

Medicinal plants used against gastrointestinal tract disorders by the traditional healers of Sikkim Himalayas

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Ethnomedicinal survey of various tribes in the four districts of Sikkim reveals the use of medicinal plants. The paper records ethnomedicinal values of 36 plants species belonging to 27 families having the activities in gastrointestinal tract disorders. A list of plants species along with their plant names, family, local names, plant parts used and the mode of administration has been enumerated.

Keywords: Indigenous knowledge, Medicinal plants, Gastrointestinal tract disorders, Ethnomedicine, Sikkim Himalayas
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It has estimated that about 80% of the populations living in the developing countries rely almost exclusively on traditional medicine^{1,2}. Indian traditional medicine is based on various systems including Ayurveda, Siddha & Unani and systems used by various tribal communities³. The speedy documentation of the prized indigenous knowledge is required to save them from the emergency threats of the destructive over harvesting, habitat degradation and biopiracy^{4,5}. About 70% of the identified medicinal plants of the Indian Himalayas are exposed to destructive harvesting⁶. Number of legislations has enacted to prevent unfair exploitation of biological wealth of the nation⁷⁻⁹. These legislations are used for immediate chronicling of associated indigenous knowledge and biodiversity¹⁰. Sikkim is a small Northeastern state with its geographical area of 7,098 sq km. Situated at latitude 27°-28°N, longitude 88°-89°N, it has a general relief range of 350-857 m. It is bounded by Singhalila range in the West and Chola range in the East. The northern boundary and a part of the eastern boundary are bounded by Tibetan plateau and to the South is the Darjeeling Gorkha Hill Council of West Bengal. The main drainage system, river Teesta, originates from the Cholhamu Lake in North at 5,259 m, altitude. Besides the history, even floristically, this hilly tract of 12,700 sq km, which refers to Sikkim and Darjeeling district, is grouped as the Sikkim Himalayas, a unique of biological

diversity. Its complex terrain system, high humidity, varied aspects and abruptness of altitudinal variation are a few other factors that contribute to immense wealth of biological resources of more than 6,000 species of flowering plants, 500 species of birds, about 400 species of butterflies and 350 species of ferns, more than 238 species of bamboos, and 280 species of orchids¹¹.

Methodology

The survey was conducted during 2004-2005. Folklore data were collected from local healers, *Bongthings*, the medicine man who prescribe herbal remedies to treat various diseases and also from users. The main objective of the study was to record the uses of plants for medicinal purposes through field visits, and interviews (Figs 1-4). Plants were identified and confirmed with the help of the Botanical Survey of India, Gangtok Chapter, Gangtok, Sikkim.

Enumeration

In the following enumeration, the plants are arranged in alphabetical order of plant names along with family, followed local names wherever available, and brief notes on plant parts, modes of use and dose¹².

Aconitum ferox Wall. ex Ser. (Ranunculaceae);
Atisingua bish; Indian Aconite

Uses: Decoction of tuberous root (10 ml) is taken orally (2-3 times daily) to treat abdominal disorders.

