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Some useful and poisonous tea garden weeds from the Darjiling District of West Bengal, India

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Abstract

Recent survey in nine Tea Gardens in Darjiling Hills and Terai region of West Bengal has recorded 219 species of useful and 40 species of poisonous weedy plants. Most of the information was obtained from the resourceful persons of different tribal communities living with different tea gardens. This type of ethnobotanical knowledge need to be conserved for further research and the result can be used for the economic upgradation of these poor people.

***Key words*:** Darjiling, Terai, Weed, Ethnobotany, Tea Garden

INTRODUCTION

Weed is a very common and popular word in English language, generally meant for any unwanted plants growing within a particular crop field. So, in a tea field any other plants whether useful or useless, beneficial or harmful are to be treated as weed. Weeds are neither strangers nor a special group of plants. Most of these plants are coming from the local vegetation growing naturally around the agricultural land (Ghosh *et al* 2004). Some scientists showed that losses caused by weeds exceed the total loss from any other type of agricultural pests like insects, nematodes, diseases, rodents etc. Authorities keep their Tea garden weed free using different types of herbicides or by manual cleaning.

After the realization of the harmful effects of chemical herbicides/ pesticides, now the garden managements prefer bio-organic weed/ paste control It is also true the all so called weeds are not useless but numerous of those are used even by the tea garden workers (Ghosh & Das 2007a, b; Haridas & Sharma 1972; Haridas & Venkataramani 1972; Harikrishnan 1978; Mustafee 1972, 1981, 1988, 1998; Ramachandran 1978). Many of these are also having some beneficial effects or aspects (Ghosh & Das 2004; Ghosh *et al* 2004). These are useful not only for the proper maintenance of ecosystem but also for the human society. In fact, all plants are useful and today's most useless plant may be the most important useful plant in future. So, Tea Garden weeds also to be treated as important natural resources.

The Darjiling part of the Eastern Himalaya is situated at the central part of the IUCN recognized "Himalaya Biodiversity Hotspot" with around 30% species of higher plants is endemic in this region (Grierson & Long 1983; Das 1995, 2004; Bhujel & Das 2002, Ghosh & Das 2009). This Darjiling district of the state of West Bengal is located within $26^0 31' 05''$ and $27^0 13' 10''$ N latitude and between $87^0 59' 30''$ and $88^0 53'$ E longitude and the altitude varies between 120 and 3660 m amsl. Major part of the district is hilly and some part of rolling plains in Terai and Duars. Natural beauty as well as the biological wealth of Darjiling is plentiful (Das 1986, 1995, 1996, 2002, 2004, 2005; Das & Chanda 1987; Bhujel & Das 2002; Das *et al* 2003, 2007, 2008; Das & Ghosh 2007). Darjiling produces the most famous naturally aromatic tea.

Tea plantation was started in Darjiling Hills in 1856, at Terai in 1862 and in Duars in 1874 (Ghosh 2006). To meet up the required large workforce, different group of exotic tribal people like Santhals, Oraons, Mundas were brought to this area from Chhotonagpur and Santhalparganas areas of Bihar and from Medinipur, Purulia and Bankura districts of West Bengal (Dash 1947; Roy 1972). Local inhabitants like Rajbansies, Lepchas and Nepali communities are also working in Tea Gardens. These people are extremely rich in their diversified indigenous traditional knowledge, which they are practicing even today (Ghosh & Das 2004). They are extremely poor, living in very remote areas and are much dependent on natural forest resources and also on tea garden weeds for their survival. After fulfilling their daily requirement, they sell out their excess collection in different village or remote markets to earn money.

Specially, the workers in hill tea garden workers are living in very remote areas and are not getting enough modern facilities for survival. That is why they are much more dependent on local vegetation. Apart from that they grow some plants for regular needs like food, fodder, medicine and also for other economic and religious requirements. Besides useful plants they also have good traditional knowledge about the poisonous effects of numerous plants.

During the ethnobotanical survey among the tea garden workers in Hills and in the Terai of Darjiling, quite a good number of useful and poisonous plants were also recognized from this region.

MATERIALS AND METHODS

Present study was undertaken in nine different tea gardens in Hills and Terai region of Darjiling district of West Bengal, India. These gardens along with their central location and average altitude are presented in Table 1. One GPS (GARMIN 12CX) was used to determine the location of these gardens.

Table 1. Geographical central location and average altitude of Tea Garden under study

Gardens	Latitude	Longitude	Altitude
Gungaram Tea Estate	26º 37' 409" N	88º 18' 167" E	±122 m
Hansqua Tea Estate	26º 37' 784" N	88º 19' 068" E	±125 m
Matigara Tea Estate	26° 42' 500" N	88° 22' 142" E	±130 m
Atal Tea Estate	26º 40' 576" N	88º 13' 082" E	±152 m
Kamalpur Tea Estate	26º 42' 341" N	88º 18' 428" E	±154 m
Mohurgong & Gulma Tea Estate	26º 47' 203" N	88º 22' 866" E	±154 m
Makaibari Tea Estate	26º 62' 59" N	88º 16' 43" E	± 1100 m
Soom Tea Estate	27º 04' 590 " N	88º 13' 723 " E	±1200 m
Tumsung Tea Estate	27º 02' 318 " N	88º 09' 992 " E	±1300 m

During the present survey, all the ethnobotanical information was recorded from the local resourceful persons in different tea garden areas. All the specimens were spotted and collected by these people and were recorded in the field note book along with many other information like (i) vernacular name, (ii) useful part, (iii) purpose of use etc. Plants with suitable portion were collected and processed into mounted herbarium sheets following Jain & Rao (1977). Plants were identified in the Taxonomy and Environmental Biology Laboratory of the Department of Botany in the University of North Bengal and were matched at CAL. All the specimens were deposited in the NBU-Herbarium. For overall methodology Jain (1981, 1987, 1991); Rai *et al* (1998); Rai & Bhujel (1999), Rai (2002) were followed.

Some references are available on the useful plants in India, which include Biswas & Chopra (1956), Chopra *et al* (1956), Krishna & Das (1983), Bhujel *et al* (1984 a,c), Das & Chanda (1990) and Pal (1999) are consulted for this purposes. There are few publications on the poisonous plants in India, which include Biswas & Chopra (1956), Chopra *et al* (1965), Bhujel *et al* (1984b), and Basu (1972) are also consulted for this purposes. In addition, a beautiful guide book on poisonous plants by Lucia Woodward (1985) also has been consulted.

OBSERVATIONS

Useful Plants

A good number of useful plants were recorded from different Tea Gardens under study located in Darjiling Hills and Terai regions, which are used by local people in different purposes (Table 2).

Table 2. Commonly useful plants growing in Tea Gardens in Darjiling Hills and Terai

[***Abbreviations used***: LANGUAGES: B = Bengali; E =English; H = Hindi; L = Lepcha; N = Nepali. GARDENS: G = Gungaram T.E., H = Hansqua T.E., K = Kamalpur T.E., M = Matigara T.E., Mo = Mohurgong & Gulma T.E., Mk = Makaibari T.E., S = Soom T.E., T = Tamsong T.E.]

Name of plants	Common name	Recorded from	Useful Parts	Uses
Acer campbellii Hooker f. *et* Thomson *ex* Hieren [Aceraceae]; *AP Das & Chandrâ 2895*.	*Kapasi* (N)	S, T	Trunk	Firewood
Achyranthes aspera Linnaeus [Amaranthaceae]; *AP Das & Chandrâ 0277 & 0620*	*Apang* (B)	H, K, Mo	Roots, leaves , seeds	Insect bites, hydrophobia, dysentery, pneumonia, gonorrhea; contraceptive, abortifecient
Acmella calva (DC.) Jansen [Asteraceae]; *AP Das & Chandrâ 1374*	*Kalijhar* (N)	Mo, Mk, S, T	Inflorescence	Pain killer
Acmella uliginosa Swartz [Asteraceae]; *AP Das & Chandrâ 1577*	*Gorakba, Pirazh* (N)	Mo, H, M	Inflorescence	Pain killer
Aconogonum molle (D. Don) Hara [Polygonaceae]; *AP Das & Chandrâ 3452*	*Thotney* (N)	S, T	Young stem	Eaten raw or cooked as curry
Adiantum capillus-veneris Linnaeus [Adiantaceae]; *AP Das & Chandrâ 1966*	*Fern*	G, H, K, M, Mo, Mk, S, T	Whole plant	Foliage ornamental; highly medicinal; contains essential oil
Adiantum philippense Linnaeus [Adiantaceae]; *AP Das & Chandrâ 2398*	*Fern*	G, H, K, M, Mo, Mk, S, T	Whole plant	Foliage ornamental; blood diseases, epileptic fits, rabies, strangery, itch, elephantiasis
Ageratina adenophora (Sprengel) King & Robinson [Asteraceae]; *AP Das & Chandrâ 2182, 2780, 3277*	*Kalo Banmara* (N)	Mk, T, S, Mo	Leaves	Antiseptic, haemostatic, emetic, diuretic, purgative; green manure
Ageratum conyzoides Linnaeus [Asteraceae]; *AP Das & Chandrâ 0788, 1001, 1316, 1732, 2001, 2261*	*Elami-paat* (N)	G, H, K, M, Mo, Mk	Leaves	Young leaf extract haemostatic
Albizia chinensis (Osbeck) Merrill [Mimosaceae]; *AP Das & Chandrâ 1475, 1955*	*Rato siris* (N); *Kalo Siris* (B)	G, H, K, M, Mo	Leaves	Shade tree; good fodder
Albizia lebbeck (Linnaeus) Bentham [Mimosaceae]; *AP Das & Chandrâ 1389, 1849*.	*Sirish* (N)	G, H, K, M, Mo	Trunk	Furniture, firewood; shade tree

