929.)

ZANTHOXYLUM L.

Zanthoxylum acanthopodium DC., Prodr. 1. 727. 1824; FBI 1:493. 1875; FEH 1:171. 1966; FB 2 (1):13.1991; FWB 1:388. 1997.

Local Name: *Boke Timbur* (Nep).

Prickly shrub, young branchlets ferruginous, tomentose, sometimes glabrous. Leaves imperipennate, upto 24cm, lanceolate or ovate-lanceolate, obscurely serrate, shortly acuminate or acute, rounded, glabrous above, pubescent beneath. Inflorescence axillary, small crowded cymes, shortly pedunculate. Fruits sub-globose, red; seeds globular, blackish.

Flowers & Fruits: October – June.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2910*, dated 10.04. 2004.

Status: Less common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Kumaon-Bhutan), Meghalaya, Myanmar, Thailand, Indo-China, W. China.

Note: Fruits chewed to cure indigestion and flatulence.

SAMBUCACEAE Link

SAMBUCUS L.

Sambucus canadensis L., Sp. Pl. ed. 1, 1: 267. 1753; FEH 1: 319. 1966; Fl. Nep. 2: 197. 1979.

Medium shrubs to 3m high; Branches weak and narrow. Leaves upto 48cm long, imparipinnate; leaflets 5-9, oblong-lanceolate, serrate, acuminate, glabrous. Corymbs terminal, villous with whitish or pink flowers. Drupes globose, enclosed by persistent calyx, orange on ripening.

Flowers & Fruits: June - December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3032*, dated 10.04. 2004.

Status: Less common

Local Distribution: In hill gardens.

General Distribution: A native of America.

SANTALACEAE R. Brown

DUFRENOYA Chatin

Dufrenoya granulata (A. DC.) Stauffer in Vierteljahrsschr. Nat. Ges. Zurich cxiv (Mitt. Bot. Mus. Univ. Zurich) ccxlii, 70. 1969. EFPN 3: 192. 1983.

Henslowia granulate Hooker f. et Thomson ex DC., Prodr. 14: 632. 1857; FBI 5: 232. 1886; FEH 1: 63. 1966.

Semi-stem parasitic shrub with spreading and twining branches; leaves alternate, obovate to spatulate, thickly coriaceous, 5-9 nerved; flowers in axillary clusters, green; drupes ovoid.

Flowers & Fruits: April - June

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2961*, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only at Tamsong.

General Distribution: Eastern Himalaya, Khasia Hills.

SAURURACEAE A. Rich

HOUTTUYNIA Thunberg

Houttuynia cordata Thunberg in Vet. Akad. Stockh. Handl. 4: 149. t. 5. 1783; FBI 5: 78. 1886; EFPN 3: 182. 1982; FB 1(2): 341. 1984

Perennial, prostrate, branches 15 –40 cm. Leaves broadly ovate, acute or shortly acuminate, cordate; stipules oblong, 1 –2.5cm, adnate to petiole in lower half. Flowers spikes 1 –3 cm; basal bracts white, oblong or obovate, 1 –2 x 0.5 –1cm, obtuse. Fruits capsules.

Flowers & Fruits: June - December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2925*, dated 10.04. 2004.

Status: Very common.

Local Distribution: All Hill gardens.

General Distribution: Himalayas, Khasia Hills, Manipur, Thailand, China and Japan.

SAXIFRAGACEAE A. Jussieu
[HYDRANGEACEAE Dumort.]

DICHROA Loureiro

Dichroa febrifuga Loureiro, Fl. Cochinch. 1 : 301. 1790; FBI 2: 406. 1878; SFSH f. 150. 1963; FEH 1: 114. 1966; EFPN 2: 157. 1979; TBRI 50 (4): 111. 1987; FB 1(3): 552. 1987.

Adamia cyamia Wallich, Tent. Fl. Nep. 2: 46, t. 36. 1826.

Local Name : Basak (Nep).

Small shrub upto 2m. Leaves opposite, elliptic-oblongate, serrate, acuminate, base cuneate or attenuate, surfaces sparsely pubescent. Panicles both axillary and terminal with pale blue or purplish flowers; Berries subglobose, bluish with persistent scales.

Flowers: May - September *Fruits*: July - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2915*, dated 10.04. 2004.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas, N. Assam, Manipur, Myanmar, Thailand, Indo-China, Malaysia, C. and S. China.

SCROPHULARIACEAE A. Jussieu

HEMIPHGRAMMA Wallich

Hemiphragma heterophylla Wallich in Trans. Linn. Soc. 13: 612 (*ut heterophyllum*) 1822; FBI 4:289. 1884; FEH 1: 286.1966; EFPN 3: 114. 1982; TBRI 50 (4): 116. 1987.

Local Name: *Mala Phul* (Nep).

Prostrate perennial running herb covering the ground. Branches spreading, rooting at nodes. Leaves dimorphic: normal cauline leaves opposite, sessile -shortly stalked, orbicular, crenate, acute or obtuse, cordate, pubescent; axillary leaves acicular, fascicled, ciliate. Flowers small pinkish, solitary, axillary, sessile. Fruit globose, shining red.

Flowers & Fruits: March - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2100*, dated 30.06. 2003

Status: Very common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Garhwal-Bhutan), Meghalya, Myanmar, W. and C. China, Taiwan, Philippines.

Note: A medicinal plant. Fruits edible. *Flowers & Fruits*:

LINARIA Mill.

Linaria ramosissima Wallich, PAR 2: 43, t. 153. 1831; FBI 4: 251. 1884; FB 2(3): 1097. 2001.

Prostrate suffrutescent perennial; stems to 40cm, slender, glabrous. Leaves ovate or narrowly ovate, acute, base obtuse or hastate, sometimes with small lateral teeth just above base, glabrous. Flowers pale yellow with brown spots. Capsule subglobose.

Flowers & Fruits: June – October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0965*, dated 04.05. 2002.

Status: Rare

Local Distribution: Found only in Mohurgong & Gulma garden.

General Distribution: Pantropic.

LINDENBERGIA Lehmann

Lindenbergia grandiflora (D. Don) Bentham, Scroph. Ind. 22. 1835; FBI 4:261. 1884; FEH 1:287. 1966; EFPN 3:115. 1982; FB 2(3): 1106.2001.

Stemodia grandiflora D. Don, Prodr. Fl. Nep. 89. 1825.

Erect suffrutescent herbs; rootstock woody. Stem and branches flexuous, softly hairy.

Leaves opposite; lamina ovate, coarsely serrate, acute, glandular pubescent. Spikes terminal, rarely paniced; bracts ovate; corolla yellow. Capsules ovoid.

Flower: June – November; *Fruit:* September – February

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1487*, dated 20.10.2002; Tamsong TE, *AP Das & Chandrâ 2001*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 2598*, dated 27.12.2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Nepal – Bhutan), Assam, Tibet, Myanmar and W. China.

Lindenbergia indica (L.) Vatke in Oestr. Bot. Zeits. 25:10. 1875; FEH 1:287. 1966; EFPN 3:115. 1982; TBRI 50(4):118. 1987.

Dodartia indica L., Sp. Pl. ed. 1:633. 1753.

L. urticifolia Lehm. in Link & Otto, Ic. Pl. Rar. 95, t. 48. 1831; FBI 4:262. 1884.

Erect annual, glandular villous herbs, 10-30cm, branches many, slender, villous. Lamina ovate, cranate-serrate, obtuse, pubescent. Flowers axillary, solitary or 2-nate; calyx lobes recurved; corolla yellow, throat reddish, 3 + 2. Capsule to 0.3cm, ovoid.

Flowers & Fruits: July – December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1498*, dated 20.10.2002; Tamsong TE, *AP Das & Chandrâ 2025*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 3580*, dated 12.10.2004.

Status: Common.

Local Distribution: In all gardens.

General Distribution: Afghanistan, Himalayas, India, Myanmar, east to west China.

LINDERNIA Allioni

Lindernia anagallis (Burm.f.) Pennell in J. Arn. Arb. 24: 252. 1943; EFPN 3: 116. 1982; FB 2(3): 1123. 2001.

Ruellia anagallis Burm.f., Fl. Ind. 135. 1768; FBI 4: 285. 1884.

Annual, 20-60cm with stems creeping and rooting at nodes, branched, glabrous. Leaves subsessile or very shortly petiolate, linear, linear-lanceolate, ovate or broadly deltoid-ovate, pinnately veined, entire or crenate, glabrous. Flowers solitary, axillary, white to pale purple.

Flowers & Fruits: June – October.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3186*, dated 26.06. 2004.

Status: Common

Local Distribution: Found in low altitude areas.

General Distribution: Tropical Asia.

Lindernia ciliata (Colsm.) Pannell in Brittonia 2:182. 1936; FBI 4:284. 1884; FEH 1:293. 1966; FEPN 3:116. 1982; FB 2(3): 1125.2001.

Gratiola ciliata Colsm., Prodr. Descr. Gratiola 1:14. 1793.

Small annual, erect or diffusely branched, >18 cm. Leaves sessile, opposite; lamina oblong, sharply serrate with mucronate teeth, acute, base rounded, glabrous. Flowers bracteate, white in terminal racemes upto 8.5cm long. Capsules linear oblong.

Flowers & Fruits: June – November

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1100*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0549*, dated 17.04.2002; Soom TE, *AP Das & Chandrâ 3449*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2188*, dated 30.06. 2003.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Himalayas (Kumaon-Sikkim), India, Myanmar east to W. & S. China, Taiwan, Malaysia and Australia.

Lindernia crustacea (L.) F. Muell., Syst. Census Austr. Pl. 97. 1882; EFPN 3:116. 1982.

Copraria crustacea L., Mant. Pl. 1:87. 1767.

Vandellia crustacea (L.) Benth., Scroph. Ind. 35. 1835; FBI 4:279. 1884; FEH 1:293. 1966.

Upto 25cm high creeping-decumbent diffuse herb. Branches 4-angled, nodes rooting. Leaves opposite; lamina ovate, serrate, obtuse, base rounded-cuneate, pubescent. Peduncles terminal or axillary. Corolla bilabiate, violet-blue; stamens 4, filaments appendiculate. Capsules obovate.

Flowers: Jul. - Oct. *Fruits.:* Sep. - Nov.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0964*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1201*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1763*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3303*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2382*, dated 05.11. 2003

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Tropical Africa, Himalayas, India, Sri Lanka, east to China, Korea and Japan, Malaysia, Australia, America.

Lindernia multiflora (Roxburgh) Mukherjee in JIBS 24: 131. 1945.
Torinia multiflora Roxb., Fl. Ind. 3: 96. 1832.

Much branched prostrate herb; all leaves opposite; flowers in terminal paniculate inflorescence; corolla purple; fruits globose with persistent style.

Flowers & Fruits: October – April.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0145*, dated 03.02. 2002; Kamalpur TE, *AP Das & Chandrâ 1196*, dated 18.10.2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Pantropic.

Lindernia nummularifolia (D. Don) Wettst. In Engl., Pflfam. 4. 3b. 79. 1891; EFPN 3: 117. 1982; FB 2(3): 1124. 2001.

Vandellia nummularifolia D. Don, Prodr. Fl. Nep. 86. 1825; FBI 4: 282. 1884; FEH 1: 293. 1966.

Erect annual herb, 4-10cm with stem simple or laxly branched. Leaves sub-sessile semi-amplexicaul, ovate-orbicular or suborbicular, pinnately veined, acutely crenate-serrate, glabrous above, sparsely hirsute beneath. Margins shortly ciliate. Flowers violet or pink, solitary and axillary or in lax racemes.

Flowers & Fruits: May – September.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3241*, dated 26.06. 2004.

Status: Less common

Local Distribution: Found only in Soom garden.

General Distribution: Himalayas (Kashmir – Sikkim), India, Sri Lanka, Myanmar, China.

Lindernia parviflora (Roxburgh) Haines, Bot. Bihar Orissa 4: 635. 1922; FBI 4:283. 1884; FEH 1:287. 1966; EFPN 3:117. 1982.

Gratiola parviflora Roxburgh, Pl. Corom. 3:3, t. 204. 1819.

Annual slender decumbent herbs; stem 4-angled, glabrous. Leaves opposite, sessile; lamina ovate-elliptic, obtuse or acute, base attenuate. Racemes axillary and terminal; flowers bluish white. Capsules cylindrical-ellipsoid.

Flowers & Fruits: May – December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0485*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 2577*, dated 11.11. 2003.

Status: Very common.

***Local Distribution:* In all gardens.**

General Distribution: Tropical Africa, Himalayas, India, Myanmar and China.

Lindernia pyxidaria L., Mant. Pl. 2: 252. 1771.

Like *L. crustacea* but lamina more rounded and thick.

Flowers & Fruits: June - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0021*, dated 27.01.2002; Makaibari TE, *AP Das & Chandrâ 2467*, dated 11.11.2003.

Status: Common

Local Distribution: Found in low altitude areas.

General Distribution: Tropical Asia

Lindernia ruellioides (Colesmann) Pennel in *Brittonia* 2:182. 1936; *FB* 2(3): 1125. 2001.

Gratiola ruellioides Colsm, *Prodr. Desc. Grat.* 12. 1793.

Prostrate, perennial, creeping, rooting at nodes. Stems 10 –50 cm. Leaf pairs distant; petioles pubescent; lamina elliptic, pinnately veined, obtuse, attenuate, finely dentate, teeth incurved, acute. Flowers in lax racemes. Calyx cylindric. Corolla pale purple. Capsules cylindric.

Flowers & Fruits: (June)

Specimen Cited: Soom TE, *AP Das & Chandrâ 3255*, dated 26.06.2004.

Status: Rare

Local Distribution: Found only in Soom garden.

General Distribution: Tropical Asia.

MAZUS Loureiro

Mazus pumilus (Burman f.) Van Steenis in *Nova Guin.* n. 5. 9: 31. 1958; *EFPN* 3:117. 1982; *TBRI* 50(4): 119. 1987.

Lobelia pumila Burman f., *Fl. Ind.* 186, t. 60, f. 3. 1768.

Mazus japonicus O. Kuntze, *Rev. Gen. Pl.* 462. 1891; *FEH* 1:288. 1966.

Mazus rugosus Loureiro, *Fl. Cochinch.* 385. 1790; *FBI* 4:259. 1884.

Rosannette, annual herb, scape 10-30 cm high, hairy. Lamina of radical leaves obovate-spathulate, obtuse, narrowed to petiole. Racemes to 14cm long, terminal. Flowers alternate; calyx campanulate, lobes ovate-lanceolate; corolla bluish, 3+ 2. Capsules globose with persistent calyx.

Flowers & Fruits: May – November.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0069*, dated 27.01.2002; Kamalpur TE, *AP Das & Chandrâ 0384*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 1783*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2162*, dated 30.06.2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: Himalayas (Kashmir – Bhutan), India, east to China, Korea, Japan, Malaysia.

Mazus surculosus D. Don, *Prodr. Fl. Nep.* 87. 1825, *ut surculosa*; *FBI* 4: 260. 1884; *FEH* 1: 288. 1966; *EFPN* 3: 118. 1982; *TBRI* 50(4): 119. 1987.

Small perennial rosette herbs, runners profuse. radical leaves larger, opposite, lamina obovate-spathulate/ subpinnatifid, crenate, narrowed to petiole, pubescent. Calyx lobes triangular, suberect in fruits; corolla bluish white/ pinkish violet, upper lip dark, 2-lobed, lower larger 3-lobed.

Flowers & Fruits: May - October.

Specimen Cited: Tamsong TE, AP Das & Chandrâ 1980, dated 30.06. 2003.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kashmir – Bhutan), Assam, Tibet, W. China.

MECARDONIA Ruiz & Pavon

Mecardonia procumbens (Miller) Small, Fl. South-east U.S. 1065, 1338. 1903; FB 2(3): 1114. 2001.

Erinus procumbens Miller, Gaed. Dict. ed. 8, Ni.6. 1768.

Mecardonia dianthera (Swartz) Miller in Sp., Field Mus. Nat. Hist. Bot. Ser. 2: 765. 1903.

Stems 10 –50cm, prostrate. Leaves ovate, serrate in upper part. Pedicels erecto –patent. Calyx 6 –8mm, lobes obtuse. Corolla yellow with brown veins; tube pubescent; upper lip ovate, emarginate; middle lobe of lower lip suborbicular. Capsules ovoid or ellipsoid; seeds ellipsoid.

Flowers & Fruits: June - December

Specimen Cited: Mohurgong & Gulma TE, AP Das & Chandrâ 0062, dated 27.01.2002; Hansqua TE, AP Das & Chandrâ 0240, dated 09.02.2002

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Native of America; naturalized in India.

MIMULUS L.

Mimulus nepalensis Bentham, Scroph. Ind. 29. 1835; FEH 1: 289. 1966; 2: 119. 1971; EFPN 3: 118. 1982; TBRI 59(4): 120. 1987.

Small prostrate herb, 6-15cm. Leaves opposite, ovate, coarsely serrate, acute, base slightly rounded, glabrous or sparsely hairy. Flowers yellow solitary. Capsules included with inflated sepals.

Flowers & Fruits: May - October

Specimen Cited: Tamsong TE, AP Das & Chandrâ 2266, dated 05.09. 2003

Status: Less common

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Assam, W. and C. China.

SCOPARIA L.

Scoparia dulcis L., Sp. Pl. ed. 1, 116. 1753; FBI 4: 289. 1884; FEH 1:290. 1966; EFPN 3:126. 1982.

Suffrutescent, much branched, to 90 cm high. Leaves sessile, opposite / ternate; lamina elliptic or rhomboid, serrate, punctate. Flowers axillary, white; calyx 3 nerved, segments imbricate; corolla 0.32 cm diam., white; filament base wooly. Capsule globose, septicidal; seeds obovoid, angular.

Flowers & Fruits: June – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0040*, dated 27.01.2002; Kamalpur TE, *AP Das & Chandrâ 0421*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 1784*, dated 17.05.2003.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: America, commonly naturalised in tropical Asia.

Note: Young leaves are taken orally in diabetes.

SCROPHULARIA Ser. ex Pfeiff.

Scrophularia elatior Wallich ex Benth, Scroph. Ind. 18. 1835; FBI 4: 255. 1883; EFPN 3: 126. 1982.

Tall, stout, 90 –150 cm, winged throughout, glandular above. Lamina ovate, dentate, acute, base shallowly cordate, glabrous. Panicles large, terminal & axillary. Bracteoles narrowly ovate. Corolla green. Stamens long –exserted; staminodes spatulate. Capsules ovoid or subglobose.

Flowers & Fruits: June - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2377*, dated 05.11. 2003.

Status: Rare

Local Distribution: Found only in Tamsong gardens.

General Distribution: Eastern Himalaya.

TORENIA L.

Torenia asiatica L., Sp. Pl. 619. 1735; FBI 4:277. 1884, p.p.; EFPN 3:127. 1982; TBRI 50(4):125. 1987.

T. cordata (Griffith)Dutta in BBSB 19:25. 1963; FEH 1:291. 1966.

Pubescent annual herbs, 20-30cm, diffused, branches creeping, slender. Stem 4-angled. Lamina ovate, serrate, acuminate, pubescent. Flowers axillary, solitary, subumbellate. Calyx tubular, bilipped, keeled; corolla violet, lower lip whitish. Capsules oblong, with persistent calyx.

Flowers & Fruits: May – January

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0402*; dated 27.02.2002; Soom TE, *AP Das & Chandrâ 3462*, dated 12.10.2004.

Status: Common

Local Distribution: In all gardens.

General Distribution: Himalayas, India, Sri Lanka, Myanmar east to China, Malaysia.

Torenia bicolor Dalz. in Hook. Kew. J. 3: 38. 1851.

Flowers & Fruits: June – December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0931*, dated 04.05. 2002; Soom TE, *AP Das & Chandrâ 3286*, dated 26.06. 2004.

Status: Rare

Local Distribution: Found in low altitude areas.

General Distribution: Himalayas, India, Sri Lanka, Myanmar, Malaysia.

Torenia peduncularis Benth.ex Hook. f., FBI 4: 276. 1884; FB 2(3): 1120. 2001.

Torenia edentula Benth.ex Hook. in Bot. Mag. t. 4229. 1846, non Griff.

Erect or prostrate annual; branches 10 –40 cm. Petioles narrowly winged. Lamina ovate, serrate or crenate serrate, subacute, truncate. Flowers solitary, axillary in upper axils. Bracts linear. Calyx 5 –winged, teeth 5. Corolla violet, lobes violate. Capsules narrowly lanceolate –ellipsoid.

Flowers & Fruits: June – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1707*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 1949*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 3178*, dated 26.06. 2004.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Central & Eastern Himalayas, China.

VERONICA L.

Veronica javanica Blume, Bijdr. 742. 1826; FBI 4: 296. 1884; FEH 1: 294. 1966; EFPN 3: 129. 1982.

Small, erect, much branched annual. Leaves opposite; lamina ovate, crenate or bicrenate – serrate, obtuse or subscute, shallowly cordate,. Racemes axillary; bracts linear . Calyx lobes linear –oblong. Corolla whitish or pale blue. Capsules obcordate, shorter than calyx. Seeds elliptic.

Flowers & Fruits: June – December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2909*, dated 10.04. 2004.

Status: Abundant

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Subtropical to temperate regions of Asia.

Veronica serpyllifolia L., Sp. Pl. 12. 1753.

Perennial. Stems creeping, nodes rooting, 10 –30 cm. Lamina sessile, ovate/ oblong, apex & base obtuse, glabrous. Racemes terminal, bracteate, dense. Lowest bracts leafy, smaller, upper narrowly oblong. Calyx lobes ovate oblong. Corolla pale blue. Anthers blue. Capsules obcordate.

Flowers & Fruits: August - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2058*, dated 30.06. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Temperate to subalpine Himalayas, Nilgiris, Europe, Africa & S. America.

SOLANACEAE A. Jussieu

CESTRUM L.

Cestrum aurantiacum Lindley, Bot. Reg. 71. 1844; EFH 1:282. 1966; EFPN 3:108. 1982; TBRI 50(4):108. 1987; FB 2(3): 1071. 2001.

Local Name: Malami Phul (Nep).

Large shrubs, 2-4m high, young shoots sparsely hairy. Branches spreading, lenticellate. Leaves alternate, ovate-elliptic, entire acute, glabrous on both sides. Cymes terminal and axillary, laxly branched, 1-5 flowers on each branch, terminal flowers fascicled. Flowers tubular, orange yellow. Berry globose, obscurely 2-lobed, white.

Flowers & Fruits: July - June

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2316*, dated 05.09. 2003.

Status: Very common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Central America, now cultivated and naturalised everywhere.

DATURA L.

Datura metel L., Sp. Pl. 179. 1753; FBI 4: 243. 1883; FEH 1: 283. 1966; EFPN 3: 109. 1982; FB 2(3): 1067. 2001.

Local Name: *Kalo dhutura* (Nep).

Erect, soft-stemmed shrub 1-2.5m. Branches ± zigzag, green, black or tinged with red or purple, minutely pubescent to glabrous. Leaves elliptic, to broadly ovate, acute, or shortly acuminate, base obtuse, asymmetrical, margin entire, repand or angulate. Flowers solitary in axils, erect, white or purple.

