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Shila Singh
Assistant Professor,
Botany Department, Amrit
Campus, Kathmandu, Nepal

Ethno botanical study of some wild herb species Parsa District Forest of Nepal

Shila Singh

Abstract

Medicinal plants play great role in the healthcare practices among the tribal's and rural people. Tribal's have wonderful knowledge about the effective treatment of many diseases only by the using plant parts. This knowledge acquired by the tribal's usually passed from generation to generation in verbal form only. Now a day, younger generation of the tribal's are not interested in this field due to global urbanization. However, detail information about the use of the plants for medicinal and other purposes by the tribal's of the Parsa district forest of Nepal has not been well documented.

The aim of this study was to assess ethno botanical information of some wild herb species used in the Parsa district forest area of Nepal including four adjacent villages, Gadi, Madhuban mathwal, Sonbarsa and Shanker Sharaiya. Information about the use of these plants provides clues to the new area of research and biodiversity conservation.

The information presented in this paper was gathered by frequent field visit in the forest and adjoining villages, participatory observations, group discussion, interviews with tribal's and local knowledgeable people in the year 2013 from March to November. A total of 52 ethno-medicinal wild herb species belonging to 24 families and 44 genera are documented in this study.

Largest number of plants have been found in the family poaceae, families, asteraceae and zingiberaceae are second largest families where as family solanaceae is the third largest family. Out of the total studied plants 66% plants are used only for medicinal purposes, 9.4% plants are used as medicinal and food, four different categories 3.8% plants are used as medicinal and flavoring, medicinal and or rituals, medicinal and religious, medicinal and thatching purposes and five different categories of 1.9% plants are used as medicinal and narcotic, medicinal and fodder, medicinal and tea, medicinal and dye and medicinal and rope or mat. A large number of, many single plant is used to treat more than ten diseases.

The plants used for different purposes are listed with scientific name, common name, local name, family, ethno-botanical importance and parts used. Mode of use of plant parts for various purposes has also been mentioned.

It can be concluded from this study that tribal's of the Parsa District forest inherit a rich traditional knowledge and documentation of this knowledge has provided novel information of that area. It will open the door for new pharmacological research.

Keywords: Ethno botany, Tribal's, Medicinal plants

Introduction

Nepal is rich in biodiversity and indigenous knowledge. Ethnobotany is the scientific relationships that exist between people and plants. It is an integral part of the tribal people of the country. But, its importance is least known among the people because, many people are not aware of herbal medicines. Globally, about 85% of the traditional medicines used for primary health are derived from plants. Traditional medicines and ethnobotanical information play vital role in scientific research, especially when the literature and field work has been properly evaluated. Herbal medicines have good values for treating many diseases like skin diseases, liver and spleen problems, respiratory problems, kidney ailments, diabetes, cough & cold, toothache etc. They play great role to save lives of many people, particularly in the developing countries.

Rural communities in particular Parsa District tribal's depend on the plant resources mainly for herbal medicines, food, making household and agricultural implements, fodder, fuel, construction of house, fiber, dye, herbal tea, essence etc.

The **objective** this study was to assess ethnobotanical information of herb species used in Parsa District Forest area of Nepal and traditional medical practices of the people of that area and also to document these information for the future generations because these information are passed orally only to the next generation. Documentation of the indigenous knowledge through ethnobotanical studies play great role in conservation of biological resources as well as their sustainable utilization.

Correspondence:
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Assistant Professor,
Botany Department, Amrit
Campus, Kathmandu, Nepal

Description of the Study Area

In the map of Nepal Parsa District lies 84° 8' to 85°27' in the eastern longitude and 27°26' in the northern latitude. This district lies in Narayani zone and is surrounded in the east by Bara district, west by Chitwan district and Bihar state of India, north by Makawanpur and Chitwan districts and south by border area Bihar state of India, This district lies at an altitude of 122 to 125 meters from the sea level

Geographically, Parsa District is divided into three regions; Shiwalik, Bhavar and Terai. Most of the forests of this district lie in Bhavar region and this region is also known as "Chaar Kose Jhari". The climate of the district is tropical and the sub tropical. Annual average maximum temperature of this region is 40^{0c} and minimum is 7^{0c}.

Methodology

In order to document the utilization of the plants a total of four field surveys were carried out from March 2013 to November 2013 in the forest and adjoining four villages, Madhuban mathwal, Gadi, Shankar sharaiya and Sonbarsa. During field stay plants were enumerated and several times interaction was done with the traditional healers, local knowledgeable old persons, and other informants like forest officers and few local old people. The plants were collected for identification. Structured questionnaires, interviews and participatory observations were used to elucidate information's of the resource persons. Questionnaires include use of the plants for different purposes; including medicinal uses, parts of the plants used, detailed information about mode of preparation such as decoction, powder, paste, juice and mixture with other plants used as ingredients.

