

Full Length Research Paper

Medico-ethnobotanical investigations in Parbat district of Western Nepal

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The aim of present research was to record the indigenous knowledge on medicinal plants of Parbat district, Nepal. Field trips were arranged to collect the plants and ethnobotanical information from the study area during 2011 to 2012. The paper dealt with ethnobotanical plants along with their local names, parts and ethnomedicinal uses prescribed by ethnic tribes Gurung, Magar and Majhi of the district. A total of 61 plant species belonging to 59 genera and 43 families had been used by the local tribes for curing various human diseases. The plant specimens were also collected dried, pressed, mounted on herbarium sheets and deposited to the Department of Environmental Science and Engineering, Kathmandu University. The investigation provided immense scope for the active principle analysis and clinical studies of these ethnomedicinal plants for future drug development.

Key words: Ethnobotany, medicinal plants, traditional healers, Gurung, Magar, Majhi.

INTRODUCTION

In Nepal, there are about 8.4 million indigenous nationalities of different groups inhabiting various terrains. These indigenous people possess their own culture, religious rites and rich traditional medicine practices. Those ethnic people residing in different geographical belts of Nepal depends on wild plants to meet their basic requirements and all the ethnic communities have their own pool of secret ethnomedicinal and ethnopharmacological knowledge about the plants available in their surroundings (Bhattarai et al., 2006a; Ghimire and Bastakoti, 2009; Joshi et al., 2011; Kunwar et al., 2009; Manandhar, 2002; Shrestha and Dhillion, 2003; Acharya and Acharya, 2009; Bhattarai et al., 2009; Rokaya et al., 2010; Uprety et al., 2010; Panthi and Chaudhary, 2003) which has been serving rural people with its superiority.

Due to changing life style, extreme secrecy of traditional healers and negligence of youngsters, the practice and dependence of ethnic societies in folk

medicines is in rapid decline globally, therefore, ethnobotanical exploitation and documentation of indigenous knowledge about the usefulness of such a vast pool of genetic resources is deliberately needed (Bussmann and Sharon, 2006; Behera and Mishra, 2005; Rajkumar and Shivanna, 2010; Saikia et al., 2006; Rana et al., 2010). Traditional medicine in Nepal comprises those practices based on beliefs that were in existence often for hundreds to thousands of years before the development and spread of modern medicine, and which are still in use today (Hamilton and Radford, 2007). Long ago, there is a common practice of using plants in traditional medicine in Nepal, because it is not only easily available, but also affordable to the rural people (Manandhar, 1998). According to WHO (2001), 80% of the world population or roughly two thirds of the world's population, rely almost exclusively on traditional medicines using natural substances mostly derived from plants in the treatment of diseases. Approximately 90% of

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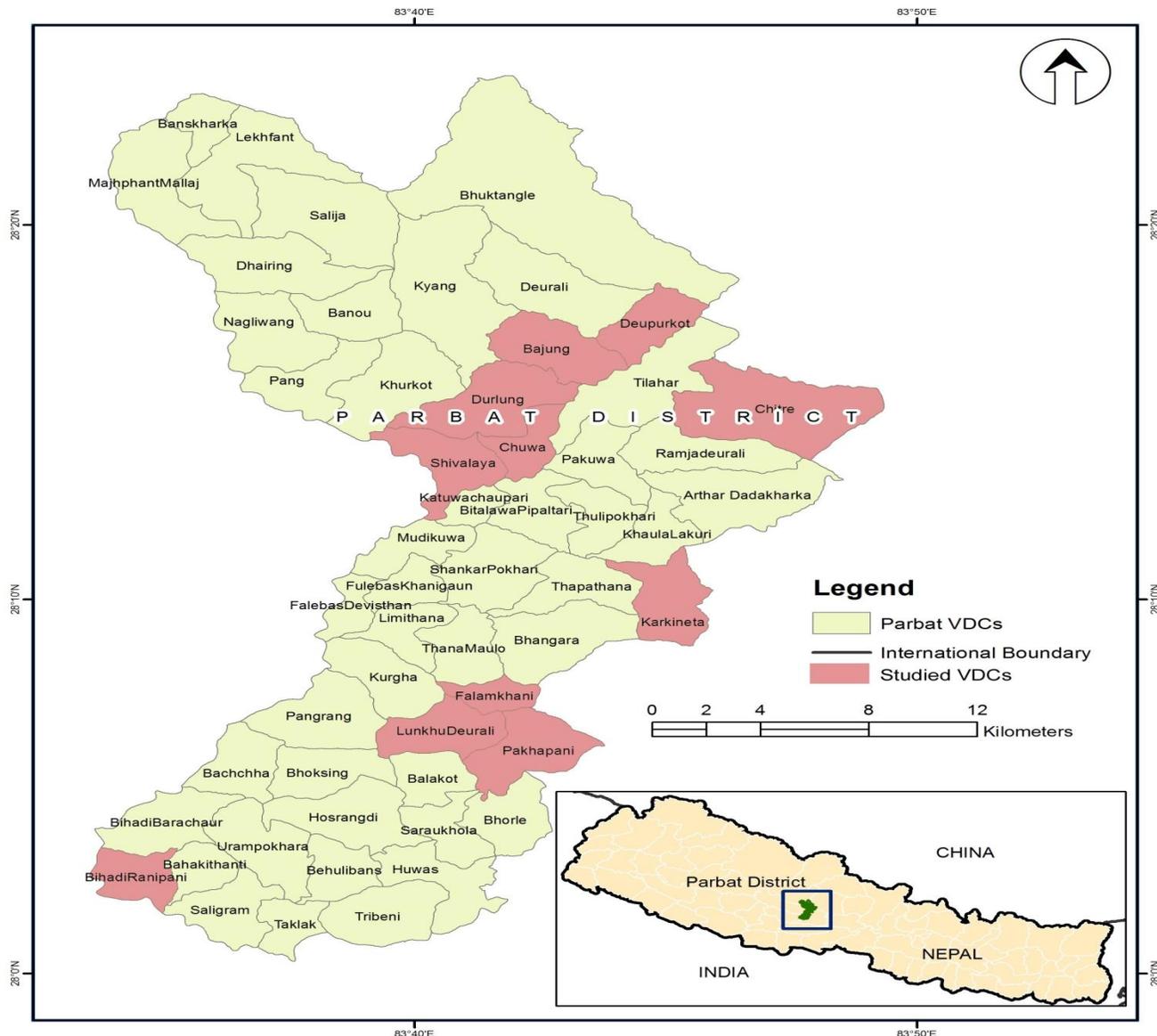