Flowers & Fruits: April -October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1179*, dated 18.10.2002; Tamsong TE, *AP Das & Chandrâ 1940*, dated 30.06. 2003.

Status: Common in Terai; rare in other places.

Local Distribution: Found in low altitude areas only.

General Distribution: Tropical America; naturalized wlsewhere.

Note: An important narcotic & Medicinal Plant.

Datura stramonium L., Sp. Pl. 179. 1753; FBI 4: 242. 1883; FEH 1: 283. 1966; EFPN 3: 109. 1982; FB 2(3): 1067. 2001.

Local Name: *Sada Dhutra* (Beng)

Plant narcotic, especially seeds, which have a stupefying effect and can be fatal.

Erect branched annual, sometimes woody at base. Leaves ovate, rhomboid or elliptic acuminate, base cuneate, symmetrical, margin deeply sinuate-dentate, surfaces ± glabrous. Flowers solitary, axillary, erect, white or less commonly purplish.

Flowers & Fruits: March-October

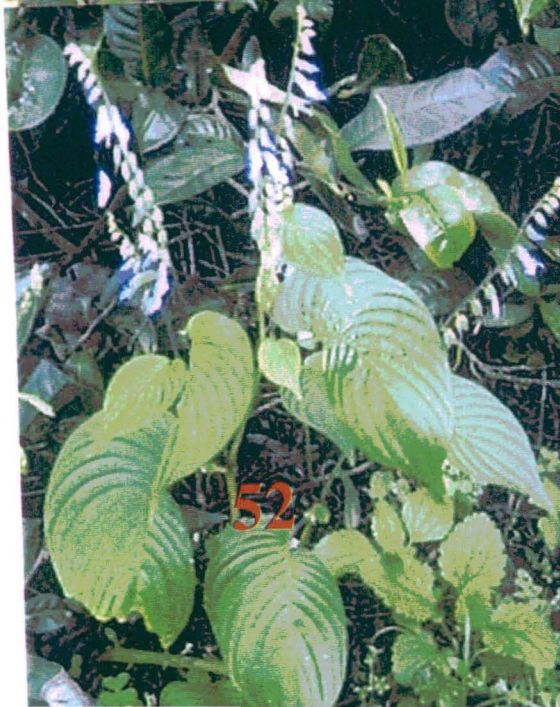
Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0005*, dated 27.01.2002; Tamsong TE, *AP Das & Chandrâ 2178*, dated 30.06. 2003.

Status: Common in Terai; rare in other places.

Local Distribution: Found in low altitude areas only.

General Distribution: Tropical America; naturalized wlsewhere.

Datura suaveolens Humb. & Bonpl. ex Willd., Enum. Pl. H. Berol. 227. 1809; FEH 1: 283. 1966; EFPN 3: 109. 1982; FB 2(3): 1068. 2001.



Local Name: Dhokrey phul (Nep).

Shrub or small tree, 1-6m, branches brittle, young stems minutely pubescent. Leaves ovate-elliptic, acute or shortly acuminate, base cuneate, subglabrous. Flowers pendulous, fragrant or not, creamy at first, turning white, 20-30cm.

Flowers & Fruits: January – December.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3389*, dated 12. 10. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Tropical America; naturalized wlsewhere.

Note: Plant narcotic, used as an ornamental hedge plant.

NICOTIANA L.

Nicotiana plumbaginifolia Viv., Elench. Pl. Hort. Dinegro 26.t. 5. 1802; FBI 4:1074. 246. 1883; FB 2(3): 1074. 2001.

Rosette annual, radical leaves with petioles 2.5 –3 cm; lamina broadly oblong –spatulate to obovate, obtuse, attenuate, shortly hispid on veins, lower ones similar to basal but uppermost narrowly lanceolate, acuminate. Racemes lax, few-flowered false. Corolla greenish –ivory or purplish. Capsules narrowly ovoid; seeds roundish ellipsoid, reticulate.

Flowers & Fruits: January - May

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0857*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1657*, dated 18.10.2002; Kamalpur TE, *AP Das & Chandrâ 1357*, dated 18.10.2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Tropical America; naturalized wlsewhere.

LYCOPERSICON Miller

Lycopersicon esculentum Miller, Gard. Dict. (ed.8) n.2. 1768; FBI 4:237.1883; FB 2(3): 1063.2001.

Local Name: *Tomato* (Beng), *Tomator* (Nep)

Sticky-pubescent herbs. Leaves pinnatisect, chartaceous, lobes obliquely triangular-ovate, shortly petiolulate, terminal lobes acute. Flowers in axillary small cymose fascicles, pedicellate, yellow. Berries 4-6 lobed, depressed-globose, pulp juicy.

Flowers & Fruits: January – December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0667*, dated 20.04.2002.

Status: Rare

Local Distirbution: Found in Kamalpur & Matigara gardens only.

General Distribution: A native of tropical America; cultivated elsewhere; sometime escapes.

PHYSALIS L.

Physalis divaricata D. Don, Prodr. Fl. Nep. 97. 1825; EFPN 3: 110. 1982; FB 2(3): 1045. 2001.
Physalis minima auct. non. L.: Roxb. Fl. Ind. ed.2. 1: 563. 1832.

Local Name: *Makai, Fokfoke* (Nep)

Erect succulent hispid herbs, stems striated. Lamina ovate or narrowly elliptic, entire or distantly and shallowly serrate, acute, base obtuse, glabrous. Flowers light yellow, solitary, axillary. Berries enclosed in inflated bladder like calyx.

Flowers & Fruits: August – March

Specimen Cited: Soom TE, *AP Das & Chandrâ 3221*, dated 26.06. 2004.

Status: Less common

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: Pantropical.

Physalis minima L., Sp. Pl. 183. 1753; FBI 4: 238. 1883; FB 2(3): 1045. 2001.

Diffusely branched annual, 15 –45cm. Lamina ovate, repand or subentire, acute or acuminate, base cordate or oblique. Calyx campanulate, globose –ovoid; lobes triangular. Corolla yellow, without basal spots. Berry orange, globose. Seeds brownish –yellow, minutely reticulate.

Flowers & Fruits: August – March

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2388*, dated 05.11. 2003

Status: Less common

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: Pantropic.

SOLANUM L.

Solanum myriacanthum Dunal, Hist. Solan. 218, t. 19. 1813; EFPN 3:111. 1982; TBRI 50(4):127. 1987 (*ut. myrianthum*).

S. khasianum *CB. Clarke, FBI 4:234. 1833.*

Local Name: *Kalchunray Kanra, Bhere Kanra* (Nep).

Small annual stout herb, to 1m tall, much branched, prickly, densely hirsute. Lamina ovate, deeply acute-lobed, lobes, hirsute. Racemes lateral, few flowered. Sepals lanceolate, hirsute; corolla whitish, lobes lanceolate. Berries globose, green and white mosaic, yellow at ripening.

Flowers & Fruits: June – March.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0037*, dated 27.01.2002;
Hansqua TE, *AP Das & Chandrâ 0994*, dated 0952; Makaibari TE, *AP Das & Chandrâ 1892*, dated 10.06. 2003.

Status: *Common.*

Local Distribution: In all gardens.

General Distribution: Eastern Himalaya & Khasia Hills.

Note: Fruits and seeds poisonous; an important medicinal plant.

Solanum nigrum L., Sp. Pl. ed. 1, 186. 1753; FBI 4: 229. 1883; FEH 1: 284. 1966. FB 2(3): 1052. 2001

Suffrutescent, unarmed herb. Leaves ovate-lanceolate or ovate-oblong, entire/ sinuate/ toothed, acute to acuminate, base narrowed to petioles, glabrous. Flowers in cymes sub-umbellate; calyx lobes pubescent, rounded; corolla rotate, glabrous; style base hairy. Ripe berries globose, black.

Flowers & Fruits: Throughout the year.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0291*, dated 16.02.2002; Kamalpur TE, *AP Das & Chandrâ 1379*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1785*, dated 17.05.2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: Cosmopolitan.

Solanum sisymbriifolium Lam., Tabl. Encycl. 2: 25. 1794.

Tall much prickly annual herb; much branched. Flowers white. Fruits globose, turn red on ripening.

Flowers & Fruits: January – December.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0579*, dated 20.04.2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Tropical America; naturalized wlsewhere.

Solanum torvum Swartz, Prodr. 47. 1788; FBI 4: 234. 1883; FEH 1: 284. 1966; FB 2(3): 1055.2001.

Local Name: Bin (Nep.)

Shrubs or undershrubs, 1.5-2.8 m high, unevenly armed, stellate, pubescent. Lamina ovate, lobed or serrate, shortly acuminate, base unequal, membranous, sparsely stellate-pubescent. Cymes usually extra-axillary, dense, often branched; flowers white. Berry globose, reddish, glabrous.

Flowers & Fruits: January – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0041*, dated 27.01.2002; Makaibari TE, *AP Das & Chandrâ 1775*, dated 17.05.2003.

Status: Common.

Local Distribution: Common in low altitude areas.

General Distribution: West Indies extensively naturalized everywhere.

Note: Root used as an antidote to poison, leaves used against snakebite and enlargement of the spleen, fruits eaten.

SONNERATIACEAE Engler et Gilg.

DUABANGA Hamilton

Duabanga grandiflora (Roxburgh ex DC.) Walpers, Repert. 2:114. 1843; JAA 48:96.1967; FB 2 (1): 287. 1991.

Lagerstoemia grandiflora Roxburgh ex DC., Mem. Soc. Hist. Nat. Geneve 32:84. 1826.

Local Name: *Lampate* (Nep).

Large trees to 29m high, branches drooping. Leaves opposite, simple; lamina ovate-oblong, acuminate, cordate, dark green, pale beneath, veins parallel. Corymbs terminal, drooping, 4-22 flowered. Flowers showy-white; stamens numerous. Capsule subglobose; seeds filiform.

Flowers & Fruits: December - April

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1912*, dated 10.06. 2003.

Status: Frequent in lower areas, specially on spring and river side.

Local Distribution: Found in Makaibari garden only.

General Distribution: Himalayas (Kumaon-Bhutan), Assam, S.E. Tibet, Myanmar, China, Malaysia.

STERCULIACEAE Ventenat

AMBROMA L.f.

Ambroma augusta L.f., Suppl Pl. 341. 1782; FB 2(1): 206. 1991.

Local Name: *Sanu Kapasi* (Nep).

Shrub 2-4m; Leaves ovate to suborbicular unlobed or shallowly 3-5 lobed, acuminate base truncate or cordate, margins distantly serrulate, long petiolate. Flowers pendent purplish brown in cymes of 2-5 flowered. Capsule obovoid, 5 winged.

Flowers & Fruits: June – January.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3418*, dated 12. 10. 2004.

Status: Less Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Nepal, Bhutan, China, Micronesia, Malaysia

Note: Root used medicinally for menstrual disorders and snake bites, stems used as a fibre crop. Seeds edible.

MELOCHIA L.

Melochia corchorifolia L., Sp. Pl. 675. 1753; FBI1:374. 1874; FEH 1:206. 1966; EFPN 2:70. 1979.

Annual much-branched herbs, entire plant brownish. Leaves oblong-ovate, crenate-serrate, acuminate, base cordate, stellate-hairy; stipules lanceolate. Flowers in dense heads, pinkish white. Capsules depressed-globose, loculicidal, pubescent, 5 valved with gray seeds.

Flowers & Fruits: June – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0949*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1048*, dated 09.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1327*, dated 18.10.2002.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: Pantropical.

Note: Leaves are sometimes eaten as vegetable.

THEACEAE D. Don

SCHIMA Blume

Schima wallichii (DC.) Korthals, Bijdr. Ternstr. in Temminck, Verh. Nat. Gesch. Bot. 143. 1839-42; FBI 1: 289. 1874; FB 1(2): 365. 1984; FWB 1:276. 1997.
Gordonia wallichii DC., Prodr. 1: 528. 1824.

Local Name: *Aulay Chilaunay* (Nep).

Evergreen large tree upto 30 m. Buds and young parts adpressed pubescent. Lamina ovate-elliptic, entire, acute to acuminate, cuneate or rounded, glabrous, pubescent beneath. Flowers axillary solitary, white; Capsule 2-2.4 cm across, subglobose, woody; seeds surrounded by wing.

Flowers: May - Jul. *Fruits.:* Nov. - Feb.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2801*, dated 25.03. 2004; Tamsong TE, *AP Das & Chandrâ 2979*, dated 10.04. 2004.

Status: Frequent.

Local Distribution: In all hill gardens.

General Distribution: E. Himalaya (Nepal-Bhutan), Assam, Tibet, China.

Note: Branches and twigs are used as excellent firewood and manure. Trunk is used as timber for building houses and ploughshares. Bark juice medicinal.

THYMELIACEAE A. Juss.

EDGWARDTHIA Meissner

Edgeworthia gardneri (Wallich) Meisner in Denkschr. B. Ges. Regensb. 3: 280. t. 6. 1841; FBI 5: 195. 1886. FEH 2: 85. 1971; Fl. Nep. 3: 188. 1982.

Daphne gardneri Wallich in As. Res. 13: 388. t. 9. 1820.

Large shrubs to 4 m. Lamina elliptic -oblanceolate, entire, acute, base cuneate or attenuate, glabrous above, appressed silky beneath. Flowers in pendulous heads 3 -4.6 cm diameter, scented. Perianth tube creamy white, silky; lobes yellow. Fruits ovate with long, stiff, pale hairs.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3235*, dated 26.06. 2004.

Status: Rare

Local Distribution: In Tamsong & Soom gardens only.

General Distribution: Central & Eastern Himalayas, Manipur, Myanmar, China & Japan.

DAPHNE L.

Daphne cannabina Wallich in As. Res. 13: 385. t. 7, 8. 1820, *non* Loureiro 1790; FBI 5: 193. 1886; FB 2(1): 212. 1991.

Daphne papyracea Wallich in Steud. Nomencl. "ed. 2", 1: 483. 1841.

Shrubs, 1–3.5 m, evergreen. Branchlets glabrescent. Leaves clustered at branch ends, thinly coriaceous, elliptic-oblongate, acute or acuminate, cuneate, glabrous, sessile. Flowers 5–15 in terminal clusters, fragrant, sessile. Perianth tube purplish; lobes white, ovate. Drupes ovoid.

Flowers & Fruits: November – May

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1963*, dated 30.06. 2003

Status: Rare

Local Distribution: Found in Tamsong only.

General Distribution: Eastern Himalaya.

TILIACEAE A. Jussieu

GREWIA L.

Grewia sclerophylla Roxburgh ex G. Don, Gen. Hist. 1: 550. 1831; FB 2(1): 176. 1991; FI 3: 509. 1993.

Grewia scabrophylla Roxburgh, Fl. Ind. 2: 584. 1832; FBI 1: 387. 1874.

Shrub to 1 m with stout main stems, erect leafy shoots, branches stellate tomentose. Leaves coriaceous, broadly ovate or suborbicular, obtuse or subacute base broadly rounded, margins irregularly serrate, rugose and rough to touch above. Flowers white. Drupe subglobose.

Flowers & Fruits: May – June.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2482*, dated 11.11. 2003.

Status: Less Common.

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan.

Grewia serrulata DC., Prodr. 1: 510. 1824; FI 3: 509. 1993; FB 2(1): 178. 1991.

Grewia multiflora auct. non a. l. Juss. 1804; FBI 1: 388. 1874.

Local Name: *Chiple, Kuail* (Nep).

Shrubs or small trees 4–6 m tall; branches stellate pilose. Lamina membranous, ovate-lanceolate, cuneate at base, stellate pilose beneath. Peduncles 1–2 per axil, each 3–5 flowered. Drupes c 1.0 cm across.

Flowers: July – September

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1517*, dated 22.10. 2002.

Status: Less Common.

Local Distribution: Terai gardens.

General Distribution: India, Nepal, Bhutan, Malaysia, Australia.

TRIUMFETTA L.

Triumfetta pilosa Roth, Nov. Sp. 223. 1821; FBI 1: 394. 1874; FEH 1: 203. 1966; EFPN 2: 72. 1979; TBRI 50(4): 101. 1987; FB 2(1): 175. 1991.

1 to 2 m high suffrutescent herb, densely stellate hairy. Lamina ovate-lanceolate, irregularly serrate, often shallowly 2-lobed, acuminate, cordate or rounded, 5-veined. Stipules subulate. Cymes lateral. Sepals linear, pubescent; petals yellow. Capsule pilose, bristles hooked spines.

Flowers: Aug. - Dec. *Fruits:* Oct. - Jan.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0880*, dated 04.05. 2002; Makaibari TE, *AP Das & Chandrâ 2518*, dated 11.11. 2003

Status: Less Common.

Local Distribution: In all gardens.

General Distribution: Himalayas, India to Indochina.

ULMACEAE Mirbel

TREMA Loureiro

Trema orientalis (L.) Blume, Mus. Bot. Lugd. Bot. 2:58. 1856; FBI 5:484. 1888; FEH 1:52. 1966; EFPN 3: 207. 1982; FBI(1): 86.1983.

Local Name: Kunyel (Nep).

Semideciduous small trees, branchlets drooping, appressed pubescent; bark silver-grey. Lamina ovate-lanceolate, closely serrate, acuminate, cordate, scabrous above, silvery white beneath, thinly adpressed hairy; stipules deciduous. Flowers in axillary cymes. Drupes ovoid, black.

Flowers & Fruits: March - October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0448*, dated 05.04. 2002; Hansqua TE, *AP Das & Chandrâ 1472*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 0573*, dated 20.04.2002.

Status: Common

Local Distribution: In Terai gardens

General Distribution: Tropical Africa, Himalayas (Kumaon-Bhutan), India, Sri Lanka, W. & S. China and Australia.

Note: A very first growing species, often referred as 'Tree Weed'.

Trema politoria (Planchon) Blume, Mus. Bot. Lugd.-Bat. 2:58.1856; FBI 5:484. 1888; FEH 2: 82.1960; FB 1(1): 86. 1983.

Small scabrid tree, 2-8m high. Lamina ovate-lanceolate, serrate, acuminate, serrate, pale green beneath, dark green when dry, rough above with whitish papillae, basally 3-veined. Cymes axillary, Male Flowers 4-merous, tepals linear-lanceolate; Drupes ovoid and black.

Flowers & Fruits: May - Aug.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0861*, dated 04.05. 2002.

Status: Less Frequent.

Local Distribution: Found in Mohurgong & Gulma garden only.

General Distribution: Himalayas (Kumaon-Bhutan), India, S. W. China.

URTICACEAE A. JUSSIEU

BOEHMERIA Jacquin

Boehmeria glomerulifera Mig. in Zoll., Syst. Verz. Ind. Archip. 101, 104 1854; FB 1(1): 124. 1983.

B. malabarica Wedd. in Arch. Mus. Hist. Nat. Paris 8: 355. 1855-56; FBI 5: 575. 1888.

Local Name: Kamle (Nep).

Shrubs upto 3 m tall, branches pubescent. Leaves alternate, ovate, acuminate, base rounded, margins crenulate or sometimes serrulate, glabrous and rugose above, minutely hairy beneath. Flowers aggregated in globose clusters, 0.4-0.7 cm in diam.

Flowers & Fruits: March – July.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0563*, dated 17.04.2002.

Status: Rare

Local Distribution: Found in low altitude areas.

General Distribution: E. Himalaya (Darjeeling-Bhutan), Meghalaya, Sri Lanka.

Boehmeria hamiltoniana Weddell in Ann. Sci. nat. ser. 4, 1; 199. 1854; FBI 5: 579. 1888; FEH 1: 56. 1966; FB 1(1): 127. 1983.

Local Name: Kamley, Chiplay (Nep).

A robust shrub. Branches slender, glabrous. Lamina lanceolate, crenulate or serrulate, acuminate, base cuneate or narrowly rounded, glabrous, basally 3-nerved. Spikes c.12 cm long, slender. Achenes ellipsoid, glabrous, crowned with persistent style

Flowers & Fruits: September – February.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3279*, dated 26.06. 2004.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Tropical Himalayas (Nepal – Bhutan), Khasia and Mishmi Hills.

Note: Foliage commonly used as fodder.

Boehmeria macrophylla D. Don, Prodr. Fl. Nep. 60. 1825; FEH 3: 18. 1975; FBI 5: 579. 1888; EFPN 3: 201. 1982. var. *macrophylla*: FB 1(1): 126. 1983.

Monoecious or dioecious subshrub, 1-3m. Lamina ovate, cuspidate, base rounded, serrate; minor veins inconspicuous; pubescent. Petiole slender, stipule lanceolate, deciduous. Female spikes solitary, 10-30 cm. Male spikes 7-10 cm, paniculately branched.

Flowers & Fruits: June - December

Specimen Cited: Soom TE, *AP Das & Chandrâ 3181*, dated 26.06. 2004.

Status: Rare

Local Distribution: Found only in Soom garden.

General Distribution: Eastern Himalaya, Myanmar.

Boehmeria macrophylla Hornem. var. *canescens* (Weddel) Long in NRBGE 40: 129. 1982; FB 1(1): 126. 1983.

Monoecious or dioecious subshrub, 1–3m. Lamina membranous ovate, cuspidate, base rounded, serrate; minor veins inconspicuous; whitish pubescent. Petiole slender, stipule lanceolate, deciduous. Female spikes simple, solitary, to 30 cm. Male spikes to 10 cm, paniculately branched.

Flowers & Fruits: August – February.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0304*, dated 16.02. 2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Eastern Himalaya.

Boehmeria macrophylla var. *scabrella* (Roxburgh) Long in NRBGE 40: 129. 1982; FB 1(1): 127. 1983.

Urtica scabrella Roxburgh, Fl. Ind. 3: 581. 1832.

Leaves usually ovate, apex gradually acuminate, texture rather rigid, surface rugose stiffly hispid above, pubescent beneath. Spikes rigid, mostly 5-15 cm long.

Flowers & Fruits: Not recorded

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0486*, dated 17.04.2002.

Status: Less common

Local Distribution: Found only in Kamalpur garden.

General Distribution: Eastern Himalaya, Myanmar.

Boehmeria penduliflora Long in NRBGE 40: 130. 1982; FB 1(1): 125. 1983.

Boehmeria macrophylla D. Don, Prodr. 60. 1825, non Hornem. 1815; FBI 5: 577. 1888.

Monoecious shrub, 1–3 m. Leaves lanceolate, acuminate, cuneate, sharply serrulate, glabrous, roughened above, softly pubescent beneath; stipule lanceolate. Male spikes borne below, clusters few flowered. Female borne above, flowers numerous; style hooked.

Flowers & Fruits: August – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2088*, dated 30.06. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan, Malaysia.

Boehmeria polystachya Weddel [in Ann. Sci. Nat. Ser. 4:11. 1854. nom. nud.] Monogr. Urtic. 370. 1856; FBI 5: 579. 1888; FEH 3: 18. 1975; Fl. Nep. 3: 201. 1982

Monoecious or dioecious, 1–3 m. Lamina ovate, regularly serrate, base rounded or cordate, paler beneath, secondary veins conspicuous, numerous, parallel, spreading from main veins; petioles stout, 3–8cm; spikes forming short, dense, much-branched panicles, 5–10cm long.