Enumeration

The botanical names are arranged alphabetically followed by family along with common name and local name. Use of the plants is based upon information given by resource persons, literature study and self experience.

Achyranthes aspera. (Amaranthaceae)

Common name: Prickly chaff flower, **Local name:** Chirchiri, Apamarg

Medicinal Value

The paste of inflorescence is used for abortion. Root decoction obtained after boiling it in water is used to terminate pregnancy. Thin paste of root is used on lower abdomen for the induction of Labour pain. The paste of root is also used to expelled placenta and dead fetus. The leaf extract along with a pinch of black salt and curd is used in case of prolonged menstruation. The decoction of fresh leaf along with the decoction of leaves of *Boerhaavia diffusa* is given after menstruation for 3 months to check excess bleeding. Leaf extract along with curd is given in case of leucorrhoea for 21 days, before sunrise. A mixture of fresh leaf extract with 2g powder of shade dried *Withania* root is given orally twice a day from the beginning of third month of pregnancy in habitual abortion.

Other uses

Tender part of the stem is used as datiwani by Hindus women in Rishipanchami festival.

Acorus calamus (Araceae)

Common name: Calamus, **Local name:** Bojho

Medicinal value

The rhizome in small amount is used to cure remittent fevers. It is boiled in water and given to cure cough and cold. Its smell is disliked by cobra and therefore, the tribals cultivate it adjacent to their house. Its powder is taken along with warm milk to treat sore throat. The rhizome is roasted and a small portion rubbed down with human milk is used as a paste over the umbilicus to cure the colic pain. The paste of the rhizome is made into paste and is applied on the abdomen of the women at advance stage to expel fetus.

Adhatoda vesica (Acanthaceae)

Common name: Adhatoda, **Local name:** Vakas, Aroosa

Medicinal value

Decoction of leaves, roots and the flowers are extensively used in case of cold, cough, bronchitis and asthma. Decoction of leaves, root bark, stems bark and flower are given to person to kill the intestinal parasites. They are also used in case of tuberculosis. The midwives use its paste at the time of delivery. Bleeding gum is cured by the application of leaf juice. Fresh juice of young leaves applied on the forehead thrice daily to cure half headache.

Aloe vera (Liliaceae)

Common name: Indian aloe, **Local name:** Ghiukumari/Ghrit kumara

Medicinal value

Fresh juice of the leaf is used to cure fevers, spleen diseases liver diseases and in certain eye diseases. It is also used to cure the chronic discharge of nose and ears. When rubbed on scalp it promotes growth of the hair. It is used to cure several skin diseases such as eczema, dry skin diseases. It improves digestion and absorption. Some people also use it to treat the cattle. Some people use the raw pulp with cold water for their health improvement.

Amaranthes spinosus (Amaranthaceae)

Common name: Spiny pigweed, **Local name:** Cande lude, Chauli

Medicinal value

The leaves of the plants are used in the treatment of internal bleeding, diarrhea, and excessive bleeding during menstruation. The roots and leaves are boiled and given to children in abdominal problems. Root is also used to cure gonorrhoea.

Other uses

Young plant with green leaves, before flowering is boiled and with salt used as vegetable. It is also used as fodder.

Amorphophallus campanulatus (Araceae)

Common name: Stanley's wash tube, **Local name:** Ole

Medicinal value

The corm if used in the form of paste relieves the rheumatic pain and swellings. It also acts as an expectorant. It is also used to cure piles. For this the corm is covered with soil and roasted in fire. This is given to the person with salt.

Other uses

Corm is used as vegetable. It is also used to prepare pickles. Small buds coming out from the main corm is used for propagation.

***Andrographis peniculata* (Acanthaceae)**

Common name: Andrographis, **Local name:** Kalmegh

Medicinal value

The juice extracted from the leaves is mixed with the powder of Cardamoms, cloves and cinnamon is dried in the sun. Small pallets are prepared from it. This is given to small children to cure irregular stools, loss of appetite. The decoction of roots and leaves is used in case of stomachic, and also used as anthelmintic. It is also used as tonic.

***Andropogon citratus* (Poaceae)**

Common name: Lemon grass, **Local name:** Pirhe ghas

Medicinal value

The decoction of roots along with tender leaves and black pepper is given to regulate disordered menstruation and other problems among the female. It is tonic to the intestinal mucus membrane.

***Andropogon muricatus* (Poaceae)**

Common name: Vetivera, **Local name:** Khas or Khas-Khas

Medicinal value

The paste of roots is used externally as a cooling against in case of high fever. Root powder is also given in case of thirst, inflammation, irritability of stomach etc. A paste of the root is rubbed on the skin to remove excessive heat or burning of the body.