Name of plants	Common name	Recorded from	Useful Parts	Uses
Alnus nepalensis D. Don [Betulaceae]; *AP Das & Chandrâ 2331*	*Utis* (N)	S, T	Trunk	Firewood
Alocasia macrorrhiza (Linnaeus) G. Don [Araceae]; *AP Das & Chandrâ 1606*, *0472.*	*Man-kachu* (B)	G, H, Mo	Stem	Vegetable
Alstonia scholaris (Linnaeus) R. Brown [Apocynaceae]; *AP Das & Chandrâ 0831, 1033, 1184, 1735.*	*Chhatiwan* (N), *Chhatim* (B).	G, H, K, M	Bark, Whole plant	Vermicide, febrifuge, asthma, snakebite, diarrhoea, heart & liver problems, skin disease, dysentery of cattle; pig fodder; ornamental
Alternanthera sessilis (Linnaeus) R. Brown *ex* DC. [Amaranthaceae]; *AP Das & Chandrâ 0142*, *0458, 0846*.	*Nunia saag* (B).	H, K, Mo	Whole plant	Green vegetable
Amaranthus spinosus Linnaeus [Amaranthaceae]; *AP Das & Chandrâ 0898 1420*, *0607*	*Kanta note* (B)	Mo, H, K	Young shoots	Green vegetable
Amaranthus viridis Linnaeus [Amaranthaceae]; *AP Das & Chandrâ 0916*, *1476, 1182*, *1807*	*Note* (B)	Mo, H, K, Mk	Young shoots	Green vegetable
Ambroma augusta Linnaeus f. [Sterculiaceae]; *AP Das & Chandrâ 3418*	*Sanu Kapasi* (N)	S, Mo, Mk	Leaves, Root, Stem	Menstrual disorders, snake bites; fibre from bark
Andrographis paniculata (Burm.f.) Wall. ex Nees [Acanthaceae]; *AP Das & Chandrâ 4025*	*Kalomegh*	G, H, K, Mo	Whole plant	Fever, deworming, dysentery, dyspepsia, leprosy, irregular stools, constipation, loss of appetite, liver trouble, jaundice
Angiopteris crassipes Wallich *ex* C. Presl [Marattiaceae]; *AP Das & Chandrâ 2821*	Not Known	Mo, Mk	Root-stock	Stem much effective against white patches on skin in Central India; perfumery
Anisomeles indica (Linnaeus) O. Kuntze [Lamiaceae]; *AP Das & Chandrâ 0763*, *1339*	*Gopali* (B).	Mo, K	Leaves	Digestive, astringent, tonic, uterus problem
Annona reticulata Linnaeus [Annonaceae]; *AP Das & Chandrâ 1202*	*Nona* (B).	G, H, K, M, Mo	Ripe fruit, leaves	Edible; used in blood complaints, fever, dysentery; a tonic; fodder
Argemone mexicana Linnaeus [Papaveraceae]; *AP Das & Chandrâ 0015*, *1189*.	*Siyalknata* (B), *Prickly Poppy* (E)	G, H, K, M	Seeds	Adulterants to mustard seeds, oil for lamps, skin diseases
Artemisia dubia Wallich *ex* Besser [Asteraceae]; *AP Das & Chandrâ 2289*, *3470*	*Titepaati* (N)	Mk, Mo, S, T	Leaf, shoot	Used in headache, nasal bleeding, eye & skin infections, fever, asthma, cardiac trouble, diarrhoea, menstrual disorders, etc; insect repellent; religious
Artemisia indica Willdenow [Asteraceae]; *AP Das & Chandrâ 1720, 3521*, *2588*	*Titepaati* (N); *Nak-nisinda* (B)	Mk, S, T	Leaf, shoot	Headache, asthma, ringworm, pimples, ulcer, menorrhagia, flatulence, breathing problem, insect repellent, religious. Important in folk medicine
Artocarpus lacucha Buchanan-Hamilton [Moraceae]; *AP Das & Chandrâ 1025*	*Dewa* (B).	Mk, Mo	Fruits	Edible (young ones cooked & raw after ripening)
Asplenium filix-femina Bernham [Aspleniaceae]; *AP Das & Chandrâ*	*Fern*	G, H, K, M, Mo,	Rhizome	Ornamental; anthelmintic, female diseases, relieving

Name of plants	Common name	Recorded from	Useful Parts	Uses
Bauhinia purpurea Linnaeus [Caesalpiniaceae]; *AP Das & Chandrâ 1867*, *2928*	*Rakto kanchan* (B), *Tanki* (N)	G, H, K, M, Mo, Mk, S, T	Flower Buds	Ornamental; vegetable
Betula alnoides D. Don [Betulaceae]; *AP Das & Chandrâ 2014*	*Saur* (N)	S, T	Trunk	Rough use
Biophytum sensitivum (Linnaeus) DC. [Oxalidaceae]; *AP Das & Chandrâ 1147*	*Rani lajjabati* (B).	G, H, K	Whole Plant	Used to treat urinary calculi, bilious fever, wounds, absses, gonorrhoea, asthma, snake bite, etc
Blechnum orientale Linnaeus [Blechnaceae]; *AP Das & Chandrâ 1183*	*Not Known*	G, H, K, M, Mo, Mk, S, T	Rhizome	Anthelmintic, poultice on boils
Blumea lacera (Burman f.) DC. [Asteraceae]; *AP Das & Chandrâ 0444, 0085, 053*	*Kuksima* (B)	G, H, K, M, Mo	Leaf	Diuretic, anthelmintic, stimulant
Boehmeria hamiltoniana Weddell [Urticaceae]; *AP Das & Chandrâ 3279*	*Kamley, Chiplay* (N)	Mk, S, T	Leaf	Fodder
Boehmeria rugulosa Weddell [Urticaceae]; *AP Das & Chandrâ 2243*	*Daar* (N)	Mk, S, T	Trunk	Wood for traditional bowls, domestic utensils
Boerhavia coccinea P. Miller [Nyctaginaceae]; *AP Das & Chandrâ 0064*	*Punarnava* (B)	G, H, M, Mo	Whole plant	Diuretic, emetic, urinary urticaria, leprosy, hastening delivery, leucorrhoea, anaemia, spermatorrhoea, enlargement of lever & spleen, jaundice
Bombax ceiba Linnaeus [Bombacaceae]; *AP Das & Chandrâ 4027, 4078*	*Simal* (B)	G, H, K, M, Mo	Gum, Flower	Commercial; floss
Breynia retusa (Dennst.) Alston [Euphorbiaceae]; *AP Das & Chandrâ* 0513	Not Known	G, H, K	Sap	Eye diseases
Bridelia retusa (Linnaeus) Sprengel [Euphorbiaceae]; *AP Das & Chandrâ 0900*	*Gayo, Kuhir* (N)	Mo	Leaf, Trunk, Bark, Fruit	Fodder; durable timber; bark for tannin; fruits edible
Butea monosperma (Lamarck) Taubert [Fabaceae]; *AP Das & Chandrâ 0895*	*Palas* (B), *Mauwa* (N)	Mo, M, G, Mk	Flower	Ornamental; purgative; dye yielding; religious
Calamus erectus Roxburgh [Arecaceae]; *AP Das & Chandrâ 1777*	*Phekre* (N)	Mk	Fruits	Edible, chewed as stimulant
Callicarpa arborea Roxburgh *ex* Clarke [Verbenaceae]; *AP Das & Chandrâ 1734*	*Guenlo* (N)	Mk	Leaf	Used in skin diseases, colic pain, fever
Cissampelos periera Linnaeus [Menispermaceae]; *AP Das & Chandrâ 4033*	*Batulepati* (N)	G, H, Mo	Root-stock	Used in piles, pain, cough, diarrhoea, dyspepsia, kidney & heart troubles, eruptions, inflammations, enlarged spleen, snake bites
Cannabis sativa Linnaeus [Cannabaceae]*; AP Das & Chandrâ 1338*, *1719*, *2118*.	*Bhang* (B) *Gaanja* (B) *Hemp* (E)	G, H, K, M, Mo, Mk, S, T	Leaf, twig, inflorescence	Narcotic; used in indigestion & acidity

Name of plants	Common name	Recorded from	Useful Parts	Uses
Capsella bursa-pastoris (Linnaeus) Medicus [Brassicaceae]; *AP Das & Chandrâ 2945*	Not Known	T, Mk, S	Young shoots	Green vegetable
Caryota urens Linnaeus [Arecaceae]; *AP Das & Chandrâ 3420*, *3095*	*Rungbong, Rangbhang* (N)	S, T, Mk	Seeds , fruits, leaf	Children chew seeds; inner soft pith eaten raw; leaves produce fibre; ornamental
Cassia fistula Linnaeus [Caesalpiniaceae]; *AP Das & Chandrâ 0487*	*Raj Birse, Sunalo* (N), *Bandarlathi*(B)	G, H, K, M, Mo, Mk, S, T	Root, leaf, bud, fruit pulp	Ornamental; purgative, leprosy, tuberculosis, syphilis, rheumatism, fistula, night-blindness, menstrual diseases, excess bile, heart problem, high blood pressure, throat wound of domestic animals
Cassia occidentalis Linnaeus [Caesalpiniaceae]; *AP Das & Chandrâ 0499*	*Kalkasunda Chakunda* (B)	Mo, K, H, G, M	Leaf	Roots diuretic & antiperiodic; seeds & leaves in skin disease
Cassia sophera Linnaeus [Caesalpiniaceae]; *AP Das & Chandrâ 0875*, *0713*	*Kalkasunda* (B)	Mo, K, H, G, M	Leaf	Used in bacteria dysentery; a substitute of *Cassia occidentalis*
Cassia tora Linnaeus [Caesalpiniaceae]; *AP Das & Chandrâ 0921*, *1319*.	*Tapray* (N)	Mo, K, H, G, M	Leaf	Dried leaf powder used in soup to reduce body pain
Castanopsis indica (Roxburgh) A. DC. [Fagaceae] **;** *AP Das & Chandrâ 2860, 3494*	*Aulay Katus* (N)	Mk, S, T	Nuts	Edible
Catharanthus roseus (Linnaeus) G.Don, [Apocynaceae] ; *AP Das & Chandrâ 1537*, *2470*	*Nayantara* (B)	G, H, K, M, Mo	Leaf, Flower	Ornamental; improves memory; used in leucorrhoea, leukaemia, diabetes, intestinal worms, septic wound, asthma, blood pressure, cancer, etc
Centella asiatica (Linnaeus) Urban [Apiaceae]; *AP Das & Chandrâ 0446*, *0264*, *1180*, *1822*, *3313*, *2430*	*GhorTopray* (N) *Thankuni* (B)	G, H, K, M, Mo, Mk, S, T	Leaf	Vegetable; leaf-decoction taken to cure dysentery
Ceratopteris thalictroides (Linnaeus) Brongniart [Parkeriaceae]**;** *AP Das & Chandrâ 1664*	Not Known	G, H	Fronds	Used as poultice in skin complaints and as tonic in styptic; edible as green salad and cooked vegetable
Chenopodium album Linnaeus [Chenopodiaceae]; *AP Das & Chandrâ 1532*, 0126, *0720, 1914*.	*Bhatua saag* (B)	G, H, K, M, Mo	Young shoot	Green vegetable
Choerospondias axillaris (Roxburgh) Burtt & Hill [Anacardiaceae] **;** *AP Das & Chandrâ 2161*	*Lapsi* (N)	S, T	Fruits	Delicious edible
Cinnamomum bejolghota (Buch.–Ham.) Sweet [Lauraceae]; *AP Das & Chandrâ 2756*	*Bhale Sinkoli, Sinkaule* (N)	Mk, Mo	Leaf	Cough, dyspepsia & liver complaints
Clerodendrum indicum (Linnaeus) O. Kuntze [Verbenaceae]**;** *AP Das & Chandrâ 0894, 1012*, *1290*.	*Bamunhati* (B)	G, H, K, M, Mo	Grown plant	Ornamental; used in asthma, worm, leprosy, snake bite, septic wounds, herpes, antidote, remittent fever
Clerodendrum viscosum Ventenat [Verbenaceae]; *AP Das & Chandrâ 0050, 0123*	*Chitu, Barte* (N), *Vant* (B)	Mo, H, K, G, M, Mk	Young leaf, Flower	Aphrodisiac; antipyretic, vermifuge, malaria, tumour, gout, leprosy, anthelmintic, scorpion bite, bronchitis; religious; brewing additive