Flowers & Fruits: June - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1624*, dated 22.10. 2002.

Status: Less common

Local Distribution: All Terai gardens.

General Distribution: Eastern Himalaya, Nepal, Bhutan, Myanmar, Malaysia.

Boehmeria rugulosa Weddell in Ann. Sci. Nat. Ser. 4, 1:200. 1854; FBI 5:577. 1888; FEH 1:57. 1966; FB 1(1):125. 1983.

Local Name: *Daar* (Nep).

Small trees to 9m tall, dioecious. Leaves opposite; lamina ovate-lanceolate, crenulate, acuminate, subcuneate/ rounded, strongly 3-veined, rugose, whitish pubescent beneath. Spikes ±15 cm long; male flowers globose, polyphyllous. Female perianth ovoid, compressed, enclosing anchenes.

Flowers & Fruits: September - December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2243*, dated 05.09. 2003.

Status: Less common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Garhwal – Bhutan).

Note: Different types of traditional bowls and domestic utensils are made from its wood by a community called Chundaray.

Boehmeria ternifolia D.Don, Prodr. 59. 1825; FEH 1: 57. 1966; FB 1(1): 127. 1983.

Monoecious or dioecious subshrub, 1 – 3 m. Leaves orbicular or suborbicular, abruptly cuspidate, base rounded, crenate –serrate or dentate, larger towards apex; minor veins inconspicuous; appressed pubescent. Petiole slender; stipule lanceolate, deciduous. Spikes slender and flexuose.

Flowers & Fruits: May – August.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1850*, dated 10.06.2002.

Status: Found only in Makaibari garden.

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas.

CHAMABIANA Wight

Chamabiana cuspidata Wight, Icon. t. 1981. 1853; FBI 5: 580. 1888; FEH 1: 57. 1966; 3: 19. 1975; EFPN 3: 202. 1982; FB 1(1): 128. 1983; TBRI 50 (4): 109. 1987.

Local Name: *Kurkuray Jhar* (Nep).

Slender diffuse, creeping or tufted, densely pubescent herbs. Leaves opposite; lamina broadly ovate, serrate, acute, base rounded or cuneate, basally 3-nerved, pubescent. Flowers in axillary sessile clusters, 4-merous; male perianth deeply divided; female minute. Achenes compressed.

Flowers & Fruits: Mar. - Nov.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2210*, dated 30.06. 2003

Status: Abundant.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Garhwal – Bhutan), India, Sri Lanka, Myanmar, east to China, Formosa, Java.

DEBREGESIA Gaud.

Debregeasia longifolia (Burman f.) Weddel in DC.; Prodr. 16(1):235. 1869; FEH 1:56. 1966; FBI (1):132. 1983;

Urtica longifolia Burman f., Fl. Ind. 297. 1768.

Debregeasia velutina Gau., Bot. Bonite Voy. t. 90. 1842-43; FBI 5:590. 1888.

Local Name: *Tusaray* (Nep)

Large evergreen shrubs, 2.5-7.5 m high. Bark dark brown. Young parts silky pubescent. Leaves alternate, elliptic-lanceolate, margin finely serrate, acuminate, base rounded, 3-veined at base, white tomentose beneath. Male flowers usually 4-merous, clustered into a compact cyme of 0.6 cm diam. Female cymes 1-1.5 cm diam. Achenes enclosed by fleshy perianth, orange yellow.

Flowers & Fruits: May - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1776*, dated 17.05.2003.

Status: Common

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas (Kumaon-Arunachal Pradesh), India, Sri Lanka, Myanmar, W. E. China, Malaysia.

Note: The fibres obtained from the stem is commonly used to make rope and fishing nets. Fruit is also edible.

DENDROCNIDE Miquel

Dendrocnide sinuata (Blume) Chew in Gard. Bull. Singap. 21:206. 1965 & 25:36. 1969, FB 1(1):111. 1983;

Urtica sinuata Blume, Bijdr. 505. 1825.

Laportea crenulata Weddel, Arch. Mus. Hist. Nat. Paris 9: 133. 1856, FBI 5: 550. 1888.

Local Name: *Morungay* (Nep).

Tall shrubs to 9 m high. Lamina elliptic or ovate, entire or crenate-sinuate, acute to acuminate, cordate or rounded, sparsely stinging hairy beneath. Male panicles smaller. Flowers greenish; ovary apically beaked. Achenes obliquely ovate, whitish.

Flowers & Fruits: May - September

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1814*, dated 17.05.2003.

Status: Less common.

Local Distribution: Found only in Makaibari garden..

General Distribution: Subtropical Himalayas (Nepal-Bhutan), India, Sri Lanka, Myanmar, east to China, Malaysia.

ELASTOTEMA Forster

Elatostema hookerianum Weddel, Monogr. Urtic. 309. 1856; FBI 5: 567. 1888; FEH 1:58. 1966; 3:20. 1975; FB 1(2):122. 1983; TBRI 50 (4): 112. 1987.

Perennial, dioecious erect herb, 12-30cm, glabrous; Lower stem creeping. Leaves sessile, obscurely oblong-elliptic, acuminate, base obliquely cordate-auriculate, margin serrate on upper half. Flowers dioecious. Achenes ellipsoid, irregularly ribbed.

Flowers & Fruits: April – September

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2510*, dated 11.11. 2003; Tamsong TE, *AP Das & Chandrâ 2312*, dated 05.09. 2003.

Status: Less common

Local Distribution: All three hill gardens.

General Distribution: E. Himalaya (Darjeeling-Arunachal Pradesh), Meghalaya, Naga Hills, S. Tibet.

Elatostema lineolantum Wight, Ic. Pl. Ind. Or. 6: t. 1984. 1853; FBI 5: 565. 1888; FEH 1: 58. 1966; Fl. Nep. 3: 203. 1982.

Flowers & Fruits: September - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2545*, dated 11.11. 2003

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas

Elatostema rupestre Wedd. in Arch. Mus. Par. 9: 304. 1855 –56.

Small, erect, undershrubs, woody, pubescent, to 30 cm. Lamina asymmetric elliptic –lanceolate, acuminate base, cuneate, finely serrate from below middle, rigid, 3 veined at base. Stipules lanceolate. Flowers in dense, solitary, globose heads.

Flowers & Fruits: June - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3039*, dated 10.04. 2004.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas, China, Malaysia.

Elatostema sessile Forster, Char. Gen. 106. 1776; FBI 5: 563. 1888; FEH 1: 59. 1966; FB 1(1): 118. 1983; TBRI 50 (4): 113. 1987.

Local Name: *Gagleto* (Nep).

Comparatively larger herbs, 20-60 cm, often appearing undershrub. Stem hollow, creeping at base. Leaves sessile, alternate, asymmetrically elliptic, margin deeply serrate, acuminate, base obliquely cuneate, dark green, scarcely appressed pilose. Flowers heads axillary, usually sessile or rarely short peduncled. Achenes ellipsoidal.

Flowers & Fruits: May - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2775*, dated 25.03. 2004.

Status: Less common

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas (Garhwal-Bhutan), India, Myanmar, east to China, Malaysia

GIRARDINIA Gaud.

Girardinia diversifolia (Link) Fries in KB 36: 145. 1981; FB 1(1): 111. 1983; TBRI 50 (4):150. 1987.

Urtica diversifolia Link, Enum. 2: 385.1822, non Bl. 1825.

Girardinia heterophylla Decne in jacquemont, Voy. Inde. 4, Bot. 151. 1844; FBI 5: 550. 1888.

Local Name: *Bhangray Sisnu* (Nep).

undershrubs to 2m high, stinging hairs dense & stout. Leaves alternate; lamina broadly ovate, deeply palmate-lobed or unlobed, acuminate, coarsely serrate, 3-nerved. Male panicles axillary, spreading; Female panicles prickly, condensed spike-like. Achenes compressed, blackish.

Flowers & Fruits: Jun. - Sep.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1691*, dated 17.05.2003.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Punjab – Bhutan), India, Sri Lanka, Myanmar, east to C. China, Malaysia.

Note: Bow-strings and ropes are made from the fibres.

LAPORTEA Gaud.(nom. cons.)

Laportea terminalis Wight., Icon. t. 1972. 1853; FBI 5: 549. 1888; FEH 1: 60. 1966; EFPN 3: 204. 1982; FB 1(1): 110. 1983; TBRI 50 (4):118. 1987.

Local Name: *Patle Sisnu* (Nep).

A, suffrutescent plant upto 125 cm high, stinging hairs white. Stipules lanceolate. Leaves alternate; lamina ovate, serrate, acute to acuminate, rounded, 3 nerved at base. Male panicles longer. Tepals 4-5 in male flowers. Female pedicel winged, tepals unequal. Achenes flattened.

Flowers & Fruits: May – February

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1964*, dated 30.06. 2003.

Status: Less Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas (Kumaon – Bhutan), India, Sri Lanka, Tibet, Myanmar, east to China, Malaysia.

LECANTHUS Weddel

Lecanthus peduncularis (Royle) Weddel in DC., Prodr. 16(1): 164. 1869; FEH 1:60. 1966; FB 1(1): 116. 1983; TBRI 50 (4):118. 1987.

Procris peduncularis Royle, III. Bot. Himal t. 83. 1836.

Succulent, dioecious herbs, shoots decumbent. Leaves opposite; lamina asymmetric, ovate serrate, acuminate, oblique-rounded, pilose, 3-nerved, veins pilose hairy. Peduncles to 25cm

long, simple. Receptacles upto 2.6cm across, fleshy. Flowers reddish-green. Achenes ovoid, warted.

Flowers & Fruits: July – October.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2678*, dated ; Tamsong TE, *AP Das & Chandrâ 2325*, dated 05.11. 2003.

Status: Common.

Local Distribution: All three hill gardens.

General Distribution: Africa, Himalayas, India, Myanmar, W. & C. China, Taiwan, Java.

Lecanthus wightii Weddel, in Ann. Sci. Nat. Ser. 4, 1: 187. 1854; FBI 5: 559. 1888.

Like *L. peduncularis*, but a small semi-erect plant; peduncle and disc very small. Prefer open places.

Flowers & Fruits: July – October.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2707*, dated 27.01.2002; Tamsong TE, *AP Das & Chandrâ 1415*, dated 05.11. 2003.

Status: Less common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas, India, Myanmar, China, Taiwan, Java

MAOUTIA Weddel

Maoutia puya (Hooker) Weddel in Ann. Sci. Nat. Ser. 4.1: 193. 1854; FBI 5: 592. 1888; EFPN 3: 204. 1982.

Boehmeria puya Hook. in Lond. J.B. 3: 316. t. 7. 1851.

Shrubs to 3 m. Lamina ovate –elliptic, acuminate, coarsely dente-serrate, base rounded or cuneate, pilose above, white tomentose beneath; stipules 9 –12 mm. Cyme clusters terminal and along slender branches; males 4 –7 mm and females 2 mm in diameter. Achenes strigose.

Flowers & Fruits: June – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1737*, dated 17.05.2003.

Status: Common

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas, India, Myanmar, China, Taiwan, Africa.

OREOCNIDE Miquel

Oreocnide frutescens (Thunberg) Miquel, Ann. Mus. Bot. Lugd.-Bat. 3:131. 1867; FEH 3:23. 1975; EFPN 3:204. 1982; FB 1(1):131. 1983; TBRI 50(4):121. 1987.

Urtica frutescens Thunberg, Fl. Jap. 70. 1784.

Villebrunea frutescens (Thunberg) Blume, Mus. Bot. Lugd.-Bat. 2:168. 1875; FBI 5:590. 1888; FEH 1:162. 1966.

Local Name: Kirma (Nep).

Bushy shrubs, 2-4 m high, young twigs lenticellate, silky pubescent. Leaves alternate; lamina elliptic-lanceolate, acuminate, serrate-crenate, 3-veined, whitish pubescent. Flowers dioecious, clustered. Male heads sessile, 0.6-1 cm diam. Female heads smaller. Ripe achenes ovoid, red.

Flowers & Fruits: March - November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1816*, dated 17.05.2003.

Status: Less common

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas (Punjab-Bhutan), N. India, Myanmar, W. and S. China, S. Japan.

PILEA Lindley (nom. cons.)

Pilea anisophylla Weddel, Monogr. Urtic. 193. 1856; FBI 5: 552. 1888; Fl. Nep. 3: 205. 1982.

Lower stem prostrate; lamina obliquely ovate-lanceolate; inflorescence branches in one plain.

Flowers & Fruits: August – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2257*, dated 05.09. 2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Himalayas

Pilea bracteosa Weddel, Monogr. Urtic. 245. 1856; FBI 5: 555. 1888; FEH 3:24. 1975; EFPN 3: 205. 1982; FB 1(1): 114. 1983; TBRI 50 (4): 123. 1987.

Glabrous herbs, 30-52 cm high. Stem woody. Leaves opposite, broadly ovate, margin sharply serrate, acuminate, base rounded, glabrous or rarely sparsely pubescent above, strongly 3-veined. Panicles spreading with male and female flowers.

Flowers & Fruits: May - August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2242*, dated 05.09. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas (Nepal-Bhutan), Meghalaya, Myanmar, W. China.

Pilea scripta (Buch. –Ham. ex D. Don) Weddel, in Ann. Sci. Nat. Ser. 4, 1: 187. 1854; FBI 5: 556. 1888; Fl. Nep. 3: 205. 1982; FB 1(1): 113. 1983.

Urtica scripta Buch. –Ham. ex D. Don. Prodr. Fl. Nep. 61. 1825.

Local Name: *Sheta Gaglata* (Nep).

Monoecious or dioecious herb upto 1 or 1.5 m, Woody at base, glabrous, stems succulent, swollen above nodes. Leaves elliptic or lanceolate, often slightly asymmetric, acuminate, base tapering but rounded at incision, margins finely serrate, lateral veins numerous. Male panicles often large in lower axils and female panicles in upper axils.

Flowers & Fruits: July – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2242*, dated 05.09. 2003.

Status: Less common

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas.

Pilea symmeria Weddel, Monogr. Urtic. 246. 1856; FBI 5: 554. 1888; FEH 1: 62. 1966; 3: 25. 1975; EFPN 3: 206. 1982; FB 1(1): 113. 1983; TBRI 50 (4) : 123. 1987.

Local Name: *Phusray Gakleto* (Nep).

Small robust herb, woody at base, glabrous. Lamina ovate, serrate, acute, rounded, dark green, glabrous, or sparsely pilose above, strongly 3-veined. Panicles axillary. Male flowers 3-merous. Female flowers with 3 minute and unequal perianth segments. Achenes compressed, smooth.

Flowers & Fruits: June – November.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1736*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2620*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2071*, dated 30.06. 2003.

Status: Common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kumaon – Bhutan), Meghalaya, W. & C. China.

Pilea umbrosa Weddel in Ann. Sci. Nat. ser. 4, 1: 187. 1854; FBI 5: 556. 1888; FEH 1: 62. 1966; FB 1(1): 113. 1983; TBRI 50 (4):123. 1987.

Annual herbs, 28-45 cm high, ± pubescent. Leaves opposite; lamina broadly elliptic-ovate, serrate, caudate-acuminate with long acumen, sub-cuneate or rounded, 3-nerved, dark green. Male panicles much branched; females shorter. Achenes smooth, flattened, with intra-marginal ridge.

Flowers: May - Aug. *Fruits:* Aug. - Nov.

Specimen Cited: Soom TE, *AP Das & Chandrâ 2652*, dated 27.12. 2003.

Status: Common.

Local Distribution: In all hill gardens.

General Distribution: Himalayas (Kashmir-Bhutan), Meghalaya, Myanmar, W. China.

POUZOLZIA Gaud.

Pouzolzia hirta (Blume) Hasskarl, Cat. Hort. Bogor. 80. 1844; FBI 5:586. 1888; FEH 1: 59. 1966; FB 1(1): 130. 1983.

Urtica hirta Bl., Bijdr. 495. 1825.

Gonostegia hirta (Blume) Miquel, Ann. Mus. Bot. Lugd.-Bat. 4:303. 1869; FEH 1:59. 1966; EFPN 3:204. 1982.

Local Name: *Chiplay* (Nep).

Prostrate to suberect perennial herbs. Leaves sessile, opposite; lamina ovate to lanceolate, acuminate, entire, subcordate to rounded, 3-veined, minutely pubescent. Flowers in globose clusters around nodes. Male flowers subglobose; female tepals ovoid, ribbed. Fruits 2-4 winged.

Flowers & Fruits: Jun. - Aug.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1836*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 1985*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 2649* dated 27.12. 2003.

Status: Abundant.

Local Distribution: All three hill gardens.

General Distribution: Himalayas, India, Myanmar, W. & C. China, Taiwan.

Note: Roots are medicinally used for treating the bone dislocation and fractures.

Pouzolzia zeylanica (L.) Bennett & Brown, Pl. Jav. Rar. 67. 1838; FB 1(1): 130. 1983.

Parietaria zeylanica L., Sp. Pl. 1052. 1753.

Monoecious, suberect herbs, up to 50 cm. Leaves opposite and alternate, smaller, rounded or cuneate, 3 -veined. Petiole 2cm, stipule free, lateral. Flower cluster smaller, strigose with straight or hooked hairs; male flower globose, segments convex, not angled.

Flowers & Fruits: January – December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1484*, dated 20.10.2002; Kamalpur TE, *AP Das & Chandrâ 0404*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 1925*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2079*, dated 30.06. 2003

Status: Abundant

Local Distribution: In all gardens.

General Distribution: India, Sri Lanka, Bangladesh, Myanmar, Malaysia, China.

URTICA L.

Urtica dioica L., Sp. Pl. 984. 1753; FBI 5: 548. 1888; Fl. Nep. 3: 207. 1982.

Local Name: *Sishnu* (Nep)

Plants to 2 m, monoecious, densely covered with white stinging hairs. Lamina ovate – lanceolate, acuminate, sharply serrate, base rounded / cordate; stipules lanceolate. Panicles 2 –5 cm. Male tepals orbicular. Female tepals: 2 ovate, 2 lanceolate. Achenes ovoid or ellipsoid, white.

Flowers & Fruits: June – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1731*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2337*, dated 05.11. 2003; Soom TE, *AP Das & Chandrâ 3504*, dated 12. 10. 2004.

Status: Abundant.

Local Distribution: All three hill gardens.

General Distribution: Pantemperate

Urtica mairei H. Lev., Fedde Repert. 12: 183. 1913; FEH 3:28. 1975.

U. parviflora Roxburgh, Fl. Ind. ed. 2, 3: 581. 1832; FBI 5:548. 1888; FB 1(1): 108. 1983.

Local Name: *Sisnu* (Nep).

Undershrubs upto 3m tall, pubescent, woody at base. Branches 4-angled, sting-hairs stiff. Leaves opposite; lamina ovate-lanceolate rarely ovate, doubly crenate or serrate, acuminate, base rounded or cordate. Panicles ±10 cm long. Male perianth 4-lobed. Achenes compressed..

Flowers & Fruits: March – January.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1803*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3493*, dated 12. 10. 2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Temperate Himalayas and Nilgiris.

VALERIANACEAE Batsch.

VALERIANA L.

Valeriana hardwickii Wallich in Roxb., Fl. Ind. 1: 166. 1820; FBI 3: 213. 1881; FEH 1: 320. 1966; EFPN 2: 209. 1979; TBRI 50 (4): 129. 1987; FB 2(3): 1367. 2001.

Perennial erect, 30-80 cm tall glabrous herb with small root-stock. Branching upwards, nodes pillose. Leaflets 3, lateral ones smaller, terminal one larger, ovate-lanceolate, remotely obscure-serrate, acuminate, base cuneate or rounded, thin to thickly white pubescent, usually shrivel at flowering time. Corymbs large, lax with white flowers.

Flowers: June - October; *Fruits:* August - December

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2409*, dated 05.11. 2003

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas (Kashmir-Bhutan), Meghalaya, Myanmar, east to China, Java.

Note: Roots substitute valerian.

VERBENACEAE Jaume St. Hil.

CALLICARPA L.

Callicarpa arborea Roxburgh ex Clarke in FBI 4:567. 1885; FEH 1: 268. 1966; EFPN 3: 145. 1982; TBRI 150(4): 108. 1987.

Local Name: *Guenlo* (Nep).

Small evergreen trees, 5-10m tall, branches stellate hairy. Leaves opposite, ovate-lanceolate, acute, narrowed at base, margin entire, glabrous above, stellate tomentose beneath. Cymes axillary with mauve-purple flowers. Drupe globose, purplish.

Flowers & Fruits: April - November.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1734*, dated 17.05.2003.

Status: Less common

Local Distribution: Found in low altitude areas.

General Distribution: Himalayas (Kumaon-Bhutan), India, Myanmar, S. China, Malaysia.

CARYOPTERIS Bunge

Caryopteris odorata (Buch. -Ham. ex Roxburgh) B. L. Robinson in Boc. Amer. Ac. Arts & Sci. 51: 531. 1916; FEH 2: 112. 1971.

Volkameria odorata Buch. -Ham. ex Roxburgh, Beng. 46. 1814, *nom. nud.*

Small shrub, branches ashy -pubescent. Leaves elliptic, dentate, acuminate, base cuneate. Flowers in terminal thyrses; calyx minute, teeth lanceolate, 1 -3 ribbed; corolla tube 1cm. Limbs spreading, lower middle lobe larger and crisped, white.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Tamsongi TE, *AP Das & Chandrâ 3088*, dated 10.04.2004.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Subtropical Himalayas.

CLERODENDRUM L.

Clerodendrum indicum (L.) O. Kuntze, Rev. Gen. 586. 1891. FBI 4: 595.1885. FB 2(2): 931.1999.

Siphonanthus indica L., Sp. Pl. 109. 1753.

Clerodendrum siphonanthus R.Br. in Ait.f., Hort. Kew. 4: 65. 1812; FBI 4: 595. 1885.

Local Name: *Bamunhati* (Beng)

Tall glabrous shrubs upto 3 m tall; stems ridged. Leaves whorled, subsessile, lanceolate-oblong, sub-entire, acuminate, base tapering, glabrous. Panicle lax, terminal, elongated; flowers white, narrowly funnel-shaped. Nutlets 4, in a persistent bright red enlarged calyx.

Flowers & Fruits: June – February.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0894*, dated 04.05.2002; Hansqua TE, *AP Das & Chandrâ 1012*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 1290*, dated 18.10.2002.

Status: Less common.

Local Distribution: In Terai gardens.

General Distribution: India, Sri Lanka, Bangladesh, Myanmar, Nepal, S. China, Indo-China and Malaya.

Note: Widely cultivated as an ornamental and for medicinal uses.

Clerodendrum viscosum Ventenat, Jard. Malamina 1: 25, 1803; FB 2(2): 934.1999.

Clerodendrum infortunatum Lour., Fl. Cochinch. ed. 1, 2: 387. 1790; FBI 4: 594. 1885.

Local Name: *Chitu, Barte* (Nep); *Vant* (Beng)

Undershrubs >80 cm high. Lamina 7.5-19 x 6.5-14 cm, ovate, subentire to serrate, dentate, acute or acuminate, base sub-truncate or rounded. Panicles pyramidal, corymbose, terminal, bracteate; flowers pink tinged white; Drupes bluish-black, glossy, hidden in red persistent calyx.