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Fig.1 *Eulophia campestris*

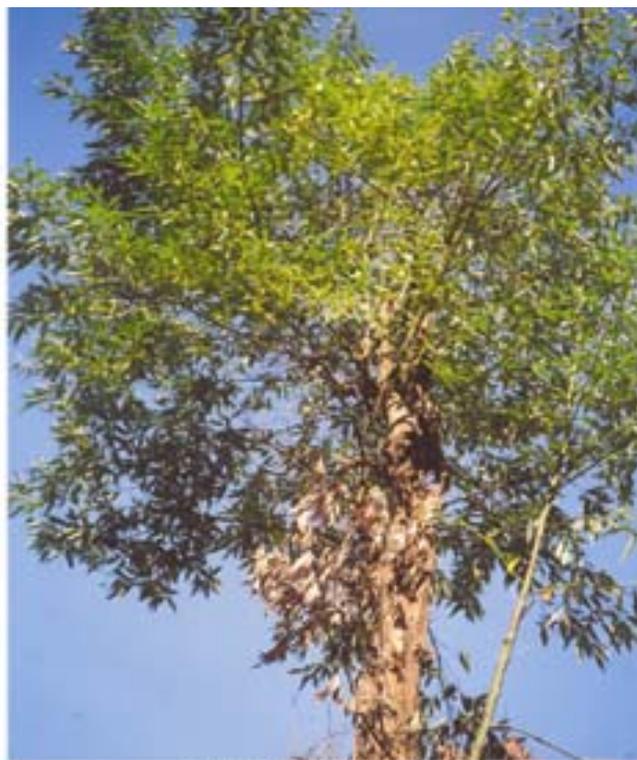


Fig.2 *Juncellus marcopodo*



Fig.3 *Litsea cubeba*



Fig.4 *Melia composita*

Brassica juncea L. (Brassicaceae); *Palangi, Vadisha, Tore*; Indian mustard

Uses: Whole plant decoction is taken orally 2-3 times daily for aperients and dysenteric.

Dysoxylum hamiltonii Blume. (Meliaceae); *Sipochikang*

Uses: Bark decoction is taken 2-3 times daily orally in the treatment of stomachache.

Eulophia campestris Wall. (Orchidaceae); *Hattipaila*

Uses: Tuber juice is taken orally 2-3 times as appetizer.

Evodia fraxinifolia Hook. f. (Rutaceae); *Kanakpa; Kanu*

Uses: Root powder (1 teaspoonful) with 50 ml water is taken orally 2-3 times daily to treat dysentery.

Garcinia cowa Roxb. (Clusiaceae); *Kaphal*; Egg tree

Uses: Raw, sun dried sliced fruit or powdered fruit is taken orally 2-3 times daily to treat dysentery.

Garuga pinnata Roxb. (Burseraceae); *Aule dabadabe*

Uses: Raw fruits taken 1-2 times daily show digestive properties.

Glochidion lanceolarium Voigt. (Euphorbiaceae); *Bangikath*

Uses: Bark juice is taken orally 2-3 times daily in stomach complaints.

Havenia duleis Thunb. (Rhamnaceae); *Bangikath*; Coral tree

Uses: Powdered seeds mixed with water are taken orally for relief in intoxication due to excessive drinking.

Hedera nepalensis Koch. (Araliaceae); *Dudela*; Nepal Ivy

Uses: Plant juice is taken orally 2-3 times daily as antispasmodic.

Hedyotis corymbosa L. (Rubiaceae); *Piriengo*

Uses: Plant decoction taken 1-2 times daily prevents gastric irritability and acts as an anthelmintic.

Heynea trijuga Roxb. (Meliaceae); *Ankhataruwa, Komalisiuli*

Uses: Leaf decoction is taken orally 2-3 times daily in the treatment of cholera.

Holarrhena antidysenterica (L.) Wall. (Apocyanaceae); *Khuria*

Uses: Plant powder or decoction is taken 2-3 times daily for the treatment of acute and chronic diarrhoea and dysentery.

Homonoia riparia Lour. (Euphorbiaceae); *Khola ruis; Mongthel-kung*

Uses: Root decoction is taken orally 2-3 times daily as laxative.

Juncellus marcopoda Boiss. (Pinaceae); Indian Juniper; *Chandan, Dhupi*

Uses: Raw fruit and fruit powder is taken with water 1-2 times daily as carminative.

Kalanchoe integramedies. (Crassulaceae); *Hatnokane*

Uses: Leaf juice is taken orally twice daily as purgative.

Knema angustifolia. Roxb. (Myristicaceae); *Ramguwa*

Uses: Dried fruit powder mixed with water is taken orally 1-2 times daily to treat dysentery.

Lindera neesiana wall.ex Ness. (Lauraceae); *Timur*

Uses: Raw fruits and dried fruit powder with water is taken daily as aromatic and carminative.

Litsea cubeba Pers. (Lauraceae); *Siltimur; Tanghaercherkerng*

Uses: Raw fruits are taken orally and used as carminative.