Name of plants	Common name	Recorded from	Useful Parts	Uses
Coix lachryma-jobi Linnaeus [Poaceae];*AP Das & Chandrâ 0977, 0459, 3374*	*Garday mala, ghanrey mala* (N)	H, K, S	Leaf, utricles	Fodder; necklaces by utricles
Colebrookea oppositifolia Smith [Lamiaceae]; *AP Das & Chandrâ 2087*	*Dosro, Chusre* (N)	S,T	Young leaf	Used in pneumonia. For cattle poor vision or blindness
Colocasia esculenta (Linnaeus) Schott [Araceae]*; AP Das & Chandrâ 1341*	*Mane* (N), *Kachu* (B)	G, H, K, M, Mo	Rhizome, petiole	Cooked as vegetable; ideal pig fodder
Costus speciosus (Koenig) J.E. Smith [Costaceae]; *AP Das & Chandrâ 3485*	*Kemuk* (B), *Betlaure* (N)	S, T	Stem	Liver disorders, fever, asthma, bronchitis, piles, sex promoter, burn wounds, bone dislocation, ringworms, skin diseases
Crateva religiosa Forster f. [Capparaceae]; *AP Das & Chandrâ 1862.*	*Chipli,chiple kath* (N) Barun (B)	Mk	leaf	Used in fever, rheumatism, kidney & bladder stones, asthma, urinary problems
Crinum amoenum Roxburgh [Amaryllidaceae]; *AP Das & Chandrâ 0939*	*Nagdan* (B)	K, M, Mo	Grown plant	Ornamental; decoration; as tonic, laxative, in biliousness, urinary troubles, backache, wounds
Crotalaria pallida Aiton [Fabaceae]; *AP Das & Chandrâ 1479*, *1232*	*Jhunjhuni* (B)	H, K, G	Stem bark	Fibre
Cucumis melo Linnaeus [Cucurbitaceae]; *AP Das & Chandrâ 0935*, *1177*	Not Known	Mo, G, K, H	Fruit	Eaten raw
Cymbopogon pendulus (Nees ex Steudel) W. Watson [Poaceae]; *AP Das & Chandrâ 1089*	*Gandari, Baid ghas* (B)	H, K, M	Leaf	Repellent; aromatic
Cynodon dactylon (Linnaeus) Persoon [Poaceae] ; *AP Das & Chandrâ 0084*, *3322*, *3064*.	*Dubba ghaas* (B) *Dubo* ((N)	G, H, K, M, Mo, Mk	Shoot	Worship, ornamental, fodder; medicinally in leprosy, fever, dysentery, vomiting, skin diseases, epilepsy, piles, liver cirrhosis, indigestion, burning urination, body swelling
Dalbergia sissoo Roxburgh [Fabaceae]; *AP Das & Chandrâ 1446, 0562*	*Sissoo* (N, B)	H, G, K, M	Trunk	Useful timber.
Datura metel Linnaeus [Solanaceae]; *AP Das & Chandrâ 1179*, *1940*	*Kalodhutura* (B, N)	K, T, Mk	Fruit	Narcotic; used in insomnia, narcotic, asthma, Parkinson's disease, antispasmodic, hair fall, dandruff, fever, analgesic
Debregeasia longifolia (Burman f.) Weddel [Urticaceae]; *AP Das & Chandrâ 1776*	*Tusaray* (N)	Mk	Stem, Fruit	Fibre for rope and fishing nets; fruits edible
Deeringia amaranthoides (Lamarck) Merrill [Amaranthaceae]; *AP Das & Chandrâ 1422*	*Chhorachhuri Saag* (B)	H, G, K	Young twig	Green vegetable
Dicentra scandens (D. Don) Walpers [Fumariaceae]; *AP Das & Chandrâ* 3453	Not Known	S, T	Leaf	Heart troubles, gastritis
Dichroa febrifuga Loureiro [Saxifragaceae]; *AP Das & Chandrâ 2915*	Basak (N)	S, T	Leaf	Used in malarial fever, dysentery, common fever

Name of plants	Common name	Recorded from	Useful Parts	Uses
Dicranopteris linearis (N. Burman) Underwood [Gleicheniaceae]; *AP Das & Chandrâ 2299*	Not Known	G, H, K, M, Mo, Mk, S, T	Rhizome, fronds	Basketry; rhizome anthelmintic; fronds used in asthma
Dioscorea anguinea Roxburgh [Dioscoreaceae]; *AP Das & Chandrâ 1314*	*Pangla torul* (N)	K, H	Root-stock	Edible
Dioscorea bulbifera Linnaeus [Dioscoreaceae]; *AP Das & Chandrâ 0868, 2142*	*Chupri alu, Bontarul* (B) *Gittha, Githa Lahara* (N)	G, H, K, M, Mo, Mk, S, T	Root-stock	Edible
Dioscorea deltoidea Wallich ex Grisebach [Dioscoreaceae]; *AP Das & Chandrâ 0947, 0647, 1843, 2171*	*Bhyakur* (N)	K, Mo, Mk, S, T	Tuber	Soap
Diplazium esculentum (Koenig *ex* Retzius) Swartz [Athyriaceae]; *AP Das & Chandrâ 0009, 1861*	*Dhenki Saag* (B)	G, H, K, M, Mo	Young frond	Eaten in salad or as cooked vegetable
Drymaria diandra Blume [Caryophyllaceae]; *AP Das & Chandrâ 0016, 1035, 0701, 1805, 2637, 2244.*	*Abijalo* (N)	G, H, K, M, Mo, Mk, S, T	Shoot	Important folk medicine; sinus congestion, nasal bleeding, headache, internal haemorrhage, pneumonia, asthma, snakebite, diphtheria
Dryopteris filix-mas (Linnaeus) Schott [Dryopteridaceae] ; *AP Das & Chandrâ 1153*	Not Known	G, H, K, M, Mo, Mk, S, T	Young frond, root	Used as anodyne, antiviral, antibacterial, astringent, anti-inflammatory, febrifuge, vermifuge, worm-expellant, internal haemorrhage, uterine bleeding, mumps, etc. Young fronds cooked as vegetable
Elaeocarpus lanceifolius Roxburgh [Elaeocarpaceae]**;** *AP Das & Chandrâ 2332*	*Bhadrase* (N)	S, T	Trunk, Fruits	Housebuilding, tea and charcoal-boxes; fruits edible
Emilia sonchifolia (Linnaeus) DC. [Asteraceae]; *AP Das & Chandrâ 0061, 0116, 0540, 1979, 2642*	*Sadhimodi* (B) *Hirankhuri* (H)	Mo, H, K, Mk , S, T	Leaf, Whole plant	Taken as salad. Decoction as febrifuge and in bowel complaints; leaf juice for eye-sore and night blindness
Equisetum ramosissimum Desfontaines [Equisetaceae]; *AP Das & Chandrâ 0033, 1944*	*Kurkure jhar* (N)	Mo, T, Mk	Whole plant	Refrigerant, gonorrhea
Eryngium foetidum Linnaeus [Apiaceae]; *AP Das & Chandrâ 4056, 4077*	*Bilati Dhania* (B)	M, Mo, Mk, S, T	Leaf	Aromatic spice
Euphorbia hirta Linnaeus [Euphorbiaceae]; *AP Das & Chandrâ 0057, 0215, 1174*	*Pushi dudh* (B)	G, H, K, M	Shoot	Used against warts, diarrhoea, gonorrhoea, ringworms, eye troubles, bronchial asthma, expectorant; improves lactation
Exbucklandia populnea (Griffith) R.W. Brown [Hamamelidaceae]; *AP Das & Chandrâ 3413, 3033*	*Peepli* (N)	S, T	Trunk, Leaf	Good quality timber; fodder
Ficus benghalensis Linnaeus [Moraceae]; *AP Das & Chandrâ 1550*	*Bot* (B), *Bar* (N)	Mo, M, H	Leaf	Sacred tree; fodder
Ficus glomerata Roxburgh [Moraceae]; *AP Das & Chandrâ 0475*	*Dumur* (B) *Dumri* (N)	K, G	Fig, leaf	Figs edible. Foliage good fodder
Ficus hirta Vahl [Moraceae]; *AP Das & Chandrâ 3542*	*Khasray* (N)	S, T	Fig, leaf	Figs edible. Foliage good fodder