Flowers & Fruits: February – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0050*, dated 20.04.2002; Hansqua TE, *AP Das & Chandrâ 0123*, dated 03.02.2002.

Status: Abundant

Local Distribution: All Terai gardens.

General Distribution: Indo-Malaysia.

DURANTA L.

Duranta repens L., Sp. Pl. 637. 1753; FEH 1: 269. 1966; Fl. Nep. 3: 147. 1982.

Shrub 2-5 m, stems quadrangular, finely appressed pubescent, older shoots with straight axillary spines. Leaves membranous obovate or elliptic, acute, base cuneate or alternate, margin serrate in upper half, rarely entire, glabrous above. Flowers blue with white eye in slender, curved racemes.

Flowers & Fruits: April - October

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1013*, dated 09.05.2002.

Status: Often cultivated as a hedge plant

Local Distribution: All Terai gardens.

General Distribution: Native of Central America.

GMELINA L.

Gmelina arborea Roxburgh, Pl. Corom. 3:42.t.246. 1819 & in Fl. Ind. 3:84.1832; FBI 4:581.1885; FB 2(2): 928.1999.

Local Name: *Gamar*, *Khamari* (Nep.); *Gammari* (Beng.)

Tall deciduous trees; lamina broadly ovate, chartaceous, entire, acuminate, cordate or truncate, glabrous above, stellately fulvous-tomentose beneath. Flowers yellow in terminal corymbose panicles. Drupes ovoid or pyriform, fleshy, yellow when ripe.

Flowers & Fruits: February - June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0855* dated 04.05.2002; Kamalpur TE, *AP Das & Chandrâ 1200*, dated 18.10.2002.

Status: Commonly planted for timber.

Local Distribution: In Terai gardens.

General Distribution: India, Sri Lanka, Bangladesh, Myanmar, Islands of Malaya and the Philippines.

Note: The light weight timber is durable, highly estimated for the manufacture of furnitures and a valuable firewood crop.

LANTANA L.

Lantana camara L., Sp. Pl. 627. 1753; FBI 4: 562. 1885; FEH 1: 270. 1966; FB 2(2): 914.1999.

Local Name: Barra Mase (Nep.); Lantana (Eng.)

Straggling prickly aromatic shrubs with grayish-brown bark. Leaves opposite, ovate, crenate, acute or acuminate, base cuneate or rounded scabrous, rugose. Flowers mostly orange, often varying to white or pinkish in capitate spikes. Fruits greenish blue when ripe, shining.

Flowers & Fruits: January - December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1615*, dated 22.10. 2002; Hansqua TE, *AP Das & Chandrâ 0169*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 1298*, dated 18.10.2002; Tamsong TE, *AP Das & Chandrâ 3059*, dated 10.04. 2004.

Status: Abundant

Local Distribution: In all gardens.

General Distribution: Native of Tropical America; naturalized in the Himalayas, India, Bangladesh, Myanmar, China, Malaysia and Australia.

Note: Introduced from tropical America and runs wild through India, common both in hills and in plains. Some showy forms are cultivated as ornamentals.

PHYLA Loureiro

Phyla nodiflora (L.) Greene in Pittonia 4:46.1899. FBI 4:563.1885; FB 2(2): 916.1999.

Verbena nodiflora L., Sp. Pl. 20. 1753.

Lippia nodiflora (L.) Michaux, Fl. Bor. Amer. 2:15.1803;

Local Name: Okra (Beng)

Slender, diffuse, prostrate herbs, often rooting at nodes; lamina obovate, serrated towards tip, entire towards base, obtuse, base cuneate, glabrous. Spikes cylindric, axillary, solitary from each node; corolla bilabiate, white, tinged with purple. Drupes globose, enclosed by calyx.

Flowers & Fruits: January – December

Specimen Cited: Matigara TE, AP Das & Chandrâ 3614, dated 20. 10. 2004

Status: Rare

Local Distribution: In Terai gardens

General Distribution: Pantropical

Note: Occasionally cultivated as a tropical ground-cover plant.

VITEX L.

Vitex negundo L., Sp. Pl. 638. 1753; FBI 4: 583. 1885; FEH I: 270. 1966

Local Name: Nisinda (Beng)

Large shrubs, branches suberect, foetid. Leaves digitately 3-5 foliolate; leaflets ovate-lanceolate, entire, crenulate acute or acuminate, glaucous beneath. Panicles 12-18 cm long. Flowers bluish or purplish. Drupe ca. 0.5cm diam., obscurely ribbed and glandular.

Flowers & Fruits: Apr. - Oct.

Specimen Cited: Hansqua TE, AP Das & Chandrâ 1454, dated 20.10.2002.

Status: Common.

Local Distribution: In Terai gardens.

General Distribution: Afganistan, India, Himalayas, Sri Lanka, China, Myanmar, Malaysia.

VIOLACEAE Batsch.

VIOLA L.

Viola diffusa Ging. In DC., Prodr. 1: 298. 1824; FBI 1: 183. 1872; FB 2(1): 224. 1991; FI 2: 361. 1993.

Small tufted perennial. Lamina ovate, obtuse, rounded, decurrent on petiole, sparsely pubescent with straight hairs; petioles pubescent; stipules pale, lanceolate, ciliate. Flowers on slender, glabrous peduncles. Sepals lanceolate, acute, sparsely ciliate. Petals pale blue, greenish yellow at base, glabrous within; lowest petal purple streaked. Capsule oblong ovoid, glabrous.

Flowers & Fruits: May – October.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1786*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3430*, dated 12.10.2004; Tamsong TE, *AP Das & Chandrâ 2259*, dated 05.09.2003.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas, Myanmar, China.

Viola hamiltoniana D. Don, Prodr. Fl. Nep. 206. 1825; EFPN 2: 47. 1979; Fasc. Fl. Ind. 12: 23. 1983; Nam. Chang. Flowers Pl. 391. 1987. FB 2(1): 228. 1991; FWB 1:219. 1997.

V. distans Wallich in Tr. Med. Phys. S. Calc. 7: 227. 1835; FBI 1: 183. 1872.

Perennial and stoloniferous herb. Stolons slender. Leaves stipulate, lanceolate, fimbriate, brownish, ovate, crenate-serrate, acute to rounded, deep cordate or deltoid, sparsely pubescent above, glabrous beneath. Flowers white. Capsule many seeded.

Flowers: March - June *Fruits:* April - August

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2788*, dated 25.03. 2004.

Status: Rare.

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas (Simla-Arunachal Pradesh), Myanmar, China, Malaysia, Philippines.

Viola hookeri Thomson in FBI 1: 183. 1872; FB 2(1): 226. 1991.

Viola sikkimensis W. Becker in Beih. Bot. Centralbl. Abt. 2, 34: 260. 1916; FI 2: 374. 1993.

Stoloniferous perennial. Lamina broadly ovate or rounded-ovate, subacute, cordate, broadly & shallowly crenate, glabrous; stipules ovate - lanceolate, sparsely fimbriate. Peduncles glabrous, bracts linear. Sepals oblong, acute. Petals white, glabrous within, lower most violet - streaked; spur saccate, rounded.

Flowers & Fruits: May - October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2253*, dated 05.09. 2003.

Status: Rare.

Local Distribution: Found only in Tamsong garden.

General Distribution: Eastern Himalaya.

Viola pilosa Blume, Cat. Gew. Buitenz. 57. 1823; FB 2(1): 228. 1991; FI 2: 371. 1993.

Viola serpens Wallich ex Ging. In DC., Prodr. 1: 296. 1824; FBI 1: 184. 1872.

Stoloniferous perennial. Leaves acute, cordate, crenate - serrate, sparsely pubescent; petioles densely retrorse - pubescent; stipules ovate lanceolate, deeply fimbriate, pubescent. Peduncles 2 - 6cm, sparsely pubescent; bract linear lanceolate. Sepals ciliate, pubescent at base; appendages acute. Petals 8 - 10mm, mauve, pubescent within; spur 3 - 4mm, rounded.

Flowers & Fruits: May - October.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1705*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 1972*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 2616*, dated 27.12. 2003.

Status: Abundant

Local Distribution: All three hill gardens.

General Distribution: Himalayas.

VITACEAE A. Juss.

AMPELOCISSUS Planch.

Ampelocissus sikkimensis (M. Lawson) Planchon in J. Vigne Amer. 8: 375. 1884; FI 5: 259. 2000; FB 2(1):152.1991.

Vitis sikkimensis M. Lawson in FBI 1: 650. 1875.

Climbers, softly glandular bristly; tendrils leaf-opposite, bifid, one branch again bifid. Leaves simple, unlobed or shallowly 3–5 lobed, broadly ovate, acuminate, deeply cordate, irregularly dentate, softly tomentose beneath. Flowers yellowish green in panicles. Berry black, globose.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1535*, dated 22.10. 2002.

Status: Common

Local Distribution: In all gardens.

General Distribution: India, Nepal, Bhuta, Myanmar.

CISSUS L.

Cissus javana DC., Prodr. 1: 628. 1824; FB 2(1): 158. 1991.

Cissus discolor Blume, Cat. 39. 1823; FI 5: 282. 2000.

Vitis discolor (Blume) Dalz. In Hook., Kew J. Bot. 2: 39. 1850; FBI 1: 647. 1875.

Climbers. Branches red, long, slender, angular, tufts of hair at nodes. Leaves simple, lanceolate to ovate, acuminate, cordate or truncate, sometimes asymmetric, serrulate, purple beneath, above often blotched with white between veins. Flowers yellow, cymes leaf opposed; Berry red – purple.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1853*, dated 10.06. 2003.

Status: Rare

Local Distribution: Only in Makaibari garden.

General Distribution: Eastern Himalaya.

TETRASTIGMA Planch.

Tetragium bracteolatum (Wallich) Planchon in DC., Monogr. Phan. 5: 428. 1887; FI 5: 310. 2000; FB 2(1): 154.1991.

Vitis bracteolata Wallich in Roxb., Fl. Ind. 2: 483. 1824; FBI 1: 654. 1875.

Large climbers; stems puberulous, glabrescent; tendrils simple. Leaves trifoliolate; stipules caducous. Leaflets membranous, ovate or elliptic, acuminate, rounded, distantly and shallowly serrate, puberulous on veins beneath. Flowers in lax puberulous cymes. Berry subglobose.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3146*, dated 30.06. 2003

Status: Very common.

Local Distribution: In hill gardens.

General Distribution: Himalayas.

Tetrastigma dubium (M. Lawson) Planchon in DC., Monogr. Phan. 5: 437. 1887; FI 5: 311. 2000; FB 2(1): 154. 1991.
Vitis dubia M. Lawson in FBI 1:661. 1875.

Large climbers; stems glabrous; tendrils simple. Leaves pedately 5 or 3-foliolate; stipules caducous. Leaflets lanceolate, acuminate, rounded, distantly and shallowly serrate, glabrous or puberulous on veins beneath. Flowers in compact sparsely pubescent cymes. Berry subglobose.

Flowers & Fruits: Jun. - Dec.

Specimen Cited: Soom TE, *AP Das & Chandrá* 3392, dated 12. 10. 2004.

Status: Common.

Local Distribution: In Hill gardens.

General Distribution: Nepal, Sikkim, Assam, China, etc.

LILIOPSIDA [MONOCOTYLEDONS]

AMARYLLIDACEAE J. St. Hilaire

CRINUM L.

Crinum amoenum Roxburgh, Fl. Ind. 2: 127. 1832; FBI 6: 282. 1892; FB 3(1): 83.1994.

Bulbous perennial. Bulbs subglobose. leaves spreading, ensiform acute, with narrow membranous margins. Umbels on a long solid, purplish scape with 3-10 white, sessile fragrant flowers; perianth white; anthers versatile. Capsules subglobose; seeds rounded, greenish.

Flower: June – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0939*, dated 04.05. 2002.

Status: Common.

Local Distribution:

General Distribution: India, Sri Lanka, Java, Malaya & Western Polynesia.

ZEPHYRANTHES Herbert

Zephyranthes carinata Herb. Bot. Mag. t. 2594. 1832; FB 3(1): 84. 1994.

Local Name: *Piyaji phul* (Nep)

Bulb ovoid, tunics dark brown. Leaves 3-6 linear, 40cm; spathe larger than pedicel, membranous, purplish with pink flowers.

Flowers & Fruits: April-August

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1939*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1760*, dated 17.05.2003.

Status: Common.

Local Distribution: All three hill gardens.

General Distribution: Native of Mexico; naturalized in India.

ARACEAE A. Jussieu

ALOCASIA (Schott) G. Don

Alocasia macrorrhiza (L.) G. Don in Sweet, Hort. Brit. ed. 3, 631.1839. FB 3(1): 139.1994.

Arum macrorrhizon L., Sp. Pl. 965.1753.

Alocasia indica Spach, Hist. Nat. Veg. Phan. 12:47.1846; FBI 6:525.1893.

Local Name: *Man-kachu* (Beng)

Rootstock massive, upto 1.5 m long, stout. Leaves ovate, large, undulate, obtuse-rounded, deeply sagittate-cordate, bright green. Spathes pale yellowish green. Fertile male inflorescence white; females yellow. Berries red.

Flowers & Fruits: April – September

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1606*, dated 22.10. 2002; Kamalpur TE, *AP Das & Chandrâ 0472*, dated 17.04.2002.

Status: Very common.

Local Distribution: In Terai gardens.

General Distribution: India, Bangladesh, Nepal, Sri Lanka; S.E. Asia to Pacific.

Note: Cultivated near houses; rootstocks eaten cooking.

AMORPHOPHALUS Blume ex Decn. (nom. cons.)

Amorphophallus bulbifer (Roxburgh) Blume in Rumphia 1:148. 1835; FBI 6: 515. 1893; FEH 1:394. 1966; FB 3(1): 122. 1994; Fl. Sik. 1:186. 1996.

Arum bulbifer Roxburgh, Fl. Ind. ed. 2, 3:510. 1832.

Perennial herbs, growing from a corm-like subglobose tuber. Cataphylls membranous, brownish. Leaves narrow-oblong, acuminate, cuneate; bulbils developed at primary or secondary divisions of leaf and leaflets. Peduncle stout and smooth. Spathe ovate, subacute, margins overlapping basally, usually greenish outside, pinkish crimson inside towards base. Spadix equalling spathe, swollen, subacute, pink, sometime whitish.

Flowers & Fruits: April – June.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0541*, dated 17.04.2002.

Status: Less Common.

Local Distribution: All Terai gardens.

General Distribution: Tropical E. Himalaya (Sikkim, Darjeeling), Khasia, other tropical parts of India.

COLOCASIA Schott

Colocassia affinis Schott in Bonpl. 7: 28. 1859; FB 3(1): 137.1994.

Local Name: *Bon Kachu* (Beng)

Rhizome narrow, stout, stolons filiform. Evergreen; leaves more ovate, thinner; petioles slender; sheaths yellowish-green. Spadix delicate; appendix smooth, shorter, and stouter, blunt, neuter zone between female and male narrowed.

Flowers & Fruits: July – September.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0640*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ0224*, dated 09.02.2002; Kamalpur TE, *AP Das & Chandrâ 0710*, dated 20.04.2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: Originating in tropical Asia; now pantropic.

Colocasia esculenta (L.) Schott in Schott & Endlicher, Melet. Bot. 18. 1832; EFPN 1:91. 1978; FB 3(1): 136. 1994.

Arum esculentum L., Sp. Pl. 965. 1753.

Colocasia antiquorum Schott in Schott & Endlicher, Melet. Bot. 18. 1832; FBI 6:523. 1893.



Local Name: *Mane* (Nep), *Kachu* (Beng)

Rhizome vertical to horizontal. Petiole sheathing below for one-third to two-third, greenish. Lamina oblong-ovate to suborbicular, broadly cuspidate, shallow-cordate, glaucous. Spathe tube greenish, blade creamy yellow. Female flowers at base; males above a sterile zone on spathe.

Flowers & Fruits: June - December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1341*, dated 18.10.2002

Status: Common; often cultivated.

Local Distribution: In Terai gardens.

General Distribution: Himalayas, India, Bangladesh, Sri Lanka.

Note: Rhizomes and petioles are cooked and consumed as vegetable; an ideal fodder for pigs.

POTHOS L.

Pothos cathcartii Schott, Aroid. 1:22, t.44, 45. 1853; FBI 6:552. 1894; FEH 1:397. 1966; FB 3(1): 125. 1994.

Local Name: *Samu kanchirna*, *Chepari lahara* (Nep.)

Epiphytic or lithophytic shrubby climbers; much branched, rooting at nodes. Leaves distichous; petioles with phyllodic wings, triangular, apex truncate; lamina narrowly elliptic, acuminate, base cuneate to rounded. Spathe suborbicular, spreading, greenish. Spadix on a short stipe, subglobose.

Flowers: December - April *Fruits:* April - June

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1117*, dated 09.05.2002.

Status: Rare

Local Distribution: Found in Hansqua garden only.

General Distribution: Tropical and Subtropical Himalayas, Assam, Manipur, Myanmar and China.

Pothos scandens L., Sp. Pl. 968. 1753; FBI 6: 551. 1893; FB 3(1): 125.1994.

Epiphytic or lithophytic much branched climbers. Leaves distichous, smaller, acute; leaf blades simple, coriaceous, separated from winged, subequalling petioles. Spadix smaller, axillary, short- peduncled, subtended at base by overlapping bracts; flowers bisexual. Berries red.

Flowers: December - April *Fruits:* April - June

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0052*, dated 27.01.2002;
Makaibari TE, *AP Das & Chandrâ 2517*, dated 11.11. 2003.

Status: Common.

Local Distribution: in Terai and low altitude hill regions.

General Distribution: Tropical and Subtropical Himalayas; Assam, Manipur, Myanmar and China.

REMUSATIA Schott

Remusatia pumila (D. Don) H. Li et A. Hay, Acta Bot. Yunn., Suppl. 5:28. 1929; FB 3(1):135. 1994; Fl. Sik. 1:193. 1996.

Gonatanthus pumilus (D. Don) Engler and Krause in Pfreich. Heft. 71:19.1920; FEH 1:397.1966.

Small herbs to 20cm; rootstock tuberous with small bulbils. Lamina peltate, long stalked, ovate, entire, acuminate, cordate, dark green above. Spathe ovoid, inflated, greenish, blade conical, golden-yellow; Female inflorescence in the swollen limb base. Spadix included.

Flowers & Fruits: May – July

Specimen Cited: Tamsongi TE, *AP Das & Chandrâ 2378*, dated 05.11. 2003.

Status: Rare

Local Distribution: Found in Tamsong & Soom garden only.

General Distribution: Himalayas (Simla-Sikkim), Khasia, Manipur, Thailand and W. China.

Remusatia vivipara (Roxburgh) Schott in Schott & Endl., Melet. Bot. 18. 1832; FBI 6: 521. 1893; FB 3(1): 134.1994.

Arum viviparum Roxburgh, Fl. Ind. ed. 2, 3: 496. 1832.

Remusatia vivipara (Roxb.) Schott./134/

Bulbiferous stolons stout, erect, simple, bulbils large, ellipsoid, stout. Leaves oblong-ovate-lanceolate, glossy on both sides, yellowish green with pale, narrow margin.

Flowers & Fruits: March – May.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3030*, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Africa, India, Sri Lanka, Nepal, Java.

RHAPHIDOPHORA Schott

Rhaphidophora grandis Schott in Oester. Bot. Wochenbl. 349.1858; FB 3(1): 128. 1994; Fl. Sik. 1:194. 1996.

Local Name : *Thulo Kanchirna* (Nep).

A massive liana, stems upto 4cm thick. Leaves oblong, blunt, not glaucous beneath; pinnae broad, 6-12 each side, truncate at apex, sinuses narrow, lateral costae not parallel. Peduncles stouter with stout spadix. Fruits fibrous, domed.

Flowers & Fruits: May – March

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1898*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 3407*, dated 12. 10. 2004.

Status: Rare

Local Distribution: All three hill gardens.

General Distribution: Tropical and subtropical Himalayas; Kumaon, Sikkim, Darjiling and Khasi Hills.

TYPHONIUM Schott

Typhonium diversifolium Wallich ex Schott var. *microspadix* Engler in Aroid: 13, t.20.1855; FBI 6:510.1893; FB 3(1): 140.1994.

Heterostalis diversifolia (Wall. ex Schott) Schott in Oesterr. Bot. Wochenbl. 7:261.1857.

Local Name: *Kharkon, Ghatkol* (Beng)

Rhizome globose, conical above. Leaves ± 3 ; lamina variable, hastate to 3 lobed, lobes linear, upto 12cm long; petioles upto 30cm long. Spathes erect, upto 8cm long, acuminate, white. Spadix slender, appendix narrowed into much longer stipe, neuters shorter-stalked with smaller heads.

Flowers & Fruits: July - September

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0825*, dated 04.05. 2002.

Status: Less Common.

Local Distribution: Found only in Mohurgong & Gulma garden.

General Distribution: India, Nepal and S. Tibet.

Typhonium trilobatum (L.) Schott in Wien. Zeitschr. 3: 72.1829; FBI 6: 509.1893; FB 3(1): 139.1994.

Arum trilobatum L., Sp. Pl. 965.1753.

Local Name: *Kharkon, Ghatkol* (Beng)

Rhizome globose; leaves 3-4; lamina hastately 3-lobed, middle lobe ovate-elliptic, acuminate. Spathe pinkish green below the basal constriction, dark red above. Spadix exerted with a long barren, dark red, linear-cylindric appendage; female flowers at base, males above sterile zone.

Flowers & Fruits: April – September.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0772*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1254*, dated 18.10.2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: India, Myanmar, Sri Lanka, Nepal, Indo-China, Thailand and Malaysia.

ARECACEAE Schultz. [*nom. alt.*]

CALAMUS L.

Calamus erectus Roxburgh, Fl. Ind. 3:774. 1832; FBI 6:438. 1892; FB 3 (1): 419. 1994; Fl. Sik. 1:181. 1996.

Local Name: *Phekre* (Nep).

Shrubs with stems upto 6.5m, tufted, scarcely branched. Sheaths wide, spiny on the upper side, eflagellate; Leaves upto 5 m long with 35 leaflets on each side of sub-opposite, linear-lanceolate, lateral veins numerous, acuminate apex with wide terminal pinnae. Inflorescence 40-98 cm, pendent, branched, covered with brown felt. Female inflorescence and male inflorescence alike. Fruit ellipsoid.

Flowers & Fruits: November – August.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1777*, dated 17.05.2003.

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: Eastern Himalayas (Sikkim, Bhutan, Assam, Khasi Hills), Bangladesh.

Note: Fruits edible and chewed as stimulant

CARYOTA L.

Caryota urens L., Sp. Pl. 1189. 1753; FBI 6: 422. 1892; FB 3(1): 428.1994.

Local Name: *Rungbong, Rangbhang* (Nep).

Trunk 15m, grey, smooth with conspicuous annular leaf scars. Crown elongate. Leaf sheaths long. Leaves very large, drooping at apex, irregularly triangular, cuneate, apex oblique, irregularly lobed, green on both sides. Fruit c1.3cm diameter, reddish.

