



Some less known Ethnobotanical plants used By Kokni Tribal of Nasik, Dhule and Nandurbar districts of Maharashtra, India

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Abstract

The Maharashtra's Nasik, Dhule, and Nandurbar districts are incredibly diverse in terms of both their flora and their ethnic composition. There are many tribal people living in the regions of Nasik, Dhule, and Nandurbar who have a wealth of traditional knowledge about plant resources. The Kokni tribe relies on plant richness for their subsistence in the districts of Nasik, Dhule, Thane, and Nandurbar. The ethnobotanical study found that the tribal people employed several plant species from various families for various curing various ailments. Providing the information is analyzed scientifically, tribal members of the Kokni tribe's knowledge of the uses of plants can aid in the development of novel pharmaceuticals to treat a variety of diseases. The Kokni tribe's economically disadvantaged segment depends heavily on the preparation of wild foods and other uses of the plants.

Keywords: Kokni, Tribal, Nasik, Dhule, Nandurbar, Maharashtra

Introduction

Tribal villages are located far from urban areas, on mountains, hills, in woods, and in valleys. They can trace their ancestry back to the population's ancient ethnological groups. They typically keep their towns and places of living inside designated boundaries and speak their own language, which lacks any written characters. Members of tribal societies practice primitive religion, and each tribe is known by a unique name. The tribal system of medicine has a long history, just like other conventional systems. The virtue of tribal medicine is that it fills in the gaps left by modern medicine. Tribal cultures have long-established self-managed systems of basic healthcare that are mostly based on herbal treatments and folk medicine. One of Maharashtra's most significant tribes is the Kokni. During the famine of 1396–1408 the Kokni tribe left the Konkan area of Maharashtra. They go by the names Kokna or Kukna as well. It is a standalone tribe without any sub tribes. All three names are listed as Scheduled Tribes under the same heading. They are a well identified community at the local as well as at the regional level. The Kokni are primarily found in Maharashtra's Nasik, Dhule, Nandurbar, and Palghar districts. The Kokni tribal dominance is found in the districts of Nasik, Dhule, and Nandurbar, which are located in the heavily fragmented area to the west of the Sahyadri edge of the Deccan plateau. The Kokni settlements are frequently found at the lowest points of spurs that offer relatively high sites and depressions on all sides where farming is done on low interflaves between neighboring valleys that offer high sites above inundation levels.

Material and Methods

The field survey of these districts was conducted during 2018 to 2023 to gather the first hand information about the plants used by the tribal. A modified version of the standard formats provided by Jain & Mudgal (1999) was used to create the questionnaires that were used to gather data on plant uses. We spoke with tribal Kokni boys and girls, Bhagats and Vaidus, and men and women about how they used plants. To gather comprehensive data on the plant species used by Kokni tribal people in Maharashtra's Nasik, Dhule, and Nandurbar districts, fieldwork was initiated in 2015. These districts' various tribal belts, settlements, and forests were the sites of the ethnobotanical study. The appropriate District Forest Officer from these districts gave his or her consent for the collecting of plants from the forest. The schedule for field survey for collection of plants is discussed with the tribal informants and designed accordingly. As voucher specimens, the plants were gathered in their blooming and fruiting stages. Each plant that was gathered from the districts of Nasik, Dhule, and Nandurbar had its coordinates recorded using the Global Positioning System (GPS). The coordinates of the plants that were collected from these regions were recorded using the Garmin etrex Vista hcx. Digital photos of plants have been shot while on field trips to display their habit, bloom, fruit, and other characteristics.

Observations

Table 1

Sr. no.	Botanical Name	Family	Uses
1	<i>Actiniopteris radiata</i> (Sw.) Link	Pteridaceae	Rhizomes are crushed in water and extract is given to cure stomach ache.
2	<i>Amaranthus polygonoides</i> L.	Amaranthaceae	Leaf paste is applied externally for insect bites. Decoction of root is orally given to cure eczema. Entire plant is used as a vegetable.
3	<i>Anisomeles malabarica</i> (L.) R.Br. ex Sims.	Lamiaceae	Decoction of the leaves is given in fever. The paste of the leaves is applied to cure eczema.
4	<i>Artemisia nilagirica</i> (C.B.	Asteraceae	The leaves are crushed and juice is administered through nostril to cure epilepsy.