Figure 1. Map showing study area.

the Nepalese people reside in rural areas where access to government health care facilities is lacking (Bhattarai, 1998).

Investigation and documenting traditional knowledge through the ethnobiological approach is important for highly valuable medicinal plant conservation and sustainable resource use (Gemedo-Dalle et al., 2005). Targeted based studies with concentration on mechanism of action, effective dose and bioavailability mechanisms need to be conducted in future to explore medicinal potential of these plants so that the ill ethnic groups get maximum benefits from traditional medicinal system. Such scientific investigations are the baseline information for appropriate use of native medicinal plant

species for drug development to cure various diseases (Cox and Balick, 1996; Flaster, 1996). Numerous studies on ethnomedicinal plants of Nepal have been conducted in the past by the Nepalese and foreign researcher. In the present study, some plant species used by three ethnic groups of Parbat to cure various human diseases are enumerated. As such, the present study was carried out to fill the gap of knowledge in this field of vital importance.

MATERIALS AND METHODS

This study was undertaken during 2011 and 2012 in the different localities of Parbat to survey the information on ethnomedicinal uses of plants growing in this region (Figure 1). Regular monthly

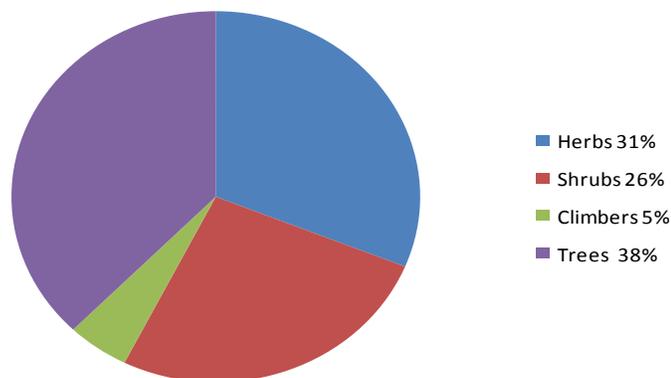


Figure 2. Percentage distribution of plants species according to habit.

visits were made to eleven different Village Developmental Committees (VDCs) of Parbat district for collecting ethnomedicinal information in particular. In this context, herbalist, senior knowledgeable men and women were interviewed for recording the ethnobotanical data. Local names and medicinal uses were documented critically. The herbarium specimens were made accordingly (Jain and Rao, 1997) and identified with the help of Flora of Nepal (Hara, 1966). Voucher specimens were deposited at the Department of Environmental Science and Engineering, Kathmandu University, Dhulikhel, Nepal.