Other uses

Young leaves are used as fodder. During winter dry grass is used as bed for the cattle. The grass is cut and dried. It is used for thatching purposes. The roots are uprooted cleaned and dried. It is used for cooling tattles.

***Blumea lacera* (Asteraceae)**

Common name: Blumea, **Local name:** Kurkure

Medicinal value

Juice extracted from the leaves is used in infection by threadworm. Mixed with black pepper it is given in cholera and bleeding piles. It's leaves are used to drive away insects. A mixture of leaf juice of this plant and *Scoparia dulcis* is applied on cuts and wounds to treat them.

Uses

The leaves are cooked and eaten as vegetable.

***Boerhaavia diffusa* (Nyctaginaceae)**

Common name: Hog weed, **Local name:** Punarnava

Medicinal value

It is used by the different tribal's for the treatment of jaundice, blood impurities, leucorrhoea, anemia, inflammation, heart diseases. The leaves are cooked and used to cure tumor, spleen enlargement and abdominal pains. The leaves are also used in joint pain. The extract of the seeds are used in scabies. It is also used as blood purifier

Other uses

Tender parts are used as vegetable. It is also used as fodder.

***Canabis sativa* (Canabaceae)**

Common name: True Hemp **Local name:** Bhang

Medicinal Value

The tribal's use it as a tonic, intoxicant, stomachic, antispasmodic, narcotic. Seeds and leaves are used to treat old cancer and tumors. The extract of the leaf are also used to cure different kinds of tumors. It is also used to cure mammary tumors.

***Centella asiatica*. (Umbelliferae)**

Common name: Indian pennywort, **Local name:** Brahmi

Medicinal value

It is an effective remedy for treating leprosy, lupus, eczema, psoriasis, burn sand ulcer. It is also effective against depression, emotional sickness, ulcer, syphilis, hepatitis, mental fatigue, epilepsy, diarrhea, insomnia, asthma, loss of appetite, low blood pressure.

It is highly respected for its ability of increasing mental function, enhancing longevity, treating wounds, nervous disorder, and brain cells damage.

***Centipeda minima* (Asteraceae)**

Common name: Sneez wort, **Local name:** Aachchhu jhar

Medicinal value

Leaves are used to cure skin diseases such as itching, dry skin from psoriasis. When the aroma of the squeezed flower heads is inhaled it induces sneezing and so is used to relieve nasal congestion, especially during coughs and colds.

Use: Fodder for goats & sheep.

Dried plants are used as fuel wood by the poor during summer.

***Chenopodium album* Linn. (Chenopodiaceae)**

Common name: Goose foot, **Local name:** Bathua

Medicinal use

Whole shoot is cooked and used in case of spleen diseases bile and pectoral disorders. Leaves contains all vitamins such as B1,B2,B3,B5,B6,B9 and vitamin C. It has different trace elements. It improves appetite and used as anthelmintic agent. It is also used in abdominal pain and diseases. It is also used in case of cough and pulmonary obstruction. The tribal's used the decoction of leaves to expel dead fetus.

Other uses

Green leaves and upper part of the plants are used as vegetable called "Sag". Uprooted plants are also used as fodder for the cattle.

***Chlerodendrom indicum* (Verbinaceae)**

Common name: Tube flower, **Local name:** Chinde

Medicinal value

The bark of the root is used in healing the wounds. It improves circulation of blood in the body
It is also used to improve digestive activity. It is used in case of cough and cold to relive the cough from the body.

Other Uses

Green plants are harvested and the stem is used as tooth brush by the natives.

***Chlorophytum arundinaceum* (Anthericaceae)**

Common name : White musli, **Local name:** Safed Musli

Medicinal Value

It is used to cure many physical illness and weakness. Roots are used to cure impotency. It is used to cure diabetes and arthritis. It is also used to increase body immunity. Root powdered fried in the ghee is used in case of problems of mouth & throat. It is also used to cure natural & post natal problems. It is considered as alternative to Viagra.

Costus speciosus (Zingiberaceae)

Common name: Crepe ginger, **Local name:** Bet lauri

Medicinal value

Rhizome is used to treat Diabetes. It is also used in leprosy inflammation and anemia. The extract of rhizomes used as expectorant, in burning sensation, constipation, and intestinal worms. Rhizome grinding in water is used in dysentery.

Curcuma amada (Zingiberaceae)

Common name: Mango ginger, **Local name:** Amahaldi

Medicinal value

It is useful in lowering the blood cholesterol. It is also used in the treatment of cough, cold and testicle swelling.

General uses

Used as flavoring for pickles and other dishes. The fresh & dried rhizomes are used for flavoring curries. The fresh cut rhizomes have the flavor and the colour of mango.