Flowers & Fruits: (February)

Specimen Cited: Soom TE, *AP Das & Chandrâ 3420*, dated 12.10.2004; Tamsong TE, *AP Das & Chandrâ 3095*, dated 10.04. 2004.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Himalayas.

Note: Seeds and young shoots eaten, fruits chewed by children, inner part of pith eaten raw.

Leaves used as a source of fibre. Ornamental plant.

COMMELINACEAE R. Brown

AMISCHOTOLYPE Hasskarl

Amischotolype hookeri (Hasskarl) Hara, FEH 1: 399. 1966; FB 3(1): 223.1994.

Forrestia hookeri Hassk. in Fl. 1864: 629. 1864; FBI 6: 384. 1892.

Stem stout, rooting below. Leaves elliptic, finely acuminate to caudate, margins with densely appressed, silky hairs, undersurface with short, appressed hairs, glabrous above, narrowed to petiole like base. Inflorescence to c.15 flowered of white or pink, bracteoles small, ovate, membranous ciliate.

Flowers & Fruits: May – October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2329*, dated 07.11.2003

Status: Common

Local Distribution: Found only in Makaibari & Tamsong gardens.

General Distribution: Eastern Himalaya, India, Myanmar, China.

COMMELINA L.

Commelina benghalensis L., Sp. Pl. 41. 1753; FBI 6: 370. 1892; FB 3(1): 238.1994.

Local Name: *Kaney jhar* (Nep).

Stems 20-45cm, much branched, hispid especially above, base sometimes with weak decumbent stolons. Leaves with distinct petiole like bases, oblong-elliptic, rounded to subacute, margins densely shortly ciliate, base rounded to truncate, surfaces usually with many long white hairs. Flowers blue in cyme of c 3 bisexual flowers.

Flowers & Fruits: July – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0833*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0731*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1841*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 1954*, dated 30.06. 2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: Africa, Himalaya, India, China, Malaysia.

Commelina diffusa Burman f., FI 18. 1768; FEH 1: 400. 1966; FB 3(1): 237. 1994; Fl. Sik. 1:168. 1996.

C. nudiflora L. *sensu* Clarke in DC., Monog. Phan. 3: 144. 1881; FBI 6: 369. 1892.

Small diffuse perennial herbs; roots thickened, rooting from lower nodes. Leaves alternate, lamina narrowly lanceolate, acuminate, contracted into a short petiole. Cymes in unequal paired peduncles; flowers bisexual, bluish. Capsules ellipsoid, greenish-brown; seeds blackish-brown.

Flowers & Fruits: April – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0435*, dated 05.04.2002; Kamalpur TE, *AP Das & Chandrâ 1332*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1827*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2452*, dated 05.11.2003; Soom TE, *AP Das & Chandrâ 2698*, dated 09.01.2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Pantropic and warm temperate regions.

Commelina maculata Edg. in Trans Linn. Soc. 20: 89. 1846; FB 3(1): 235.1994.

Perennating with narrow, vertical tubers; funnel-shaped spathes; smaller, more slender usually hairy stems 12-46cm. Leaves usually hairy with joined hairs on upper surface, sometimes also with short, conical bristles, occasionally glabrous. Flowers smaller in smaller inflorescence, occasionally reduced to a single spathe.

Flowers & Fruits: July – October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2488*, dated 11.11. 2003; Soom TE, *AP Das & Chandrâ 3496*, dated 12.10.2004.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas, India, Sri Lanka, Myanmar, China.

Commelina paludosa Blume, Enum. Pl. Java 1: 2 1827; FEH 1: 400. 1966; FB 3(1): 235. 1994; Fl. Sik. 1:169. 1996.

C. obliqua Buch-Ham. ex D. Don, Prodr. 45. 1825, non Vahl 1806, FBI 6: 372. 1892.

Straggling herbs upto 150 cm, highly branched. Lamina lanceolate, acuminate, cuneate, granulated above, glabrous beneath. Cymes solitary; flowers 6-7 white or pale blue. Capsules oblong, truncate-triangular, glossy, greenish brown; seeds oblong, slightly granular, gray.

Flowers & Fruits: May – November

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3076*, dated 10.04. 2004; Soom TE, *AP Das & Chandrâ 2670*, dated 09.01.2004.

Status: Common

Local Distribution: In hill gardens

General Distribution: India, Sri Lanka, Nepal, Myanmar, Malaysia, Indochina and China.

Commelina suffruticosa Blume, Enum. Pl. Jav. 1: 3. 1827 –28; FBI 6: 374. 1892; FB 3(1): 236.1994.

Stems 23-45cm, much branched above, sometimes shortly hairy above. Leaves lanceolate, acuminate, cuneate to short, petiole like base, minutely rough above, usually shortly hairy beneath. Flowers usually white, sometimes blue in single cyme of c-10 flowered.

Flowers & Fruits: June – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0786*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0645*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1854*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 3439*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2206*, dated 30.06. 2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: Himalayas, India, Malaysia.

CONVALLARIACEAE Horan.

OPHIOPOGON Ker Gawler

Ophiopogon clarkei Hook.f., FBI 6: 268. 1892; FB 3(1): 54.1994.

Stoloniferous, stolons initially slender, covered with pale brown papery scales; leaves borne in tufts, often swollen at base, initially minutely serrate on margins. Flowers usually pure white (occasionally flushed pink or lilac), spreading to erect, born tingly, cup shaped.

Flowers & Fruits: July – October

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2219*, dated 05.09. 2003.

Status: Common

Local Distribution: All three hill gardens.

General Distribution: Eastern Himalaya, Assam.

PELIOSANTHES Andrews

Paliosanthes macrophylla Wallich ex Baker in J. Linn. Soc. Bot. 17: 505. 1879; EFPN 1: 76. 1978.

Local Name: *Chille dhotisara* (Nep).

Rhizome stout, oblique. Rosettes 2-4 leaved; Leaves narrowly elliptic, cuspidate, margins sometimes crimped, gradually tapered to base. Raceme 30-60 flowered, stout, bracts each bearing a single greenish or greenish-purple flower.

Flowers & Fruits: February – May.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2867*, dated 25.03. 2004

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Eastern Himalaya, China.

COSTACEAE (K. Schum.) Nak.

COSTUS L.

Costus speciosus (Koen.) J.E. Smith in Trans. Linn. Soc. London 1: 249. 1800; FBI 6: 249. 1892; FB 3(1): 210.1994.

Leafy stems 1-3m; leaf blade elliptic to obovate, acute or shortly acuminate, sparsely to densely hairy beneath, petioles densely pubescent. Inflorescence terminal, ovoid with red, on disintegrating bracts with tips sharply pointed; flowers with red calyx and white corolla.

Flowers & Fruits: July – November

Specimen Cited: Soom TE, *AP Das & Chandrâ 3485*, dated 12. 10. 2004.

Status: Abundant.

Local Distribution: In Terai and low altitude areas.

General Distribution: Himalayas, Sri Lanka, Indo –China, Malaysia, Taiwan, New Guinea

CYPERACEAE A. Jussieu

BULBOSTYLIS Kunth

Bulbostylis densa (Wallich) Handel-Mazzetti, *Vegetations* 20 (7): 16. 1930; FEH 1:380. 1966; FB. 3 (1):298. 1994; Fl. Sik. 1:198. 1996.

Scirpus densus Wallich ex Roxb., *Fl. Ind. ed. Carey*, 1: 231. 1820.

Densely tufted annual, stems filiform 5-18 cm. Leaves erect, basal, half or more of stem length. Sheaths membranous, pale brown. Inflorescence umbellate, rarely reduced to single spikelet. Spikelets sessile ovoid, acute; glumes spiral or distichous. Nuts strongly trigonous.

Flowers & Fruits: April – October

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0990*, dated 09.05.2002.

Status: Common.

Local Distribution: In all gardens.

General Distribution: E. Himalaya, China, Japan.

CAREX L.

Carex filicina Nees ex Wight, Contrib. Bot. Ind. 123. 1834; FBI 6: 717, 1894. var. *meiogyna* Kukenthal, Pfl.-reich IV-20, Ht. 38: 274. 1909, FEH 1: 381. 1966; TBRI 50(4): 108. 1987; FB 3(1): 337. 1994; Fl. Sik. 1: 202. 1996.

C. meogyna Nees, Contrib. Bot. Ind. 123. 1834, p.p.

C. filicina Nees var. *meiogyna* (Nees) Strachey, Cat. Pl. Kumaon 73. 1854, Pfl.-reich IV-20, Ht. 38: 274. 1909.

Stout herbs with creeping and woody rhizomes. Leaves blades almost equal to culm; leaf sheath bases reddish-purple, persisting without turning into fibres, sometimes bladeless. Culm 25-93 cm long. Partial panicles open, triangular with hispid axis, bracteate, occurring in unequal pairs. Spikes variable in sizes, sharply becoming shorter upwards.

Flowers & Fruits: April - February

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2381*, dated 05.11. 2003

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Myanmar, Indo-Chin, Malaysia, China, etc.

Note: Highly variable species, taxonomic review essential.

Carex spiculata Boott in Proc. Linn. Soc. 1: 288. 1845; FB 3(1): 381.1994.

Rhizomes short, thick, woody. Stems tufted. Bases of leaf sheaths reddish to brownish purple, dull, persisting as fibres. Leaves inserted along lower half of culm, blades coarse. A slender to massive panicle 9-64cm with long leaf like bracts, long sheaths, close-fitting. Spikes androgynous, all similar, drooping, sometimes stiffer, ± erect.

Flowers & Fruits: August – July

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2581*, dated 11.11. 2003..

Status: Common

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas.

CYPERUS L.

Cyperus castaneus Willd., Sp. pl. 1: 278. 1797; FBI 6: 598. 1893; FB 3(1): 306. 1994.

Small, densely tufted annual. Stems trigonous, slender. Leaves subbasal, blade slightly exceeding stem, sheaths reddish – purple. Inflorescence a head of 5 – 31 sessile spikelets. Partial inflorescence umbellate. Spikelets oblong fimbriate. Glumes 14 –34, overlap to one another, oblong elliptic, mucronate, midrib green, 3 – veined, keeled, side golden to reddish – brown. Stamen 1, nut longer, narrowly oblong with parallel sides.

Flowers & Fruits: September – November.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2483*, dated 11.11. 2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan, Indo–China, Malaysia, Northern Australia

Cyperus compressus L., Sp. Pl. ed. 1, 46. 1753; FBI 6: 605. 1893; FEH 1: 385. 1966; FIEM 44. 1989; FB 3(1): 310. 1994; Fl. Sik. 1:214. 1996.

Tufted annual, 8–35 cm tall. Leaves usually sub-basal, blades half to as long as stems, 0.15–0.25 cm wide. Inflorescence with few spreading elliptic to oblong sessile, compressed spikelets, sometimes compound bearing 1–4 stiff hairs; nuts more than 4, strongly compressed.

Flowers & Fruits: April – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0803*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0378*, dated 27.02.2002.

Status: Fairly Common.

Local Distribution: In Terai gardens.

General Distribution: Cosmopolitan.

Cyperus cuspidatus Kunth in Humb., Bonpl. & Kunth, Nov. Gen. Sp. 1: 204. 1816; FBI 6: 598.1893; FB 3(1): 306. 1994.

Cyperus uncinatus Clarke in Durand *et* Schinz. Consp. Fl. Afr. 5: 580. 1895.

Small, densely tufted annual. Stems trigonous, slender. Leaves subbasal, blade slightly exceeding stem, sheaths reddish. Inflorescence a head of 5 – 31 sessile spikelets. Partial inflorescence umbellate. Spikelets oblong fimbriate. Glumes 14 –34, erect at first, finely spreading obliquely, oblong elliptic, mucronate, midrib green, 3 – veined, keeled, side golden to reddish – brown. Stamens 2 –3, nut apiculate, dark brown.

Flowers & Fruits: August – October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3086*, dated 10.04. 2004.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: Pantropical.

Cyperus cyperoides (Retzius) O. Kuntze, Rev. Gen. Pl. 3(2): 333. 1898, FEH 1: 386. 1966, FIEM 64. 1989; FB 3 (1): 307. 1994.

Scirpus cyperoides L., Mant. 2: 181. 1771.

Perennial herbs, 30–60 cm. Leaves shorter or equal to stem; sheaths purplish-red. Inflorescence 3–11 x 2–6.5 cm, spicate. Spikes 1.3–3.9 x 0.65–1.2 cm, cylindric; spikelets many, linear, acute. Glumes appressed, upper ones fertile, linear-lanceolate. Nuts slightly curved, brownish, papillose.

Flowers & Fruits: April – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0842*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0978*, dated 09.05.2002; Soom TE, *AP Das & Chandrâ 3179*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2952*, dated 10.04. 2004.

Status: Common.

Local Distribution: In all gardens.

General Distribution: Subtropical and temperate regions of both the hemisphere.

Cyperus iria L., Sp. Pl. ed. 1, 45, 1753; FBI 6: 666.1893, FEH 1: 387. 1966; FIEM 45. 1989; FB 3(1):312. 1994; Fl. Sik. 1:215. 1996.

Local Name: *Mothey* (Nep).

Tufted annual, to 40 cm. Leaves equalling from lower half of stem, \pm 0.4 cm wide; sheath bases dark brownish. Inflorescence 6-9 cm long. Spikes 3-5, sessile, narrowly oblong, lower ones spreading; spikelets 10-15, erect oblong. Glumes 6-12, oblique, overlapping, suborbicular, emarginate, minutely apiculate. Nuts elliptic-obovate, apiculate, blackish.

Flowers & Fruits: May - October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0410*, dated 27.02.2002; Tamsong TE, *AP Das & Chandrâ 2404*, dated 05.11. 2003

Status: Common.

Local Distribution: In all gardens.

General Distribution: Cosmopolitan.

Cyperus pangorei Rottboel, Descr. Pl. Rar. Progr. 18. 1772; FB 3(1): 314.1994.

Rhizomes short, not creeping. Stems triquetrous, 50-90cm, long basal sheaths apparently sometimes developing laminar blades. Partial inflorescence bearing rayed and unrayed spikes which is cylindric, up to 13 spreading to suberect, linear spikelets

Flowers & Fruits: August – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2548*, dated 11.11. 2003; Tamsong TE, *AP Das & Chandrâ 2309*, dated 05.09. 2003.

Status: Rare

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, Sri Lanka, Myanmar

Cyperus pilosus Vahl, Enum. 2: 354. 1805; FBI 6: 609.1893; FB 3 (1): 315. 1994.

Cyperus obliquus Nees in Wt. Contr. Bot. Ind. 86. 1834.

Perennial; rhizomes stoloniferous. Stems 90 cm. Leaves 10 mm wide. Inflorescence compound umbel; spike pilose; spikelets linear-lanceolate, 10-20 flowered. Glumes broadly ovate. Stamens 3. Achene 1 mm long, ovate-elliptic, black.

Flowers & Fruits: July- November.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1875*, dated 10.06. 2003.

Status: Less Common.

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan, China, Japan, Malaysia, Tropical Africa

Cyperus pseudokyllingoides Kuekenh.in Engl. Pflanzenr. Heft 101: 501. 1936; FB 3(1): 309.1994.

Annual. Stems tufted, trigonous, 18-57cm. Leaves 2-3 on lower half of stem, blades shorter than to exceeding stem, sheaths very long, pale. Partial inflorescence composed of dense heads of sessile spikelets which is flat, elliptic, acute.

Flowers & Fruits: June – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0838*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 1108*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0497*, dated 17.04.2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Myanmar, Indo –China, Malaysia

Cyperus sikkimensis Kukenthal, in Engler Pflanzenr. Cyperac. Scirp. Cyp. 467. 1936; FB 3 (1): 306. 1994.

Perennial, rhizomes short. Stems 62-73 cm. Leaves 1-2, shorter than stem, sheath long. Inflorescence a dense head of 15 spikes, bracts 4-5. Glumes 2.1-2.7X 1.4 mm, narrowly ovate, 3-veined. Stamens 3; stigma 0.3 mm. Nut curved, shortly apiculate.

Flowers & Fruits: June-July.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1745*, dated 17.05.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Eastern Himalaya.

Cyperus tenuispica Steudel, Syn. Pl. Glum. 2: 11. 1855; FB 3 (1): 314. 1994.

Cyperus flavidus Clarke in J. Linn. Soc. (Bot.) 20: 287. et 21: 122. 1884; FBI 6: 600. 1893.

Annual; rhizome absent. Stems weak, 5-40 cm. Leaves with trigonous blade. Inflorescence compound umbel, yellow; primary rays 5cm; secondary rays 2.5 cm; bracts 1-3. Glumes oblong. Stamen 1-2; achene 0.5 mm long, rounded, white.

Flowers & Fruits: June.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0738*, dated 04.05. 2002.

Status: Less Common.

Local Distribution: Found only in Mohurgong & Gulma garden.

General Distribution: Tropical and Subtropical Asia and Africa

FIMBRISTYLIS Vahl (*nom. cons.*)

Fimbristylis aestivalis (Retzius) Vahl, Enum. Pl. 2: 288. 1806; FBI 6: 637. 1893; FEH 1: 390. 1966; FB 3 (1): 296. 1994; Fl. Sik. 1:219. 1996.

Scirpus aestivalis Retz., Obo. Bot. 4:12. 1786-

Tufted filiform annual 2-9 cm. Leaves eligulate, basal and sub-basal, $\pm 4.5 \times 0.025-0.065$ cm, acute; sheaths pilose, membranous. Inflorescence umbellate, 0.3-2.6 x 0.25-2 cm; spikelets linear-lanceolate, acute, angled; glumes oblong-elliptic, mucronate, keeled. Nuts obovate, biconvex.

Flowers & Fruits: April – September

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1214*, dated 18.10.2002.

Status: Common.

Local Distribution: Found only in Kamalpur garden.

General Distribution: Temperate-Tropical regions of Asia; India, China, eastward to Japan, Malaysia and N. Australia.

Fimbristylis dichotoma (L.) Vahl, Enum. Pl. 2: 287. 1806; FEH 1: 391. 1966; TBRI 50(4): 114. 1987; FB 3 (1): 294. 1994; Fl. Sik. 1: 220. 1996.

Scirpus dichotomus L., Sp. Pl. ed. 1, 50. 1753.

Densely tufted small variable annual, stem compressed. Leaves ±basal, half of stem length, ligulate, acute; sheaths hairy, brownish. Inflorescence 2-12.5cm, compound; primary rays unequal, upto 8 cm; spikelets borne singly; glumes ovate, acute.

Flowers & Fruits: March – October

Specimen Cited: Matigara TE, *AP Das & Chandrâ 3165*, dated 10.05. 2004

Status: Common.

Local Distribution: All Terai gardens.

General Distribution: Tropical and subtropical regions of the world.

Fimbristylis fimbristylloides (Muell.) Druce in Rep. Bot. Exch. Cl. Brit. Isl. 1916: 623. 1917; FB 3(1): 291. 1994.

Abildgaardia fimbristylloides Muell., Fragm. Phyt. Austral. 8: 273. 1874.

Fimbristylis fimbristylloides (F.von Mueller) Druce/291/Fr. – October

Dwarf annual. Stems 5-grooved, 2-8cm long. Leaves basal, curved, ± flat, apiculate, margins minutely serrate, much shorter than stems, eligulate. Inflorescence of 2-4 unequally rayed spikelets which is compressed lanceolate, acute, sometimes becoming twisted.

Flowers & Fruits: June – October.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1145*, dated 14.06. 2004

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Nepal, Bhutan, China and Australia

Fimbristylis rigidula Nees in Wight in Contr. Bot. Ind. 99. 1834; FB 3 (1): 295. 1994.

Rhizomes woody, shortly creeping. Stems grooved, base swollen, sheaths 10-21 cm. Leaves flat, minutely serrate, half of stem. Inflorescence 1.8-3.3 X 1.0-2.8 cm; ray 1-2 cm. Spikelets ovoid, 5-6.5X 2.5-4 mm. Glumes ovate, apiculate, concave, 3-veined. Stamens 3; stigma 2. Nuts smooth.

Flowers & Fruits: February.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0389*, dated 27.02.2002

Status: Rare

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, China

Fimbristylis fuscinox C.B. Clarke. : FB 3 (1): 295. 1994.

Rhizomes short. Stems with old leaf sheaths at base, 19-76 cm. Leaves basal, flat, eligulate. Inflorescence lax, longest ray 3-11 cm. Spikelets borne singly. Glumes ovate, mucronate, keeled, 3-veined. Stamens 2-3, dark brown. Stigmas 2. Nut biconvex.

Flowers & Fruits: August-October.

Specimen Cited: Hansqua TE, **AP Das & Chandrâ 0128**, dated 03.02.2002.

Status: Rare

Local Distribution: Found only in Hansqua garden.

General Distribution: Tropical & subtropical Himalayas

Fimbristylis tetragona R. Br., Prodr. 226. 1810; FBI 6: 631. 1893.

Glabrous, perennial herbs, rhizomes short. Stems 50 cm, 4-angular. Leaves bladeless. Inflorescence solitary, terminal; spikelets ebracteate; glumes oblong-ovate, obtuse. Stamens 1-2; stigmas 2-3. Nuts pale, linear-oblong.

Flowers & Fruits: September-December.

Specimen Cited: Kamalpur TE, **AP Das & Chandrâ 0590**, dated 20.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Bangladesh, Sri Lanka, E. Asia to tropical Australia.

KYLLINGA Rottboell (*nom. cons.*)

Kyllinga nemoralis (J. R. & G. Forster) Dandy ex Hutchinson & Dalziel, Fl. W. Trop. Africa 2: 486, 487. 1936; FB 3 (1): 325. 1994.

Thryocephalon nemorale J.R. & C. Forster, Char. Gen. Pl. 130. 1776.

Kyllinga monocephala Rottb., Descr. et Ic. 13, t. 4. 1773, *nom. illegit.*

Rhizomes slender, creeping; stems leafy. Leaves longer than stem, bracts long. Heads compact, white. Glumes broad, opaque, ciliate wing, acute. Nuts brown.

Flowers & Fruits: July – March.

Specimen Cited: Mohurgong & Gulma TE, **AP Das & Chandrâ 0445**, dated 05.04.2002; Kamalpur TE, **AP Das & Chandrâ 0466**, dated 17.04.2002; Makaibari TE, **AP Das & Chandrâ 2852**, dated 25.03.2004; Tamsong TE, **AP Das & Chandrâ 2164**, dated 30.06.2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Pantropical to sub-tropical regions.

Kyllinga brevifolia Rottboell, Descr. and Ic. 13. t. 4, f. 3. 1773; FBI 6:588. 1893; FB 3 (1):324. 1994; Fl. Sik. 1:227. 1996.

Perennial, rhizome creeping, 5-40 cm tall, triquetrous. Leaves shorter than stem, > 0.38 cm wide; sheaths reddish brown. Inflorescence 0.55-0.95 x 0.55-0.7 cm, hemispheric, subsidiary heads 1-2, sessile; spikelets lanceolate; glumes 3, oblong-ovate; upper glume fertile. Nuts oblong-obovate.

Flowers & Fruits: April – August

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0853*, dated 04.05. 2002; Matigara TE, *AP Das & Chandrâ 3629*, dated 20. 10. 2004; Soom TE, *AP Das & Chandrâ 3229*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 2901*, dated 10.04. 2004.