Study area

Parbat, a hilly district situated in the Dhaulagiri zone of Western Nepal. It lies between 27° 58' N to 28° 39' N latitudes and 83° 34' E to 83° 59' E longitudes geographical limits in 536.86 km² area at altitudinal variation from 520 to 3309 m. Headquarter of the district is Kushma. The political boundaries of the district extend in the east to Syanga and Kaski districts; Baglung, Myagdi and Gulmi districts in the west; Myagdi and Kaski districts in the north and Syanja and Gulmi districts in the south (Figure 1). It has sub-tropical, temperate and sub-alpine monsoon type of climate with maximum temperature beyond 35°C during summer (May to June) and below 7.0°C during winter (December to January) and the northern part is moister, due to high rainfall and southern part is dry due to low rainfall. The average annual rainfall is 1950 ml. The major caste of the district is Brahmin (38.48%) followed by Chhetri (16.01%) and other major tribes inhabiting in this area are Gurung, Magar, Newar, Thakali, Kumal, Majhi, Bote, Puri, Snayasi, Tolange, Biswakarma, Pariyar, etc. For the present study only three ethnic groups are investigated, namely, Gurung, Magar and Majhi. In Parbat district, beside agriculture, animal husbandry is the main occupation of the tribal communities due to excess availability of fodders. Goats, cows, bulls, buffaloes and sheep are the main cattle of the local people in the district. Geographically, forest is divided into conifer forest (10.5%), broad leaved forest (69.5%), shrub forest (7%) and mixed forest (13%). It is traversed by two big rivers Kaligandaki and Modi as well as other rivulets, streams and streamlets, such as, Lungdi khola, Panyu khola, Luwa khola, etc.

RESULTS AND DISCUSSION

The first hand information on the ethnomedicinal plants

used by the three ethnic tribes; Gurung, Magar and Majhi were arranged alphabetically by genus and species name (Table 1). A total of 61 plant species belonging to 59 genera in 43 families have been found to be used by the ethnic tribes for curing various human diseases (Plates 1 and 2). Out of the sixty one plant species, 31% were herbs, 26% were shrubs, 38% were trees and 5% were climbers (Figure 2).

Based on the surveyed ethnomedicinal data, a total of 61 plant species belonging to 59 genera under 43 families were used by different ethnic groups, the Gurung, Magar and Majhi of Parbat district. The present exploration provides ample information to believe that traditional medicinal practice of using the native medicinal plant is shown in the area. The traditional knowledge of the tribal people of Parbat district has tremendous ethnobotanical and ethnomedicinal importance. They commonly use plants and their parts such as roots, rhizomes, tubers, leaves, stem, wood, bark, flowers, seeds, and fruits in various purposes in their daily life. Several interesting observations were made during the course of the survey. Some of the plants used by the tribe have already been reported to have medicinal values. Furthermore, the uses of some plants are same as used by certain other ethnic groups of Nepal (Mahato and Chaudhary, 2005; Kunwar et al., 2006; Kunwar et al. 2010; Bhattarai et al., 2010). It is evident from the present study that the tribal communities are dependent on a variety of plants to meet their requirements and beliefs to cure various diseases. The different plant parts are used for medicinal preparation, mode of administration, dosage and other human consumption. In some cases, the whole plant parts are utilized only for medicinal purposes. Study revealed that a total of 47 human diseases are cured using different plant parts by the tribal people in Parbat district. The plant parts are generally used to cure some important diseases, namely, diarrhoea, dysentery, asthma, fever, stomach disorder, cuts and wounds, sore throat, rheumatism, blood pressure, urinary problems, ear diseases, headache, cough and cold, hypertension, venereal disease, scorpion bites, paralysis, blood pressure, diabetes, eczema, bone fracture, constipation and piles. The elder ethnic people are more familiar with the plant species and their use for common ailments, and the plant remedies being used regularly. Majorities of young generation do not know many plants and their medicinal values. Only a few younger ones followed the medicinal practices and traditional knowledge by the elders and healers as in the other areas of Nepal (Joshi and Edington, 1990; Shrestha and Dhillon, 2003; Malla and Chhetri, 2012). Scientific cultivation, conservation and sustainable use of plant species by ethnic communities would be highly advantageous for socioeconomic growth, in conservation of rare and endangered plant species and the indigenous knowledge for the future generations. Reported medicinal plants are

