

CHAPTER-8

ETHNOBOTANY

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Most of the people in Darjeeling and Sikkim parts of Himalayas live in remote villages with extremely difficult or no arrangement of communication to the urbanised areas. When man first migrated into these areas, little over a thousand years ago, they have no alternative but to depend on the natural resources of the habitat for their survival. Their earnings were limited to the crop produced from their very primitive method of cultivation ('Jhoom') and from their domesticated animals like cow, yak, buffalo, goat, sheep, etc.

A major share of their food, medicine, house- building materials, articles for religious faith or to perform religious rights, ornamentation, etc, were coming from nature, mostly plants. In the far- flung villages of Darjeeling and Sikkim, even today, people are maintaining a life style which is almost similar to that primitive form.

But, the communication system are now improving rapidly and the articles of modern life are now slowly reaching the hands of these people which are causing a rapid change in their life style. This in turn keeping their traditional knowledge away from the regular practice and people will certainly loose their traditional knowledge in near future if everything is replaced by the products of modern factories. Early man, from their power of judgment and selection, identified most of the plants we use today. Even, they develop the methods of using those plants. Modern man is now only refining their age old traditional knowledge.

But, the major part of man's traditional knowledge are yet to be tested in his modern laboratories and to put into the general stream of human welfare.

Realising the threat, various workers are now engaged in recording the botanical knowledge of ethnic people in different parts of the world (Cunningham 1993; Faulks 1958; Martin 1995; Berg 1984; Davis *et al.* 1983; Srivastava *et al.*, 1981) and hence the subject of *Ethnobotany* took its birth. Ethnobotanical studies are taking very good shape in India (Jain 1981, 1990, 1991; Mittre 1981; Das, A.K. 1997; Banerjee 1996; Misra *et al.* 1997; Ghosh *et al.* 1996; Viswanathan 1997; Girach *et al.* 1997; Ravishankar 1990; Balla *et al.* 1982; Tarafder 1986; Rao *et al.* 1982; Lal *et al.* 1985; Sharma *et al.* 1984; Jamir 1997; Deb 1968) and quite a few workers also tried to explore the ethnobotanical data from Darjeeling and Sikkim region (Bennet 1983, 1983; Bhujel *et al.* 1984; Biswas *et al.* 1940 (rep.1982); Das *et al.* 1985; Hajra *et al.* 1981; Krishna *et al.* 1987; Kumar *et al.* 1994; Panda 1996; Raju *et al.* 1990; Yonzone *et al.* 1981, 1982).

While surveying the angiospermic climbers in different remote places in Darjeeling and Sikkim, information on the usefulness of these plants were also collected from the local people. Information's published in earlier reports were also assembled there for the preparation of a single document. Local people were brought into the faith and various types of uses were recorded in course of our discussion with them. Collection of wild edible plants is also common sight in village areas. Analysis of collected fodder also provided knowledge on climbers. Visiting the houses/ huts in villages also provided many information. But, the most difficult part was the collection of information of medicinal uses of plants from the vaidyas ('Jhankrii' among Gorkhas; 'Bijuwea' among Kirat Gorkhas; 'Boomthing' among Lepchas; 'Phedangma' among Limboo, Gorkhas and 'Lama' among Murmi / Tamangs)(Bhujel 1996). However, during the present survey methods, in general, devised by Jain, 1989.

8.1 OBSERVATIONS

Out of 284 species of climbers collected from Darjeeling and Sikkim parts of Himalayas, the present ethnobotanical survey could record the usefulness of 161 species among the local inhabitants of this region.

Uses of these plants can be categorised as follows :-

(I) Food plants for man, (II) Fodder plants, (III) Medicinal plants, (IV) Poisonous plants, (V) Ornamental plants and (VI) Plants of other ethnic uses.

8.1.1. FOOD PLANTS FOR MAN

Food is the first requirement for survival. The present survey recorded 48 species of climbing angiosperms used as food by the people of Darjeeling and Sikkim. The edible parts and their method of use varies greatly from species to species. Excerpts of the collected information is presented in Table 8.1.

