



ETHNOBOTANICAL SURVEY IN WESTERN TALODA TEHSIL REGION OF NANDURBAR DISTRICT OF MAHARASHTRA, INDIA

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ABSTRACT

The flora of Satpura hills of Western Khandesh is highly diversified and rich in various medicinal plants. Accordingly, an ethnobotanical survey was carried out during 2010 - 2011 in Western Taloda Tehsil region of Nandurbar District of Maharashtra state. During the present study, a total of 58 ethnomedicinal plants belonging to 32 families have been reported. All the plant species are enumerated in detail by giving their ethnobotanical information viz., botanical name, family, local name, part/s used, disease and mode of preparation and administration of remedy. Among them in majority of the cases, the fresh plant parts are used to prepare the drugs and to cure fever, cold, cough, stomachache, headache, toothache, swellings, skin disease etc.

KEYWORDS: Taloda tehsil, Tribe, Traditional knowledge, Ethnomedicine, Diseases

INTRODUCTION

The flora of Satpura Mountains of Western Khandesh is greatly diversified and rich in variety of medicinal plants¹. It extends across the Dhule and Nandurbar districts². Among them, the district Nandurbar is newly constituted³ and located towards north-western side of Maharashtra state⁴. It is also known as tribal district because maximum population is of the tribal⁵. These peoples are Pawara, Konkani, Bhil, Gavit, Mawchi, Pardhis etc^{1,3}.

The Nandurbar district includes four talukas such as Akkalkuwa, Dhadgaon, Taloda and Shahada. The tribes are more in former three talukas than the Shahada. Taloda (Talode) is a Tehsil with mountain range of Satpuda in which tribes reside in isolated areas of forest in small villages (Padas) i.e. a hamlet of 2 - 10 houses⁵. These are economically poor, hence financial pursuits are mainly governed by agriculture and partly by surrounding vegetation. Besides, they have rich traditional knowledge of medicinal plants to cure various diseases and disorders as well as know other uses of plants^{2,3}. Therefore, the present investigation was undertaken to assess the richness of medicinal plants and their conventional medical practices used by tribal in Taloda Tehsil region of Nandurbar district.

MATERIALS AND METHODS

The ethnobotanical data was collected from some villages of western Taloda tehsil region of Nandurbar district during 2011-

2012 via field visits and surveys. During the field trips, the plant specimens and their information were collected from local herbalists, heads of villages, older tribal men and women etc. through oral interviews and an especially formatted questionnaire. The questionnaire is mainly based on plant identification, name of disease, medicinally important plant parts, their traditional uses and mode of administration. After collecting the information, the questionnaires were thoroughly analyzed and the results are tabulated. The plant specimens which were collected during field visits, press and dry properly for the preparation of herbaria. Then these specimens identified systematically with the help of floras of the area^{6,7,8} and ethnomedicinal confirmations were done⁹.

RESULT AND DISCUSSION

The flora of Western Taloda Tehsil region of Nandurbar district of Maharashtra state is greatly diversified and rich in variety of medicinal plants. During the present study, a total of 58 medicinal plant species belongs to 32 different families have been reported. A list of ethnobotanical plant species is documented alphabetically with their ethnobotanical information viz. botanical name, family, local name, plant part/s used, disease, mode of preparation and administration of drug in Table 1. These plants have various medicinal applications which are using by tribal peoples to cure numerous diseases and disorders¹⁰.