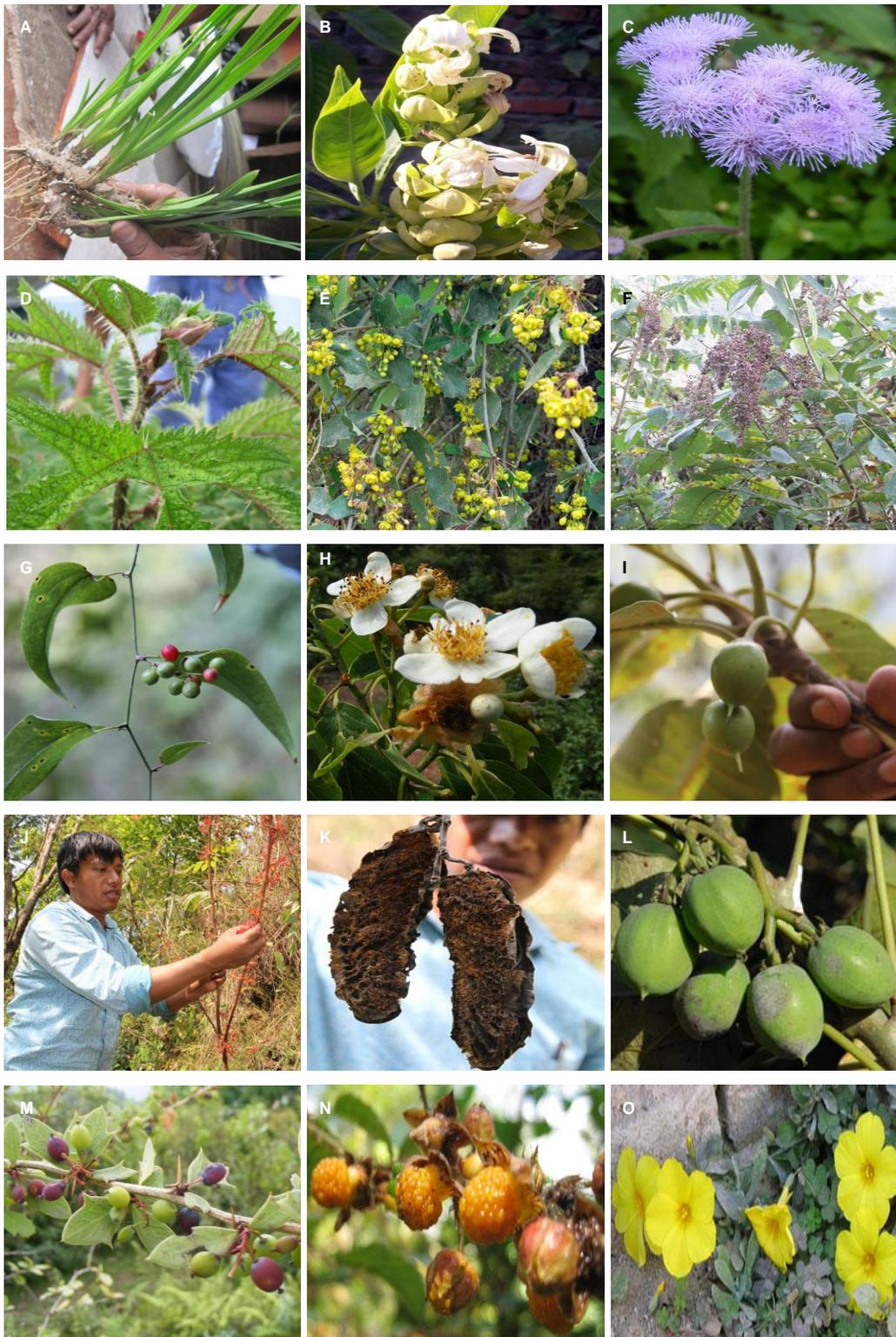


Plate 1. Plants recorded from different areas in Parbat district. (A) *Acorus calamus* L., (B) *Justicia adhatoda* L., (C) *Ageratum conyzoides* L., (D) *Girardinia diversifolia* (Link.) Friis, (E) *Berberis aristata* DC., (F) *Rhus javanica* L., (G) *Smilax ovalifolia* Roxb. Ex. D. Don., (H) *Schima wallichii* (DC.) Korth., (I) *Diploknema butyracea* (Roxb.) Lam, (J) *Woodfordia fruticosa* (L.) Kurz., (K) *Mucuna monosperma* (Roxb.) DC, (L) *Jatropha curcas* L., (M) *Berberis asiatica* Roxb. ex DC, (N) *Rubus ellipticus* Sm., (O) *Reinwardtia indica* Dum.



Plate 2. Plants recorded from different areas in Parbat district. (A) Gurung healer collecting *Swertia chirayita* (Roxb. ex Flem.) Karst., (B) *Osbeckia stellata* Buch.-Ham., (C) *Bauhinia variegata* L., (D) *Rubia manjith* Roxb. ex Flem., (E) *Zanthoxylum armatum* DC, (F) *Phyllanthus emblica* L., (G) *Englehardtia spicata* Lesch. ex Blume, (H) *Choerospondias axillaris* (Roxb.) Burt & Hill, (I) A woman with *Achyranthes bidentata* Blume., (J) *Juglans regia* L., (K) *Cuscuta reflexa* Roxb., (L) *Cleistocalyx operculatus* Roxb. Murr. & Perry., (M) Grinding bark of *Cleistocalyx operculatus* Roxb. Murr. & Perry, (N) *Cinnamomum tamala* (Buch.-Ham.) Nees & Eberm., (O) *Bombax ceiba* L.

strongly recommended for further nutritional, phytochemical and pharmacological studies.

Conclusion

This study showed that the study area has ethnomedicinal

plants used to treat wide variety of human ailments. According to the tribal communities and their traditional practices, majority of the ethnomedicinal plants are selected for the treatment of human ailments. The tribal people used medicinal plants in the treatment of some very common diseases such as indigestion, diarrhoea and dysentery, muscular swelling, fever, scabies, ear

Table 1. Information on ethnomedicinal plants used by ethnic tribes of Parbat district Nepal.