Table 8.1 : Climbers used as food in different areas by the hill people of Darjeeling and Sikkim Himalayas

Name of the climbers	Local Name(s)	Part(s) used	Preparations
<i>Aconogonum molle</i>	Thotne	Young stem	Raw and as pickle
<i>Actinidia callosa</i>	Tekiphal	Ripe fruits	Eaten raw
<i>A. strigosa</i>	Tekiphal	Ripe fruits	Eaten raw
<i>Asparagus racemosus</i>	Satamuli, Satavali	Roots	Pickle
<i>Basella alba</i>	Poi, Koi	Stems and leaves	Cooked as vegetables
<i>Bauhinia vahlii</i>	Bhorla	Seeds	Roasted
<i>Coccinīa grandis</i>	Telakucha	Fruits and leaves	Cooked
<i>Cyclanthera pedata</i>	Olachato	Stems, leaves & fruits	Cooked
<i>Deeringia amaranthoides</i>	Chorachunrisag	Young twigs	Cooked as vegetables
<i>Dioscorea bulbifera</i>	Githa Lahara	Tuberous roots	Boiled or roasted
<i>D. glabra</i>	Thamring book	Tuberous roots	Boiled or roasted

<i>D. hamiltonii</i>	Bantarul	Tuberous roots	Boiled or roasted
<i>Elaeagnus conferta</i>	Goeli	Ripe fruits	Eaten raw
<i>E. pyreiformis</i>	Goeli	Ripe fruits	Eaten raw
<i>Gouania leptostachya</i>	Tungcheongmon-rik	Young leaves	Cooked
<i>Holboellia latifolia</i>	Gulfa	Ripe fruits	Eaten raw
<i>Kadsura heteroclita</i>	Pattiamlo	Seeds	Eaten raw
<i>Luffa acutangula</i>	Jhingani	Young fruits,	Cooked
<i>L. aegyptiaca</i>	Ghiroula	Young fruits	Cooked
<i>Melothria heterophylla</i>	Kundri	Leaves & shoots	Cooked
<i>Milletia extensa</i>	Kurku	Leaves	Cooked
<i>Momordica charantia</i>	Titay karela	Leaves & fruits	Cooked
<i>M. dioica</i>	Knakrol	Fruits	Cooked as vegetables
<i>Mucuna prurita</i>	Kaochir, Kasso	Young pods / seeds	Cooked
<i>Passiflora edulis</i>	Garandilla	Ripe fruits	Cooked
<i>Piper attenuatum</i>	Pipal	Ripe fruits	Chewing raw
<i>P. chaba</i>	Chaba	Leaves	Chewing raw
<i>P. mullesua</i>	Dalay Chabo	Ripe fruits	Eaten raw
<i>P. nigrum</i>	Marich	Seeds	Spice
<i>P. suiipiqua</i>	Danklay chabo	Ripe fruits	Eaten raw
<i>Rosa sericea</i>	Chung chung sisi,	Ripe heps	Eaten raw
<i>Rubus acuminatus</i>	Biralay Lahara	Ripe fruits	Eaten raw
<i>R. ellipticus</i>	Ainselu	Ripe fruits	Eaten raw
<i>R. indotibetinus</i>	Gempe Aselu	Ripe fruits	Eaten raw
<i>R. niveus</i>	Kalo Aselu	Ripe fruits	Eaten raw
<i>R. paniculatus</i>	Domaytsalu	Ripe fruits	Eaten raw
<i>Schisandra grandiflora</i>	Singhatta Lahara	Ripe fruits	Eaten raw
<i>S. neglecta</i>	Singhatta Lahara	Ripe fruits	Eaten raw
<i>Sechium edule</i>	Quash	Tuberous roots, young shoots and unripe fruits	Cooked as curry
<i>Smilax aspericaulis</i>	Kukurdaine	Ripe fruits	Eaten raw
<i>Tetrastigma bracteolatum</i>	Lahara Bilaunay	Ripe fruits	Eaten raw
<i>T. rumicispermum</i>	-	Ripe fruits	Eaten raw
<i>Thladiantha cordifolia</i>	Bunkarela	Ripe fruits	cooked as curry
<i>Trichosanthes lepiniana</i>	Indrenee	Seeds	Roasted
<i>T. wallichiana</i>	Indrayanee	Seeds	Roasted
<i>Toddalia asiatica</i>	Mein konra	Ripe fruits	Eaten raw