Status: Common.

Local Distribution: In all gardens.

General Distribution: Cosmopolitan.

PYCREUS P. Beauvois

Pycreus polystachyos (Rottboell) Beauvois, Fl. Owar. 2: 48. t. 86. f. 2. 1807.

Cyperus polystachyos Rottboell, Progr. 21. 1772 & Descr. et Ic. 39, t. 11, f. 1. 1773.

Stems erect, compressed, 65 cm. Leaves almost half of stem; bracts 3-6. Spikelets compact, many flowered; glumes 0.17 cm, imbricate, elliptic ovate. Nuts 8-12 mm long, black, biconvex, apiculate.

Flowers & Fruits: May – September.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1833*, dated 10.06. 2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Throughout the tropical and sub-tropical regions.

RHYNCHOSPORA Vahl, *nom. cons.*

Rhynchospora rubra (Loureiro) Makino in Bot. Mag. Tokyo 17: 180. t. 7. f. 1a,b. 1903.

Schoenus ruber Lour., Fl. Cochinch. 1: 41. 1790.

Perennial herbs; stems 3-quetrous. Leaves 4-8, 0.3 cm broad. Inflorescence a single, terminal; bracts 4-8. Spikelets many, 0.5-0.8 cm, brown; glumes 5-7, keeled, ovate, mucronate; stamens 3. Nuts sessile, obovoid.

Flowers & Fruits: June-December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0961*, dated 04.05. 2002;

Hansqua TE, *AP Das & Chandrâ 0158*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0483*, dated 17.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Sri Lanka, Nepal, China, Japan, Myanmar, Malaysia, tropical Africa, tropical Australia.

SCHOENOPLECTUS (Reichenbach) Palla

Schoenoplectus juncooides (Roxburgh) Palla in Bot. Jahrb. 10: 299. 1888; FB 3 (1): 283. 1994.

Scirpus juncooides Roxb., Fl. Ind. 1: 218. 1820.

Local Name: *Swirey, Suire* (Nep)

Annual. Stems densely tufted, erect, 9-73 cm. Basal sheaths 1-3, apiculate, oblique. Inflorescence of 1-7 spikelets. Glumes widely ovate, concave, apiculate, golden brown. Stamens 1-3; stigma 2-3, brown; bristles 6, unequal, longest 1.9-2.3 mm.

Flowers & Fruits: February to October.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2489*, dated 11.11. 2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution.: India, China, Japan, Malaysia, Australia.

DIOSCOREACEAE R. Brown

DIOSCOREA L.

Dioscorea anguinea Roxburgh, Fl. Ind. 3: 803. 1832; FBI 6: 293. 1892; FB 3(1): 14.1994.

Local Name: *Pangla torul* (Nep).

Tubers 1 or 2, narrowly cylindric, rootlets few, flesh lemon yellow. Plant shortly pubescent. Stem twining to right, lacking prickles, bulbils sometimes produced. Leaves alternate to sub-opposite, ovate, cuspidate to shortly caudate, base shallowly cordate, margins cartilaginous persistently pubescent beneath, scattered hairy becoming glabrous above.

Flowers & Fruits: August – January

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1314*, dated 18.10.2002.

Status: Less Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Himalayas, India, Myanmar, Sumatra, Java.

Note: Root-stock edible

Dioscorea bulbifera L., Sp. Pl. ed. 1:1033. 1753; FEH 1:419. 1966; FB 3(1): 9.1994.

Dioscorea sativa Thunberg, Fl. Jap. 151. 1784; *non* L. (1753); FBI 6:295. 1892.

Local Name: *Gittha, Githa Lahara* (Nep).

Tubers globose, pale yellow when cut. Stem twining left without prickles, glabrous, sharply angled. Leaves alternate; petioles equaling leaf blade; lamina ovate, acuminate, cordate. Spikes in fascicles, axillary, in groups of 2-5; flowers whitish, scented. Capsules oblong-elliptic, winged.

Flowers: June – September; *Fruits:* September – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0868*, dated 04.05. 2002;
Tamsong TE, *AP Das & Chandrâ 2142*, dated 30.06. 2003

Status: Common; generally cultivated.

Local Distribution: In all gardens.

General Distribution: Tropics of the old World.

Dioscorea deltoidea Wallich ex Griseb.in Mart., Fl. Brasil. 3(1): 43. 1842; FBI 6: 291. 1892; FEH 1: 419. 1966; FB 3(1): 8.1994.

Stem twining to left, lacking prickles, bulbils few or absent. Plant glabrous, leaves usually smaller, thinner-textured, distinctly hastate with base lobes present at least when young, finally ovate, usually hispid on veins beneath. Male spikes: flower clusters rather distant, absent from lower part of filiform axis. Female spikes borne singly in axils.

Flowers & Fruits: April – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0947*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0647*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1843*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2171*, dated 30.06. 2003.

Status: Common

Local Distribution: In all gardens.

General Distribution: Himalayas (Kashmir – Assam), China.

Note: Tuber used as soap

Dioscorea kamoensis Kunth, Enum. Pl. 5: 395. 1850; FB 3(1): 12.1994.

Plant hairy, hairs simple, grayish white. Stem lacking prickles, densely appressed hairy or subglabrous, bulbils usually present. Leaves (3-or) 5-foliolate, rugose, middle largest, narrowly elliptic to oblanceolate, cuspidate, narrowed to sessile base, densely white bristly above and beneath, subglabrous beneath, distinctly petiolulate. Male inflorescence usually short, 3-5 clustered, axillary spikes with male flowers larger; female spikes slender.

Flowers & Fruits: August – November

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1913*, dated 10.06. 2003.

Status: Common

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: Himalayas, Myanmar, Thailand, China.

Dioscorea pentaphylla L., Sp. Pl. 1032. 1753; FBI 6: 289. 1892; FEH 1:420. 1966; FB 3(1):10. 1994.

D. jacquemontii Hk. f., FBI 6:290. 1892.

Local Name: *Bhegur* (Nep).

Twinning greyish-white plant. Tubers ovoid-globose, sometimes with rootlets on surface. Stems subglabrous to appressed pubescent, sometimes often bearing prickles. Leaves 3 to 5 foliolate, elliptic to oblanceolate, middle one generally largest, cuspidate, base narrowed, densely white-hairy above, subglabrous beneath. Spikes solitary or pairs, greyish-white, pubescent.

Flowers & Fruits: July – December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1847*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2061*, dated 30.06. 2003.

Status: Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Himalayas (Simla-Mishmi), India, Myanmar, Thailand, Indo-China, Malaysia, China.

HEMEROCALLIDACEAE R. Brown

HEMEROCALLIS L.

Hemerocallis fulva (L.) L. : FB 3(1): 72.1994

Glabrous herbs with fascicle of swollen roots. Leaves basal, linear. Scape terete, bearing a lanceolate leaf like bract below inflorescence. Flowers dull orange in (4-) 6-9-flowered inflorescence with small, partly scarious bracteoles at base of pedicels and inflorescence branches.

Flowers & Fruits: May – July.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2988*, dated 10.04. 2004.

Status: Very common; nicely naturalized in hills.

Local Distribution: Found only in Europe, Naturalised elsewhere.

HYPOXIDACEAE R. Brown

CURCULIGO Gaertner

Curculigo orchioides Gaertner, Fruct. 1: 63, t. 13. 1788; FBI 6: 279. 1892; FB 3(1): 69. 1994; Fl. Sik. 1:139. 1996.

Curculigo malabarica Wight, Ic. t. 2043 A, f. 1. 1853.

Local Name: *Bnash pata, Talmuli* (Beng)

Small rosette herbs; rootstock bulbous. Leaves subsessile, lanceolate, acuminate, membranous, plicate glabrous. Scape subterranean, clavate, covered. Bracts lanceolate, membranous. Flowers subsessile, distichous. Capsules sessile, oblong with a few, shiny black, wavy seeds.

Flowers & Fruits: May – August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3040*, dated 10.04. 2004.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Sub-tropical Himalaya (Kumaon and eastward upto 1800m), Khasi Hills, Manipur, Western Ghats.

MOLINERIA Colla

Molineria gracilis Kurz, Ann. Mus. Bot. Lugduno –Batavi 4: 177. 1869.

Perennial herb with stout rhizome. Leaves in basal rosette, lanceolate, acute, base narrowed into tomentose petiole, usually glabrous above, beneath with dense appressed and scattered hairs. Scape longer sometimes very shorter, densely brownish tomentose. Flowers lanceolate, glabrous above and hairy underside, yellowish in capitate raceme very condensed, ovoid.

Flowers & Fruits: April - August

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1131*, dated 09.05.2002; Makaibari TE, *AP Das & Chandrâ 2796*, dated 25.03. 2004; Tamsong TE, *AP Das & Chandrâ 2216*, dated 05.09. 2003.

Status: Less Common.

Local Distribution: In all gardens.

General Distribution: Subtropical and temperate Himalayas, Sri Lanka, Myanmar, Indochina, Malaysia, China and Australia.

JUNCACEAE A. Jussieu

JUNCUS L.

Juncus ochraceus Buchenau in Abh. Nat. Ver. Brem. 3:292. 1872; FBI 6:394. 1894; FEH 1:403. 1966; TBRI 50 (4):117. 1987; FB 3 (1):253. 1994; Fl. Sik. 1: 176. 1996.

Small robust herbs, 17-35 cm. Stem simple, slender, grooved. Leaves sheathed, as long as stem or shorter, filiform, glabrous, channeled above; sheaths auricled. Cyme compound in small head, loosely branched, partly or all reduced to sterile spikelets of golden yellow bracts and glumaceous tepals. Flowers small, shortly pedicellate, pale green, 1 or 2, developed at the second axil of head.

Flowers & Fruits: August – October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0470*, dated 17.04.2002.

Status: Rare

Local Distribution: Found only in Kamalpur garden.

General Distribution: Temperate E. Himalaya and Assam.

MARANTACEAE Petersen

PHRYNIUM Willdenow

Phrynium pubinerve : FB 3(1): 214.1994

Local Name: *Kopat, Kawaipat* (Nep).

Rhizome thick bearing c.4-leaved rosettes. Leaf blade oblong-elliptic, very shortly cuspidate; flowers pinkish or blue-veined in condensed, c.3 narrow spike like cymules. Prophylls reddish-brown, broadly oblong, becoming fibrous-torn at apex.

Flowers & Fruits: June – September.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2764*, dated 25.03. 2004

Status: Common

Local Distribution: In Terai and low altitude areas.

General Distribution: Eastern Himalaya.

ORCHIDACEAE A. Jussieu

AERIDES Loureiro

Aerides multiflorum Roxburgh, Pl. Corom. 3: 67, t. 271. 1820; FB 3(3): 493. 2002.

Erect to pendent; root fleshy. Leaves oblong, apex broadly 2-lobed, distichous. Densely many-flowered in racemes or paniculate. Flowers white to pink-purple. Sepals oblong to orbicular, rounded. Petals oblong-elliptic, rounded. Fruits stalked, ovoid.

Flowers & Fruits: March to June

Specimen Cited: Hansqua TE, *AP Das & Chandra 1324*, dated 26.06.2002.

Status: Common

Local Distribution: In Terai garden

General Distribution: NW Himalayas, India, Nepal, Bangladesh, Myanmar, Thailand, Laos, Cambodia and Vietnam.

ANTHOgonium Wallich ex Lindley

Anthogonium gracile Lindley, Gen. Sp. Orchid. Pl.: 426. 1840; FB 3(3): 279. 2002.

Plants 14-40cm, pseudobulbs ovoid. Leaves oblong lanceolate to narrowly elliptic, acuminate, many veined. Inflorescence laxly 5-10 flowered, peduncles slender glabrous. Floral bracts lanceolate, long acuminate. Flowers dark pink to white, lip spotted dark purple, anthers bright yellow. Petals elongate-spathulate. Fruit narrowly ellipsoid.

Flowers & Fruits: August - October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 3002*, dated 10.04.2004.

Status: Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India: North India; Nepal, Myanmar, China, Thailand, Laos, Cambodia, Vietnam.

ARUNDINA Blume

Arundina graminifolia (D. Don) Hochreutiner in Bull. New York Bot. Gard. 6: 270. 1910; FB 3(3): 319. 2002.

Bletia graminifolia D. Don, Prodr. Fl. Nep.: 29. 1825.

Plant 3m tall, erect, leafy throughout. Leaves linear lanceolate, acuminate, sessile. Inflorescence erect racemose or panicle, few to many flowered; peduncles glabrous. Bracts lanceolate, acute. Flowers magenta to pinkish-white, sometimes with a yellow throat. Petals spreading, broadly elliptic, obtuse. Fruit long-ellipsoid.

Flowers & Fruits: September - November.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1815*, dated 17.05.2003.

Status: Common at places

Local Distribution: All three hill gardens

General Distribution: India, Bhutan, Nepal, Myanmar, China, S. E. Asia, Sri Lanka, Malaysia.

DENDROBIUM Swartz

Dendrobium candidum Wall. ex Lindl. in Bot. Reg. 24: misc. 36, non. 54. 1838; Fb 3(3): 407. 2002.

Plants epiphytic or lithophytic; roots fasciculate. Stems slender, erect, cylindrical; internodes yellow. Leaves narrowly lanceolate, obtuse, obliquely emarginate, sessile, prominently 5 -veined. Inflorescence lateral, flowering at leafless stems, 1 -3 flowered. Flowers fragrant, white, lip with a yellow spots at base. Sepals broadly lanceolate, 5 -veined. Petals lanceolate, acute, 3 -veined. Fruit ovoid.

Flowers & Fruits: February - October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2140*, dated 30.06. 2003

Status: Less Common.

Local Distribution: Found only in Tamsong garden.

General Distribution: India: Himalayas; Nepal and Myanmar

NERVILIA Commerson ex Gaudichaud

Nervilia macroglossa (Hooker f.) Schltr. In Bot. Jahrb. Syst. 45: 403. 1911; FB 3(3): 58. 2002.

Pogonia macroglossa Hook.f., FBI 6(1): 120. 1890; FB 3(3): 58. 2002.

Pogonia macroglossa Hooker f.

Plant small, 8 -18cm. Stems slender glabrous. Leaf petiolate, orbicular cordate, margins entire. Inflorescence 1 -flowered. Flowers white flushed with pink. Sepals and petals linear lanceolate, acute or acuminate. Lip 3 -lobed, narrowly oblong. Fruit ovoid.

Flowers & Fruits: (May)

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1702*, dated 17.05.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: NE India, Nepal, Myanmar.

PAPILIONANTHE Schltr.

Papilionanthe teres (Roxburgh) Schltr. in Orchis 9: 78.t.12. 1915; FB 3(3): 536. 2002.

Vanda teres sensu Lindl., Gen. Sp. Orchid. Pl.: 217. 1833, *non* Roxburgh 2355. 1832.

Plant scrambling; roots piercing through leaf sheaths. Stem branched, terete, long; sheath ridged, tubular. Leaves suberect, curved, terete, linear, pointed. Inflorescence leaf -opposed, racemose, laxly 3 -6 flowered. Sepals and petals white to pink, lip darker pink, spur with a yellow mouth. Petals suborbicular, rounded, margin undulate. Fruit strongly ridged, cylindrical, stalked.

Flowers & Fruits: May - July.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 826*, dated 04.05. 2002.

Status: Common

Local Distribution: In all Terai gardens.

General Distribution: India, Nepal, Bangladesh, Myanmar, China, Thailand and Vietnam.

PLATANThERA L.C. Richard

Platanthera clavigera Lindley, Gen. Sp. Orchid. Pl.: 289; FB 3(3): 186. 2002; FB 3(3): 186. 2002

Habenaria densa Wallich ex Lindley, Gen. Sp. Orchid. Pl.: 326. 1835.

Plants 30–40 cm; tuber cylindrical. Stem erect, bracteate above. Stem bracts narrowly lanceolate, acuminate. Leaves 3–4; lanceolate to narrowly elliptic, acute, sessile. Inflorescence many flowered; bracts lanceolate, acuminate. Flowers uniformly green. Petals elliptic–oblong, obtuse, base oblique, 1–veined. Fruits sessile, ovoid, ridged.

Gen. Distr:

Flowers & Fruits: July–October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2293*, dated 05.09. 2003.

Status: Common

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India: Himalayan range; Nepal, China.

RHYNCHOSTYLIS Blume

Rhynchostylis retusa (L.) Blume, Bijdr.: 286, t. 49. 1825; FB 3(3): 552. 2002.

Epidendrum retusum L., Sp. Pl. 2: 953. 1753.

Plant pendent; roots grey. Stems 10–30cm. Leaves distichous, spreading to arching, apex obliquely 2–lobed to retuse, deeply channelled, sessile, jointed. Inflorescence densely many flowered. Flowers white. Dorsal sepal broadly elliptic, obtuse; lateral sepals obliquely ovate. Petals spreading, oblong–ovate, rounded, 5–veined. Fruit ellipsoid, 6–ribbed.

Flowers & Fruits: May–July.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1950*, dated 30.06. 2003

Status: Common

Local Distribution: In all gardens.

General Distribution: India, Nepal, China, Sri Lanka, Myanmar, Thailand, Philippines, Malaya, Sumatra, Java, Borneo.

ZEUXINE Lindley

Zeuxine membranacea Lindl., Gen. Sp. Orchid. Pl.: 486. 1840; FB 3(3): 113. 2002.

Plant up to 35cm tall. Leaves linear, apiculate, reticulate. Inflorescence densely many flowered; floral bracts lanceolate, acuminate, margins fringed, 3–veined. Flowers white; ovary papilose or pubescent. Dorsal sepal oblong–lanceolate, acute; lateral sepals oblong, obtuse. Petals not adnate. Lip membranous, saccate at base.

Flowers & Fruits: November–January.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1662*, dated 13.11. 2002.

Status: Rare

Local Distribution: Found in Hansqua garden only.

General Distribution: NE India.

POACEAE Barnhart, *nom. alt.*
[GRAMINEAE A. Juss., *nom. cons.*]

AGROSTIS L.

Agrostis micrantha Steudel, Syn. Pl. Glum. 1: 170. 1854; EFPP 1: 120. 1978.

Annual, small, erect; leaves narrowly linear; panicle dense, much branched; spikelets minute, blackish.

Flowers & Fruits: September – November.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2460*, dated 05.11. 2003.

Status: Less common.

Local Distribution: Found only in Tamsong

General Distribution: Tropical Asia, malaysia and North Australia

ALLOTEROPSIS C. Presler

Alloteropsis semialata (R. Br.) Hitch. in Contrib. U. S. Nat. Herb. 12: 210. 1909; FB 3(2): 742. 2000.

Panicum semialum R. Br., Prodr. 192. 1810.

A small semierect grass; leaves small subulate, panicle branches few; spikelets one sided.

Flowers & Fruits: September – October.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0399*, dated 27.02.2002.

Status: Rare

Local Distribution: Found only at Kamalpur garden

General Distribution: Indian subcontinent

ARUNDO L.

Arundo donax L., Sp. Pl. 81. 1753; FBI 7: 302. 1896; FB 3(2): 646. 2000.

Stout, rhizomatous perennial with stout culms of 2(-6)m, lateral branches slender . Leaves tapering from just above base to very acute apex, glabrous, occasionally with lateral, basal tufts of hairs at junction with ligule, sheaths glabrous. Spikelets with purplish glumes.

Flowers & Fruits: October – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1809*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2279*, dated 05.09. 2003.

Status: Very common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Tropical Asia.

AXONOPUS P. Beauvois

Axonopus compressus (Swartz) P. Beauvois, Ess. Agrost. 12: 154, 167. 1812; FB 3 (2): 717. 2000.

Milium compressum Swartz, Prodr. Veg. India Occ. 24. 1788.

Local Name: *Chaparey jhar* (Nep).

Mat-forming. Culms 2.5-6 cm. Leaf blade 4.5-11.2 X 0.7-1 cm; ligule 0.3 mm. Sheath of upper leaf 6-11.5 mm. Longest peduncled partial inflorescence with 3 racemes, the lowest slightly distant, 3.5-6 cm. Glume 2-2.5 X 1 mm. Palea 1.5-1.6 X 0.8 mm, glabrous.

Flowers & Fruits: July to December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0286*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 0161*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0411*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 1929*, dated 10.06. 2003; Soom TE, *AP Das & Chandrâ 2636*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2926*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: India, Bangladesh, Mexico, Brazil, USA.

CALAMOGROSTIS Adanson

Calamagrostis emodensis Griseb in Goett. Nachr. 80.1868; FBI 7: 261. 1896; FEH 1: 354. 1966; TBRI 50(4): 107. 1987; Fl. Sik. 1: 283. 1996; FB 3 (2):610. 2000.

Stout grass upto 1.5 cm tall. Culms erect, developing from geniculate base; culm base covered with persistent old sheaths-remains. Leaves apex tapered into a sharp point, flat, glabrous, many-nerved. Sheaths loose and striate. Panicle upto 19 cm, effuse, glazy, branched into whorls, branchelets capillary. Spikelets condensed. Grain 0.1 cm long, spindle-shaped.

Flowers & Fruits: April – October.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2360*, dated 05.11.2003.

Status: Less Common.

Local Distribution: Found only in Tamsong garden.

General Distribution: Himalayas (Kashmir-Bhutan), W. China.

CAPILLIPEDIUM Stapf

Capillipedium assimile (Steudel) A. Camus: FEH 354. 1966; FB 3 (2): 794. 2000.

Local Name: *Murse karuki*, *Hati khurki* (Nep)

Scrambling; culms 1.5 m. Leaf blades 12-0.7 cm; ligule 0.7 mm. Inflorescence 3.5-11 cm, racemes 1-2 paired; spikelets sessile, 2.1-2.9 mm; glume 2-2.7 X 0.5-0.8 mm, sessile, 5-veined; lemma 1.6-3.2 mm.

Flowers & Fruits: June to December.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1795*, dated 17.05.2003; Tamsong TE, *AP Das & Chandrâ 2202*, dated 30.06. 2003; Soom TE, *AP Das & Chandrâ 3376*, dated 12.10.2004.

Status: Abundant.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: India, Nepal, Bhutan, China, Indo-Cina, Tibet, Myanmar, Malaysia

Capillipedium parviflorum (Retz.) Trin., Fund. Agrost. 188. 1822; FB 3(2): 796. 2000.

Plant tufted, erect, culms not branched. Leaf blades truncate at base. Racemes reduced to a single triad. Spikelets often dark purplish, pedicelled spikelets shorter than sessile.

Flowers & Fruits: August – October

Specimen Cited: Soom TE, *AP Das & Chandrâ 3434*, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom garden.

General Distribution: India, Nepal, Bhutan, China, Japan, Australia, Tropics of the World

CHLORIS Swartz

Chloris dolichostachya Lag., Gen. et Sp. Nov. 5. 1816; FB 3(2): 675. 2000.

Perennial with culms to 100cm, base sometimes decumbent, rooting from nodes. Leaves inserted along culm, upper surface of blades with scattered, long, spreading hairs, shortly appressed hairy beneath. Sheaths sparsely hairy. Racemes hispid with linear, not gaping spikelets.

Flowers & Fruits: October – December.