S/N	Botanical name/Voucher number	Family	Local name	Locality	Plant parts used and mode of application
1	<i>Achyranthes bidentata</i> Blume. Malla-0368	Amaranthaceae	Datiwan (N)	Lunkhu Deurali	Root juice is recommended for hypertension and rheumatism. Paste of root is used for toothache.
2	<i>Acmella calva</i> (Candolle) R.K Jansen Malla-0386	Asteraceae	Marethi (N)	Bajung	The fruit juice is given for stomach disorder. It is also used in fish poisoning.
3	<i>Acorus calamus</i> L. Malla-0392	Araceae	Bojho (N, G, M)	Lamtun	Rhizomes are chewed to get relief from sore throat and voice disorder. Decoction of rhizomes is taken to treat cold, fever, diarrhoea. Powder of rhizome is put in a cup of tea for flavor.
4	<i>Ageratum conyzoides</i> L. Malla-0353	Asteraceae	Ganaune jhar (N)	Bhorle	Whole plant juice is applied to blood clotting in fresh cuts and wounds.
5	<i>Aloe vera</i> (L.) Burm. f. Malla-0358	Liliaceae	Ghyukumari (N, M), Chhigu (G)	Sarthan	The gel of leaves is used to relief from burning sensation. Juice is used to treat pain, fever, constipation and jaundice.
6	<i>Amaranthus spinosus</i> L. Malla-0380	Amaranthaceae	Lundekanda (N), Chikli, Lode (G), Lunde (M), Gandri (Maj)	Lunkhu Deurali	Root juice is administrated for fever and urinary trouble. A paste of the root is applied to treat gonorrhoea. Fresh leaves and tender shoots are consumed as a vegetable.
7	<i>Amomum subulatum</i> Roxb. Malla-0403	Zingiberaceae	Alainchi (N)	Simle	Seeds are chewed raw for indigestion and to stop vomiting. Paste of the seed is used as favour.
8	<i>Artemisia indica</i> Willd. Malla-0435	Asteraceae	Titepati (N), Chyonre, Pacha (G), Pati (M)	Phalamkhani	Leaves and young shoots are applied to cure bleeding of wounds and nose, asthma, fever, headache and diarrhoea.
9	<i>Artocarpus lakoocha</i> Wall. ex Roxb. Malla-0388	Moraceae	Badahar (N)	Sarthan	Bark juice is applied to cuts and wounds. Ripen fruits are eaten fresh and immature ones are cooked as a curry.

Table 1. Contd.

10	<i>Azadirachta indica</i> A. Juss. Malla-0431	Meliaceae	Neem (N,G, M)	Kusma	Barks and leaves are crushed in powder and made juice in boil water for the treatment of fever, intestinal worms, ulcers, liver and urinary complaints, cough, headache and body pain. Flowers are useful for piles and leprosy. Fruits juice is used for urinary disorder and skin diseases.
11	<i>Bauhinia variegata</i> L. Malla-0396	Caesalpiniaceae	Koiralo (N, Maj), Byahagan, Kurugan (M)	Kokhe	Bark juice is drunk for tonic and blood purifier. Bark paste is applied to cuts and wounds. Fresh flowers are cooked as vegetable and made pickle.
12	<i>Berberis aristata</i> DC. Malla-0410	Berberidaceae	Banchutro (N), Chutro (G)	Chitre	Root juice is used in fever and dysentery. Bark paste is used for piles, sore throat and skin disease. The ripen fruits are eaten. Barks are also the sources of yellow dye.
13	<i>B. asiatica</i> Roxb. ex DC. Malla-0426	Berberidaceae	Chutro (N, M), Chotr (G)	Phalamkhani	Bark juice is used for dysentery and piles. Fresh and ripe fruits are eaten and also used to distill alcohol.
14	<i>Bombax ceiba</i> L. Malla-0487	Bombacaceae	Simal (N, M, Maj), Chongonchi (G)	Simle	Bark juice is useful for diarrhoea, dysentery and tuberculosis. Root juice is used in wounds. Flowers are good for skin problems. Fruits are also useful in treating gonorrhoea and eaten.
15	<i>Cannabis sativa</i> L. Malla-0494	Cannabaceae	Ganja, Ganja (N,G) Bhango (M)	Simle	Dried powder of leaves or flowers is drunk with milk to cure cough, asthma, diarrhoea and dysentery. Seeds are roasted and pickled. Dried leaves are mixed with tobacco and used for smoking. It is also offered to god Shiva in rituals.
16	<i>Centella asiatica</i> (L.) Urb. Malla-0412	Apiaceae	Ghodtapre (N, M), Jasundo, Topre jhar (G)	Lunkhu Deurali	Leaves are useful for remedy of skin diseases. Whole plant parts are ground and juice about four teaspoons six times a day is used to treat fever and indigestion.
17	<i>Cheilanthes dalhousiae</i> Hook Malla-0434	Pteridaceae	Ranisinka (N, M)	Patichaur	Whole plant juice is used to cure ulcer, stomach ache. Stem is used to thread children's ear.