Being first - dwellers they actually use a very large number of plants as their food which are covering, taxonomically, from fern to angiosperms. Many of these plants (climbers) (parts specified under parenthesis) were recorded from markets:

Schisandra grandiflora (fruits), *Holboellia latifolia* (fruits), *Elaeagnus conferta* (fruit), *Rubus ellipticus* (fruits), *Calamus flagellum* (fruits), *Asparagus racemosus* (shoot), *Aconogonum molle* (young stem), *Dioscorea hamiltonii* (bulbils), *D. prazeri* (bulbils), *D. deltoidea* (bulbils), etc.

8.1.2. FODDER PLANTS

Villagers collect fodder from different types of vegetation. They generally grow some fodder plants (e.g., *Ficus cunia* , *F. hookeri*, *Saurauja nepaulensis*, etc.) near their houses which the lop regularly. But, when collecting fodder from jungles, they only bypass the poisonous (like *Lloynia ovalifolia*, etc.) and dis-liking plants and collect a mixture of a large number species, Quite a long list of plants have been prepared on scanning of their collected fodder. Herbaceous climbers generally grow among other erect herbs and small bushes and it is expected that they will also collect these plants, knowing or unknowingly, along with many other plants as fodder. Table 8.2 presented a list of angiospermic climbers which are found to browsed by domestic herbivores or are presented in the collected fodder.

Table 8.2 : Climbers used as fodder in different parts of Darjeeling and Sikkim Himalayas

Name of the climbers	Local Name(s)	Part(s) used	Eaten by
<i>Aconogonum molle</i>	Thotne	Leaves	Cow/sheep
<i>Ampelocissus sikkimensis</i>	-	Leaves	Cow/ goat/buffalo
<i>Argyreia roxburghii</i>	-	Leaves	Cow/ buffalo
<i>Basella alba</i>	Poi; Koi	whole plant	Goat / cow
<i>Butea parviflora</i>	Debre Lahara	Leaves	Cow / buffalo/ goat
<i>Cajanus scarabaeoides</i>	-	Whole plant	Goat / cow / buffalo
<i>Cissampelos pareira</i>	Dolbole Lahara	Whole plant	Goat / cow
<i>Coccinia grandis</i>	Telakucha	Whole part	Cow / goat / buffalo
<i>Combretum roxburghii</i>	Kali Lahara	Leaves	Cow / goat / buffalo
<i>Cyclanthera pedata</i>	Olachato	whole plant	Cow / goat/ buffalo
<i>Deeringia amaranthoides</i>	Chora chunrisag	Stem & plant	Cow / goat
<i>Dumasia villosa</i>	-	Whole plant	Cow / goat
<i>Dicentra scandens</i>	Kundley	whole plant	Cow / goat
<i>Dioscorea belophylla</i>	Panuarul, Ghita	Leaves	Cow / goat
<i>D. bulbifera</i>	Githa Lahara	Leaves	Cow / goat
<i>D. kamoonsensis</i>	Tukjhok	Leaves	Cow / yak
<i>Edgaria darjeelingensis</i>	-	Leaves	Cow / yak
<i>Embelia ribes</i>	Himalchari	Leaves	Cow / buffalo
<i>Galium elegans</i>	-	Leaves	Yak / cow
<i>Gouania leptostachya</i>	Batwasi	Leaves	Goat / cow
<i>Hedyotis scandens</i>	Katli Lahara	Leaves	Goat/ cow
<i>Ipomoea quamoclit</i>	Tarulata	Leaves	Cow / goat
<i>Melothria heterophylla</i>	Kundri	Leaves/stem	Cow / goat
<i>Milletia cineria</i>	Mantiorrik	Leaves	Cow / buffalo
<i>M. extensa</i>	Kurku	Leaves	Cow / buffalo
<i>Naravelia zeylanica</i>	Rashgari	Leaves	Cow / buffalo
<i>Parthinocissus semicordata</i>	Charchare lahara	Leaves	Cow / buffalo
<i>Passiflora edulis</i>	Garandila	Leaves	Cow/goat
<i>Pericampylus glaucus</i>	Pipalpati Lahara	Whole plant	Cow / buffalo

