



RESEARCH ARTICLE

Ethnobotanical Studies of North–East Region from Nashik District (Maharashtra, India)

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ABSTRACT

The present paper deals with 41 ethnobotanical plants with their common names belonging to 18 families from North-East region of Nashik district. The plants were used by local people for food, fodder, medicine, religious ceremonies. The information was gathered from Vaidu, Bhagat, Local peoples, Shepherds. The families like Fabaceae, Euphorbiaceae, Apocynaceae, Combretaceae, Apiaceae, Pteridaceae are dominant families for use as ethnobotanical species.

Keywords: Ethnobotanical Studies, Religious, Vaidu, Bhagat, Nashik

INTRODUCTION

The North –East Region from Nashik District covers three talukas (Satana, Malegaon and Nandgaon) which are very diverse in climate, rainfall, temperature, vegetation and in ecology. The Satana tehsil has good amount of rainfall and rich in vegetation which is bounded on the north by Pimpalner on the east Malegaon, on the south by Kalwan and on the west by Gujrat state. The climate of Nandgaon taluka is dry as compared to Satana and Malegaon. The vegetation is dry deciduous and mixed type, scrub forest is also observed.

Ethnobotany is the study of plants where plants can be used by the peoples of a particular region for food, fodder, medicine, timber, socio-economic, religious, art and craft purposes, agriculture implements and so on. The used of plants by human beings in daily life is since time immemorial. The tribal and local peoples specially Vaidu, Bhagat, Medicine men used these plants as remedy in the form of Decoction, Bhasma, Infusion, Poultice in number of ways to cure different diseases of human beings and their pet animals. Sometimes the plants and their parts are collected on special days such as on *Amavasya*, *Pornima*, *Nakshtra*.

Few *Bhagat* and *Vaidu* used these plants for black magic purposes. Especially in rainy season various types of wild plants with their underground parts such as Tuber, Sucker, Bulb, Root, Rhizome along with aerial parts such as Leaves, Flowers, Fruits, Seeds are utilized as food by the tribal. The tribal celebrate various festivals and religious ceremonies for this purpose they used and offered different plants and their parts to worship God and Goddess. Few plants have special characteristics and are used to make musical instruments such *Pava*, *Basari*, *Dhol*, *Sambal* etc.

METHODOLOGY

The data documented in this work is based on the first hand information report obtained from tribal's and rural people. Area was divided into sectors and periodic visits were conducted, Interviews of tribal Mahadev koli, Bhill, Kokana, Warli, Beldar, Mang and Vaidu, Bhagat, Medicine men, shepherds were taken for gathering truthful information on ethnobotanical uses of plants. General information like place, name of the informer, local name of the plant, plant part used, preparation and uses were recorded. The plants are arranged alphabetically with their Botanical names, Vernacular name, Family and ethnobotanical uses.

ETHNOBOTANICAL ENUMERATION

1) *Abrus precatorius* – Vern. Gunj – Fabaceae

Plant part used - Leaves

Uses : The leaves are eaten raw, sold in local markets. The leaves are eaten raw with jaggery in irritation at the time urine. The dried leaves are added by pan makers in betel leaf.

2) *Acacia catechu* – Vern. Khair - Mimosaceae

Plant part used – Bark, Wood

Uses : The bark powder is mixed in any oil and applied on white spots on skin. The wood is used to make Katha. The wood is used to make agricultural implements.

3) *Acacia nilotica* – Vern. Babhul – Mimosaceae

Plant part used – Bark, Leaves, Pods, Gum

Uses : The decoction of leaves along with leaves of *Caesalpinia bonduc* and leaves *Cadaba fruticosa* are used to treat rheumatism. The bark is used to make alcohol. The bark is made into fine powder, mixed with coconut oil and placed on wound to recover. The pods are used as fodder to goats, sheep's and cows. The wood is used as timber. The gum is eaten raw and used to make Laddo.

4) *Achyranthus aspera* – Vern. Aghada – Amaranthaceae

Plant part used – Root, Leaves, Twigs,

Uses : The root decoction is given thrice in dysentery. The roots are used make decoction and given as a antidote in

scorpion sting. The leaves are crush and the juice is put in nostrils to cure headache. Leaf paste along with honey given to cure cough and sore throat. The twigs are used to worship and offered to God on *Rishi Panchmi* at the time of bathing.

5) *Adiantum capilus* – Vern. Sonkadaki – Pteridaceae

Plant part used – Leaves, Stem

Uses : The decoction of leaves is mix in Bajara flour or Nagali flour and given to women for lactation. 2) Stem parts are used to make Tavit and tied in neck or on wrist.

6) *Argemone maxicana* – Vern. Vilayat – Papaveraceae

Plant part used – Root

Uses : The root juice is placed in mouth ulcers and removed in 3-4 minutes.