Curcuma angustifolia (Zingiberaceae)

Common name: Arrowroot, **Local name:** Kalo haledo

Other Uses

This species have great nutritional value. It is the source of starch for Indian food and medicines. It is the source of nutrition and as a nonirritating diet for patient suffering from specific chronic ailments, recovering from fever.

Its drink is also used as a replacement of breast milk. It is found as a primary ingredient in cakes, fruit preserves, biscuits and puddings.

Medicinal Value

Rhizome is used on the external surface of the body as well as internally to promote healing. It is also used to heal peptic ulcers. It is beneficial for the treatments of dysentery, diarrhea and colitis. It is used as herbal tonic for the treatment of tuberculosis. It is used to treat cough, cold and bronchitis

Curcuma aromatica (Zingiberaceae)

Common name: Wild turmeric, **Local name:** Banhale

Medicinal Value

Rhizome is used to treat psoriasis, eczema, acne & other inflammatory skin condition. It improves gall bladder function. It is used in remedy for anemia & menstrual cramps. It contains aromatic volatile oil that helps to remove excessive lipid from the blood.

Curcuma longa (Zingiberaceae)

Common name: Turmeric, **Local name:** Haledo, Haldi

Medicinal Value

Its rhizome shows anti-cancer, anti-disease, anti-inflammatory activity.

The powdered form is commonly used as a spice. Its active ingredient is cur cumin which has potential to treat Cancer, Alzheimer's, diabetes, allergies, arthritis and other chronic illness. It is used as remedy for stomach & liner ailments. It has also antibacterial as well as antiviral activity.

Other Uses

Turmeric plays an important role in both Buddhist & Hindu Spiritualism and culture.

Cutleya spicata (Zingiberaceae)

Common name: Spear mint, **Local name:** Panisaro

Medicinal Value

The therapeutic properties of spearmint oil are antiseptic, antispasmodic, carminative, cephalic, insecticidal and stimulant. It is useful in digestive problems headaches migraine nervous strain, fatigue and stress.

Leaves are used in asthma bronchitis, catarrh, and sinusitis. For female health, it helps to stop the flow of heavy bleeding & leucorrhoea and releases urine retention.

Cymbopogon Winterianus (Poaceae)

Common name: Citronella, **Local name:** Citronella

Medicinal Value

Its leaves have anti-inflammatory and antioxidant properties. It produces oil by steam distillation method. The oil is antispasmodic, diaphoretic, sedative and analgesic.

Other Uses

Citronella oil is commercially used as mosquito repellants and household fumigants. Oil is also used as food flavoring agent in beverages, baked goods, candies, dairy product. It is also used in aromatherapy.

Cynodon dactylon (Poaceae)

Common name: Doob grass, **Local name:** Doobo, Dubhi

Medicinal value

Doob grass is used in different traditional medicines. It is crushed & applied on the bleeding on the cutting. Its pest is also used to wounds.

It is also used in eye disorders & weak vision. People suffering from eye disease are advised to walk on dense mat of doob grass by bare foot.

It is also useful in leucoderma, bronchitis, asthma, enlargement of skin.

Other uses

This plant is used in different kinds of worship ceremony. It is very good fodder for cattle goat and any matter of the plants are burrowed in the winder. Sometimes it is planted to check soil erosion through rain water.

Cyprus rotundus (Cypraceae)

Common name: Nut grass, **Local name:** Motha

Medicinal value

Roasted tuber is used to treat wounds & other skin disease. Tuber is used to stop tooth decay. It is also used to treat pain and muscles relaxation.

Other uses

This plant is used as fodder for cattle. Although tubers are bitter in taste but it has good nutritional value. It is rich in carbohydrate.

Datura metal (Solanaceae)

Common name: Devil's Trumpet, **Local Name:** Kalo Dhaturu

Medicinal Value

It is mainly used in treatment of asthma, chronic bronchitis, chronic pain, seizure and coma. The fresh leaves are boiled with mustard oil and applied topically on joints to cure swelling. Seeds are inserted into cavities or chewed to relieve dental pain.

Datura stramonium (Solanaceae)

Common name: Jimson weed, **Common name:** Thorn apple

Medicinal Value

Fruits are narcotic, leaves are used to treat headache. Fresh leaf is made warm and placed on the sprained part of the body repeatedly for the curative effect. Dry leaves are smoked to get relief from asthma. Leaves are also applied to boils and sores.

Desmostachya bipinnata (Poaceae)

Common name: Halfa grass, **Local name:** Kush

Medicinal value

Roots are used against loose motion and retention of urine. In case of loose motion, local people boil flowers and filter it. From the filtrate they take 15-20 ml per day 3 times for three days. The decoction of the flowers is used to cure jaundice, skin diseases and burning sensation.

Other uses

The mature plant is harvested & from the dried leaves mat is prepared. It is considered to be a secret plant by the Buddhist and Hindus. The Buddhist accounts it a material for meditation and they used to sit on it. They are also used to worship God.