<i>Persicaria chinensis</i>	Ratnowlo, kakur	Leaves	Yak / cow
<i>Pueraria phaseoloides</i>	-	Whole plant	Cow / goat
<i>Rubus ellipticus</i>	Rukhansilo	Young leaves	Yak / sheep
<i>Sechium edule</i>	Quash	Whole plant	Cow / buffalo
<i>Shuteria involucrata</i>	-	Whole plant	Cow / goat
<i>Streptolirion volubile</i>	-	Whole plant	Cow / yak / goat
<i>Tetrastigma bracteolatum</i>	Silay Lahara	Leaves	Cow / buffalo
<i>T. serrulatum</i>	Charcharay	Leaves	Cow / goat
<i>Thunbergia coccinea</i>	Kanesi Lahara	Leaves	Cow / goat
<i>Trichosanthes lepiniana</i>	Indrene	Whole plant	Cow / yak
<i>Vicia hirsuta</i>	Musur chana	Whole plant	Cow / goat
<i>V. sativa</i>	Chatrimatri Matra	Whole plant	Cow / goat

8.1.3 MEDICINAL PLANTS

Evil forces of nature try to harm the people and their pets. These forces also came different types of diseases. These simple minded honest people try to get rid off their distress or diseases mainly in two ways (i) by worshipping their protective forces (village daiety) who is suppose to drive away the evil forces, and (ii) by the administration of medicine. Their medicine are mainly plants or plant parts which are sometimes mixed with some animal products and salts. So, the active principles is mainly coming from plants. From the present survey, quite a few angiospermic plants were reputed to be used by these people. Though it is very difficult to collect the method of preparation and administration of the medicine (along with the reliability of information) but the collected information have been presented in Table 8.3 without any modification.

Table 8.3 : Medicinal Climbing plants used by the hill people of Darjeeling and Sikkim Himalayas

Name of the climbers	Local Name(s)	Part(s) used	Diseases to be treated	Preparation & Administration
<i>Aconogonum molle</i>	Thotne	Shoots	Antidots for poison	-
<i>Asparagus racemosus</i>	Margachi	Roots	Stomach trouble	-
<i>Bauhinia vahlii</i>	Bhorla	Flowers & seeds	Dysentry	Laxative & tonic
<i>Caesalpinia cucullata</i>	Bakshi-kanra	Seed	-	Seed powdered given as vermifuge (Cowan, A.M, 1929)
<i>C. bonduc</i>	-	Seed	Liver problem	Powdered seed taken in very low doses
<i>Clematis acuminata</i>	Pinasay Lahara	Roots	Sinus pain	Cleaned roots crushed wrapped in clothes, held tightly and inhaled