7) *Barleria prionitis* – Vern. Katekoranti – Acanthaceae

Plant part used – Leaves

Uses : The leaves are given to chew in mouth ulcers. The leaf juice is gargle and split out to cure sores in mouth.

8) *Bombax ceiba* – Vern. Katesavar – Malvaceae

Plant part used – Root, Flowers, Wood, Gum

Uses : Root paste applied on injuries The gum is used to prepare decoction and given as tonic. Gum is boiled in water and given to cure dysentery and diarrhea. The wood is used to tie fracture hand and leg. The long wood is worship by the tribals and kept on shoulders and dance at time of *Holi* festival.

9) *Butea monosperma* – Vern. Palas – Fabaceae

Plant part used – Leaves, Flowers, Seeds

Uses : Flower decoction is given for 2 – 3 days to cure tingling urination and if no urination. The leaf decoction along with sugarcandy is given to womens to regulate menstrual cycle. The leaves are dried and the powder is used as tobacco to cure diabetes. Flowers are kept in water overnight and the water is drunk to cure stomachache and joint pains. The extract of flowers is given to Cow, Buffalo, and Goat to reduce stomach swelling. Seeds are rub in water and given to children's to reduce fever. Seeds are rub and applied in eczema. The flowers are used to make dye and colour at the time of Rangpanchmi. The flowers are offered to God and Goddess at the time of crop harvesting.

10) *Calatropis procera* – Vern. Rui – Apocynaceae

Plant part used- Leaves, Stems, Flowers

Uses : The leaves are warm in charcoal ash and applied on paralyzed part in paralysis, fracture in legs and hands. The leaves are warm and placed on belly and traction of nerves in the body. Dried stems are used to smoke in headache. The leaves and flowers are tied in thread along with *Lavang*

and offered to Lord Hanuman on every Saturday, *Amavassya* and *Bail Pola*.

11) *Careya arborea* - Vern. Kumbhi - Myrtaceae

Plant Part Used - Bark, Flowers, Fruits

Uses : Fruit juice given to animals in stomach swelling. Bark decoction is given twice a day in piles for 15 days. The juice of flowers given with honey to cure cough and cold.

12) *Celastrus paniculatus* - Vern. Malkanguni - Celastraceae

Plant part used- Root, Seed

Uses : Root decoction is given to treat tumours. Seed oil is applied to reduce joint pains.

13) *Cheilanthes farinosa* - Vern. Morjiva - Pteridaceae

Plant part used - Whole plant

Uses : Whole plant is used to make decoction and given in once a day for 7 days in chest pain. The root paste is applied in skin infection. The roots are boiled in water, a pinch of salt is added and given to cure stomach pain.

14) *Cissus quadrangularis* - Vern. Had sandhi - Vitaceae

Plant part used- Stem

Uses : The stem parts are crush, made into paste and applied on fractured parts. The stem is used to prepare infusion and given to reduce joint ache.

15) *Cocculus hirsutus* - Vern. Vasanvel - Menispermaceae

Plant Part Used - Stem, Leaves

Uses : Leaves are crushed and applied on forehead to cure headache and on burn skin. Leaf decoction is given with pinch of pepper along with honey in chronic fever and cough. Leaves with leaves of *Adathoda vasica* and *Dhatura metel* made into paste with mustard oil to treat eruptive skin diseases with troublesome itching. Stem piece tied with black or red thread around the arm to reduce body heat. Leaf decoction along with fruits of *Gmelina arborea* and roots of *Withania somnifera* given twice a day to paralyzed person for stimulation of Central Nervous system and sound sleep.

16) *Dendrocalamus strictus* - Vern. Bamboo - Poaceae

Plant Part Used - Stem

Uses : Pipes or Bamboo culms are used to make hut construction, furniture, musical instruments, mats, sticks, agricultural implements, baskets and household utensils. Bamboo strips are used to make 'Malu' for catching fishes and crabs. Bamboo pipes along with Ox horn, *Abelmoshscus ficulneus* stem and *Lagenaria* fruit used to make musical instrument "Pavri." Stem is used to make musical instrument 'Pava'. Young stem parts used for making vegetable.

17) *Diopyrous melanoxylon* - Vern. Tembhurni - Ebenaceae

Plant Part Used - Leaves, Wood, Fruits

Uses : Fruit pulp mixed in water and used as lotion to cure eye disease in cattles. Wood is burnt and smoke is passed over the body of woman for easy delivery and good health. Wood is used as a good timber for making furniture.

18) *Diopyrous montana* - Vern. Pali - Ebenaceae

Plant Part Used - Leaves, Fruits

Uses : Fruits and leaves are crushed and poured in ponds and lakes for stuffing fishes. Fruit paste applied externally to treat boils.