Name of plants	Common name	Recorded from	Useful Parts	Uses
Ficus hispida Linnaeus f. [Moraceae]; *AP Das & Chandrâ 1451, 1276*	*Dumur* (B) *Koksa* (N)	H, K, Mo	Fig, leaf	Figs edible. Foliage good fodder
Ficus neriifolia J.E. Smith [Moraceae]; *AP Das & Chandrâ 2090, 2842*	*Dudhilo* (N)	S, T, Mk	Fig, leaf	Figs edible. Foliage good fodder
Ficus religiosa Linnaeus [Moraceae]; *AP Das & Chandrâ 1004*	*Asatthwa* (B) *Pipli* (N)	Mo, H, G	Leaf	Sacred tree; foliage good fodder
Girardinia diversifolia (Link) Fries [Urticaceae] *AP Das & Chandrâ 1691.*	*Bhangray Sisnu* (N)	Mk, S, T	Stem; young twigs	Bow-string, fibre; fodder; vegetable
Glinus oppositifolius (Linnaeus) A. DC. [Molluginaceae/Aizoaceae] *AP Das & Chandrâ 0973*, *3132*	*Gima, Gimasak* (B)	G, H, K, M, Mo	Shoot	Vegetable; improves taste after sickness, lactation, debility; blood purifier, carbuncles, diabetes
Heliotropium indicum Linnaeus [Boraginaceae]; *AP Das & Chandrâ 0325, 1250*	*Hatisur* (B)	Mo , K, G, H	Inflorescence	Used in ringworms, gouts, pregnancy related anaemia, rheumatism, typhoid, skin diseases, insect bites, snake bite, bronchitis,
Hemiphragma heterophylla Wallich [Scrophulariaceae]; *AP Das & Chandrâ 2100*	*Mala Phul* (N)	S, T	Fruits	In dry cough, edible.
Holarrhena pubescens (Buch. – Ham.) G. Don [Apocynaceae]; *AP Das & Chandrâ 3980, 4009*	*Khirra* (B)	G, H, K, M, Mo, Mk, S, T	Bark	Cures blood vomiting, piles, dysentery, astringent, gland swelling, stomachache, rheumatism, mouth sore, diabetes
Houttuynia cordata Thunberg [Saururaceae]; *AP Das & Chandrâ 2925*	Not Known	Mk, S, T	Young leafy shoot	Vegetable for deserts; used in Stomach disorders, diarrhoea, measles, eye & skin troubles, anemia, tuberculosis
Hydrocotyle himalaica P.K. Mukherjee [Apiaceae]; *AP Das & Chandrâ 1690*, *2886, 3488*	*Golpatta, Dallo patta, Ataney Jhar* (N)	S, T	Leaf	Extracts in dysentery and stomach disorders
Hydrocotyle nepalensis Hook. [Apiaceae]; *AP Das & Chandrâ 2954*, *3553*	*Golpatta, Dallo patta, Ataney Jhar* (N)	S, T	Leaf	Extract to treat diptheria, throat-pain, pneumonia
Hypolepis punctata (Thunberg) Mettenius *ex* Kuhn [Hypolepidaceae]; *AP Das & Chandrâ 2850*	Not Known	Mk	Fronds	Poultice on boils
Hyptis suaveolens (Linnaeus) Poiteau [Lamiaceae]; *AP Das & Chandrâ 0968*	*Gande Jhar* (N) *Bon Tulsi* (B)	G, H, K, M, Mo	Leaf	Insect repellent; antibacterial, anti-rheumatic
Ichnocarpus frutescens (Linnaeus) Aiton [Apocynaceae]; *AP Das & Chandrâ 0043*, *1028, 1236*, *1879*, *2116*	*Dudhe Lahara* (N)	Mo, G, H, K, Mk, T	Leaf	Used as coolant, aphrodisiac, and in thurst, vomiting, night blindness, fevers, bilious; bleeding gums, convulsions, measles
Imperata cylindrica (Linnaeus) Rauschel [Poaceae]; *AP Das & Chandrâ 0307*, *2920.*	*Kush* (B) *Thatch* (E) *Siru* (N)	G, H, K, M, Mo, Mk	Leaf	Rope, thatch

Name of plants	Common name	Recorded from	Useful Parts	Uses
Ipomoea batatas (Linnaeus) Lam. [Convolvulaceae]; *AP Das & Chandrâ* 3393	*Sweet potato* (E) *Misti alu Ranga Alu* (B)	G, H, K, Mo, Mk, S, T	Root-tuber, young twig	Vegetable
Ipomoea quamoclit Linnaeus [Convolvulaceae]; *AP Das & Chandrâ 0876*.	*Labanga Lata* (B)	M, Mo, Mk	Grown plant	Ornamental
Jatropha curcas Linnaeus [Euphorbiaceae]; *AP Das & Chandrâ 0995*	*Sada Bharenda* (B) *Poison Nut, Physic Nut* (E)	G, H, K, M	Seed, lesf, grown plant	Hedge plant; fodder for silkworms. Seed oil for burning lamps and biodiesel
Justicia adhatoda Linnaeus [Acanthaceae]; *AP Das & Chandrâ 0430 , 0976*, *0643*	*Asuro, Kalo vashak* (N) *Basak* (B)	G, H, M, Mo, Mk	Leaf, whole plant	Cough, cold, asthma; flowering shoots insecticidal; hedge
Kalanchoe pinnata (Lamarck) Persoon [Crassulaceae]; *AP Das & Chandrâ 1159*	*Patharkuchi* (B)	K, G, H	Leaf	Indigestion
Lagerstroemia reginae Roxburgh [Lythraceae]; *AP Das & Chandrâ 1442*	*Jarul* (B)	K, G, H, M	Grown plant	Ornamental tree, timber valuable
Lantana camara Linnaeus [Verbenaceae]; *AP Das & Chandrâ 1615*, *0169*, *1298*, *3059*	*Barra Mase* (N) *Lantana* (E)	K, G, H, M, Mo, Mk	Grown plant	Some cultivers ornamental
Leucas indica (Linnaeus) R. Brown *ex* Vatke [Lamiaceae]; *AP Das & Chandrâ 0075*, *0247*, *1268*, *3625*, *3582*, *2393*	*Dandakalas* (B)	Mk, S, T, Mo, K, G, H, M	Whole plant	Rheumatism, cough & cold, old sores, amoebiasis, dyspepsia, carminative, digestive, antibacterial
Leucas mollissima Wallich *ex* Bentham [Lamiaceae]; *AP Das & Chandrâ 2944, 2513*	Not Known	Mk, S, T	Whole plant	Same as *Leucas indica*
Litsea citrata Blume [Lauraceae]; *AP Das & Chandrâ 1820*, *2099*	*Timur* (N)	Mk, S, T	Leaf	Silkworm rearing
Litsea cubeba (Loureiro) Persoon [Lauraceae]; *AP Das & Chandrâ 2911*	*Siltimbur* (N)	T	Fruits	Edible; medicinally used in cholera, indigestion, stomach colic; food poisoning, vermifuge, stomach disorders
Litsea monopetala (Roxb.) Pers. [Lauraceae]; *AP Das & Chandrâ 0114*, *3107*	*Bonsum, Kut mero, Pat mero* (N)	H, S	Leaf	Silkworm rearing
Litsea sebifera (Willdenow) Persoon [Lauraceae]; *AP Das & Chandrâ 1582*, *0214*.	*Kawala* (N)	H, G, Mo	Leaf, Bark	Used in bone fracture
Luculia gratissima (Wallich) Sweet [Rubiaceae]; *AP Das & Chandrâ 2443*	*Gadauri, Dawari* (N)	T, S	Leaf	Dye
Lycopersicon esculentum Miller [Solanaceae]; *AP Das & Chandrâ 0667*	*Tomato* (B) *Tomator* (N)	G, H, K, M, Mo	Fruit	Vegetable
Lycopodiella cernua (Linnaeus) Pichi-Sermolli [Lycopodiaceae]; *AP Das & Chandrâ 3014, 3459, 1525*	*Nagbeli* (N)	M, Mo, Mk, S, T	Shoot	Science experiment; decoctions used as lotion in beriberi, cough and uneasiness in chest
Lycopodium pseudoclavatum Ching [Lycopodiaceae]; *AP Das & Chandrâ 3392, 1956*	*Nagbeli* (N)	S, T	Spore, shoot	Science experiment; ornamental; spores as base for medicated snuff, covering pills to prevent adhesion, for

Name of plants	Common name	Recorded from	Useful Parts	Uses
				dyspepsia, constipation with flatulence, rheumatism, skin eruption, hepatic congestion, cramps; chest & urinary passage problems
Lygodium japonicum (Thunberg) Swartz [Lygodiaceae]**;** *AP Das & Chandrâ 2885, 1381*	Not Known	T, Mo, H	Fertile fronds	Expectorant, diuretic, cathartic
Lygodium microphyllum (Cavan) R.Brown [Lygodiaceae]; *AP Das & Chandrâ 0975, 0254*	Not Known	G, H, K, M, Mk	Leaf, Root-stock	Poultice in skin diseases, swellings.
Lygodium salicifolium C. Presl [Lygodiaceae] ; *AP Das & Chandrâ 0014, 0172, 2134*	Not Known	H, Mo, Mk, T	Root-stock	Used as expectorant; and in rheumatism, sprain, scabies, carbuncles, eczema, wounds
Magnolia campbellii Hooker f. & Thomson [Magnoliaceae]; *AP Das & Chandrâ 4075*	*Chanp*	S, T	Trunk	Timber, ornamental
Mallotus philippensis (Lamarck) Mueller [Euphorbiaceae]; *AP Das & Chandrâ 1549*, *0560.*	Sindure (N)	K, G, Mo, Mk	Seeds	Dye, fodder
Marsilea quadrifolia Linnaeus [Marsileaceae]; *AP Das & Chandrâ 0457*	*Sushni Saag* (B)	K, G	Leaf	Green vegetable; insomnia, memory loss, BP, epilepsy, fever, leprosy, hemorrhoids, bronchitis, psychopathic, ophthalmia
Melia azedirach Linnaeus [Meliaceae]; *AP Das & Chandrâ 0765*, 0982, *0700*, *3319*, *2044*.	*Bakaina, Bakain, Lapsi* (N) *Ghora Neem* (B)	G, H, K, M, Mo, Mk, T, S	Grown plant, fruit	Ornamental; shade tree; fruit extract used as biopesticide
Melochia corchorifolia Linnaeus [Sterculiaceae]; *AP Das & Chandrâ 0949*, *1048*, *1327*	Not Known	Mo, H, K	Leaf	Green vegetable
Melothria heterophylla (Loureiro) Cogniaux [Cucurbitaceae]; *AP Das & Chandrâ 0751*	*Gol Kakri* (N)	Mo	Fruit	Green vegetable
Mentha piperata Linnaeus [Lamiaceae]; *AP Das & Chandrâ 4045, 4066*	*Pudina*(B)	G, H, Mo, Mk, S, T	Whole Plant, Leaf	Aromatic, coolant, food additive
Michelia champaca Linnaeus [Magnoliaceae]; *AP Das & Chandrâ1292*	*Chanp, Aule Champ* (N) *Swarna Chanpa* (B)	G, H, K, M, Mo, Mk	Whole plant, Trunk	Timber for furniture, ornamental; used against colic, rheumatism, gout, cracks in feet; and as diuretic, abortifecient, stimulant, etc
Michelia doltsopa DC. [Magnoliaceae]; *AP Das & Chandrâ 3371*	*Seto Champ, Rani Champ* (N)	Mk, S, T	Trunk	Timber for furniture
Mikania micrantha Kunth [Asteraceae]; *AP Das & Chandrâ 0008, 1075*, *0615*, *3159*, *1798*, 3394, *2113*	*Assami lata* (B)	Mo, H, K, G, M, Mk, S, T	Leaf	Cure wounds; fodder
Mimosa himalayana Gamble [Mimosaceae]; *AP Das & Chandrâ 1466*, *1258*	*Arhari Kanra* (N)	H, K, G	Prickly twigs	Death-ceremony (*Anthosti kriya*)
Mimosa pudica Linnaeus [Mimosaceae]; *AP Das & Chandrâ 0060*, *0163*, *0414*, *1821*	*Lajjaboti* (B) *Bhuwari Jhar* (N)	Mo, H, K, G, M, Mk	Root	Used against boils, bleeding, inflammation, fistula, piles, leucoderma, leprosy, asthma, vaginal & uterine complains,