<i>C. buchananiana</i>	-	-	-	do
<i>C. gouriana</i>	-	-	-	do
<i>C. smilacifolia</i>	-	Roots	-	do
<i>Cissus repens</i>	-	Stem, barks	Cataract	Stem extract or exudates of bark
<i>Cuscuta reflexa</i>	Binajori	Stem	Rheumatic swelling	Stem paste applied to eye applied locally
<i>Dioscorea belophylla</i>	-	Shoots	Heart trouble	stem extract taken orally
<i>D. deltoidea</i>	-	Tuberous root	Birth control	Tuber extract taken orally
<i>D. prazeri</i>	Kukurtoral	Rhizome	Fever, stomach	Rhizome extract taken orally
<i>Entada rheedii</i>	Pangra	Seeds	Mumps	A paste of seed applied externally on the swelling
<i>Erycibe paniculata</i>	Bhuikumra	Leaves	Accidental dislocation of bone	Paste of leaves applied locally
<i>Piper longum</i>	Pipla	Leaves & fruits	Headache and menstrual disorder	Juice of leaves & fruits taken only.
<i>P. peepuloides</i>	Pipla	do	do	do
<i>Hedera nepalensis</i>	Lekh bohari	Leaves & stems	Sores	Latex applied externally
<i>Hedyotis scandens</i>	Bakre-Lahara	Roots & Leaves	Eye sore	Roots & Leaves extract applied locally
<i>Paederia foetida</i>	Biri Lahara	Leaves & stem	Carries of tooth & ache	Leaves & extract orally administered indiarrhoec & dysentery
<i>P. scandens</i>	Biri Laha	do	do	The stem leaves directly applied to teeth against toothache (Bhujel 1996)
<i>Rubia manjith</i>	Manjito	Shoots / roots /fruits	Paralysis, Jaundice, Menstrual disorder	Paste of roots & fruits applied as ointment; root decoction taken in menstrual disorder chest trouble

<i>R. wallichiana</i>	do	do	do	do
<i>Rubus ellipticus</i>	Gempe Aselu	Roots	fever	-
<i>R. lineatus</i>	Gempe Aselu	Roots	Food poisoning	Root extract used locally
<i>Stephania japonica</i>	Tambarke	Leaves & roots	Stomach disorder septic inflammation, boils etc.	Leaf extract applied to boils & septic inflammation, roots eaten for stomach disorder & gastritis
<i>S. glandulifera</i>	Bhumitamarra	Root tubers	Jaundice & liver trouble	Aerial roots extract applied with honey.
<i>S. glabra</i>	Rukh tamarke	do	Hernia	For ear-pain extract applied to ear directly. Ripe fruit eaten against tuberculosis.
<i>Tinospora cordifolia</i>	Gurjo	Aerial roots, stem, fruits	Tuberculosis, ear infection	-
<i>Zanthoxylum oxyphyllum</i>	Blainsi Timur	Fruits	Heart disease	Ripe fruits chewed and sucks.

8.1.4. POISONOUS PLANTS

There are quite a good number of poisonous plants grow in Darjeeling and Sikkim Himalayas which also include a few climbers. These plants are cause distress in various ways. In different species of *Mucuna* bristles present on fruit and calyx cause irritation (sometimes extremely) to the skin. However, in most of the cases these are effect only on consumption of one or more plant parts or an extract from those parts. While in cases of fish or cattle poisoning death is quite common, in case of man these are lethal only when consumed a high quantity. In most of the cases fish poisons are not effective against man. Table 8.4 enlisted the poisonous angiospermic climbers from this region.

Table 8.4 : Climbers with poisonous effects on organisms known from Darjeeling and Sikkim Himalayas.

Name of the climbers	Local Name(s)	Part(s) used	Nature of poisoning	Organism(s) effected
<i>Clematis gouriana</i>	Kanesi Lahara	Juice of stem & leaves	Irritant	Man, cow & goat
<i>Codonopsis affinis</i>	Syalko Moot	Leaves & flowers	Lethal	Man

<i>Dalbergia stipulacea</i>	Lahara siris	Extracts from barks & roots	Lethal	Fish
<i>Entada rheedii</i>	Pangra	Extracts from barks & seeds	Lethal	Fish
<i>Mikania micrantha</i>	Sakar Khanday	Leaf extract	Lethal	Fish
<i>Milletia extensa</i>	Kurku	Flowers	Lethal	Man
<i>Mucuna macrocarpa</i>	Baldangra	Bristles on calyx & fruit	Irritant	Man
<i>M. nigricans</i>	Kaoso	Bristles on calyx & fruit	Irritant	Man
<i>M. prurita</i>	Kaochir, Kasso	Bristles on calyx & fruit	Irritant	Man
<i>Trichosanthes lepiniana</i>	Indrenee	Raw seeds	Lethal	Man
<i>T. wallichiana</i>	Indrayanee	Raw seeds	Lethal	Man