Eclipta prostrata (Asteraceae)

Common name: False daisy, **Local name:** Bhringraj

Medicinal value

Leaf decoction with cow milk relieves acidity. This plant helps in the treatment of alopecia, jaundice, fatty liver, loss of appetite, palpitation of heart, pimples, premature graying of hair. Leaf paste is externally used in eczema for 15 days. The rural people use fresh leaf juice on the cuts or wounds. It is also used to improve hair growth. Gargling with leaf juice strengthens teeth and gums and clears coating of the tongue.

Elephantopus scaber (Asteraceae)

Common name: Elephant foot, **Local name:** Buti jhar

Medicinal Value

Plant extract is used to treat conjunctivitis, hepatitis and to the femal yellowish discharge from the vagina. Plant is also used after child birth or during delivery to enhance the contraction of the uterus. Decoction of the fresh root and *betel* leaf is taken to stop vomiting.

Eulaliopsis binata (Poaceae)

Common name: Sabai grass, **Local name:** Babiyo

Medicinal value

Plant is burnt and ash, mixed with mustard oil is applied to treat cuts and wounds of domestic animals

Other uses

It is used as natural fiber. The fiber is made from the leaf. It is widely collected for paper making strings, rods and mats. It is not eaten by cattle except in times of hardship.

Euphorbia hirta (Euphorbiaceae)

Common name: Snake weed / milk weed, **Local name:** Dudhi jhar

Medicinal value

It has curative effect on dengue patient. It is used to reduce body temperature. It reduces the thirst among the thirsty people.

Tribal's apply the milky latex on the skin, in infections like rashes. The paste is prepared from the leaves and it is given to women suffering from leucorrhoea and the problem is cured very soon. It is also used in family planning because its continuous consumption causes infertility of a male. Root decoction is used against snake bites.

Euphorbia thymifolia (Euphorbiaceae)

Common name: Milk hedge, **Local name:** Dudhi Jhar

Medicinal value

According to the local tribal's leaves are used in diarrhea and painful bleeding of piles. The latex is used to kill ringworm. It is also used to promote conception. It is also given to the children infested by worms. It stimulates contraction of the uterus so it is given orally to facilitate child birth. It promotes conception and removes impotency.

Imperata cylindrica (Poaceae)

Common name: Thatch grass, **Local name:** Dabhi /Siru

Medicinal value

Rhizome of the plant is skin softener and facilitates urine. Plant works as blood cleanser, appetite enhancer and stops the bleeding. It also treats venereal diseases (gonorrhoea and blood urine), kidney diseases, injury and fever.

Other uses

Leaves are used in thatching roof, making rope and paper.

Kalanchoe spathelata (Crassulaceae)

Common name: Flame Kalanchoe, **Local name:** Patherchur

Medicinal Value

In traditional medicine, leaves are used to treat ailments such as infections, rheumatism and inflammation. It is used by tribals in treatment for hypertension. The leaves are also used to heal cuts, wounds and insect bites.

Leucas cephalotes (Lamiaceae)

Common name: Guma, **Local name:** Dronpuspi

Medicinal value

The syrup obtained from the flowers is used in case of cough and cold. The decoction of the plant is used in the treatment of malarial fever.

Other uses

Tender leaves and young shoots- cooked. The plant is also used as a pot herb.

Matricaria chamomilla (Asteraceae)

Common name: Chamomyle, **Local name:** Kyamomyle

Medicinal value

This plant is used in herbal medicine for a sore stomach, irritable bowel syndrome, and as a gentle sleep aid. It is also used as a mild laxative and is anti-inflammatory and bactericidal. It is also used for digestive system disorders, stomach ulcers, colic and menstrual cramps.

Other uses

The two spoons of dried flowers are used for the preparation of one cup of tea. It is boiled 10-15 min and this evaporates the volatile oil. This tea is also used as medicine to treat problems of digestive system.

Mentha arvensis (Lamiaceae)

Common name: Peppermint, **Local name:** Pudina

Medicinal value

Pudina is used as a carminative and an expectorant. The plant is highly effective in treating headaches, rhinitis, cough, sore throat, colic and vomiting. Wild mint is often used as a domestic herbal remedy. It should not be used by women because high doses of it may cause an abortion.

The plant used as repellent of insects. Peppermint vapour and inhalers are very helpful in cases of nasal and sinus congestion, laryngitis and bronchitis. Tea made from leaves and flowers can be an excellent remedy for treatment of indigestion, cramps, and flatulence, nausea, vomiting, and colic.