Name of plants	Common name	Recorded from	Useful Parts	Uses
				iron deficiency; swelling in cattle
Momordica charantia Linnaeus [Cucurbitaceae]; *AP Das & Chandrâ 4012*	*Karela* (N), *Karola* (B)	G, H, K	Leaf, Fruit	Vegetable; used in diabetes, biliousness, blood diseases, anemia, constipation, ulcers, liver problems, colitis; as appetizer, antipyretic, aphrodisiac, anthelmintic; also induces menstruation
Momordica dioica Roxb. [Cucurbitaceae]; *AP Das & Chandrâ 4079*	*Kakrol* (B) *Chetheli*	G, H, K, M, Mo	Leafy Twig, Fruit	Vegetable
Morinda angustifolia Roxburgh [Rubiaceae]; *AP Das & Chandrâ 1508*, *0983*	*Haldi Kath* (N) *Nani* (B)	Mo, H	Fruits	Stomach problems
Morus australis Poiret [Moraceae]; *AP Das & Chandrâ 1703, 2000*, *3103*	*Sano Kimbu* (N) *Tunt* (B)	Mk, S, T	Fruits	Edible
Mucuna pruriens (Linnaeus) DC. [Fabaceae]; *AP Das & Chandrâ 0409*	*Aalkusi* (B)	G, H, K	Seeds	Parkinson's disease
Mucuna macrocarpa Wallich *ex* Baker [Fabaceae]; *AP Das & Chandrâ 3175*	*Baldengra* (N)	S, T	Seeds	Mumps
Murraya koenigii (Linnaeus) Sprengel [Rutaceae]; *AP Das & Chandrâ 0323*	*Mechia Saag* (N) *Curry pata* ((B)	G, H, K, Mo	Leaf	Aromatic food additive
Murraya paniculata (Linnaeus) Jack [Rutaceae]; *AP Das & Chandrâ 4068*	*Kamini*	G, H, K, M	Whole plant; leaf	Ornamental; pain killer
Mussaenda roxburghii Hook.f. [Rubiaceae]; *AP Das & Chandrâ 1058, 1688*, *2370*	*Dhobi Kat, Dhobine ghas, Dhobine* (N)	H, Mk, T	Leaf	Vegetable; used in making rice beer
Nasturtium officinale Brown [Brassicaceae]; *AP Das & Chandrâ 3101.*	*Simrayo* (N)	Mk, S, T	Young Shoot	Green vegetable
Natsiatum herpeticum Arnott [Icacinaceae]; *AP Das & Chandrâ 0352*, *0091*, *0653*	Not Known	Mo, H, K, G, M	Leaf	Rheumatism
Neolamarckia cadamba (Roxburgh) J. Bosser [Rubiaceae]; *AP Das & Chandrâ 0845, 1021, 0606*	*Kadam* (N) *Kadamba, Kadam* (B)	G, H, K, Mo	Trunk, Ripe fruits	Timber useful; ornamental tree; fruits edible
Nephrolepis auriculata (Linnaeus) Trimen [Nephrolepidaceae]**;** *AP Das & Chandrâ 2473, 2233*	*Paniamala* (N)	Mk, S, T	Whole plant, fronds, root-tuber	Fronds ornamental; tubers edible and anti-diabetic
Nyctanthes arbor-tristis Linnaeus [Nyctanthaceae]; *AP Das & Chandrâ 4052, 4099*	*Sefali, Seuli* (B)	G, H, K, M, Mo	Whole plant, Leaf	Ornamental; treats fever, rheumatism, malaria, sciatica, inflammation, bilious fever, dandruff, flatulence
Onychium siliculosum (Desvaux) C. Christensen [Taenitidaceae]; *AP Das & Chandrâ 1604*	*Golden Fern* (E)	Mo	Fronds	Dysentery
Oroxylum indicum **(**Linnaeus) Kurz. [Bignoniaceae]; *AP Das &*	*Totola* (N)	H, G, K	Bark, Seeds	Treats diarrhoea, leucorrhoea, asthma, bronchitis, , joint

Name of plants	Common name	Recorded from	Useful Parts	Uses
Chandrâ 0104				swelling, rheumatism heart disease, piles; ornamental; flowers edible
Oxalis corniculata Linnaeus [Oxalidaceae]; *AP Das & Chandrâ 0053, 0150, 1743, 2648, 2143*	*Chari-amilo* (N) *Amruli, Amrul* (B)	Mo, H, K, G, Mk, S, T	Whole plant	Twigs edible; leaves to cure scurvy, dysentery, improves appetite - taken as sauce after cooking
Paederia foetida Linnaeus [Rubiaceae]; *AP Das & Chandrâ 0266, 2772*.	*Gandal* (B)	G, H, Mo, Mk	Leaf	Green vegetable; Dysentery, diarrhoea, indigestion, breathing problem, piles, rheumatism, paralysis, night blindness, constipation
Pericampylus glaucus (Lamarck) Merrill [Menispermaceae]; *AP Das & Chandrâ 0353, 0130, 0726, 1885, 2224*	*Pipal-pati lahara* (N)	Mo, G, H, K, Mk,T	Tuber	An antidote to bites of poisonous snakes
Persicaria capitata (D. Don) H. Gross [Polygonaceae]; *AP Das & Chandrâ 2792*, *3531*	*Ratnawlo* (N)	Mk, S, T	Whole plant	Used in diarrhoea, dysentery
Persicaria chinensis (Linnaeus) H. Gross [Polygonaceae]; *AP Das & Chandrâ 0024*, *2757*, *3053*, *3182*	Ratnewlo (N)	Mo, Mk, H, S, T	Whole plant	Good fodder for cattle
Persicaria runcinata (D. Don) H. Gross [Polygonaceae]; *AP Das & Chandrâ 1906*, *2617*, *2235*	*Ratnawlo* (N)	Mk, S, T	Whole plant	Good fodder for cattle.
Phoebe attenuata (Nees) Nees [Lauraceae]; *AP Das & Chandrâ 1768*	Not Known	Mk, T	Trunk	House building
Phyllanthus amarus Schumacher & Thonning [Euphorbiaceae]; *AP Das & Chandrâ 0955*	*Bhnui-amla* (B)	G, H, K, Mo	Whole plant	Tonic, astringent, diuretic, fever, bronchitis, gonorrhoea, asthma, anaemia, dysentery
Phyllanthus emblica Linnaeus [Euphorbiaceae]; *AP Das & Chandrâ 1704*.	*Amloki* (B) *Amala* (N)	G, H, K, Mo, Mk	Fruits	Eaten raw; useful in diabetes, hyper-acidity, dyspepsia, irregular semen discharge, opthalmia, diarrhoea, leprosy, constipation,; good source of Vitamin C
Physalis divaricata D. Don [Solanaceae]; *AP Das & Chandrâ 3221*	*Makai, Fokfoke* (N)	Mo, Mk, S	Fruits, Leaf	Used in fever, pneumonia, cold for children, urinary troubles
Pinus roxburghii Sargent [Pinaceae]; *AP Das & Chandrâ 3089*	*Dhup* (N) *Pine* (B)	Mk, S, T	Trunk, resin	House building and furniture; resin for multipurpose use
Piper longum Linnaeus [Piperaceae]**;** *AP Das & Chandrâ 1342*	*Peepla* (N)	G, H, K, M, Mo, Mk, S, T	Infructescens, roots	Fruits used as pepper; fruit & roots used against bronchitis, fever, asthma, leucoderma, fattening, indigestion, , gout, rheumatism, enlarged spleen, improves memory, abortion
Piper mullesua D. Don [Piperaceae]***;*** *AP Das & Chandrâ 2511*	*Jangli Paan Peepla* (N)	G, H, Mo, Mk	Fruits	Used in common cold and cough
Piper pedicellatum C. DC. [Piperaceae]***;*** *AP Das & Chandrâ 3441*	*Bhalay Chabo* (N)	T, S, Mk	Leaf	Chewed with betel-nuts; treated as a sacred plant
Piper peepuloides Roxburgh [Piperaceae]; *AP Das & Chandrâ*	*Ruk peepla* (N)	G, H, K, M, Mo,	Ripe fruits	Spice; used in common cold and cough

Name of plants	Common name	Recorded from	Useful Parts	Uses
2250		Mk, S, T		
Pityrogramma calomelanos (Linnaeus) Link [Hemionytidaceae]**;** *AP Das & Chandrâ 3100*	Not Known	G, H, K, M, Mo, Mk, S, T	Fronds, Rhizome	Rhizomes anthelmintic
Plumbago zeylanica Linnaeus [Plumbaginaceae]; *AP Das & Chandrâ 4003*	*Chetoar, Chitawar,* (N) *Chita* (B)	G, H, K, M, Mo	Whole plant	Ornamental; appetizer; cures gastric ulcer, diarrhea, piles, dysentery, bronchitis, scabies, elephantiasis, hydrocel, leprosy, abortion, puerperal disease, venereal diseases, paralysis; ingredient for making rice beer
Pongamia pinnata (Linnaeus) Pierre [Fabaceae]; *AP Das & Chandrâ 4097*	*Karanja* (B)	G, H, K, M	Seed-oil	Much useful in skin diseases
Pouzolzia hirta (Blume) Hasskarl [Urticaceae]; *AP Das & Chandrâ 1836, 1985, 2649*	*Chiplay* (N)	Mk, T, S	Roots	Bone dislocation and fractures
Pouzolzia zeylanica (Linnaeus) Bennett & Brown [Urticaceae]; *AP Das & Chandrâ 1484*, *0404, 1925*, *2079*	*Chiplay* (N)	H, K, Mk, T, M	Roots	Used in bone fracture, joint dislocation, sprain
Prunus cerasoides D.Don [Rosaceae]; *AP Das & Chandrâ 2959*, *3185*	Painyun (N)	S, T	Grown tree	Ornamental; branches as walking stick; tools handles (khukuri, sickle etc)
Psidium guajava Linnaeus [Myrtaceae]; *AP Das & Chandrâ4004, 4005*	*Ambak, Amrud* (H), *Piyara* (B)	G, H, K, M, Mo	Fruit, leaf	Fruits eaten raw; used in bacterial dysentery, diarrhoea, anaemia, dysentery, bleeding teeth
Psilanthus bengalensis (Schultes) Leroy [Rubiaceae]; *AP Das & Chandrâ 0356*, *3083*	*Kafî, Chitu, Morichi-kat* (N) *Chaiti phul* (B)	Mo, Mk, T	Berries	Coffee by Terai inhabitants
Pteridium aquilinum (Linnaeus) Kuhn [Pteridiaceae]**;** *AP Das & Chandrâ 0317,* 2255	*Not Known*	G, H, K, M, Mo, Mk, S, T	Rhizome	Edible; used as astringent and anthelmintic
Punica granatum Linnaeus [Punicaceae]; *AP Das & Chandrâ 4047*	*Dalim, Bedana* (B)	G, H, K, M, Mo	Fruit	Ripe fruits eaten raw; used in dysentery, diarrhoea; and as coolant or refrigerant
Rauvolfia serpentina (Linnaeus) Benth. ex Kurz [Apocynaceae]; *AP Das & Chandrâ 4026*	*Sarpagandha* (B)*, Nagbeli* (N)	G, H, K, M, Mo	Root	High BP, rheumatism, snake bite, eczema, epilepsy, colic pain, pneumonia, corneal opacity, wounds
Rhododendron arboreum Smith [Ericaceae]; *AP Das & Chandrâ 2165*	*Lali Guras/ Rato Guras* (N)	T, S	Grown plant, Trunk, Flower	Ornamental, firewood plant; corolla consumed against for dysentery, antidote to high altitude sickness; produce traditional drink
Rhus chinensis Miller [Anacardiaceae]; *AP Das & Chandrâ 1884*	*Bhakimlo* (N)	Mk, T	Fruits	Used against indigestion, diarrhoea, dysentery; produce local vinegar
Ricinus communis Linnaeus [Euphorbiaceae]*; AP Das & Chandrâ 0930*.	*Reri* (N) *Rehrhi* (B)	G, H, K, M, Mk, T	Seeds, inflorescence, leaf	Seed oil laxative & for burning lamps; young inflorescence cooked as vegetable; leaves for rearing silkworms