8.1.5 ORNAMENTAL PLANTS

Das (1990) has discussed the ornamental potentiality of the flora of Darjeeling hills which include a few climbers. Present ethnobotanical survey has recorded at least 15 species of angiospermic climbers which are used by the local people as ornamental. In general, these people are fond of floras, they collect various types and put them to grow inside their premises. They are also fond of collecting beautiful flowers and fruits to decorate their living rooms. Table 8.5 is depicting a list of such angiospermic climbers which are used by the villagers in Sikkim and Darjeeling for the beautification of their living places.

Table 8.5 : Climbers commonly used as ornamental by people in different parts of Darjeeling & Sikkim Himalayas

Name of the climbers	Local Name(s)	Use for
<i>Aristolochia griffithii</i>	–	Flowers
<i>A. nakaoi</i>	–	Flowers
<i>Asparagus racemosus</i>	Satamuli, Satavali	Foliage (Leaves)
<i>Clematis montana</i>	Kanesi Lahara	Flowers
<i>Cissus javana</i>	Sano pureni	Flowers
<i>Codonopsis inflata</i>	Syakomoot	Flowers
<i>Dicentra scandens</i>	-	Flowers
<i>Gentiana speciosa</i>	-	Flowers

<i>Hedera nepaulensis</i>	-	Leaves
<i>Ipomoea pestigridis</i>	Languli Lata ghialata	Flowers
<i>I. quamoclit</i>	-	Flowers
<i>Periploca calophylla</i>	-	Flowers
<i>Rhaphidophora glauca</i>	Kanchirna	Leaves
<i>Rosa brumonii</i>	-	Flowers
<i>Schisandra grandiflora</i>	Singhatta Lahara	Flowers
<i>Synotis tetrantha</i>	Tiptal	Flowers
<i>Thunbergia coccinea</i>	Kanesi Lahara	Pendulous inflorescence & fruit
<i>T. grandiflora</i>	Kanesi Lahara	Flowers
<i>Tripterospermum volubile</i>	-	Fruits

8.1.6. PLANTS OF OTHER ETHNIC USES

As has already been discussed at the beginning of this chapter, that, the use of plants in tribal life is multifarious even if plants recorded under the categories I-V are not considered. Except for *Bauhinia scandens*, where the peculiarly snake-like zigzag stem is worshipped as Snake-God, in all other cases the uses may be considered as materialistic. While the slender stem of *Pericampylus glaucus* and the aerial roots *Tinospora cordifolia* are directly used as rope, the twining stem of *Cissampelos pareira* produce a fibers for the preparation of rope. Among other plants, leaves of *Bauhinia vahlii* used in a diverse ways like dinner plate, umbrella, packing or covering material, etc. Table-8.6 enlisted some such uses of angiospermic climbers in Darjeeling and Sikkim.

Table 8.6 : Climbers of assorted ethnic uses of different parts of Darjeeling and Sikkim Himalayas

Name of the climbers	Local name(s)	Part(s) used	Use(s)
<i>Bauhinia scandens</i>	Nagbele	Flat and Zig-zag old stem	Religious purposes
<i>B. vahlii</i>	Bhorla	Leaves	For packing butter and used as cover during kinema pretaration, preparation of plate etc.
<i>Calamus flagellum</i>	-	Stem	use for furniture making
<i>Cissampelos pareira</i>	Batulpati	Stem (fibre)	Rope
<i>Dioscorea hamiltonii</i>	Bantarul	Tuberous root stock	Used a 'Tikka during Maghay Sankranti Festival (in January).