Litsea glutinosa Lour. (Lauraceae); *Suppatnyok; Kawala*

Uses: Decoction of bark and leaves is taken orally 2-3 times daily in the treatment of dysentery.

Litsea monopetala (Roxb.) Pers. (Lauraceae); *Ratmanti; Sunyokkung*

Uses: Bark decoction is taken orally 2-3 times daily in the treatment of diarrhoea.

Mangifera sylvatica Roxb. (Anacardiaceae); *Chuchiam; Kathorkung*

Uses: Fruits (1-2 whole ripe fruits daily) are used orally as laxative.

Marsdenia tenacissima Weight & Arn. (Asclepiadaceae); *Bahuni lahara, Sunamari, Kamtiongrik*

Uses: Root juice is taken orally 3 times daily as purgative.

Marsdenia tinctoria R. Br. (Asclepiadaceae); *Kalilara*; *Ryom*

Uses: Leaf juice is taken thrice daily for stomachache.

Melia azedarach L. (Meliaceae); *Bakaina*

Uses: Leaf juice is taken orally 2-3 times daily as anthelmintic.

Melia composita Willd. (Meliaceae); *Silotkung*; *Lapsi*

Uses: Raw fruit or fruit juice is taken thrice daily as anthelmintic.

Michelia champaca L. (Magnoliaceae); *Champak*; *Ouliachamp*

Uses: Flowers are taken orally for stomachache; as carminative and used in the treatment of dyspepsia.

Nardostachys jatamansi DC. (Valerianaceae); *Haswa*, *Naswa Jatumangsi*; *Pampe*, *Jatamansi*

Uses: Infusion of root rhizomes is taken thrice daily to treat stomachache and as laxative.

Oroxylum indicum Vent. (Bignoniaceae); *Tatola*

Uses: Root bark juice is taken orally 2-3 times daily in diarrhoea and dysentery.

Pavetta indica L. (Rubiaceae); *Takali*, *Kangyaphul*; *Sundok*; White Pavetta .

Uses: The juice of bitter root taken 2 times daily has purgative action.

Polygala arillata Buch-Ham. (Polygalaceae); *Marcha*, *Karima*; *Michepnor-kung* *Michepnor-kung*, *Cleem-soon-creem*; Yellow Milkwort, Red-Eye

Uses: Root juice is taken 2-3 times daily as laxative and emetic.

Polygonum molle D. Don. (Polygonaceae); *Tuknu*, *Thotne*, *Patusua*; *Kandyeo-pam*

Uses: Whole plant juice is taken twice daily orally to treat diarrhoea.

Premna obtusifolia R. Br. (Verbenaceae); *Gineri*

Uses: Root decoction is taken twice daily as laxative, stomachache and carminative.

Pterospermum acerifolium Willd. (Sterculiaceae); *Hattipaila*; *Numbong*

Uses: Flower juice is taken orally in empty stomach to treat peptic ulcers.

Randia uliginosa DC. (Rubiaceae); *Maidal*

Uses: Bark decoction is taken 2-3 times daily orally to treat diarrhoea and dysentery.

Rhododendron arboreum Sm. (Ericaceae); *Bhorans*, *Guras*, *Ghonas*, *Taggu*, *Lalguras*, *Dotial*; *Etok*; Rose-Tree, Tree-Rhododendron

Uses: Dried flowers fried with ghee are taken daily to check blood dysentery.

Discussion

Present study includes information on 36 plant species belonging to 27 families, used as remedies for gastro-intestinal disorders like diarrhoea, dysentery, stomach pain, laxative, etc. The most common dosage forms are fresh juice, decoction, infusion and dry powder. Sometimes, drugs are taken by chewing a particular plant part. These indigenous methods of treatment based on medicinal plants are still an important part of social life and culture in Sikkim. The claimed therapeutic values of the reported species are to be critically examined to establish their safety and effectiveness and to preserve these flora, which may otherwise be extinct due to deforestation.

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