19) *Erythrina varigata* - Vern. Pangara - Fabaceae

Plant part used- Bark, Wood, Flower

Uses : Flower decoction given twice a day to relieve chest pain. Leaves are boiled and made into paste and applied along with coconut oil on joints to reduce pain. Wood is used for hut construction and for making agricultural implements.

20) *Garuga pinnata* - Vern. Kakad - Burseraceae

Plant part used- Leaves, Bark, Fruits

Uses : Leaf paste applied on bone fracture and on wounds. Bark paste heated with *Ricinus communis* oil and applied externally to reduce stomachache. Fruits are edible and pickled.

21) *Grewia tiliacifolia* - Vern. Dhaman - Tiliaceae

Plant part used- Leaves, Stem, Bark

Uses : Bark infusion used to relieve inflammation in the mouth. Stem pieces are tied on waist to cure inflammation of testicles. Leaves used as fodder. Fruits are edible.

22) *Hardwickia binata* - Vern. Anjan - Caesalpinaceae

Plant Part Used - Leaves, Wood, Resin

Uses : Leaves are used as fodder for cows and buffaloes that improves lactation and milk quality. Wood is used as fuel. Wood used for making agricultural implements like cart wheels, ploughs. Resins are boiled in water the lukewarm extract is used to heal the sores of domestic animals.

23) *Helicteris isora* - Vern. Murudsheng - Sterculiaceae

Plant part used- Pods, Seeds

Uses : The internal part of pods is rub on wooden plank and given to weak children's as tonic. The pods are made into paste and given to childrens to cure from stomachache. The seed powder is mixed with castor oil and few drops are pour in ear to cure injury.

24) *Heracleum grande* - Vern. Bafali - Apiaceae

Plant Part Used - Root, Fruits

Uses : The root powder is mixed in Bajara or wheat flour and given to cure cough and cold. Root infusion is taken

once a day for 3-4 days to cure stomachache and gas problems. Fruits with Bajara flour given to cure many diseases.

25) *Jatropha gossypifolia* – Chandrya - Euphorbiaceae

Plant part used- Leaves, Latex

Uses : The leaves are warm in Brassica oil and applied on the breast of cows and buffaloes for milking. Latex is applied on thorn pierce place to remove deep thorn. Latex is applied on sores in mouth and immediately split.

26) *Jatropha curcas* – Chandrajyot - Euphorbiaceae

Plant part used- Leaves, Stem, Seed

Uses : The seeds are powdered and applied with coconut oil on joint pains. The twigs are given to chew cow and buffalo to cure worms in stomach.

27) *Kedrostis rostrata* - Mirchi kand - Cucurbitaceae

Plant Part Used - Tuber

Uses : Tuber given to chew as antidote in snake bite. Tuber boiled in water for 15 minutes and given to drink in stomachache.

28) *Ricinus communis* – Erand – Euphorbiaceae

Plant part used – Leaves, Stem, Seeds

Uses : The leaves are warm with oil on pan and tied on glands, swollen body parts, back pain, arthritis. The seeds are broken and the internal part along with jaggery is heated and placed on thorn pierce place and on glands. Seed oil is applied in skin infections. The pole of plant along with sugarcane pole is buried in the ground at the time of Dandi Pournima during the Holi festival.

29) *Madhuca longifolia* – Moha - Sapotaceae

Plant part used – Flowers, Fruits

Uses : Fruits are edible. Flowers are useful to prepare liquor.

30) *Manilkara hexandra* - Khirmi - Sapotaceae

Plant Part Used - Bark, Fruits

Uses : Bark decoction is given to cure fever and stomach disorders. Bark decoction is given to treat diarrhea and dysentery. Bark is used to treat dental disorders such as bleeding gums and gum inflammation.

31) *Occimum americanum* – Rantulas - Lamiaceae

Plant part used – Whole plant

Uses : The juice of leaves is applied on skin in eczema and itching. The leaf paste is applied to cure pimples. Whole plant is uprooted and hangs on door as insect repellent.

32) *Paracaryopsis coelestima* - Nisurdi - Boraginaceae

Plant Part Used - Root

Uses : Root infusion is given in stomach pain. Roots are used as vegetable and specially given in bile problems

33) *Pergularia damia* – Vern. Utran – Apocyanaceae

Plant part used – Leaves, Latex

Uses : The leaves are made into paste and applied on inflamed and swollen legs and hands. Latex is applied on warts for 6-7 days.

34) *Pimpinella heyneana* - Vern. Dongar Jira - Apiaceae

Plant Part Used - Root

Uses : Freshly uprooted roots are used to cure cough, cold and sore throat. Roots are crushed with Bajara flour and given to cure unknown diseases.