Table 1: A list of medicinal plants of Taloda tehsil region

Sr. No.	Botanical Name	Family	Common Name	Plant part used	Name of Diseases	Preparation	Application
1	<i>Abrus precatorius</i> L.	Papilionaceae/ Fabaceae	Gunja	Root	Swelling	Crush the roots, prepare paste and mix it with mustard oil	Apply it daily once on the swelling for about one month
				Seed	Children Stomach disease	Crush the seeds and prepare powder	Use a pinch of powder for 4-5 days
2	<i>Acacia chundra</i> Wild.	Mimosaceae	Shami	Root	Veterinary tonic	Dug out the roots and clean	Mix the pieces of roots into the fodder to increase lactation.
				Bark	Fracture	Prepare the decoction of bark	Take it orally up to heals
3	<i>Acacia nilotica</i> L. Del.	Mimosaceae	Babhul	Bark	Toothache	Crush the bark with little salt and prepare powder	Use the powder daily to clean the teeth
				Twig	Toothache	Fresh twig	Crush the twig with tooth and clean it
4	<i>Achyranthes aspera</i> L.	Amaranthaceae	Aghada	Root	Toothache	Dry roots powder mix with salt and filter	Use the powder daily to clean the teeth
				Leaf	Headache	Crush the leaves and extract juice	Few drops of juice put into the nose
5	<i>Aegle marmelos</i> (L) Correa ex.Roxb.	Rutaceae	Bel	Root	Migraine	Crush the roots and prepare a paste	Apply on both the eyes at night for 4-5 days
				Leaf	Acidity	Crush the fifteen leaves and mix into the sugar	Use the mixture for about 42 days.
6	<i>Aloe vera</i> L.	Liliaceae	Korpad	Leaf	Burnt wounds	Tear the fresh leaves	Apply tear leaves on burnt wounds
7	<i>Allium cepa</i> Linn	Liliaceae	Kanda	Bulb	Ear ache	Crush half bulb and extract juice	1-3 drops of juice apply in the ear for 3 days
					Skin disease	Juice and Mustard oil	Apply/rub on infected skin
					Insect bite	Crush half bulb and extract juice	Apply on the region to relief
					Swelling	Chopped onion mix with turmeric powder	Apply on the swelling up to one week
8	<i>Alliums sativum</i> L.	Liliaceae	Lasun	Bulb	Ring worm	Crush 4-5 flakes and prepare paste	Apply the paste 2 times per day
					Ear ache and pus	Crush 3 flakes, cook along with a spoon of sesame oil and cool	3 drops of oil put into the ear two times per day for 4-5 days.
					Cough cold	Put three flakes in a clean cup containing heated/boiled water	Take twice in a day for seven days
					Poor digestion	Grind 5 flakes, 2 green chillies and little amount of salt make a paste and then fried with a spoon of sesame oil	Take 3 spoons with meal two times in a day for about 7 days.
9	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Kateri mata	Leave	Threatened abortion	Juice obtained from crushing leaves one teaspoonful add a quarter teaspoonful of turmeric mix well & prepare pills of a size of seeds of Arhar.	Take two pills twice/day for five days before meals.
10	<i>Amnona squamosa</i> Linn.	Anonaceae	Shitaphal	Root	Dysentery	Obtain Filtrate boiling crushed roots	Use until cure
				Leaf	Lice	Leaves are used as poultice over boils and ulcers and to kill lice also.	Leaf powder apply on the hairs
				Unripe fruit	Dysentery	Dried unripe fruit powder mix with gram flour	Use the powder for two weeks
11	<i>Asparagus racemosus</i> Willd.	Liliaceae	Shatavari	Root	Dysentery	Roots boiled in the milk and use it as appetizer	Take two times per day for 2-3 days.
					Weakness	Extract of boiled roots in the water	Take up to two weeks
					Irregular menstruation	Crush the dry roots and prepare the powder	A teaspoon powder mix with the milk and take 2 times per day
12	<i>Azadirachta indica</i> Juss. Syn. Melia	Meliaceae	Kadunimb	Bark	Stomach ache	A cup of extract of inner bark stem	Take it twice for three days.
				Leaf	Hairfall & dandruff	Crush the leaves and extract the juice	Apply the juice on hairs and wash for a week
13	<i>Bacopa monnieri</i> (L) Wettst .	Scrophulariaceae	Bam	Plant	Fever	Crush the plant, prepare paste and mix in a cup of water	Take it two times for three days.
				Leaf	Blood pressure	Fresh five gram leaves	Chew the leaves for a week.
14	<i>Bauhinia purpurea</i> L.	Caesalpinaceae	Aapta	Leaf	Headache Fever	Fresh leaves	Eat 4-10 leaves for five days. Chew ten leaves until cure
15	<i>Brassica juncea</i> (L) Czern.	Cruciferae	Rai, Mohri	Seed	Headache	Mix half teaspoon rai powder and old ghee	Apply the paste on forehead at evening for three days
					Ringworm	Mix one gram of rai powder into two teaspoons of ghee	Apply the paste at night for a week.
16	<i>Butea monosperma</i> (Lam) Taub.	Papilionaceae	Khakara, Palas	Bark	Swelling	Crush the bark and prepare paste	Apply the paste on swellings.
				Flower	Urinary stone	Soak a teaspoonful dry flower powder in a cup of water for ten hours and filter	Take it twice for seven days.
				Fever	Deep half kg of flowers in three glass of water for one hour, then crush it and extract juice	Apply the juice on body for one hour and then wash it.	
17	<i>Caesalpinia bonduc</i> (L) Roxb.	Caesalpinaceae	Kachakada, Kajahu	Seed	Stomach ache	Rub the seed and prepare a fine paste	Apply the paste two times for five days
					Malaria	Crush the seeds in water	Use it for seven to ten days
18	<i>Calotropis procera</i> (L) R.Br.	Asclepiadaceae	Rui, Ruchki	Flower	Asthma	Prepare the powder of dry flowers	Take it with water
				Latex	Toothache	Extract the latex and mix less amount of salt in it.	Use it to clean the teeth until cure.
				Foot sole		Extract the latex form the plant/part	Apply 3-5 drops of latex to remove thorn/spine easily from the foot.
19	<i>Carica papaya</i> L.	Caricaceae	Aran kakdi	Latex	Lag at anus	Extract two teaspoonful latex	Apply it two times for ten days
					Toothache	Extract the latex	Use it to clean the tooth for a week
20	<i>Cicer</i>	Papilionaceae	Harbara	Seed	Pimples	Crush the seeds and prepare paste	Apply it on face at night for ten