Specimen Cited: Matigara TE, *AP Das & Chandrâ 3607*, dated 20. 10. 2004; Makaibari TE, *AP Das & Chandrâ 2527*, dated 11.11. 2003.

Status: Rare

Local Distribution: In Terai and low altitude areas.

General Distribution: India, Nepal, Bhutan, Afghanistan, China, Sri Lanka, Myanmar, South East Asia

Chloris virgata Swartz, Fl. Ind. Occid. 1: 203. 1797; FB 3(2): 674. 2000.

Tufted perennial with erect culms. Leaves mainly basal with several evenly inserted along culms, blades very acute, upper surface minutely hispid, glabrous beneath, margins minutely serrate, sheaths glabrous. Racemes hispid with gaping spikelets.

Flowers & Fruits: June – October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2565*, dated 11.11. 2003; Tamsong TE, *AP Das & Chandrâ 2457*, dated 05.11. 2003.



Status: Common

Local Distribution: In hill gardens.

General Distribution: Tropics of both hemispheres

CHRYSOPOGON Trinius

Chrysopogon aciculatus (Retzius) Trinius, Fund. Agrost. 188. 1820; FEH 1: 355. 1966; Fl. Sik. 1:247. 1996; FB 3 (2):791. 2000.

Andropogon aciculatus Retzius, Obs. Bot. 5: 22. 1789; FBI 7: 188. 1896.

Local Name: *Chor-knata* (Beng).

Perennial with creeping rhizome; upto 55 cm tall. Leaf sheaths rounded, throat usually glabrous or slightly hairy; ligules membranous. Panicle 3-9 cm long, erect, spreading. Spikelets both sessile and pedicelled with spinous awn. Caryopsis linear.

Flowers & Fruits: March - September

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0806*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0101*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0462*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 1825*, dated 10.06. 2003.

Status: Abundant

Local Distribution: In Terai and low altitude areas.

General Distribution: E. Himalaya (Nepal-Darjeeling), India, Myanmar, Indo-China, Malaysia, China, Formosa, N. Australia.

COIX L.

Coix lachryma-jobi L., Sp. Pl. 972. 1753; FBI 7: 100. 1896; FB 3 (2): 839. 2000.

Local Name: *Garday mala, ghanrey mala* (Nep).

Culms 70-210 cm. Leaf blades 1.5-4 cm wide; ligule 0.6-1.2 mm. Utricles 7-14.7 X 4.3-8 mm; In female inflorescence, sterile florets 5.6-15.7 mm, fertile florets 7.5-143.2 mm. Male raceme 16-33 mm, 3-6 nodes. Glume 6.7-9.1 x 2.3-4 mm; palea 5.9-8.2 x 1.5-2.2.

Flowers & Fruits: March to December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0977*, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ 0459*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3374*, dated 12.10.2004.

Status: Less Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Tropical Asia

Note: Used for fodder. The utricles are made in to necklaces by children.

CYMBOPOGON Sprengel

Cymbopogon citratus Stapf, Kew Bull. 322. 1906.

Flowers & Fruits: November – February

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2195*, dated 30.06. 2003.

Status: Rare

Local Distribution: Found in Tamsong garden only.

General Distribution: Himalayas

Cymbopogon nardus (L.) Rendle, Cat. Welw. Afr. Pl. 2: 155. 1899; FB 3(2): 808. 2000.

Andropogon nardus L., Sp. Pl. 1046. 1753.

Culms to 80 cm. Leafblades glaucous, margins sharply serrate. Sheath apex appressed hairy at junction with underside of leaf blade. Racemes pale brown, extremely dense, 30 cm with 2 spikelet pairs and a traid.

Flowers & Fruits: September – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1938*, dated 30.06. 2003.

Status: Commonly cultivated.

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan

Cymbopogon pendulus (Nees ex Steud.) Wats. in Atkins., Gaz., N. W. Prov. Ind. 392. 1882; FB 3(2): 805. 2000.

Andropogon pendulus Nees ex Steud., Syn. Pl. Glum. 1: 388. 1854.

Local Name: *Gandari, Baid ghas* (Beng).

Lemon scented; culms grooved or flattened on one side in upper part upto 3m. Leaf blades glaucous, sheath apex glabrous. Racemes 31 –113cm, rather lax, spreading, never dark purplish with (3-) 4 -5 spikelet pairs and a traid.

Flowers & Fruits: August –January

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1089*, dated 09.05.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan

CYNODON Richard

Cynodon dactylon (L.) Persoon, Syn. Pl. 1: 85. 1805; FBI 7: 288. 1896; FB 3 (2): 678. 2000.

Panicum dactylon L., Sp. Pl. 58. 1753.

Local Name: *Dubba ghaas* (Beng); *Dubo* (Nep).

Perennial, creeping. Erect part of culms 10-19 cm. Leaf blades 1.7-4.5 X 0.1-0.2 mm; ligule 0.2 mm. Racemes 3-4; spikelets 1.9-2.7 mm. Lemma 1.7-2.5 mm, each half semilanceolate. Palea 1.5-2 X 0.3-0.5 mm.

Flowers & Fruits: March to September.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0084*, dated 27.01.2002; Soom TE, *AP Das & Chandrâ 3322*, dated 26.06. 2004; Tamsong TE, *AP Das & Chandrâ 3064*, dated 10.04. 2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Cosmopolitan.

DACTYLOCTENIUM Willdenow

Dactyloctenium aegyptium (L.) Willdenow, Enum. Pl. Horti. Berol 1029. 1809; FB 3 (2): 670. 2000.

Cynosurus aegyptius L., Sp. Pl. 72. 1753.

Eleusine aegyptiaca (L.) Desf., F At. 1: 85. 1798; FBI 7: 295. 1896.

Stolons creeping. Culms 20-40 cm. Leaf blades 5.5-18 X 0.3-0.5 cm; sheaths glabrous; ligule 0.3-1 mm. Racemes 3-6, 1.2-4.5 X 0.5-0.8 cm. Spikelets 3.5-4 mm, fertile florets 2-4. Palea 2.2-2.6 X 0.9-1.5 mm.

Flowers & Fruits: April – October.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0688*, dated 20.04.2002; Soom TE, *AP Das & Chandrâ 3551*, dated 12. 10. 2004.

Status: Less Common.

Local Distribution: In Terai and low altitude areas.

General Distribution: Tropical World

DICANTHIUM Willemet

Dicanthium annulatum : FB 3(2): 793. 2000

Tufted perennial. Culms slender to 50 (-100) cm, simple or with several, simple, erect inflorescence bearing branches, nodes bearded. Leaves mainly basal with some evenly scattered along culm. Sheaths glabrous. Racemes 3 -5, 3 -4cm, with sessile spikelets.

Flowers & Fruits: March – May.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2498*, dated 11.11. 2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan, Myanmar, Tropical and Northern Africa

DIGITARIA Haller

Digitaria ciliaris (Retzius) Koeler, Descr. Gram. 27. 1802; TBRI 50(4): 112. 1987; Fl. Sik. 1:251. 1996; FB 3 (2):728. 2000.

Panicum ciliare Retzius, Obs. Bot. 4: 16. 1786.

Digitaria sanguinalis Scopoli, f. *ciliaris* (Retzius) Haines, Bot. Bihar and Orissa 5: 1008. 1922.

Local Name: Chittrey banso (Nep).

Annual tufted herbs, 30-60 cm tall; rarely branched from lower nodes, glabrous. Leaves 11 x 0.35-0.7 cm, linear-lanceolate, margins cartilaginous, narrowed into sharp tip, base slightly contracted; ligules membranous. Recemes 4-9, subdigitate, basally pubescent.

Flowers: June – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1852*, dated 10.06. 2003; Tamsong TE, *AP Das & Chandrâ 2190*, dated 30.06. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Pantropic.

Digitaria compacta (Roth ex Roemer & Schultes) Veldkham in Blumea 21:71. 1973; Fl. Sik. 1.251. 1996; FB 3 (2):731. 2000.

Paspalum compactum Roemer et Schultes, Syst. Veg. 2: 316. 1817.

P. sanguinale var. *commutatum* sensu Hk. f., FBI 7: 15. 1897 p.p.

An annual grass, 15-25 cm tall. Culms ascending from a decumbent base, branches and sometimes roots arise from lower nodes, densely hairy at nodal regions, often leafy to top. Leaves lanceolate, margins ciliate, acuminate, base rounded, hairy both surfaces. Leaf sheaths loose, striate with white and shiny hairs. Raceme of false shorter spikes with spikelets arranged in 2 rows, ovate-lanceolate, seated upon short pedicels

Flowers: May - August

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1713*, dated 17.05.2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: E. Himalaya (Nepal-Darjeeling), Assam, W. China.

Digitaria cruciata (Nees ex Steud.) A. Camus in Lecomte, Fl. Gen. de. 1' Indo –Chine 7: 399. 1922.

Panicum cruciatum Nees ex Steud., Syn. Pl. Glum. 1: 30. 1854.

Like *D. ciliaris* but a much robust plant; leaves longer to 14 cm; spikelets shorter and wider.

Flowers & Fruits: September – November.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2558*, dated 11.11. 2003.

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan, China. Indo –China, Myanmar

Digitaria griffithii (Hooker f.) Hern. in Blumea 1: 100. 1934.

Paspalum sanguinale (L.) Lamk. Var. *griffithii* Hooker f., FBI 7: 15. 1896.

Annual, upto 90 cm tall; lower leaves linear, glabrous; ligule membranous; spikelets lanceolate, ciliate.

Flowers & Fruits: September – December.

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2349*, dated 05.11. 2003.

Status: Rare

Local Distribution: Found only in Tamsong garden.

General Distribution: Tropical Asia

Digitaria sanguinalis (L.) Scopoli, Fl. Carn. ed. 2, 1: 52. 1772; FB 3 (2):728. 2000.

Paspalum sanguinale L., Sp. Pl. 1: 57. 1753.

Annual. Culms decumbent, branched; nodes slightly swollen. Ligules truncate, membranous. Sheaths loose, often hirsute; lamina 3-13 x 0.45-0.6 cm, linear-lanceolate, margin white, acute. Panicles many spiked, erect; rachis very short, flexuous. Spikelets 0.3 cm long linear-lanceolate.

Flowers: August – November

Specimen Cited: Soom TE, *AP Das & Chandrâ* 3297, dated 26.06. 2004.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: E. Himalaya, Meghalaya, Assam, China.

Digitaria ternata (A. Rich.) Stapf ex Dyer, Fl. Cap. 7: 376. 1898; FB 3(2): 736. 2000.

Cynodon ternatus A. Rich., Tent. Fl. Abyss. 2: 405. 1851.

Annual. Culms erect, 10 -88cm, hairy above. Leaf blades oblong, acute, base truncate with few long hairs scattered above and tufted of long hairs at extreme base above, margins smooth. Sheaths glabrous. Raemes (2-) 3 -5, silvery, erect, digitate, sometimes slightly distant with spikelets in groups.

Flowers & Fruits: July – October

Specimen Cited: Soom TE, *AP Das & Chandrâ* 3526, dated 12.10.2004.

Status: Less Common.

Local Distribution: Found only in Soom garden.

General Distribution: India, Nepal, Bhutan, China, Myanmar, Tropical Eastern and South Africa

ELEUSINE Gaertner

Eleusine indica (L.) Gaertner, Fruct. 1: 8. 1788; FBI 7: 293. 1896; FB 3 (2): 667. 2000.

Cynosurus indicus L., Sp. Pl. 72. 1753.

Local Name: Shade jhar, Kodho jhar.

Culms 13-45 cm. Leaf blades 7-24 X 0.2-0.6 cm; ligule 0.5-1 mm. Inflorescence digitate. Racemes 3-5, 3.5-9 X 0.3-0.5 cm. Spikelets 4.4-5.4 mm, florets 4-5. Palea 2.4-3 X 0.6-0.9 mm; keels very narrowly winged.

Flowers & Fruits: May to December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ* 1599, dated 22.10. 2002; Hansqua TE, *AP Das & Chandrâ* 1133, dated 09.05.2002; Kamalpur TE, *AP Das & Chandrâ* 0403, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ* 1747, dated 17.05.2003; Soom TE, *AP Das & Chandrâ* 2663, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ* 2390, dated 05.11. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Tropical and sub-tropical region of the World.

ERAGROSTIS N.M. Wolf

Eragrostis gangetica (Roxburgh) Steud., Syn. Pl. Glum. 1: 266. 1854; FB 3(2): 665. 2000.

Poa gangetica Roxburgh, Fl. Ind. 1: 321. 1820.

Slender, tufted, annual or short lived perennial. Culms simple or with few, erect branches, base slightly decumbent, upper part leafless. Leaf blade inrolled, linear, very acute, with sparse, long spreading hairs above, densely hairy at base, glabrous beneath. Sheaths glabrous. Inflorescence broadly cylindric, moderately lax, glabrous in axils with greyish-green spikelets.

Flowers & Fruits: January – March

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0180*, dated 0322; Kamalpur TE, *AP Das & Chandrâ 0372*, dated 27.02.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: India, Nepal, Bhutan, Myanmar

Eragrostis nigra Nees ex Steudel, Nom. ed. 2. (1): 563. 1840; FBI 7: 324. 1896; FEH 1: 362. 1966; TBRI 50(4): 113. 1987; Fl. Sik. 1:290. 1996; FB 3 (2): 662. 2000.

Variable, 20-90 cm tall. suberect, simple. Leaves basal, lanceolate, elongate, margins smooth or few hairs at base, acute, glabrous. Sheath margins smooth/ ciliate, obscurely compressed. Ligule ciliate. Panicle 35 cm, spreading. Pedicels longer than linear-oblong, olive grey spikelets.

Flowers & Fruits: June – October

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0548*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 2469*, dated 11.11. 2003; Tamsong TE, *AP Das & Chandrâ 2311*, dated 05.09. 2003; Soom TE, *AP Das & Chandrâ 3218*, dated 26.06. 2004.

Status: Fairly Common.

Local Distribution: In all gardens.

General Distribution: India, Sri Lanka, Nepal, Bhutan, Myanmar, Indochina, Malaysia, China.

Eragrostis pilosa (L.) P.Beauvois, Ess. Agrost. 71. 162. 175. 1812; FBI 7: 323. 1896; FB 3 (2): 665. 2000.

Poa pilosa L., Sp. Pl. 68. 1753.

Annual. Culms 12-55 cm. Leaf blades 8-13 X 0.2-0.3 cm. Inflorescence 9-24 X 2-5 cm. Spikelets 2.6-4.9 X 0.6-0.7 mm, florets 5-11, glumes, lemmas, paleas deciduous. Palea 1.1 X 0.4 mm, keels hispid.

Flowers & Fruits: June to August.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2822*, dated 25.03. 2004; Soom TE, *AP Das & Chandrâ 3497*, dated 12. 10. 2004.

Status: Less Common.

Local Distribution: All three hill gardens.

General Distribution: Tropical and warm regions of Old World

Note: Fooder, native medicinal plant.

Eragrostis tenella (L.) P.Beauvois ex Roemer & Schultes, Syst. Veg. 2: 576. 1817; FB 3 (2): 657. 2000.

Poa tenella L., Sp. Pl. 69. 1753.

Annual. Culms 5-31 cm, simple. Leaf blades 1.7-6 X 0.2-0.5 cm; ligule a line of cilia 0.2-0.4 mm. Inflorescence 2.5-11 X 1-3.5 cm, cylindric. Spikelets 1.3-2.1 X 0.9-1.6 mm, florets 3-7. Palea 0.8-1 X 0.2-0.4 mm, oblanceolate.

Flowers & Fruits: April-October.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1152*, dated 14.06. 2002; Kamalpur TE, *AP Das & Chandrâ 1252*, dated 18.10.2002; Matigara TE, *AP Das & Chandrâ 3137*, dated 10.05. 2004; Soom TE, *AP Das & Chandrâ 3486*, dated 12. 10. 2004.

Status: Very common.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: Pantropic weed.

Eragrostis unioides (Retzius) Nees ex Steudel, Syn. Pl. Glum. 1: 264. 1854; FB 3 (2): 663. 2000.

Poa unioides Retzius, Obs. Bot. 5: 19. 1789.

Annual. Culms 4.5-41 cm, rooting from nodes. Leaf blades 3.7-14 X 0.2-0.5 cm. Inflorescence 3.5-20 X 1-6 cm; florets 19-69. Glumes lanceolate to ovate, acuminate. Palea 1.4-1.8 X 0.6-0.9 mm, narrow elliptic, keels hispid.

Flowers & Fruits: February to December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 1148*, dated 14.06. 2002; Matigara TE, *AP Das & Chandrâ 3161*, dated 10.04. 2004; Makaibari TE, *AP Das & Chandrâ 2526*, dated 11.11. 2003; Soom TE, *AP Das & Chandrâ 3386*, dated 12. 10. 2004.

Status: Abundant.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: Tropical Asia and Africa.

ERIANTHUS Michx.

Erianthus rufipilus (Steudel) Griseb in Nachr. Ges. Wiss. Gottingen 93. 1868; FB 3 (2): 765. 2000.

Saccharum rufipilum Steud., Syn. Pl. Glum. 1: 409. 1855.

Erianthus fulvus Nees ex Steud., Syn Pl. Glum. 1: 409. 1855. FBI 7: 123. 1896.

Perennial shrubs upto 2.5m. Culms erect, robust. Stem stout, nodes pubescent. Leaves upto 90cm, linear, flat or convolute, margins scaberulous, glaucous, scabrid beneath. Leaf-sheaths

margins hairy; ligule ciliate, rounded. Panicle upto 40 cm long, silky villous, erect with villous rachis. Spikes condensed with brownish paired spikelets.

Flowers & Fruits: *October - December*

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2222*, dated 05.09. 2003.

Status: Less Common.

Local Distribution: Found only in Tamsong garden.

General Distribution: India, Nepal, Bhutan, Myanmar, Malaysia, China.

IMPERATA Cirillo

Imperata cylindrica (L.) Rauschel, Nom. Bot. ed. 3: 10. 1797; Fl. Sik. 1:257. 1996; FB 3 (2):770. 2000.

Lagurus cylindricus L., Syst. Nat. ed. 10, 2: 878. 1759.

Local Name: *Siru, Khar* (Nep); *Kush* (Beng)

Perennial, much variable. Culms solid, basally fistular, glabrous. Ligules ciliate, membranous. Sheaths loose, exceeding internodes, glabrous. Leaves >1.5 m, margins scabrid, white hairy, acuminate. Panicles cylindric, finely whitehairy. Spikelets lanceolate, hairy.

Flowers: April – November

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0307*, dated 16.02. 2002; Tamsong TE, *AP Das & Chandrâ 2920*, dated 10.04. 2004.

Status: **Very common.**

Local Distribution: **In all gardens.**

General Distribution: Tropical and temperate regions of Asia, Australia, Africa, etc.

Note: Used for thatching, young shoot eaten in some areas.

ISACHNE R. Brown

Isachne albens Trinius, Sp. Gram. Ic. t. 25. 1828; FBI 7: 22. 1896; FEH 1: 366. 1966; TBRI 50(4): 117. 1987; Fl. Sik. 1:296. 1996; FB 3 (2):743. 2000.

Perennial, 25-45 cm tall; erect or spreading,. Leaves 3-10 x 0.35-0.7 cm, linear to linear-lanceolate, margins ciliate, scabrid. Sheaths smooth, striate. Ligule of stiff hairs. Panicles decomound, 6.5-28 cm long, branches capillary. Spikelets ±globose.

Flowers: August – November; *Fruits:* October – December

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2573*, dated 11.11. 2003; Soom TE, *AP Das & Chandrâ 3308*, dated 26.06. 2004.

Status: Common

Local Distribution: All hill gardens.

General Distribution: Temperate regions of south-east Asia.

Isachne gracilis C. E. Hubb. in Kew Bull. 1927: 77. 1927.

Like *I. albens*, but a very slener plant; sheath margin ciliate; spikelets smaller.

Flowers & Fruits: August – November.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3480*, dated 12. 10. 2004.

Status: Rare

Local Distribution: Found only in Soom garden.

General Distribution: India, Nepal, Bhutan

Isachne miliacea Roth ex R. & S., Syst. Veg. 2: 476. 1817; FBI 7: 25. 1896; FB 3(2): 746. 2000.

Slender perennial. Culms 10 -25cm, base decumbent, rooting from nodes. Leafblades lanceolate, subacute, hispid on both surfaces and margins. Sheaths glabrous. Inflorescence 2 -6cm, branched to 2 orders, branches with glandular bands.

Flowers & Fruits: May – October

Specimen Cited: Soom TE, *AP Das & Chandrâ 3555*, dated 12.10.2004.

Status: Rare.

Local Distribution: Found only in Soom garden.

General Distribution: India, Nepal, Bhutan, China, Malaysia, South East Asia

NEYRAUDIA Hook.f.

Neyraudia arundinacea (L.) Henrard, in Med. Herb. Leid. No. 58, 8. 1929; FB 3 (2): 650. 2000.

Aristida arundinacea L., Mant. 146. 1771.

Local Name: *Situ, Siku, Ghungring* (Nep)

Culms 1-3 m, 2-10 mm in diameter. Leaf blades 70 cm, 0.3-2.2 cm wide. Inflorescence 8-70 X 2-16 cm. Spikelets 6.1-9.3 mm, fertile florets 4-6; glumes 1.7-2.7 X 0.4-0.8 mm; palea 2.2-3.1 X 0.3-0.5 mm.

Flowers & Fruits: October-April.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1741*, dated 17.05.2003.

Status: Less Common.

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan, Tropical Africa

Note: Poisonous to buffalo.

OPLISMENUS P. Beauvois

Oplismenus burmannii (Retzius) P. Beauvois, Ess. Agrost. 54: 168-169. 1812; FBI 7: 68. 1896; FB 3 (2): 686. 2000.

Panicum burmannii Retz., Obs. Bot. 3: 10. 1783.

Culms 22-56 cm. Leaf blades 2.5-5.7 X 0.7-1.4 cm, ovate, acuminate; ligule 0.6-1 mm. Inflorescence 3-9 cm, racemes 5-9, dense. Spikelets 2.4-3 mm. Palea usually absent or linear-oblongate, 2.2 X 0.6 mm.

Flowers & Fruits: January to October.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0290*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 0129*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0598*, dated 20.04.2002; Tamsong TE, *AP Das & Chandrâ* , dated 07.11.2003; Makaibari TE, *AP Das & Chandrâ 1709*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2635*, dated 27.12. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Tropical World.

Oplismenus compositus (L.) P. Beauvois, Ess. Agrost. 54: 168. 1812; FB 3 (2): 684. 2000.

Panicum compositum L., Sp. Pl. 57. 1753.

Culms 25-63 cm. Leaf blades 6.5-16 X 1.3-2 cm, lanceolate, acuminate. Inflorescence 12-23 cm; racemes 5-10; spikelets 3.7-4 mm. Palea 2.5-2.9 x 0.9-1.3 mm.

Flowers & Fruits: August to December.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0055*, dated 27.01.2002; Hansqua TE, *AP Das & Chandrâ 0139*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0696*, dated 20.04.2002; Makaibari TE, *AP Das & Chandrâ 1701*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2629*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2193*, dated 30.06. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: Tropical World.