Mimosa pudica (Fabaceae)

Common name: Sensitive Plant, **Local name:** Lajjawati

Medicinal value

The decoction of leaf or sap is applied for sinus disorders and rubbed into sores and piles. The decoction of root is useful in the treatment of diseases arising from blood impurities and bile, bilious fevers, piles, jaundice, and leprosy. Decoction of root is useful in toothache. Root tied on neck cures cough and cold. Juice of leaves and root is used in piles. Decoction of root is used to remove stone in any part of the body.

Nephrolepis cordifolia (Nephrolepidaceae)

Common name: Sword fern, **Local name:** paniamla

Medicinal value

The decoction of leaf and root is medicinal. Paste of the leaves is applied as wound to check bleeding. Fresh watery tubers are eaten to especially quench thirst. Decoction of tubers is given to cure cough and intestinal disorders.

Other uses

It is commonly used as an ornamental plant.

Ocimum sanctum Linn. (Lamiaceae)

Common name: Basil, **Local name:** Tulsi

Medicinal value

Tulsi helps in many skin disorders. It is effective in skin rashes, insect bites and itching. Paste and juice of tulsi leaves help to reduce acne, pimples and scars. Consuming 10-12 leaves of tulsi per day helps to reduce stress. Seeds of tulsi are effective in premature ejaculation. It also increases quantity of semen. Tulsi also reduces blood sugar and blood cholesterol. It is beneficial in indigestion, intestinal parasites and inflammation. A mixture of leaves and seeds with black pepper is given to pregnant women suffering from malaria. Fresh flowers are used to treat cough & colds.

Oxalis corniculata (Oxalidaceae)

Common name: Indian Sorrel, **Local name:** Chari amilo

Medicinal value

The decoction of the leaves is used in the treatment of influenza, fever, urinary tract infection, diarrhea and in poisonous snake bites. Decoction of leaves is used as a gargle. Dry leaf powder with butter milk is useful in dysentery. Curry of leaves improves appetite. Paste of root is taken orally to treat common fever.

Other uses

Yellow dye is obtained from flowers. Boiled whole plant yields a yellow dye.

Phyllanthus amarus (Euphorbiaceae)

Common name: Meniran, **Local name:** Bhuin-Amla

Medicinal Value

This plant is traditional Ayurvedic herb used for the treatment of jaundice. Leaves of the plant are used in diabetes. This plant is also used in treatment of hepatitis B.

Plant is used as remedy for treatment of gonorrhoea. It is useful in intermittent fever, ulcers and wounds. Roots and fruits are crushed and mixed with goat's milk. This mixture is taken orally to treat liver problem.

Sachharum spontaneum (Poaceae)

Common name: Wild sugarcane, **Local name:** Kans

Medicinal value

Extraction of root is used to kill intestinal worms and also to get relief from body ache and fever.

Other uses

Leaves and culms are used for thatching the roof. Leaves are also used for making rope, baskets and mat.

Scoparia dulcis (Scrophulariaceae)

Common name: Goat weed, **Local name:** Mithajhar

Medicinal Values

Leaves are used to treat diabetes and hypertension, anemia, headache, burns and wounds. It is also used to treat malaria, cough, bronchitis and dental troubles. Leaf extract is used in gastric and respiratory problems.

Sansevieria hyacinthoides (Asparagaceae)

Common name: Devil's tongue, **Local name:** Sanpagaj

Medicinal value

The rhizomes and leaves of *Sansevieria* are used for earache, stomachache, toothache, ulcers, haemorrhoids, diarrhea and internal parasite.

Other uses

It is used as an ornamental plant, both indoors for home decoration and outdoors, in a shady garden. Strong rope is made from the fiber in the leaves.

***Solanum nigrum* (Solanaceae)**

Common name: Black night shade, **Local name:** Kalo bihi

Medicinal value

Leaf Infusions is used in dysentery, stomach complaints and fever. The juice of the leaves is used on ulcers and other skin diseases. The fruits are used as a tonic, laxative, appetite stimulant; and also for treating asthma and "excessive thirst. Leaves are used to treat mouth ulcers.

Other uses

The ripe berries and young shoots are cooked and eaten.

***Solanum torvum* (Solanaceae)**

Common name: Jerusalem cherry shrub, **Local name:** Thulo bihi

Medicinal value

Fruits are used in case of enlargement of liver and spleen. Decoction of fruit is given in cough. Paste of fruit is applied on forehead to get relief from headache.

Other uses

Fruits are cooked and used as vegetable.

***Solanum xanthocarpum* (Solanaceae)**

Common name: Yellow berried nightshade, **Local name:** Kantakari

Medicinal value

Root used as expectorant, for cough, asthma and chest pain. It cures asthma, cough, bronchospasm, sore throat, toothache, constipation and diuretic. Given with honey, tulsi (*Ocimum sanctum*), datura (*Datura metal*), and black pepper it is effective in cases of bronchial asthma.

Other use

Unripe fruits are cooked and used as vegetable.