<i>Entada rheedii</i>	Pangra	Seeds	Used for curling dresses
<i>Luffa aegyptiaca</i>	Ghiroula	Fibrous mesocarps of fruits	Bath sponge & used as filters.
<i>Pericampylus glaucus</i>	Pipal pati lahara	Stem	Rope
<i>Paederia foetida</i>	Biji Lahara	Leaves	Insect repellent
<i>Rubia manjith</i>	Manjito	Stem & root	Dye
<i>Stephania glabra</i>	Pahenlo; Tamarkey, Nimi Lahara	Whole plant (fibre)	Fishing line
<i>Tinospora cordifolia</i>	Gurjo	Aerial roots	As thread

Table 8.7 : Multipurpose use of angiospermic climbers by the dwellers of forest villages in Darjeeling and Sikkim Himalayas

Name of the climers	Food	Fodder	Medicinal	Poisonous	Ornamental	Others
<i>Aconogonum molle</i>	+	+	+	-	-	-
<i>Asparagus racemosus</i>	+	-	+	-	+	-
<i>Basella alba</i>	+	+	-	-	-	-
<i>Bauhinia vahlii</i>	+	-	+	-	-	+
<i>Cissampelos pareira</i>	-	+	-	-	-	+
<i>Clematis gouriana</i>	-	-	+	+	-	-
<i>Coccinia grandis</i>	+	+	-	-	-	-
<i>Cyclanthera pedata</i>	+	+	-	-	-	-
<i>Deeringia amaranthoides</i>	+	+	-	-	-	-
<i>Dicentra scandens</i>	-	+	+	-	+	-
<i>Dioscorea bulbifera</i>	+	+	-	-	-	-
<i>D. hamiltonii</i>	+	-	-	-	-	+
<i>Entada rheedii</i>	-	-	+	+	-	+
<i>Gouania leptostachya</i>	+	+	-	-	-	-
<i>Hedera nepalensis</i>	-	-	+	-	+	-
<i>Hedyotis scandens</i>	-	+	+	-	-	-
<i>Holmskioldea sanguinea</i>	+	+	-	-	-	-
<i>Ipomoea quamoclit</i>	-	+	-	-	+	-
<i>Luffa aegyptiaca</i>	+	-	-	-	-	+
<i>Melothria heterophylla</i>	+	+	-	-	-	-
<i>Mucuna prurita</i>	+	-	-	+	-	-
<i>Milletia extensa</i>	+	+	-	+	-	-
<i>Paederia foetida</i>	-	-	+	-	-	+
<i>Passiflora edulis</i>	+	+	-	-	-	+
<i>Pericampylus glaucus</i>	-	+	+	-	-	+
<i>Rubia manjith</i>	-	-	+	-	-	+
<i>Rubus ellipticus</i>	+	+	+	-	-	-
<i>Schisandra grandiflora</i>	+	+	-	-	-	-

<i>Sechium edule</i>	+	+	-	-	-	-
<i>Stephania glabra</i>	-	-	+	-	-	+
<i>Tetragymma bracteolatum</i>	+	+	-	-	-	-
<i>T. serrulatum</i>	+	+	-	-	-	-
<i>Thunbergia coccinea</i>	-	+	-	-	+	-
<i>Tinospora cordifolia</i>	-	-	+	-	-	+
<i>Trichosanthes lepiniana</i>	+	+	-	+	-	-
<i>T. wallichiana</i>	+	-	+	-	-	-

Symbols used: '+' = present; '-' = absent

8.2. DISCUSSION

Out of a total recorded 284 species of angiospermic climbers from Darjeeling and Sikkim parts of Eastern Himalaya, at least 116 species has been recorded as useful to the villagers in their every-day life. Domestic herbivores used to browse on a large number of plant (in fact, the climber is the larger than the number of plants they do not brows) and at least 43 species of climbers were found within the fodder they collected from jungles. The number of angiospermic climbers (i.e. 48) used by the man as food those remote villages, are exceeding the number of fodder plants. There a very high percentage of plants common to both of these lists and in many cases man think for his own food first and then for his pets.