	<i>arietinum L.</i>						min.
21	<i>Cinnamomum zeylanicum</i> Breyn.	Lauraceae	Dalchini	Bark	Stomach ache	Deep two inch bark in one cup of water	Take it twice for three days
					Fever	Place two inch bark and two black pepper in a cup of water and boil	Take it at evening only for three days
22	<i>Citrus aurantifolia</i> (Christm) Sw.	Rutaceae	Nimbu, Limbu	Fruit	Cough	Prepare a cup of black tea and add two drops of citrus juice to it	Take it twice for a week.
23	<i>Coriandrum sativum</i> L.	Apiaceae	Kothimber	Seed	Urinary stone	Mix two teaspoonful coriander powder in a glass of milk	Take it for one month
					Stomach ache	Mix one g of coriander and cumin powder with sugar	Take it for a week.
24	<i>Curcuma longa</i> L.	Zingiberaceae	Halad	Rhizome	Diabetes	A teaspoon turmeric powder mix in a glass of milk	Take it in the morning until cure
					Pimples	Rub the nutmeg, mix with one teaspoon turmeric powder and two spoons of milk	Apply the paste on the face at evening for a week.
25	<i>Cuscuta reflexa</i> L.	Cuscutaceae	Devate	Stem	Fever	Cut the stem into small pieces, put it into a glass of water, boil and cool	Take it until cure
26	<i>Cymbopogon martinii</i> wats.	Poaceae	Roisa	Root	Fever	Place the roots on fire coals, prepare a tent over the patient and allow the fumes around to it	Do the fumigation only once.
				Leaf	Fever	Put the three leaves in one cup of water, boil and cool	Take only one cup daily
				Plant	Joint pain	Cut the plant into small bits, add water and carry out distillation	Use the distillate to massage the joints.
27	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Daruda	Plant	Wound	Crush the plant with water and prepare a bandage	Apply the bandage on wound two times per day
					Skin disease	Extract one cup of plant juice & add two spoons of citrus juice and coconut oil	Apply on the skin for one month
28	<i>Cyperus rotundus</i> L.	Poaceae	Dungya	Rhizome	Lag at anus	Rub the rhizome and prepare paste	Apply the paste for couple of weeks.
					Stomach ache	Take out the rhizomes	Eat the rhizome for a week.
29	<i>Datura innoxia</i> Mill.	Solanaceae	Datura	Leaf	Tumor	Crush the leaves and prepare a fine paste	Apply the paste twice for a week
					Pimples		
					Scabies		
30	<i>Delonix elata</i> (L.) Gamble	Caesalpinaceae	Honura, Sonura	Twig	Toothache	Fresh twig	Chew the twig and use to clean the tooth
				Leaf	Jaundice	Extract half cup of leaf juice and mix in a glass of water	Take half glass of juice twice for a week.
31	<i>Enicostema axillare</i> (Lum) Raynal	Gentianaceae	Kadvi nai	Root	Fever	Crush the roots and put it in a glass of water for ten min.	Take it at evening for five days.
32	<i>Ficus racemosa</i> L.	Moraceae	Umber	Leaf	Diabetes	Extract half cup of leaf juice and mix honey to it	Take it for about one month
33	<i>Ficus benghalensis</i> L.	Moraceae	Vad	Leaf	Abscess	Warm the two leaves and prepare bandage	Apply the bandage twice until cure