Table 1. Contd.

18	<i>Choerospondias axillaris</i> (Roxb.) Burt & Hill Malla-0416	Anacardiaceae	Lapsee, Labasi (N), Khaiya, Kalan (G)	Durlung	Fruits are eaten fresh or pickled. Farmers normally process the fruits for their household needs as pickles and chutney, etc. by crushing and boiling the fruits, whereas entrepreneurs purchase the fruits from growers and produce varieties of edible pulp cake indigenously called Titaura items for selling in the market of Nepal.
19	<i>Cinnamomum tamala</i> (Buch.- Ham.) Nees & Eberm. Malla- 0377	Lauraceae	Tejpat (N), Lepe (G)	Sarthan	Bark juice is useful for diarrhoea and nausea. Leaves are used as stimulant in tea and making foods and meat. It is also used as spices.
20	<i>Cleistocalyx operculatus</i> Roxb. Murr. & Perry Malla- 0391	Myrtaceae	Kyamuno (N), Kemna (G), Kyamuna (M)	Sarthan	Bark is crushed and made juice to cure muscular swellings caused by external injury of cattle's. Barks and young leaves are used to make alcoholic beverage. Leaf juice is used to treat throat problems. Fresh ripe fruits are eaten. Powder of leaves is smoked in case of cold.
21	<i>Crataeva unilocularis</i> Buch.- Ham. Malla-0398	Capparidaceae	Sipleegaan (N)	Simle	Leaves paste is used to cure rheumatism. Bark juice is taken to cure kidney problems. Juice of the young leave is taken to cure headache. Young twigs are taken as a vegetable.
22	<i>Cuscuta reflexa</i> Roxb. Malla-0405	Convolvulaceae	Akasebeli (N), Dyo dyoali (G)	Phalamkhani	Plant juice doses of about four teaspoons twice a day is used to treat jaundice and fever.
23	<i>Cynodon dactylon</i> L. Pers. Malla-0375	Poaceae	Dubo (N, M), Nodubo (G)	Kokhe	Plant juice of about eight teaspoon is used to cure indigestion. Paste of the plant is used for the treatment of bleeding from nose and wounds. Leaves are used in many rituals.
24	<i>Dendrophthoe falcata</i> (L.) f. Etting. Malla-0414	Loranthaceae	Aijeru (N)	Bajung	Bark juice is used for treating asthma, tuberculosis, menstrual disorders and swelling. Paste of the fruits is applied to set dislocated bones.
25	<i>Diploknema butyracea</i> (Roxb.) Lam Malla-0363	Sapotaceae	Chyauree, Chyuri (N, M),	Sarthan	Ripen fruits are taken as sources of vitamin. Bark juice about four teaspoon is given to cure indigestion. Fruits are used to make alcoholic beverage. Flowers are very useful for bees to make honey and leaves are looped for fodder.

Table 1. Contd.

26	<i>Englehardtia spicata</i> Lesch. Ex Blume Malla-0365	Juglandaceae	Mahuwa (N)	Bhorle	Bark juice is given to cure sore throat and bronchitis. Yong leaves are mixed with sand and ground and added to water body for fish poisoning.
27	<i>Eupatorium odoratum</i> L. Malla-0361	Asteraceae	Banmara (N), Besi banmara (M), Thulo banmara (Maj)	Chitre	Decoction of the plant is used for removing lice and fish poisoning.
28	<i>Euphorbia royleana</i> Boiss. Malla-0356	Euphorbiaceae	Siundee (N), Syuri (G), Dha (M), Kanpate (Maj)	Chuwa	Leaf latex is used to cure fever, mumps and cuts. Latex is warmed over a fire and applied to wounds between the toes especially during rainy season while walking on muddy water. It is also used for fish poisoning.
29	<i>Ficus lacor</i> (Buch.)-Ham. Malla-0354	Moraceae	Kabhro (N), Kapara (M)	Sarthan	Bark juice is used to treat ulcers. Seeds are useful in scabies. Flowers are pickled. Bark gives fiber that is used for rope. Plant is looped as fodder.
30	<i>Fraxinus floribunda</i> Wall. Malla-0376	Oleaceae	Lankuri (N), Raunle (G)	Simle	Stem juice and resin are used to treat stomach disorder in sheep and goats. Wood is used to make agricultural equipments and tools ('Juwa' in Nepali). Bark paste is used for the treatment of broken legs and arms.
31	<i>Girardinia diversifolia</i> (Link.) Friis Malla-0433	Urticaceae	Chalne sisno (N)	Chitre	Juice of the roots can be used for treating gastritis, constipation and diabetes, while juice of the leaves is used for head ache, fever, joint aches and tuberculosis. However, more treatment except boiling.
32	<i>Jatropha curcas</i> L. Malla-0401	Euphorbiaceae	Sajiwan (N), Rajani giri, Sajin (G), Ratyun, Aren (Maj)	Ranipani	The plant juice is used in syphilis and pneumonia. Roots are ground and applied in rheumatism and dysentery. Young stem is used to wash teeth.
33	<i>Juglans regia</i> L. Malla-0420	Juglandaceae	Okhar (N), Akhor, Katu (G), Okhar (M)	Lunkhu Deurali	Leaf juice is used as tonic. Bark and fruits are used for detergent.
34	<i>Justicia adhatoda</i> L. Malla-0357	Acanthaceae	Asuro (N), Aasuri (G)	Sarthan	Leaves are boiled in water, filtered and used to cure cough, bronchitis and asthma. It is administered to cure fever, about two teaspoons three times a day. Leaves are used as green compost on the paddy field.