***Stevia rebaudiana* (Asteraceae)**

Common name: Sweet leaf **Local name:** Stebia

Medicinal value

Leaves are used for weight loss also useful for diabetes.

Other uses

It has very sweet taste (300 times sweeter than sugar). It has been used as natural sweetener for centuries.

***Urena lobata* (Malvaceae)**

Common name: caesar's weed **Local name:** Bariyar

Medicinal value

Decoction of 30-60gm of dried root is used for dysentery, rheumatic pain and tonsillitis. Decoction of fresh roots and leaves is used to soften skin. Fresh root is also used as refrigerant. Boiled and pounded leaves used as poultice for bladder and stomach inflammations. Seed decoction is used as vermifuge. Extract of leaves and root is used to treat fever, wounds, gonorrhoea, toothaches and abdominal colic.

Other uses

Fiber is made from the stem which is strong.

Lists of Name, Habit, Family and Ethanobotanical uses of the Plants

S.N.	Scientific name	Common name	Habit	Family	Ethnobotanical importance	Parts used
1	<i>Achyranthes aspara</i>	Prickly chaff flower	Herb	Amaranthaceae	Med.	Root, stem leaf
2	<i>Acorus calamus</i>	Calamus	Herb	Araceae	Med.	Rhizome
3	<i>Adhatoda vesica</i>	Adhatoda	Herb	Acanthaceae	Med.	Leaf, root
4	<i>Aloe vera</i>	Indian aloe	Herb	Liliaceae	Med.	Leaf
5	<i>Amaranthes Spinousus</i>	Spiny pig weed	Herb	Amaranthaceae	Med.	Root, leaf, whole plant
6	<i>Amorphophallus campanulatus</i>	Stanley's wash tub	Herb	Araceae	Med.	Rhizome
7	<i>Andrographis peniculata</i>	Andrographis	Herb	Acanthaceae	Med.	Leaf, root
8	<i>Andropogon citrurus</i>	Lemon grass	Herb	Poaceae	Med.	Leaf, oil
9	<i>Andropogon muricatus</i>	Vetivera	Herb	Poaceae	Med.	Root
10	<i>Blumea lacera</i>	Blumea	Herb	Asteraceae	Med., food	Root, leaf
11	<i>Boerhaavia diffusa</i>	Hog weed	Herb	Nyctaginaceae	Med.	Leaf, seed
12	<i>Canabis sativa</i>	True hemp	Herb	Canabaceae	Med, narcotic	Leaf, seed, stem
13	<i>Centella asiatica</i>	Water pennywort	Herb	Umbelliferae	Med.	Root, leaf, stem
14	<i>Centipeda minima</i>	Sneez wort	Herb	Asteraceae	Med.	Flower, leaf, seed
15	<i>Chenopodium album</i>	Goose foot	Herb	Chenopodiaceae	Med. Vegetable	Root, leaf, inflorescence
16	<i>Chlerodendrom indicum</i>	Tube flower	Herb	Verbinaceae	Med.	Root, bark
17	<i>Chlorophytum arundinaceum</i>	White musli	Herb	Anthericaceae	Med.	Root
18	<i>Costus speciosus</i>	Crepe ginger	Herb	Zingiberaceae	Med.	Rhizome
19	<i>Curcuma amada</i>	Mango ginger	Herb	Zingiberaceae	Med., flavoring	Rhizome
20	<i>Curcuma anguistifolia</i>	Indian arrowroot	Herb	Zingiberaceae	Med., food	Rhizome, leaf
21	<i>Curcuma aromatica</i>	Wild turmeric	Herb	Zingiberaceae	Med.	Rhizome
22	<i>Curcuma longa</i>	Turmeric	Herb	Zingiberaceae	Med.	Rhizome
23	<i>Cutleya spicata</i>	Spearmint	Herb	Zingiberaceae	Med.	Leaf
24	<i>Cympogon winterianus</i>	Citronella	Herb	Poaceae	Med., flavoring	Leaf
25	<i>Cynodon dactylon</i>	Grass	Herb	Poaceae	Med., fodder	Leaf
26	<i>Cyprus rotundus</i>	Nut grass	Herb	Cypraceae	Med.	Leaves, tuber