					Stomach warm	Extract a cup of leaf juice and add a pinch of salt to it	Take it two times for a week.
34	<i>Ficus religiosa</i> L.	Moraceae	Pimpal	Bark	Jaundice	Mix a cup of bark juice and two cups of water	Take a cup of mixture twice for a week.
35	<i>Hardwickia binata</i> Roxb.	Caesalpinaceae	Ova	Fruit	Stomach worm	Two teaspoonful's ajawan crushed and kept in one cup warm water.	One cup is taken in the morning and evening for seven days.
36	<i>Helianthus annuus</i> L.	Compositae	Sunflower	Plump	Blood cholesterol	Take out plump	Daily eat it early in the morning only for one to two weeks.
37	<i>Hibiscus cannabinus</i> L.	Malvaceae	Khatopalo	Root	Snake bite	Crush a fistful roots and soak in one glass of water for ten min.	Take it after every half an hour until the patient vomits.
38	<i>Hibiscus rosa-sinesis</i> L.	Malvaceae	Jasvand	Flower	Hair problem	Crush the flowers and boil it in water	Apply it on the hairs for sometime
					Weakness	Collect the flowers	Eat it daily until cure
39	<i>Lavania cucumbels</i>	Compositae	Pathery	Leaves	Swelling	Crush the fresh leaves and prepare paste	Apply the paste on swellings
40	<i>Mangifera indica</i> L.	Anacardiaceae	Amba	Flower	Cholera	Crush two g of flower and mix it in the curd	Take it until cure
				Leaf	Vomit	Extract the juice of young leaves	Take it only once
41	<i>Melia azedarach</i> L.	Meliaceae	Bekam	Leaf	Fever	Crush the leaves and put it in a glass of water	Use it upto cure
					Stomach ache		
42	<i>Mentha piperita</i> L.	Lamiaceae	Pudina	Leaf	Insomnia	Three g of mint powder, mix in a glass of water, boil it for two min and add two teaspoonful honey in it	Take it daily for five days
					Weakness	Extract leaf juice	Take it twice for a week
43	<i>Momordica charantia</i> L.	Cucurbitaceae	Karle	Leaf	Stomach worm	Crush the leaves and extract one teaspoon juice	Apply it for four to five days
					Skin disease		
44	<i>Murraya koenigii</i> (L) spreng	Rutaceae	Kadipatta	Leaf	Digestion	Mix a cup of leaf juice and curd. Then add a pinch of asafetida and salt in it.	Take it twice for three days
45	<i>Musa paradisiaca</i> L.	Musaceae	Keli	Leaf	Skin disease	Burn the leaves and mix half teaspoon turmeric powder in the ash	Apply it on the white spots for a week.
46	<i>Nerium indicum</i> Mill. Gerd, Diet.	Apocynaceae	Kaner	Leaf	Joint pain	Crush 5-7 leaves, mix in mustard oil and prepare bandage	Apply the bandage twice for two days
				Root	Swelling	Crush the roots of white nerium and put it in half cup of warm water.	Apply the paste twice for a week.
47	<i>Nyctanthes arbor-tristis</i> L.	Oleaceae	Parijatak	Leaf	Fever	Crush the leaves and extract the juice	Take the juice in evening for four days.
					Fever cough	Place six leaves and half teaspoon sugar in one cup of water and boil it	Take this mixture for five days.