Table 1. Contd.

35	<i>Lindera neesiana</i> (Wall. ex Nees) Kurz. Malla-0418	Lauraceae	Siltimur (N, M), Gutum (G)	Karkineta	The fruits are chewed to cure diarrhoea and toothache. Leaves are used to cure skin diseases. Fruit juice is used to treat stomach disorder of livestock if they eat poisonous plants.
36	<i>Macrotyloma uniflorum</i> Lam. Verdc. Malla-0411	Papilionaceae	Gahat (N)	Ranipani	Seeds are cooked and eaten. Seeds soup is used to treat menstrual disorders. Soup is also useful for body pain and used for curing the stone of kidney.
37	<i>Mahonia napaulensis</i> DC Malla-0421	Berberidaceae	Jamanemandro (N), Komo (G)	Chitre	The bark juice is taken to cure dysentery, diarrhoea. Ripe fresh fruits are eaten and pickled. Flowers are used as ornamental purpose.
38	<i>Mucuna monosperma</i> (Roxb.) DC Malla-0351	Leguminosae	Baldhangro (N), Kaucho (M)	Bhorle	Bark juice is used for fever and bristle-poisonous. Seeds are used for detergent.
39	<i>Nephrolepsis cordifolia</i> (L) C. Presl. Malla-0417	Neprolepidaceae	Pani amala (N)	Phalamkhani	A decoction of the plant is used for cooling cough. Tubers are eaten fresh for shore throat.
40	<i>Nicotiana tabacum</i> L. Malla-0419	Solanaceae	Surtee (N), Tamahun (G), Bhusa (M)	Durlung	Leaf past is used to treat rheumatic swellings, skin diseases and scorpion sting. Juice of leaves is used to cure cuts, wounds and removal of cattle lice.
41	<i>Ocimum sanctum</i> L. Malla-0381	Lamiaceae	Tulsipat (N)	Ranipani	The juice of leaves is used to cure fever, stomachic, bronchitis and earache. Leaves are directly eaten for gastric disorder. It has also used for spiritual purpose.
42	<i>Osbeckia stellata</i> Buch.-Ham. Malla-0413	Melastomataceae	Angaru (M), Paglya jhar (G)	Deupur	Juice of the root about 3 teaspoons twice a day is given to treat diarrhoea and dysentery. A decoction of the plant is also given to domestic animals when they eat poisonous plants. Juice of the leaves is applied to treat scabies. Ripe fruits are eaten fresh.

Table 1. Contd.

43	<i>Oxalis corniculata</i> L. Malla-0390	Oxalidaceae	Chariamilo (N), Chino (G), Chari amilo (M), Chariumal (Maj)	Ranipani	Leaves are crushed to make juice to cure stomachic and fever. Whole plant is used for preparing 'chutney'.
44	<i>Phyllanthus emblica</i> L. Malla-0385	Euphorbiaceae	Amala (N, Maj), Kyun, Titi (G), Aaunlesa (M)	Ranipani	Roasted fruits are eaten to cure diarrhoea, dysentery, sore throat and prepared pickle. Bark juice is used for bronchitis.
45	<i>Prunus cerasoides</i> D. Don Malla-0404	Rosaceae	Paiyau (N), Chyarbu (G), Pange (M)	Deupur	Bark juice is used to cure swelling. Ripe fresh fruits are eaten. The plant is looped as fodder for livestock
46	<i>Reinwardtia indica</i> Dum. Malla-0366	Linaceae	Pyaulee (N), Gyumi (G), Gebatisar (M)	Lamtun	Past of root is applied to headache. The juice of the root is given to treat fever, scabies, wounds and indigestion.
57	<i>Rhododendron arboretum</i> Sm. Malla-0432	Ericaceae	Laleegurans (N), Porota, Pota (G), Lalisar (M)	Chitre	Juice of bark is used for treatment of cough, dysentery and diarrhoea. The petals are eaten raw to get relief from menstrual disorders and are chewed in case of a fish bone is stuck in the neck. Petals are used to prepare alcoholic beverage.
48	<i>Rhus javanica</i> L. Malla-0362	Anacardiaceae	Vakiamilo (N), Ghursing (G), Muruk (Mag.)	Bhorle	Fruits are ground to make juice and used to treat diarrhoea, blood dysentery and paralysis. A past of the fruits is applied to treat swelling and wounds. Fruits are chewed in case of stomachache and as appetizer.
49	<i>Rubia manjith</i> Roxb. ex Flem. Malla-0402	Rubiaceae	Majitho (N), Tiro lahara (M)	Deupur	Juice of the leaves about 4 teaspoons three times a day is given to treat urinary problem and diabetes. A paste of the stem is applied to scorpion bites. The root is used for reddish dye.
50	<i>Rubus ellipticus</i> Sm. Malla-0374	Rosaceae	Ainselu (N), Melanchi, Palan (G), Dhewasi (M), Jyaunsi (Maj)	Chitre	Leaves are ground and taken for relief gastric disorder. The fresh ripe fruits are eaten and sold in the market.
51	<i>Sapindus mukorossi</i> Gaertn. Malla-0370	Sapindaceae	Reetha (N), Jharlyang (M)	Ranipani	Seeds are ground and used as detergent to washing cloths and hair. The lather of the fruits is used to treat burns.