When the people enter in the forests for the collection of food they generally look for all types of edible plants, They dig tubers, collect stem, leaf, flowers, fruits or seed from various plants. - which exhibit a greater of approach in the life-style. In addition, they are also cultivating some crops in small plots (terraces) on hill slopes. But, the amount of crop they produce, in majority of the cases, is quite insufficient to their need which, probably, forced them also to maintain their primitive life-style. However, there are quite a few plants in the list of edible plants which are also used as common vegetable even by urban people e.g., *Basella alba*, *Dioscorea bulbifera*, *Cyclanthera pedata*, *Luffa acutangula*, *Momordica charantia*, *M. dioica*, *Passiflora edulis*, *Piper nigrum*, *Sechium edule*, etc. Again, there are at least three species (namely : *Basella alba*, *Passiflora edulis* and *Sechium edule*) which are exotics, common in cultivation, but are growing in naturalised or seminaturalised condition at many places.

A verification of the recorded wild edible climbers has also suggested that many other plants from the list, e.g. *Aconogonum molle*, *Deeringia amaranthoides*, *Holboellia latifolia*, *Rubus niveus*, etc. can be introduced into the urban market as food and might be brought under cultivation.

Lepcha, Tibetan and Bhutia system of medicines are in good practice in the villages of this region. 31 species of climbers (Table-8.3) are found to be useful to the practitioners of these medicine system and quite a few of those are commonly used by common people in their every-day life. There are a few plants which are also used in modern medicines, like *Asparagus*

racemosus, *Dioscorea prazeri*, *Piper longum*, *Tinospora cordifolia*, etc. The diseases treated with these plants are also of diverse types, e.g. the antidote to poison consuming, to dysentery or sinus trouble, the orthopaedic treatment, etc. However, the effect of the Doctrine of Signature could not be detected among the listed plants. Generally, they do not preserve any plant at home in any form but on need they collect the required ones from nature.

Poisonous plants are also found their place in the life-style of these people. Insect repelling and fish-killing are two main purpose where they need such plants. In some other cases they had to face some trouble when they are working on moving in the forest such as the irritating hairs from the calyx and fruit surfaces of *Mucuna prurita*. However, there are some climbing plants which can cause little to much distress to man on consumption. Unlawful uses of those plants, many a times, create problem in the society. In most of the cases the effect is temporary, but, if used in proper doses they can really be lethal to man. If the active ingredients of these plants are identified, those can be used for the benefit of man. (However, *Mucuna prurita* is known to produce medicine for Parkinson's disease).

Darjeelling and Sikkim Himalayas are lands of beautiful flowers and the people of all ages have the love for beauty, i.e. for flowers. Keeping clumps of orchids on rocks in front of their houses or roofs or rocks or on the trunk or lower branches of trees is common sight. Carrying flowers in hand, use as ornaments on keeping bunches of flowers inside houses are also very common. Village people rarely use foliage-ornamental but they are known to help the plant-hunters to collect numerous small orchids with delicately painted leaves. Plants recorded in Table-8.5 are the angiospermic climber which they use for different ornamentation purpose, though, in most of the cases, they are not growing these plants in so called 'garden'.

There are many other aspects of life in the society. Preparation of ropes, stakes, wall fencing, thatching, performing puja, using a tag-like structure on the door-from to keep away evil forces, preparation of cloth, dye-preparation, page marker, etc. are some of the needful 'purpose' in man's daily life. The present survey also recorded some such useful plants and many of which are really useful, some are already tested and in use and some other are need to be tested.

Local people have learnt the multipurpose uses of many plants. *Aconogonum molle* is one edible plant, it also used as fodder and as an antidote to food-poisoning . This type of multipurpose use have been recorded for 36 species of climbing angiosperms (Table-8.7). Among these, *Bauhinia vahlii*, is another important plant.

Seeds of this species are taken as nuts after roasting; flowers and seeds are used in the treatment of dysentery but the most useful part of this plant is its leaves which are used to prepare a large number of articles including dinner plate, hat, packing butter container for 'kinema' production, etc. This type of use of local plants not only reflect the dependence of local people of their environment but also for their inquisitive intelligence of these dwellers of forest-villages.