PANICUM L.

Panicum crus-galli L., Sp. Pl. 1: 56. 1753; FBI 7: 30. 1896; FB 3(2): 704. 2000.

Perennial. Culms 30-70cm, decumbent at base. Leaf blades linear-lanceolate, very acute, glabrous or shortly appressed – hispid above and with long and short, spreading hairs beneath. Racemes suberect, upper crowded, lower distant with spikelets 4.8-6mm.

Flowers & Fruits: November – December

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 1589*, dated 22.10. 2002; Kamalpur TE, *AP Das & Chandrâ 0555*, dated 17.04.2002.

Status: Abundant.

Local Distribution: All Terai gardens.

General Distribution: A pantropic weed.

Panicum glaucum L., Sp. Pl. 1: 56. 1753.

Flowers & Fruits: September – June

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0523*, dated 17.04.2002.

Status: Common

Local Distribution: All Terai gardens.

General Distribution: Tropical and Subtropical Asia and Africa

PASPALUM L.

Paspalum conjugatum Bergius in Act. Helv. Phys. Math. 7: 129, t. 8. 1772; FBI 7: 11. 1896; FB 3 (2): 716. 2000.

Local Name: *Bonso jhar, Hathi doubo* (Nep).

Stolons spreading. Culms 11-46 cm. Leaf blades 3.5-8 X 0.4-0.9 cm, oblong-lanceolate; ligule 0.2-0.7 mm. Racemes 4-10.2 cm; spikelets 1.5-1.8 mm; pedicels hooked. Glume 1.5-1.8 X 1-1.4 mm. Palea 1.4-1.8 X 0.9- 1.1 mm, margins thickened, inrolled.

Flowers & Fruits: August to December.

Specimen Cited: Hansqua TE, *AP Das & Chandrâ 0253*, dated 09.02.2002; Kamalpur TE, *AP Das & Chandrâ 0370*, dated 27.02.2002; Makaibari TE, *AP Das & Chandrâ 2493*, dated 11.11. 2003; Soom TE, *AP Das & Chandrâ 3428*, dated 12.10.2004; Tamsong TE, *AP Das & Chandrâ 2133*, dated 30.06. 2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: India, Nepal, Bhutan, America, Africa, Tropics of the World

Paspalum distichum L., Syst. Nat. ed. 10, 2: 855. 1759; FB 3(2): 715. 2000.

Local Name: *Chittrey* (Nep).

Rhizomatous. Culms 9-82 cm. Leaf blades 5-14.5 X 0.2-0.6 cm, linear; ligule 0.8-1 mm. Racemes paired, 3-7 cm. Spikelets 3-3.4 mm. Palea 2.1- 2.5 X 1.1-1.2 mm, crustaceous, back flat, margins inflexed.

Flowers & Fruits: July to October.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2508*, dated 11.11. 2003.

Status: Less Common.

Local Distribution: Found only in Makaibari garden.

General Distribution: Tropics and Subtropics of Old World

Paspalum scrobiculatum L., Mant. 1: 29. 1767; FBI 7: 10. 1896; FEH 1: 372. 1966; EFPN 1: 139. 1978; TBRI 50(4): 121. 1987; Fl. Sik. 1: 265. 1996; FB 3 (2):712. 2000.

Paspalum orbiculare G. Forster, Fl. Insul. Austree Prodr. 7. 1786.

Tufted, upto 58 cm tall, spongy at base, hairy on collar at leaf juncture. Leaves >28 x 0.5- 0.9 cm, sublanccolate-linear, tapered into a fine point, base obscurely contracted, glabrous. Sheaths loose, scarious. Inflorescence of false spikes, erect, often drooping. Spikelets in 2 rows, overlapping.

Flowers & Fruits: April – October

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0035*, dated 27.01.2002; Soom TE, *AP Das & Chandrâ 2703*, dated 09.01. 2004; Tamsong TE, *AP Das & Chandrâ 2024*, dated 30.06. 2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: Tropics of the Old World.

PENNISETUM Rich. ex Persoon

Pennisetum clandestinum Hochst.ex Chiov., in Ann. Ist. Bot. Roma, 8: 41. 1903; FB 3(2): 741. 2000.

Local Name: Hatie dubo (Nep).

Rhizomatous perennial. Culms much branched, decumbent and rooting at nodes so mat forming. Leaf blades apex subacute, glabrous, or with few, short, tubercle based hairs above and beneath. Sheaths with sparse or dense, spreading, tubercle based hairs, margins usually glabrous. Inflorescence concealed in upper leaf sheaths with 2-3 spikelets on short axis.

Flowers & Fruits: July – December

Specimen Cited: Soom TE, *AP Das & Chandrâ 2685*, dated 09.01. 2004

Status: Less Common.

Local Distribution: Found only in Soom garden.

General Distribution: African grass; naturalized in temperate regions.

Pennisetum pedicellatum Trin. in Mem. Acad. Sci. Petersb. Ser. 6, 3: 184. 1834; FBI 7: 86. 1896; FB 3(2): 740. 2000.

Stout, tufted annual. Culms 20-150cm, erect, much branched. Leaf blades with dense, spreading, tubercle-based hairs above and beneath, margins with long cilia at base. Margins of sheaths densely short-ciliate. Inflorescence purplish, cylindric, axis glabrous. Spikelets borne in groups of (1-)3, unequally pedicelled.

Flowers & Fruits: December – April

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2435*, dated 05.11. 2003.

Status: Rare

Local Distribution: In Terai and low altitude areas.

General Distribution: Native of Africa; nicely naturalized in India.

POA L.

Poa annua L., Sp.Pl. ed. 1, 68. 1753; FBI 7: 345. 1896; FEH 1: 372. 1966; Fl. Sik. 1:300. 1996; FB 3 (2):556. 2000.

Annual, tufted, >30 cm high. Ligules oblong to ovate. Sheaths loose, slightly compressed. Lamina 2.2-3.5 x 0.27-0.35 cm, linear, margin scaberulous, acute, flaccid. Panicles >8.2 cm

long, branched, stiff, often sub-secund. Spikelets 3-8 flowered, ovate or lanceolate, green or purple.

Flowers & Fruits: March – November

Specimen Cited: Soom TE, *AP Das & Chandrâ 3466*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2269*, dated 05.09. 2003.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Cosmopolitan in the subtropical and temperate regions of the world.

POGONATHERUM P. Beauvois

Pogonatherum crinitum (Thunberg) Kunth, Enum. Pl. 1: 478. 1833; FBI 7: 141. 1896; Fl. Sik. 1:287. 1996; FB 3 (2):778. 2000.

Andropogon crinitus Thunberg, Fl. Jap. 40, t. 7. 1784.

Tufted caespitose perennial; >50 cm tall. Branches filiform, glabrous. Ligules reduced. Sheaths slightly compressed, throat fimbriate. Upper lamina shorter, 2.5-6.8 x 0.15-0.39 cm, linear to linear-lanceolate, acuminate, base rounded. Racemes solitary. Spikelets truncate; callus hairy.

Flowers: May – August

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2251*, dated 05.09. 2003.

Status: Less Common.

Local Distribution: Found only in Soom & Tamsong gardens.

General Distribution: E. Himalaya (Nepal – Sikkim), India, Thailand, Indo-China, China, Japan and Malaysia.

SACCHARUM L.

Saccharum spontaneum L., Mant. Pl. 2: 183. 1771; FBI 7: 118. 1896; FB 3(2): 764. 2000.

Local Name: *Samu Kans, Kash* (Nep).

Rhizomatous, extensively spreading, forming clumps. Culms sometimes branched below with appressed, silky hairs below inflorescence. Leaf blades linear, tapered to very acute apex, lamina of culm leaves sometimes scarcely developed. Sheaths glabrous, lower sometimes hairy. Panicle white, broadly cylindrical in life, narrow when dry.

Flowers & Fruits: December – January.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0366*, dated 16.02. 2002; Hansqua TE, *AP Das & Chandrâ 0134*, dated 03.02.2002; Kamalpur TE, *AP Das & Chandrâ 0577*, dated 20.04.2002; Soom TE, *AP Das & Chandrâ 3562*, dated 12.10.2004.

Status: Abundant.

Local Distribution: In Terai and low altitude areas.

General Distribution: Warm regions of Old World

SACCIOLEPIS Nash

Sacciolepis indica (L.) A. Chase in Proc. Biol. Soc. Wash. 21: 8. 1908; FB 3 (2): 697. 2000.

Panicum indicum L., Mant. Pl. 2: 184. 1771 non *Panicum indicum* Mill 1768: FBI 7: 41. 1896.

Annual. Culms 15-70 cm. Leaf blades 4-16 X 0.1-0.8 cm; ligule 0.7 mm. Inflorescence 2.5-12 X 0.5-0.7 cm; spikelets 2.1-2.5 X 0.9-1.2 mm. Palea 1.1-1.5 X 0.5 mm, narrowly elliptic.

Flowers & Fruits: July to October.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0481*, dated 17.04.2002.

Status: Very common.

Local Distribution: All Terai gardens.

General Distribution: Himalayas, Tropical Asia, Polynesia, Australia. Introduced to Africa and America

SETARIA P. Beauvois

Setaria forbesiana (Nees ex Steud.) Hooker f., FBI 7: 81. 1896; FB 3(2): 724. 2000.

Panicum forbesianum Nees ex Steud., Syn. Pl. Glum. 1: 98. 1854.

Perennial. Rhizome woody, knotted. Culms to 1m, ascending. Leaf blades ± oblong, glabrous. Margins of sheaths long ciliate. Panicle narrowly cylindrical, axis hispid, branches rather distant, very short, bearing 3-6(-14) spikelets, each spikelet subtended by a stiff, antrorsely scabrid bristle.

Flowers & Fruits: August – October

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2576*, dated 11.11. 2003

Status: Rare

Local Distribution: Found only in Makaibari garden.

General Distribution: Himalayas, India.

Setaria geniculata P. Beauv. Ess. Agrostogr. 51, 178. 1812.

Like *S. forbesiana* but a larger plant.

Flowers & Fruits: October – April.

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 2583*, dated 11.11. 2003

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: India, Nepal, Bhutan, Tropical and Subtropical America.

Setaria glauca (L.) P. Beauvois, Ess. Agrost. 51: 178. 1812; FBI 7: 78. 1896.

Panicum glaucum L., Sp. Pl. 56. 1753.

Annual. Lamina linear lanceolate; ligule ciliate. Inflorescence panicle; bristles 6-14, spikelets 2-flowered; stamens 3; upper bisexual. Caryopsis rounded elliptic.

Flowers & Fruits: August to February.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0907*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 0500*, dated 17.04.2002; Tamsong TE, *AP Das & Chandrâ 2294*, dated 05.09.2002; Makaibari TE, *AP Das & Chandrâ 2476*, dated 11.11. 2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: India, America and Australia.

Setaria palmifolia (J. König) Stapf in J. Lin. Soc. Bot. 42: 186. 1914; FEH 1: 376. 1966; Fl. Sik. 1: 273. 1996; FB 3 (2):723. 2000.

Panicum palmaefolium J. Koenig in Naturf. 22: 208. 1788.

Local Name: *Dhoti Sara* (Nep); *Bans pata* (Beng)

Perennial, 1-2 m high, root-stock stout woody; nodes strigillose. Lamina 15-45 x 1.3-5.2 cm, linear-lanceolate, acuminate, glabrous or sparsely hairy, plicate folded, sheath margin ciliate, smooth or hispid. Panicles 30-60 cm, spreading, loose. Spikelets solitary, ± sessile, bristle single.

Flowers: May – February

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0929*, dated 04.05. 2002; Kamalpur TE, *AP Das & Chandrâ 1224*, dated 18.10.2002; Makaibari TE, *AP Das & Chandrâ 1724*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 2612*, dated 27.12. 2003; Tamsong TE, *AP Das & Chandrâ 2026*, dated 30.06. 2003.

Status: Very common.

Local Distribution: In all gardens.

General Distribution: Tropics of the Old World.

Note: Excellent fodder for cattle.

Setaria plicata (Lamarck) T. Cooke, Fl. Bombay 2: 919. 1908.

Panicum plicatum Lamarck, Encycl. Meth. Bot. 4: 736. 1797.

Perennial. Culms 1 m. Lamina narrowly lanceolate, plicate; ligule hairy. Spikelets ovate-oblong, loose panicle; glume 5-7 nerved. Upper floret fertile; lemma ovate, acute; stamens 3. Caryopsis globose.

Flowers & Fruits: August to January.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0754*, dated 04.05. 2002; Hansqua TE, *AP Das & Chandrâ 0132*, dated 03.02.2002; Kamalpur TE, *AP Das &*

Chandrâ 1255, dated 18.10.2002; Tamsong TE, *AP Das & Chandrâ 2374*, dated 05.11.2003; Soom TE, *AP Das & Chandrâ 3559*, dated 12.10.2004.

Status: Less Common.

Local Distribution: In all gardens.

General Distribution: Indo-Malaysia, China, Nepal, Sri Lanka.

Setaria pumila (Poiret) Roemer & Schultes, Syst. Veg. 2: 191. 1817; FB 3 (2): 720. 2000.

Panicum pumilum Poiret in Lamarck, Ency. Meth. Bot. Suppl. 4: 273. 1816.

Setaria pallide-fusca (Schum.) Stapf & Hubbard in Kew Bull. 1930: 259. 1930.

Local Name: *Bala bansu*, , *Gogey banso* (Nep).

Annual or perennial. Culms 10-75 cm. Leaf blades 3.5-17 cm; ligule a fringe of hairs. Panicle 1.2-11 cm, cylindric, spikelets 2.5-3.1 mm. Glumes 1-1.9 mm, 3-veined; lemma 2.3-2.9 mm; palea crustaceous, back flat, inrolled.

Flowers & Fruits: March to December.

Specimen Cited: Soom TE, *AP Das & Chandrâ 3378*, dated 12. 10. 2004.

Status: Less Common.

Local Distribution: Found only in Soom garden.

General Distribution: Tropical World.

SPOROBOLUS R. Brown

Sporobolus fertilis (Steud.) W. D. Clayton in Kew Bull. 19: 294. 1965; FB 3(2): 671. 2000.

Agrostis fertilis Steud., Syn. Pl. Glum. 1: 170. 1854.

Stout, tufted perennial. Culms 22-56cm. Leaf blades flat or inrolled, linear to oblong, very acute, glabrous. Sheaths glabrous, margins sometimes minutely ciliate above. Inflorescence narrowly cylindric, spike like branches appressed, overlapping bearing silvery-grey spikelets to base, slightly distant. Grain oblong in outline, apex truncate.

Flowers & Fruits: March – December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0515*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 2857*, dated 25.03. 2004; Tamsong TE, *AP Das & Chandrâ 2108*, dated 30.06. 2003.

Status: Abundant.

Local Distribution: In all gardens.

General Distribution: India, Nepal, Bhutan, China, Sri Lanka, Myanmar, Thailand, Japan, Malaysia

THYSANOLAENA Nees

Thysanolaena latifolia (Roxburgh ex Horneman) Honda, J. Fac. Sc. Tokyo Sect. III. Bot. 3:312. 1930; Fl. Sik. 1:305. 1996; FB 3 (2):648. 2000.

Thysanolaena maxima (Roxburgh) O. Kuntze, Rev. Gen. Pl. 794. 1891; FEH 1: 378. 1966.

Local Name: *Amliso*, *Kuccho* (Nep), *Phul Jharu* (Beng)

Perennial 1.5-3 m tall, solid, glabrous. Ligules truncate, cartilagenous. Sheaths tight. Leaves numerous, sub-amplexicul, 25-55 x 5-10 cm, broadly lanceolate, margin scabrid, acuminate. Panicle upto 60 cm, branches & branchlets filiform. Spikelets ovoid-lanceolate, acuminate.

Flowers: December – August

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0671*, dated 20.04.2002; Soom TE, *AP Das & Chandrâ 3594*, dated 12.10.2004; Tamsong TE, *AP Das & Chandrâ 2940*, dated 10.04.2004.

Status: Very common; often cultivated.

Local Distribution: In all gardens.

General Distribution: Subtropical and temperate regions of India, Nepal, Bhutan, Myanmar, Indochina, China, etc.

Note: Brooms made with inflorescence; roots medicinal.

TRIPSACUM L.

Tripsacum laxum Nash, N. Amer. Fl. 17: 81. 1909.

Local Name: *Guatemala grass* (Eng).

A large bushy shrub; leaves large much broad; flowers not seen.

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 0519*, dated 17.04.2002; Makaibari TE, *AP Das & Chandrâ 2575*, dated 11.11.2003

Status: Generally grown

Local Distribution: In all gardens.

General Distribution: South America.

UROCHLOA P. Beauvois

Urochloa ramosa (L.) T.Q.Nguyen, in Novit. Syst. Pl. Vasc., Acad. Sci. URSS: 13. 1966.

Panicum ramosum L., Mant. 1: 29. 1767.

Local Name: *Pashipang*.

Perennial. Culms 20-66 cm. Leaf blades 6-13.5 X 1.1-1.5 cm, lanceolate; ligule hairs 1-1.3 mm. Panicle 5-17 cm; racemes 12-20, oblique. Spikelets borne in pairs; 2.7-3 X 1.4-1.6 mm. Glume 1.5 X 1.4 mm, 3-6 veined; lemma 2.6-3 mm, 5-veined; palea 1.9-2.1 mm, elliptic, blunt.

Flowers & Fruits: May to September.

Specimen Cited: Matigara TE, *AP Das & Chandrâ 3603*, dated 20.10. 2004.

Status: Common

Local Distribution: Terai gardens

General Distribution: Asia and Africa.

PONTEDARIACEAE Kunth

EICHHORNIA Kunth

Eichhornia crassipes (Mart.) Solms in A. DC., Monogr. Phan. 4: 527. 1883.

Pontederia crassipes Mart., Nov. Gen. Sp. 9, t. 1823.

Common Name: *Kachuri Pana* (Beng); *Water hyacinth* (Eng).

Floating perennial. Roots feathery. Leaves in rosette, blades rhombic to suborbicular to widely, transversely elliptic, subacute to rounded, very shallowly cordate to cuneate, firm textured, shining. Petioles spongy. Scape usually exceeding leaves. Spike 6-20, pale mauve flowered, peduncle largely hidden by sheathing, membranous spathes.

Flowers: May – July.

Specimen Cited: Mohurgong & Gulma TE, *AP Das & Chandrâ 0933*, dated 04.05. 2002; Soom TE, *AP Das & Chandrâ 3524*, dated 12. 10. 2004.

Status: Less Common.

Local Distribution: Found only in Soom and Mohurgong & Gulma gardens.

General Distribution: Native to South America, but widely introduced and now a troublesome, pantropical weed.

SMILACACEAE Ventenat

SMILAX L.

Smilax ovalifolia Roxburgh, FI 3:794. 1832; FEH 1:417. 1966; FB 3(1):30. 1994; Fl. Sik. 1:165. 1996.

Smilax macrophylla Roxburgh, FI 3:793. 1832; FBI 6:310. 1892, *non* Willdenow 1805.

Smilax zeylanica L., Sp. Pl. 1029. 1753; FBI 6:309. 1892; FEH 3:135. 1975.

Local Name: *Kukurdaina* (Nep); *Rajdan-tini, Kumarika* (Beng).

Shrubby climbers; branchlets striated, glabrous, prickly. Tendrils simple, sinistrorse, glabrous. Lamina ovate-elliptic, entire, acute, cuneate. Umbels with many pedicellate flowers on branched peduncles. Berries reddish on ripening.

Flowers: March – August *Fruits*: September - December

Specimen Cited: Kamalpur TE, *AP Das & Chandrâ 1375*, dated 18.10.2002.

Status: Less common

Local Distribution: In Terai garden.

General Distribution: Tropical Himalaya, India, Bangladesh, Myanmar, Central provinces and Concan.

Smilax roxburghii Kunth, Enum. Pl. 5: 852. 1850; FB 3(1): 28.1994.

Climber, stems usually prickly. Leaves lanceolate, cuspidate, base rounded to cuneate, occasionally shallowly cordate, coriaceous. Inflorescence of 1-2(-3) peduncled, bracteate umbels, axis sometimes developing vegetatively above, arising from brown, coriaceous, ovate, keeled, mucronata prophyll in axils of leaves of lateral branches.

Flowers & Fruits: March - August

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1716*, dated 17.05.2003..

Status: Common

Local Distribution: Found only in Makaibari garden.

General Distribution: India, Nepal, Bhutan

ZINGIBERACEAE Lindley

AMOMUM L.

Amomum subulatum Roxburgh, Pl. Corom. 3: 75.t. 277. 1819; FBI 6: 240. 1892; FB 3(1): 207.1994.

Local Name: *Aleichi* (Nep).

Leafy shoots to 2m. Leaves lanceolate, acuminate, sessile or shortly petiolate, glabrous. Inflorescence subglobose to ovoid with ovate-obtuse with subulate tipped, reddish-brown, ± glabrous bracts and tubular calyx, corolla tube white, shorter than calyx, petals yellow, lip yellow.

Flowers & Fruits: April – November

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 2053*, dated 30.06. 2003.

Status: Much cultivated

Local Distribution: All three hill gardens.

General Distribution: Native to Bhutan, Nepal, Sikkim, Assam, W.B.

Note: Seeds used for flavouring sweet dishes, as a masticatory, medicinally.

GLOBBA L.

Globba hookeri C.B. Clarke *ex* Baker in FBI 6: 201 1890; FB 3(1): 190.1994.

Leafy shoots over 1m. Leaves lanceolate, long caudate, sessile, ± glabrous or lightly pubescent beneath, upper surface usually sparsely hairy. Inflorescence lax, 25 – 40cm, bulbils produced in upper part or ± throughout inflorescence. Bracts soon deciduous, each subtending a cincinnus of 2-3 tightly clustered, bright yellow flowers.

Flowers & Fruits: May – September

Specimen Cited: Tamsong TE, *AP Das & Chandrâ 1988*, dated 30.06. 2003.

Status: Very common.

Local Distribution: All three hill gardens.

General Distribution: Himalayas.

Globba racemosa Smith, *Exot. Bot.* 2: 15. t. 117. 1804; FBI 6: 201. 1890; FB 3(1): 191. 1994; Fl. Sik. 1:127. 1996.

Globba clarkei Baker in FBI 6:201. 1890; FEH 1:421.1966.

Local Name: *Alipat* (Nep)

Herbs upto 40 cm tall; rhizome short; pseudostem leafy, erect. Leaf oblong-lanceolate, entire, subcaudate, base narrowed, dark green, glabrous or scantily hairy beneath. Panicles 10-17 cm long, narrow with deep yellow flowers and small, caducous bracts. Capsule smooth.

Flowers & Fruits: June - September

Specimen Cited: Makaibari TE, *AP Das & Chandrâ 1746*, dated 17.05.2003; Soom TE, *AP Das & Chandrâ 3568*, dated 12. 10. 2004; Tamsong TE, *AP Das & Chandrâ 2138*, dated 30.06. 2003.

Status: Abundant.

Local Distribution: All Terai gardens and in lower areas of hill gardens.

General Distribution: E. Himalaya, Assam, Meghalaya, Manipur.