27	Datura metal	Devil's trumpet	Herb	Solanaceae	Med.	Fruit, shoot,seed
28	Datura stramonium	Jimson weed	Herb	Solanaceae	Med.	Leaf,flower,fruit
29	Desmostachya bipinnata	Halfa grass	Herb	Poaceae	Med., mat, rituals	Leaf, flower root
30	Eclipta prostrata	False daisy	Herb	Asteraceae	Med.	Whole shoot root
31	Elephantopus scaber	Elephant foot	Herb	Asteraceae	Med.	Shoot and root
32	Eulaliopsis binata	Sabai grass	Herb	Poaceae	Med.,rope, broom, carpet	Leaf
33	Euphorbia hirta	Snake weed	Herb	Euphorbiaceae	Med.	Leaf, latex, root
34	Euphorbia thymifolia	Milk hedge	Herb	Euphorbiaceae	Med.	Leaf, latex, root
35	Imperata cylindrica	Thatch grass	Herb	Poaceae	Med., thatching	Rhizome, leaf
36	Kalanchoe spathelata	Flame kalanchoe	Herb	Crassulaceae	Med., ornamental	Leaf, flower
37	Leucas cephalotes	Guma	Herb	Lamiaceae	Med.	Flowers
38	Matricaria chamomilla	Chamomyle	Herb	Asteraceae	Med. Herbal tea	Flower
39	Mentha arvensis	Menltha, Peppermint	Herb	Lamiaceae	Med.	Leaf, flowers
40	Mimosa pudica	Sensitive plant	Herb	Fabaceae	Med.	Leaf, root stem
41	Nephrolepis cordifolia	Sword fern	Herb	Nephrolepidaceae	Med.	Leaf, rhizome
42	Ocimum sanctum	Basil	Herb	Lamiaceae	Med.religious	Leaf,inflorescence
43	Oxalis corniculata	Indian sorrel	Herb	Oxalidaceae	Med. dye	Leaf,flower, root
44	Phyllanthus amarus	Meniran	Herb	Euphorbiaceae	Med.	Leaf,root
45	Sachharum spontaneum	Wild sugarcane	Herb	Poaceae	Med., thatching, mat,	Leaf, root
46	Scoparia dulcis	Goat weed	Herb	Scrophulariaceae	Med.	Leaf
47	Senseveria hyacinthoides	Devil' tongue	Herb	Asparagaceae	Med., fibre, ornamental	Leaves, rhizome
48	Solanum nigrum	Black night shade	Herb	Solanaceae	Med., food	Fruit, young shoot, leaf
49	Solanum torvum	Jerusalem cherry	Herb	Solanaceae	Med.	Fruit, root,seed
50	Solanum Xanthocarpum	Yellow berried nightshade	Herb	Solanaceae	Med.	Fruit, seed, root
51	Stevia rebaoundiana	Sweet leaf	Herb	Asteraceae	Med., food	Leaf
52	Urena lobata	Caesar's weed	Herb	Malvaceae	Med.	Root, leaf, seed

Results and Discussions

In table data obtained from the field survey are presented. In this study a total of 52 wild herb species belonging the 24 families and 44 genera are documented.

Largest numbers of plants have been found in the family poaceae and then in two families asteraceae and zingiberaceae where as family solanaceae is the third largest family.

Out of the total studied plants 66% plants are used only for medicinal purposes and rest 34% plants are used for medicinal and other purposes.

Different parts of these plants are used to cure large number of diseases such as fever, diarrhea, dysentery, acidity, jaundice, loss of appetite, fatty liver, high and low blood pressure, nausea, tooth problem, muscle relaxation, headache, boils, asthma, dandruff, bleeding and cut, wound, leucoderma, sinusitis, skin diseases, reduce excessive lipid from blood, tuberculosis, cough and cold, bronchitis, liver and spleen ailments, anemia, to kill intestinal worms, impotency, mouth and throat problems, piles, constipation, gonorrhoea, insomnia, joint pain, female uterine diseases, leprosy, urinogenital infection.

Different parts of the plants like, leaves, root, stem, rhizome, flower, fruit, seed, inflorescence, latex, tuber, oil are used to treat the diseases. But, in large number of plants for medicinal purpose, leaves are used and then the root and rhizome gets third rank on the basis of their use. Usually, fresh parts of the plants are used in most of the cases except few plants like dry flower of *Matricaria chamomilla* is used to treat digestive problem. Often, people use single plant to treat the diseases. But, Sometimes they also use more than one plant either separately or mixed together to increase the efficacy of the medicines.

The most commonly used herbal species are *Achyranthus aspera*, *Acorus Calamus*, *Adhatoda Vesica*, *Boerhaavia differusa*, *Centella asiatica*, *Eclipta prostrata*, *Eiphorbia hirta*, *Mentha avensis*, *Ocimum sanctum* and *Phyllanthus amarus*.

Conclusion

This study shows that knowledge and uses of herbal medicines for the treatment of various diseases among the Tharu community of Parsa District is still a major part of their life and culture. They use these plants not only for the medicinal purposes but also for other purposes like food, fodder, herbal tea, religious purpose, ornaments, dye, fiber, thatching, flavoring and also as narcotic. The result of the present study provides evidence that these herbs play important role in the healthcare and social life of this tribal community. Documentation of these plants play great role in the biodiversity conservation and asset for the future generation.

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