Name of plants	Common name	Recorded from	Useful Parts	Uses
Rubia manjith Roxburgh *ex* Fleming [Rubiaceae]; *AP Das & Chandrâ 3026, 3505*	*Manjistha, Majito* (N)	Mk, S, T	Root, fruits, stem	Dye from root & fruits; used in scorpion sting, insect bites, paralysis, jaundice, menstrual disorders, skin diseases, boils, chest troubles
Rubus ellipticus Smith [Rosaceae]; *AP Das & Chandrâ 1831*, *2078*.	*Ainselu* (N)	Mk, S, T	Ripe fruits	Eaten raw
Rumex nepalensis Sprengel [Polygonaceae]; *AP Das & Chandrâ 3113*, *2144*	*Halhaley* (N)	S, T	Leaf	Green vegetable; eczema
Saccharum spontaneum Linnaeus [Poaceae]; *AP Das & Chandrâ 0366 ,0134*, *0577*, *3562*	*Sanu Kans, Kash* (N)	Mo, H, K, Mk, S	Leaf	Good fodder
Samanea saman (Jacquin) Merrill [Mimosaceae]; *AP Das & Chandrâ 0959*, *0627*	*Khirish* (B) *Rain tree* (E)	Mo, K, H	Pods	Edible; also relished by cattle and pigs
Saurauja napaulensis DC. [Sauraujaceae]; *AP Das & Chandrâ 3369, 3070*	*Gagun* (N)	S, T	Fruits	Edible. Good fodder for cattle
Schima wallichii (DC.) Korthals [Theaceae]; *AP Das & Chandrâ 2801, 2979*	*Aulay Chilaunay* (N)	Mk, S, T	Trunk, Bark	Fire-wood; house building, ploughshares; used in stomach colic, gastritis, blood dysentery, softening crac& and scorpion stings; bark irritant and vermicide and used for gonorrhoea
Scoparia dulcis Linnaeus [Scrophulariaceae]; *AP Das & Chandrâ 0040*, *0421*, *1784*.	*Ban Dhane, Atibala, Mithapata* (B)	G, H, K, M, Mk, Mo	Leaf	Cough, fever, diabetes, throat infection, urinary bladder & kidney stones, toothache, diarrhoea, excessive menstrual bleeding
Selaginella bisulcata Spring [Selaginellaceae] *AP Das & Chandrâ 2640*	*Not Known*	Mk, S, T	Grown plant	Ornamental, reputed as '*Sanjeevany';* commonly sold during summer as cooling agent
Setaria palmifolia (J. Konig) Stapf [Poaceae]; *AP Das & Chandrâ 0929*, 1224, *1724*, *2612*, *2026*	*Dhoti Sara* (N)*Bans pata* (B)	G, H, K, M, Mo, Mk, S, T	Whole plant	Excellent fodder for cattle
Shorea robusta Gaertner [Dipterocarpaceae]; *AP Das & Chandrâ 4022*	*Sal* (B, H)	G, H, K, M, Mo	Trunk, leaf, resin, seed	Valuable multipurpose timber; leaves in cottage industry; resin for incense; seeds yield edible fat; medicinally against diarrhoea, dysentery, as astringent, detergent
Sida acuta Burman f. [Malvaceae]; *AP Das & Chandrâ 0321, 1079, 0547, 1889, 3401, 2411*	*Berela* (B) *Jharoo/ Khareto* (N)	G, H, K, M, Mo, Mk, S, T	Root, Stem	Febrifuge, weakness, bowel pain, nervous problem, urinary diseases, blood diseases, elephantiasis, piles ; dried shoots to make brooms
Sida rhombifolia Linnaeus [Malvaceae]; *AP Das & Chandrâ 0367, 1102, 0570*	*Berela* (B)	G, H, K, Mo	Stem, root	Stem produce fibre; used in sores, rheumatism, fever, haemopthysis, leucoderma, menorrhagia, boils, cough, cold, aphomia
Smilax ovalifolia Roxburgh [Smilacaceae]; *AP Das & Chandrâ*	*Kukurdaine* (N) *Rajdantini,*	H, K, M, Mk	Root	Used to treat urinary problems, high blood

Name of plants	Common name	Recorded from	Useful Parts	Uses
1375	*Kumarika* (B)			pressure; an abortifecient
Solanum myriacanthum Dunal [Solanaceae]; *AP Das & Chandrâ 0037*, *0994*, *1892*	*Kalchunray Kanra, Bhere Kanra* (N)	G, H, Mo, Mk	Fruits, Seeds	Fruits and seeds poisonous; used in fever, cold, cough, asthma, epithalmia, improves taste & appetite
Solanum torvum Swartz [Solanaceae]; *AP Das & Chandrâ 0041*, *1775*.	*Pako Saag,* Bin ((N)	Mo, Mk	Fruits, Root, leaf	Young fruits vegetable, ripe fruits to check bleeding after delivary, to treat jaundice, liver disorders; root antidote to poison, leaves against snakebite, enlarged spleen
Stephania glandulifera Miers [Menispermaceae]; *AP Das & Chandrâ 1811*, *2009*	*Tamarkay* (N)	Mk, S, T	Tuber	Ethnobotanically much important; used against fever, diarrhoea, fever, dysentery, stomach disorders, etc
Syzygium cumini (Linnaeus) Skeels [Myrtaceae]; *AP Das & Chandrâ 1137*, *2834*	*Jamuna*(N)	G, H, M, Mo, Mk	Bark, fruit, seed,	Bark & seeds anti-diabetic; ripe fruits eaten raw
Tamarindus indica Linnaeus [Caesalpiniaceae]; *AP Das & Chandrâ 4035*	*Tentul* (B), Imly (N)	G, H, K, M, Mo	Leaf, Fruit	Young leaf & inflorescence cooked as vegetable; fruits for pickle and food additive; used to cure bleeding piles, pox, painful anuria, swelling for kidney problems, diabetes
Trichosanthes dioica Roxburgh [Cucurbitaceae]; *AP Das & Chandrâ 4091*	*Jangli Patal* (B)	G, H, K	Leaf, Fruit	Fruits as vegetable; leaves good liver tonic
Tectaria coadunata (J. Smith) C. Christensen [Tectariaceae]**;** *AP Das & Chandrâ 3204, 2167*	*Ningro* (N)	Mk, S, T	Fronds	Acute diarrhoea in children and other stomach troubles; Eaten as salad
Terminalia bellirica (Gaertner) Roxburgh [Combretaceae]; *AP Das & Chandrâ 1347*	*Borrah* (N) *Baherha* (B)	K	Fruits	Used to treat cough & cold, sore throat, asthma, diarrhoea, bronchitis, piles, leprosy, indigestion
Terminalia chebula Retzius [Combretaceae]; *AP Das & Chandrâ 1660*	*Harra* (N) *Haritaki* (B)	G, H	Fruits	Masticatory; fruits edible; improves immunity agaist cough & cold
Terminalia myriocarpa Heurcket Muell.-Arg. [Combretaceae]; *AP Das & Chandrâ 2479*	*Paanisaaj* (N) (B)	Mk	Trunk	Durable timber for house building
Thysanolaena latifolia (Roxburgh *ex* Horneman) Honda [Poaceae]; *AP Das & Chandrâ 0671*, *3594*, *2940*	*Amliso, Kuccho* (N) *Phul Jharu* (B)	K, Mo, Mk, S, T	Leaf , Infloresce nce, Root	Fodder, inflorescence bundled into brooms; roots medicinal
Tinospora cordifolia (Willdenow) Hook.f. & Thomson [Menispermaceae]; *AP Das & Chandrâ 1017*	*Gulancha* (B)	G, H, K	Stem	Powerful emetic, cleans visceral obstruction, cures diabetes, asthma, bronchitis, jaundice, leprosy, sexual weakness, gout, urethral discharges, etc
Tinospora sinensis (Loureiro) Merrill [Menispermaceae]; *AP Das & Chandrâ 1758*	*Gulancha* (B)	G, H, Mk	Stem	Stem used in blood pressure, fever, insect bites
Toddalia asiatica (Linnaeus) Lamk. [Rutaceae]; *AP Das & Chandrâ 2785*	*Main Kanra, Singhanay Kanra* (N)	Mk	Fruits	Fruits edible
Toona ciliata Roem. [Meliaceae]; *AP Das & Chandrâ 0773*, *2820*	*Toon* (B) *Tooni* (N)	Mo, Mk	Trunk	Good quality timber for furniture, doors, windows, etc