35) *Sapindus laurifolius* – Vern. Ritha - Sapindaceae

Plant part used – Fruits, Seeds

Uses : The cover of fruit is rub in water and few drops are pour in goat eye to cure reddish colouration in eyes, conjunctivitis and eye infection. The dried fruits are boiled in water and the foam is used to wash hairs, to remove dandruff. Dried fruits are boiled in water and used to wash pet animals to expel worms. The fruits are crush in water and given to drink Goat, Cow, Sheep to cure gas problems in stomach.

36) *Semecarpus anacardium* – Vern. Bhilava – Anacardiaceae

Plant part used – Fruits, Seeds

Uses : The fruit part is edible. The part of dried fruit is taken on needle, heated on fire and placed on thorn pierce area to withdraw half broken thorn. The seeds are heated and the jelly part is filled in foot cracks.

37) *Sida acuta* – Vern. Chikana – Malvaceae

Plant part used- Leaves, Root

Uses : Root juice is given to treat intestinal worms. Stem pieces are used as tooth brush to remove bad breadth. Leaves are warmed, moistened with coconut oil and applied to remove impure blood from injuries and glands.

38) *Terminalia arjuna* – Vern. Arjun sadada – Combretaceae

Plant part used- Leaves, Bark, Seed

Uses : The bark powder is warm and applied on fracture legs, hands. The bark powder is warm and tied on fracture part of pet animals. The decoction of bark is given to cure stomachache.

39) *Terminalia bellerica* – Vern. Behada - Combretaceae

Plant Part Used - Bark, Fruits

Uses : The fruits of Behada with fruits of *Syzygium cumini* are powdered and decoction is given for 4-5 days twice a day in diabetes and acidity. The bark powder applied externally at

the site of scorpion sting. Churna is prepared with fruits of *Terminalia chubula* and *Terminalia arjuna*.

40) *Tinospora cordifolia* – Vern. Gulvel – Menispermaceae

Plant part used- Root, Stem

Uses : The stem is dried in shadow and made into powder for decoction and given twice a day for 4-5 days to cure stomachache, heat, weakness and unconsciousness. The decoction is prepared along with Zingiber, Mentha, Piper and Ocimum and given empty stomach for 7 days to treat diabetes. The decoction is given to reduce cough, sneezing and fever. Stem pieces are tied around neck in jaundice.

41) *Wrightia tinctoria* - Vern. Kala-Kuda - Apocynaceae

Plant Part Used - Bark

Uses : The bark paste of the plant is mixed in small childrens and applied on joints to cure rheumatism. Bark extract with *Helicteris isora* fruits given twice a day in dysentery and stomach pain. Bark extract used to treat infectious diseases of skin in domestic grazing animals such as cattle, sheep.

RESULT AND DISCUSSION

The forty one (41) plant species belonging to eighteen (18) angiospermic families were documented along with their botanical names. The plants and their parts are used in day to day life for various purposes by the local peoples of the region. The wild plants are used as medicine, food, and fodder for their pet animals. They cure various diseases at their home. They make agricultural implements, art and craft with their innovative ideas.

The leaves of *Abrus precatorius* are eaten raw with jaggery in irritation at the time urine, decoction of leaves from *Acacia nilotica* along with leaves of *Caesalpinia bonduc* and leaves *Cadaba fruticosa* are used to treat rheumatism, bark is used to make alcohol, the bark is made into fine powder, mixed with coconut oil and placed on wound to recover, the pods are used as fodder to goats, sheep's and cows, decoction of *Adiantum capillus* leaves is mix in *Bajara* flour or *Nagali* flour and given to womens for lactation, Stem parts are used to make *Tavit* and tied in neck or on wrist to prevent from black magic, *Butea monosperma* is used in various diseases such as flower decoction is given for 2 – 3 days to cure tingling urination and if no urination, The leaf decoction along with sugarcandy is given to women to regulate menstrual cycle, The leaves are dried and the powder is used as tobacco to cure diabetes, Flowers are kept in water overnight and the water is drunk to cure stomachache and joint pains, the extract of flowers is given to Cow, Buffalo, and Goat to reduce stomach swelling, Seeds are rub in water and given to children's to reduce fever, Seeds are rub

and applied in eczema, the flowers are used to make dye and color at the time of *Rangpanchmi* and are offered to God and Goddess at the time of crop harvesting. The fruits and leaves of *Diopyrous montana* are crushed and poured in ponds and lakes for stuffing fishes and the fruit paste applied externally to treat boils. Root juice of *Sida acuta* is given to treat intestinal worms, Stem pieces are used as tooth brush to remove bad breadth, and Leaves are warmed, moistened with coconut oil and applied to remove impure blood from injuries and glands. *Wrightia tinctoria* bark is rubbed in small children urine and paste is applied on legs to cure rheumatism, bark extract with *Helicteris isora* fruits given twice a day in dysentery and stomach pain, Bark extract used to treat infectious diseases of skin in domestic grazing animals such as cattle, sheep.

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