48	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Tulas	Leaf		for ten minutes.	
					Vomit	Extract the leaf juice and mix one teaspoonful honey into it	Take it for four days
					Cough	Two g of leaves, one inch zinger and two pepper boil in one glass of water	Take it for two days
49	<i>Phyllanthus airy-shawii</i> Burnel and Roux.	Euphorbiaceae	Bhuiawali	Plant	Diabetes	Prepare a mixture of dry plant and five black pepper	Use the mixture twice for ten days
50	<i>Piper nigrum</i> L.	Piperaceae	Kalimiri	Seed	Fever	Crush eight pepper seeds and boil in a cup of water	Take it until cure
					Cold cough	Put two pepper corns in a leaf, chew and swallow the juice	Do it two times for couple of days.
					Asthmatic attack	Remove the skin and make a slit in ripe banana. Put the powder of five pepper in it and cook on live coals.	Eat in the morning only for two days
51	<i>Polyalthia longifolia</i> (Sonner.) Thw.	Apocynaceae	Ashok	Bark	Bleeding	Crush 15 - 20 g of bark and mix in 200 ml milk	Take it three times per day
52	<i>Rosa canina</i> L.	Rosaceae	Gulab	Flower	Eye burn	Prepare the rosewater	Apply it at night only for five days
				Petal	Small pox	Prepare the infusion of petals and sugar	Eat it for a week
53	<i>Sesbania grandiflora</i> (L) poir.	Papilionaceae	Hadga	Seed	Brain stimulant	Crush 3-10 g seeds and mix the powder in 250 ml of milk	Take it daily two times per day
54	<i>Syzygium heyneanum</i> (Duthie) wall ex. Gamble Fl.	Myrtaceae	Jambul	Leaf	Mouth abscess	Crush 5-7 leaves and boil it in the water	Use this water to wash the mouth.
				Seed	Ear pain	Crush the seeds and mix the powder in honey	Use it at evening for three days
55	<i>Syzygium aromaticum</i> L.	Myrtaceae	Lawang	Bud	Toothache	Deep the cotton in clove oil	Apply it on the tooth at evening for a week.
56	<i>Tagetes erecta</i> L.	Compositae	Zendu	Leaf	Ringworm	Crush the leaves and prepare a fine paste	Apply the paste at evening for seven days.
57	<i>Tamarindus indica</i> L.	Caesalpiniaceae	Chinch	Leaf	Swelling	Crush the leaves to form paste and prepare a bandage	Apply the bandage on the swelling twice for five days
58	<i>Tridax procumbens</i> L.	Compositae	Gharpala	Leaf	Bleeding	Crush the leaves and extract juice	Apply 3-5 drops of leaf juice on the cut to stop bleeding as well as to cure it.

CONCLUSION

From the above results, it is clear that the role of herbal medicine for the treatment of a variety of diseases and disorders among the tribes is very important. Among the enumerated ethnomedicinal plants, some of the plants mentioned in the present paper are common and earlier reported but they are used to treat different ailments. Usually, many remedies are made from single plant but sometimes more plants are used. In majority of the cases, fresh plant parts viz., root, stem, leaf, flower etc. are utilized to prepare the medicines. The recipes are mostly prepared in the form of paste, extract, decoction, infusion etc. and taken either orally or applied externally. Most of the plants are used to cure fever, cold, cough, stomachache, headache, swellings, skin disease, diabetes etc.

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