Name of plants	Common name	Recorded from	Useful Parts	Uses
Trema orientalis (Linnaeus) Blume [Ulmaceae]; *AP Das & Chandrâ 0448*, 1472, *0573*	Kunyel (N)	G, H, K, Mo	Trunk	Very first growing 'Tree Weed' produce firewood
Typhonium trilobatum (Linnaeus) Schott [Araceae]; *AP Das & Chandrâ 0772*, *1254*	*Kharkon, Ghatkol* (B)	G, H, K, Mo	Leaf	Green vegetable
Urena lobata Linnaeus [Malvaceae]; *AP Das & Chandrâ 0829*, *0241, 1346*, *1802*, *3377*, *2337*	*Kurey Paat* (N)	H, K, Mk, Mo, S, T	Stem	Produce quality fibre
Urtica dioica Linnaeus [Urticaceae]; *AP Das & Chandrâ 1731*, *2337, 3504*	*Sishnu* (N)	Mk, S, T	Young shoot	Green vegetable
Vallaris solanacea (Roth) O. Kuntze [Apocynaceae]; *AP Das & Chandrâ 0289*, *1151*	*Dudhe Lahara, Harmali* (N)	Mo, H, Mk	Stem	Used in diarrhoea, swelling, rheumatism, constipation, old sores, etc
Vitex negundo Linnaeus [Verbenaceae]; *AP Das & Chandrâ 1454*	*Nishinda* (B)	G, H, M	Leaf	Improves memory, hair growth, coolant, nerve tonic; used in gout, antihelmintic, leprosy, indigestion, cholera, bronchitis, etc
Wattakaka volubilis (Linnaeus f.) Stapf [Asclepiadaceae]; *AP Das & Chandrâ 0092*, *1524*	*Chhit* (B)	H, Mo	Bark	Ingredient in making rice beer
Zanthoxylum acanthopodium DC. [Rutaceae]; *AP Das & Chandrâ 2910*	*Boke Timbur* (N)	S, T	Fruits	Chewed to cure indigestion and flatulence

Poisonous Plants

Besides the useful plants it is also important to recognise poisonous plants as these plants can be useful in medicine or in different other purposes. A plant may be poisonous through the activities of its different parts like leaf/ stem/ underground parts/ hairs/ flowers/ fruits/ seeds/ latex etc. Recorded poisonous plants have been presented in Table 3.

Table 3. List of poisonous plants recorded from the Tea Garden areas in Hills and Terai of Darjiling

[***Abbreviations used***: G = Gungaram T.E., H = Hansqua T.E., K = Kamalpur T.E., M = Matigara T.E., Mo = Mohurgong & Gulma T.E., Mk = Makaibari T.E., S = Soom T.E., T = Tamsong T.E.]

Name of plants	Common name	Gardens where recorded	Parts	Symptoms
Acacia pennata (Linnaeus) Willdenow [Mimosaceae]; *AP Das & Chandrâ 1717*	*Arare* (N)	Mk	Stems, Fruits	Fish poison.
Alstonia scholaris (Linnaeus) R. Brown [Apocynaceae]; *AP Das & Chandrâ 0831*, *1033*, *1184*, *1735*	*Chhatiwan* (N) *Chhatim* (B)	G, H, K, M, Mo, Mk	Latex, pollen	Toxic, highly allergic
Artemisia dubia Wallich *ex* Besser [Asteraceae]; *AP Das & Chandrâ 2289*, *3470*	*Titepaati* (N)	Mk, S, T	Leaves, young shoots	Fish poison

Name of plants	Common name	Gardens where recorded	Parts	Symptoms
Calotropis gigantean (Linnaeus) Dryander [Asclepiadaceae]; *AP Das & Chandrâ 0739, 3482*	*Aakanda* (B) *Aank* (N)	G, H, K, Mo	Latex	Harmful for eyes
Cannabis sativa Linnaeus [Cannabaceae] *AP Das & Chandrâ 1338*, *1719*, *2118*	*Bhang, Gaanja* (N, B) *Hemp* (E)	G, H, K, M, Mo, Mk	Flowers, Leaves	Euphoria, elation, heightened senses, hallucinations, depression & comatose sleep; die in overdose
Cuscuta reflexa Roxburgh [Cuscutaceae]; *AP Das & Chandrâ 0065*	*Swarnlata* (B)	K, M, Mo	Twigs	Unbearable pain in the upper abdomen if consumed
Datura stramonium Linnaeus [Solanaceae]; *AP Das & Chandrâ 0005, 2178*	*Sada Dhutra* (B)	H, K, Mo, Mk, T	Leaves, Fruits, Seeds	Unquenchable thirst, vomiting, enlarged pupils, jumbled speech, nervous twitches, convulsions; death in overdose
Datura suaveolens Humboldt & Bonpland *ex* Willdenow [Solanaceae]; *AP Das & Chandrâ 3389*.	*Ghantiphul, Sanaiphool Dhokrey phul* (N)	G, H, Mo, Mk, S	Leaves, Fruits, Seeds	Unquenchable thirst, vomiting, enlarged pupils, jumbled speech, nervous twitches and convulsions; death in overdose. Poisonous to pigs
Dendrocnide sinuata (Blume) Chew [Urticaceae]; *AP Das & Chandrâ 1814*	*Morungay* (N)	G, H, K, Mo, Mk	Whole plant, hairs, pollens	Stings of hairs very painful; pollens also much irritating
Equisetum diffusumD. Don [Equisetaceae]; *AP Das & Chandrâ 2229, 3294*	*Horsetail* (E)	Mo, Mk, S, T	Whole plant	Dangerous to horses and cattle; causes loss of condition, fast & weak heartbeat and unsteady.
Girardinia diversifolia (Link) Fries [Urticaceae]; *AP Das & Chandrâ 1691*.	*Bhangray Sisnu* (N)	Mo, Mk, S, T	Whole plant	Extremely high irritation on touch and consumption of fresh leaves
Hedyotis scandens Roxburgh [Rubiaceae]; AP *Das & Chandrâ 0674, 2391, 3423*	*Bokri Lahara, Baksi Lahara, Pinase Lahara* (N)	K, Mo, Mk, S, T	Whole plant	Fish poison
Holarrhena pubescens **(**Buch. – Hamilton) G. Don [Apocynaceae]; *AP Das & Chandrâ 3980, 4009*	*Khirra* (B)	G, H, K, M, Mo, Mk, S, T	Young shoot	Fish poison
Jatropha curcas Linnaeus [Euphorbiaceae]; *AP Das & Chandrâ 0995*.	*Sada Bharenda* (B) *Hattikane Poison Nut, Physic Nut* (E)	G, H, K, M, Mo, Mk	Seeds	Severe collapse if consumed
Ipomoea purpurea (Linnaeus) Roth [Convolvulaceae]*; AP Das & Chandrâ 0447*.	*Morning Glory*(E)	G, H, Mo, Mk	Seeds	Unpredictable psychological disturbances, including heightened perception of vision, smell and hearing, can cause permanent damage to brain

Name of plants	Common name	Gardens where recorded	Parts	Symptoms
Ipomoea purpurea (Linnaeus) Roth [Convolvulaceae]*; AP Das & Chandrâ 0447*.	*Morning Glory*(E)	G, H, Mo, Mk	Seeds	Unpredictable psychological disturbances, including heightened perception of vision, smell and hearing, can cause permanent damage to brain
Lantana camara Linnaeus [Verbenaceae]; AP *Das & Chandrâ 1615*, 0169, *1298*, *3059*	*Bon Tulsi* (B) *Barra Mase* (N) Lantana (E)	G, H, K, M, Mo, Mk, S, T	Fruits	Gastrointestinal pain, diarrhoea, weakness, circulatory failure
Laportea terminalis Wight. [Urticaceae]; *AP Das & Chandrâ 1964*	*Patle Sishnu, Gharia sishnu* (N)	S, T	Whole plant	Extremely high irritation on touch and consumption of fresh leaves
Lyonia ovalifolia (Wallich) Drude [Ericaceae]*; AP Das & Chandrâ 4010.*	Not Known	Mk, S, T	Leaves	Deadly poisonous to cattle
Maesa chisia Buch.–Hamilton *ex* D. Don [Myrsinaceae]; *AP Das & Chandrâ 2497, 3447*	*Bilaune* (N)	Mk, S, T	Sticks from branches	Believed that if cows and goats hit with the stick they will deteriorate slowly and will die; local people avoid its shadow for this reason
Mikania micrantha Kunth [Asteraceae]; *AP Das & Chandrâ 0008, 1075, 0615, 3159, 1798, 3394, 2113*	*Goal-lata* (B)	G, H, K, M, Mo, Mk, S, T	Leaves	Fish-poison
Mirabilis jalapa Linnaeus [Nyctaginaceae]; *AP Das & Chandrâ 1178*	*Sandhyamani* (B)*, Four-o'clock* (E)	K	Seeds, Roots	Irritates skin and mucous membrane, gastrointestinal upsets, diarrhoea
Mucuna macrocarpa Wallich *ex* Baker [Fabaceae]; *AP Das & Chandrâ 3175*	*Baldengra* (N)	Mk, S, T	Hairs on calyx	Moderate irritation of skin and mucous membrane
Mucuna pruriens (Linnaeus) DC. [Fabaceae]; *AP Das & Chandrâ 0409*	*Aalkusi* (B)	G, H, K, M	Hairs on fruits & calyx	Severe irritation on skin and mucous membrane
Neyraudia arundinacea (Linnaeus) Henrard [Poaceae]; *AP Das & Chandrâ 1741*	*Situ, Siku, Ghungring* (N)	Mk	Leaf	Poisonous to buffalo
Parthenium hysterophorus Linnaeus [Asteraceae]; *AP Das & Chandrâ 0858, 0705*	*Parthenium* (E)	Mo, K	Aerial parts, Pollen	Severe allergy, dermatitis, internal bleeding
Persicaria hydropiper (Linnaeus) Spach [Polygonaceae]; *AP Das & Chandrâ 0461, 2702, 2057.*	*Kusurpota, Sukurpota* (B)	H, K, Mo, Mk, S, T	Leaf	Food and fish poisoning
Pteridium aquilinum (Linnaeus) Kuhn [Pteridiaceae]; *AP Das & Chandrâ 0317, 2255*	*Bracken* (E)	Mo, Mk, T	Rhizome	Particularly horses and cattle are vulnerable; well known fish poison
Ricinus communis Linnaeus [Euphorbiaceae]; *AP Das & Chandrâ 0930*	*Reri* (N) *Rehrhi* (B) *Castor Bean* (E)	G, H, K, M, Mo, Mk	Whole plant Seeds	Seeds laxative but fatal; burning of mouth and throat; diarrhea, abdominal pain, weakness, damage to liver and kidneys, haemorrhages