Table 1. Contd.

52	<i>Sapium insigne</i> (Royal) Benth. Ex Hook. Malla-0352	Euphorbiaceae	Khirro (N), Mibalang (M), Khirra (Maj)	Lamtun	Milky latex of the plant is used around navel of child to cure diarrhoea. It is also used to remove worms and germs of the wounds. Leaves juice is used for fish poison.
53	<i>Schima wallichii</i> (DC.) Korth. Malla-0364	Theaceae	Chilaune (N), Kyosin (G), Hyansing (M)	Simle	The powder of bark is used to cure cuts and liver flukes in animals. Young leaves and bark are paste is used for fishing by local people. Wood is used as timber for construction.
54	<i>Smilax ovalifolia</i> Roxb.ex.D.Don Malla-0395	Liliaceae	Kukurdaino (N)	Phalamkhani	Root juice is used to cure venereal disease, rheumatism and wounds.
55	<i>Swertia chirayita</i> (Roxb. ex Flem.) Karst. Malla-0408	Gentianaceae	Chiraito (N), Tento (G), Rauka (M)	Chitre	The leaves juice is excellent drug for fever, skin diseases, intestinal worms, asthma and diarrhoea. The paste of the plants is applied to cure eczema.
56	<i>Syzygium cuminii</i> (L.) Skeels. Malla-0372	Myrtaceae	Jamun (N), Jamuna (G, M), Phandil (Maj)	Bhorle	Bark is crushed and used to cure sore throat, asthma, dysentery and diarrhoea. The ripen frits are eaten. Timber is used for home applicants.
57	<i>Terminalia bellirica</i> (Gaertn.) Roxb. Malla-0359	Combretaceae	Barro (N, G)	Phalamkhani	Roasted seeds are chewed for treating sore throat, stomach disorders, indigestion, and piles. Leaves are lopped for palatable fodder.
58	<i>T. chebula</i> Retz. Malla-0383	Combretaceae	Harro (N)	Lunkhu Deurali	Dried bark is chewed to treat inflammation of tonsils. Roasted fruits are used for the remedy of piles and cold. Leaves are looped for fodder.
59	<i>Urtica dioica</i> L. Malla-0378	Urticaceae	Sisnu (N), Polo, Pulu (G), Dhyo, Hyo (M)	Simle	Root juice is administered for asthma, blood pressure and sugar. The Magars of Parbat district add sparrow and rat droppings to paste of the root to treat cuts and wounds. Tender leaves and inflorescences are cooked as vegetables and taken to lower hypertension.
60	<i>Woodfordia fruticosa</i> (L.) Kurz. Malla-0399	Lythraceae	Dhairo (N), Dhanyar (G), Dhainra (M), Dhauli (Maj)	Bhorle	Dried powder of flowers is used to cure dysentery and diarrhoea. The dried flowers are mixed with 'Marcha' yeast to make alcoholic beverage (Gurung, Magar). Leaves are lopped as palatable fodder to goats.

Table 1. Contd.

61	<i>Zanthoxylum armatum</i> DC. Malla-0422	Rutaceae	Timur (N, M, Maj), Prumo (G)	Phalamkhani	The bark is ground and taken for relief fever, cholera and stomach disorder. Fruits are chewed in toothache and stomachic. Fruits are widely used for making pickles. Fruits and thorns are used for fish poisoning (Majhi).
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Nepali (N), Gurung (G), Magar (M), and Majhi (Maj).

ache, cuts and wounds, peptic ulcer and backache. Thus, it is necessary to acquire and preserves this traditional system of medicine by proper documentation and identification of plant species. This traditional knowledge on the indigenous uses of the medicinal plants could boost new innovations in the pharmaceutical industries and have many beneficial applications such as new medicinal trails for some pernicious diseases like cancer and AIDS.

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