Name of plants	Common name	Gardens where recorded	Parts	Symptoms
Rhus chinensis Miller [Anacardiaceae]; *AP Das & Chandrâ 1884*	*Bhakimlo* (N)	Mk, S, T	Whole plant	Acrid juice cause severe skin irruption (blisters)
Rhus succedanea Linnaeus [Anacardiaceae]; *AP Das & Chandrâ 2986*	*Rani Bhalayo* (N)	Mk, S, T	Whole plant	Sap causes irritating and itching blisters on skin
Sambucus canadensis Linnaeus [Sambucaceae]; *AP Das & Chandrâ 3032*	*Elder* (E)	Mk, S, T	Leaves, Roots, Fruits, Bark	Violent purgation; nausea from raw berries; fresh leaves and berries irritate skin
Schima wallichii (DC.) Korthals [Theaceae]; *AP Das & Chandrâ 2801, 2979*	*Aulay Chilaunay* (N)	Mk, S, T	Peeled bark	Mild itching effect on contact with skin
Solanum myriacanthum Dunal [Solanaceae]; *AP Das & Chandrâ 0037, 0994, 1892.*	*Jangli Begun* (B) *Bhere* or *Kalchunray Kanra,* (N)	H, K, Mo, Mk	Seeds	Extremely poisonous due to high solasodin content
Solanum nigrum Linnaeus [Solanaceae]; *AP Das & Chandrâ 0291, 1379, 1785*	*Pako saag* (N)	G, H, K, Mo, Mk	Whole plant, Fruits	Gastric pain, constipation or diarrhoea; weakness, drowsiness and paralysis
Tragia involucrata Linnaeus [Euphorbiaceae]; *AP Das & Chandrâ 1362*.	*Jal Bichuti* (B)	K	Whole plant	Extremely high irritation on touch
Trichosanthes lepiniana (Naudin) Cogniaux [Cucurbitaceae]; *AP Das & Chandrâ 1063*.	*Indreni* (N)	G, H, K, Mo	Fruits, seeds	Nausea, vomiting, abdominal pain diarrhea; Fruits and seeds highly poisonous.
Typhonium trilobatum (Linnaeus.) Schott [Araceae]; *AP Das & Chandrâ 0772*, *1254*.	*Kharkon, Ghatkol* (B)	G, H, K, M, Mo	Rhizome	Severe irritation of mouth, throat & stomach
Urtica dioica Linnaeus [Urticaceae]; *AP Das & Chandrâ 1731*, *2337, 3504*.	*Sishnu* (N)	Mk, S, T	Whole plant	Extremely high irritation on touch and consumption of fresh leaves
Urtica parviflora Roxburgh [Urticaceae]; *AP Das & Chandrâ 1803, 3493*	*Sishnu* (N)	Mk, S, T	Whole plant	Extremely high irritation on touch and consumption of fresh leaves
Zanthoxylum acanthopodium DC. [Rutaceae]; *AP Das & Chandrâ 2910*.	*Boke Timbur* (N)	S, T	Fruits	Poisonous to pigs, intoxicate fishes; excess intake leads to breathing trouble in man

DISCUSSION

As much as 219 species of plants from 93 families has been recorded here as useful plants and 40 species from 26 families as poisonous plants. These plants are either growing as weeds inside the bushes or in open leftover spaces within the garden territory. In addition, garden employees grow different types of vegetables, ornamentals etc in front of their residences. Hill people are very much garden loving and almost every house, small or big, grow some ornamental plants. These plants are under cultural condition and have not been incorporated in the list of useful plants. Plants considered as poisonous in this account are also quite useful in other senses. Many of these plants are of multipurpose use.

Of the recorded families Asteraceae is represented by heighest number of nine species. Other important families includes Euphorbiaceae, Moraceae (08 species each), Poaceae, Rubiaceae, Urticaceae (7 species each). The details of the taxonomic distribution of useful plants at the family level have been presented in Table 4. Similarly, for the poisonous plants Urticaceae is represented by heighest number offive species (Table 5).

Table 4. Species level distribution of different families of recorded useful plants recorded from the Tea Gardens in Darjiling

No.of species	Family names	No. of Family
09	Asteraceae	01
08	Euphorbiaceae, Moraceae	02
07	Poaceae, Rubiaceae, Urticaceae	03
06	Apocynaceae, Caesalpiniaceae, Lamiaceae, Lauraceae	04
05	Amaranthaceae, Cucurbitaceae, Fabaceae, Menispermaceae, Mimosaceae, Polygonaceae, Solanaceae, Verbenaceae	08
04	Apiaceae, Piperaceae, Rutaceae	03
03	Araceae, Arecaceae, Combretaceae, Convolvulaceae, Dioscoreaceae, Lygodiaceae, Magnoliaceae, Malvaceae	08
02	Acanthaceae, Adiantaceae, Anacardiaceae, Betulaceae, Brassicaceae, Meliaceae, Myrtaceae, Oxalidaceae, Lycopodiaceae, Rosaceae, Scrophulariaceae	11
01	Aceraceae, Actinidiaceae, Amaryllidaceae, Annonaceae, Asclepiadaceae, Aspleniaceae, Athyriaceae, Bignoniaceae, Blechnaceae, Bombacaceae, Boraginaceae, Cannabaceae, Capparaceae, Caryophyllaceae, Chenopodiaceae, Costaceae, Crassulaceae, Dipterocarpaceae, Dryopteridaceae, Elaeocarpaceae, Equisetaceae, Ericaceae, Fabaceae, Fagaceae, Fumariaceae, Gleicheniaceae, Hamamelidaceae, Hemionytidaceae, Hypolepidaceae, Icacinaceae, Lythraceae, Marattiaceae, Marsileaceae, Molluginaceae, Nephrolepidaceae, Nyctaginaceae, Nyctanthaceae, Papaveraceae, Parkeriaceae, Pinaceae, Plumbaginaceae, Pteridiaceae, Punicaceae, Saururaceae, Saxifragaceae, Selaginellaceae, Smilacaceae, Sterculiaceae, Taenitidaceae, Tectariaceae, Theaceae, Tiliaceae, Ulmaceae	53

Table 5. Species level distribution of different families of recorded poisonous plants recorded from the Tea Gardens in Darjiling

No. of species	Family names	No. of Family
05	Urticaceae	01
04	Solanaceae	01
03	Asteraceae, Euphorbiaceae	02
02	Anacardiaceae, Apocynaceae, Fabaceae	03
01	Araceae, Asclepiadaceae, Cannabaceae, Convolvulaceae, Cucurbitaceae, Cuscutaceae, Equisetaceae, Ericaceae, Mimosaceae, Myrsinaceae, Nyctaginaceae, Poaceae, Polygonaceae, Pteridiaceae, Rubiaceae, Rutaceae, Sambucaceae, Theaceae, Verbenaceae	19

However, the selected plants are mostly wild and are belonging to different habit groups. Uses of these plants are also very much diverse, and quite a few of those are also regularly marketed like *Aconogonum molle, Albizia lebbeck, Alnus nepalensis, Alocasia macrorrhiza, Andrographis paniculata, Annona reticulata, Areca catechu, Artocarpus heterophyllus, Boerhavia coccinea, Brassica campestris, Brassica juncea, Cannabis sativa, Centella asiatica, Chenopodium album, Colocasia esculenta, Curcuma longa, Cynodon dactylon, Datura stramonium, Dioscorea bulbifera, Diplazium esculentum, Dryopteris filix-mas, Eryngium foetidum, Phyllanthus emblica, Glinus oppositifolius, Gmelina arborea, Ipomoea batatas,*

Jatropha curcas, Justicia adhatoda, Lycopersicon esculentum, Manihot esculenta, Mentha piperata, Momordica charantia, Momordica dioica, Moringa oleifera, Murraya paniculata, Phyllanthus emblica, Piper betle, Piper longum, Punica granatum, Ricinus communis, Saccharum officinarum, Syzygium cumini, Tamarindus indica, Terminalia chebula, Terminalia myriocarpa, Thysanolena latifolia, Trichosanthes dioica, Typhonium trilobatum etc.

In addition, there are many other plants those are either occasionally marketed or are sold in very low quantity like *Alstonia scholaris, Artemisia indica, Betula alnoides, Caesampelos periera, Drymeria diandra, Ficus hispida, Girardinia diversifolia, Imperata cylindrica, Lycopodiella cernua, Maranta arundinacea, Nephrolepis auriculata, Paederia foetida, Prunus cerasoides, Rauvolfia serpentine, Rubia manjith, Scoparia dulcis, Sida acuta, Solanum torvum, Solanum nigrum, Tectaria coadunata, Urtica dioica, Vitex negundo, Zanthoxylum acanthopodium* etc.

Out of the presented 219 useful species of plants at least 131 species are used as drug plants. However, some of these medicinal plants are already recognized for their efficiencies like *Achyranthes aspera, Alstonia scholaris, Ambroma augusta, Andrographis paniculata, Artemisia indica, Cissampelos periera, Cannabis sativa, Cassia fistula, Cassia sophera, Catharanthus roseus, Centella asiatica, Costus speciosus, Euphorbia hirta, Heliotropium indicum, Holarrhena pubescens, Justicia adhatoda, Kalanchoe pinnata, Melia azedirach, Mentha piperata, Mimosa pudica, Morinda angustifolia, Mucuna pruriens, Nyctanthes arbor-tristis, Paederia foetida, Phyllanthus amarus, Phyllanthus emblica, Piper longum, Plumbago zeylanica, Pongamia pinnata, Rauvolfia serpentine, Ricinus communis, Rubia manjith, Sida acuta, Smilax ovalifolia, Solanum myriacanthum, Terminalia bellirica, Terminalia chebula, Tinospora cordifolia, Vallaris solanacea,* etc. Majority of these are marketed as crude drugs in different quantities and are having huge demand in international market like *Alstonia scholaris, Andrographis paniculata, Catharanthus roseus, Centella asiatica, Holarrhena pubescens, Justicia adhatoda, Kalanchoe pinnata, Melia azedirach, Mentha piperata, Mucuna pruriens, Nyctanthes arbor-tristis, Paederia foetida, Phyllanthus amarus, Phyllanthus emblica, Piper longum, Pongamia pinnata, Rauvolfia serpentine, Rubia manjith, Terminalia bellirica, Terminalia chebula, Tinospora cordifolia, Vallaris solanacea*, etc.

Only very few of these plants are in regular cultivation but are marketed from their natural habitat. With careful selection many more of these plants are also can be cultivated to meet up the market demand. Tea Gardens are artificial habitats and weeds interfere with the crop production. So, many of these plants can be be regularly procured from Tea Gardens for consumtion and marketing. That will also help the poor garden workers financially to some extent.

Popularization of the uses of these plants and little research and development activities can improve the economic viability for cultivation and regular marketing of many of these plants.

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