	Clarke) Pamp.		Leaves are rubbed on forehead to cure headache.
5	<i>Azanza lampas</i> (Cav.) Alef.	Malvaceae	Leaf juice is given for loose motions. Extract of leaves is given for excess white discharge to females. Fibers are extracted from stems by the tribal for making ropes.
	<i>Canscora diffusa</i> (Vahl) R. Br. Ex Roem. & Schult.	Gentianaceae	Entire plant rolled in <i>Bauhinia racemosa</i> L. leaves and smoke 2-3 times to relieve throat pain. Plant is burnt and the smoke is taken as a remedy to reduce swellings.
7	<i>Capparis grandis</i> L. f.	Capparaceae	Decoction of stem bark is used for joint pains. Bark infusion is orally administered to cure swellings. Fruits are eaten by tribal.
8	<i>Cayratia trifolia</i> (L.) Domin.	Vitaceae	Root paste is applied on boils and pimples. Roots are crushed in Coconut oil and applied on fractured bone for healing. Root infusion is given orally to cure diabetes.
9	<i>Ceriscoides turgida</i> (Roxb.) Tirveng.	Rubiaceae	Bark infusion is given for 3 days to cure Jaundice. Paste of seeds is applied on throat to cure tonsillitis. Fruits are cooked and given to anemic patients to eat.
10	<i>Cheilanthes farinosa</i> (Forssk.) Kaulf.	Pteridaceae	The plant extract is given to stop stomach ache and to stop excess menstrual flow to females.
11	<i>Chrozophora rotleri</i> (Geiseler) A.Juss. ex Spreng.	Euphorbiaceae	Leaves are crushed by hand and paste is applied to cure wounds. The entire plant is crushed and extract is given twice for 3 days to cure Jaundice. Root decoction is used for reducing cough.
12	<i>Coix aquatica</i> Roxb.	Poaceae	Roots are boiled in water and used for bathing for 7 days to relieve joint pains. The roots are crushed in water and the extract is used as a snake bite antidote.
Sr. no.	Botanical Name	Family	Uses
13	<i>Colebrookea oppositifolia</i> Sm.	Lamiaceae	Leaves are crushed and paste is applied on wounds. Stems are used for thatching walls of huts and used as fuel wood. Planted as fence around huts.
14	<i>Combretum ovalifolium</i> Roxb.	Combretaceae	Bark is crushed in water, filtered and extract is given for 5 days to cure Jaundice. Leaves are used as fodder for cattle.
15	<i>Convolvulus arvensis</i> L.	Convolvulaceae	Root decoction is used as laxative and to cure constipation and piles. The leaves paste is applied on skin irritation and burns.
16	<i>Corallocarpus epigaeus</i> (Rottler) Hook.f.	Cucurbitaceae	The tuber is crushed, and the extract is used to treat snake bites. Tubers are dried, crushed to powder and this powder is given in water for 1 week to females to stop white discharge.
17	<i>Cordia macleodii</i> (Griff.) Hook. f. & Thoms.	Ehretiaceae	The leaf and bark decoction is used for stomach ache. The wood is used for preparing handle of axe.
18	<i>Crinum viviparum</i> (Lam.) R.Ansari & V.J.Nair	Amaryllidaceae	The bulbs are crushed and the extracted juice is applied on burns and swellings by the tribal. The leaves are burnt and smoke is passed over body to cure swellings and skin diseases.
19	<i>Cyphostemma auriculatum</i> (Roxb.) P. Singh & B.V. Shetty	Vitaceae	Extract of root is used as antidote for snake bite. Leaves are crushed and paste is applied for wound healing. Stem is crushed in water and extract is given for stomach ache.
20	<i>Dendrophloe falcata</i> (L.f.) Ettingsh	Loranthaceae	Flowers are used in treatment of irregular menstruation. Stem pieces with black thread is tied on pregnant women stomach to avoid abortion.
21	<i>Euphorbia fusiformis</i> Buch.Ham. ex D. Don.	Euphorbiaceae	Root is crushed and extracted juice is taken to relieve throat pain and to reduce cough. Latex is used as fish poison.
22	<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	Decoction of whole plant is used in fever and dysentery.
23	<i>Ficus amplissima</i> Sm.	Moraceae	Bark infusion is given in morning for three days to cure jaundice. Latex is applied on wounds. Fruits are eaten by the tribal.
24	<i>Ficus arnottiana</i> (Miq.) Miq.	Moraceae	Eczema is treated using a bark decoction. Pimples and boils are treated with latex. To enhance lactation, latex is mixed with rice and consumed by females. The tribal people consume fruits.
25	<i>Ficus palmata</i> Forssk.	Moraceae	The fruits are eaten by the tribal.
26	<i>Flueggea leucopyrus</i> Willd.	Euphorbiaceae	Leaves are used as vegetable. Fruits are consumed by the tribal. Branches are used as fencing for huts, fields and roofing of huts.

Sr. no.	Botanical Name	Family	Uses
27	<i>Geodorum densiflorum</i> (Lam.) Schltr.	Orchidaceae	The rhizome is crushed and sugar is added in the paste and given to person suffering from diabetes and high blood pressure. The rhizome is eaten raw to cure impotency. Rhizome paste is applied on goiter and swellings.
28	<i>Getonia floribunda</i> Roxb.	Combretaceae	Leaves are crushed and extracted juice is used to stop loose motions and cure fever. Flowers are rubbed on forehead to cure head ache. Root extract is given orally as antidote for snakebite.
28	<i>Glinus lotoides</i> L.	Molluginaceae	Leaves are crushed and extract is given to cure stomach ache.
29	<i>Gymnosporia senegalensis</i> (Lam.) Loes.	Celastraceae	Leaves are chewed to cure cough and cold. Leaves are used as fodder for goats. Dried branches are used for fencing around farmyards and cultivated fields.
	<i>Heterophragma</i>	Bignoniaceae	Bark is crushed and paste is applied on wounds.

30	<i>quadriloculare</i> (Roxb.) K. Schum.		
31	<i>Hypoxis aurea</i> Lour.	Hypoxidaceae	The roots are eaten for treating impotency and to increase sexual desire.
32	<i>Hyptis suaveolens</i> (L.) Poir.	Lamiaceae	The leaves are crushed and extract is given to reduce fever. Stem is used as fuel wood.
33	<i>Indigofera cassioides</i> Rottl. Ex DC.	Fabaceae	Dried leaves are rolled and smoked to reduce piles and bleeding piles. In some villages the leaves are burnt and the person suffering from piles is asked to take smoke. The flowers are used as vegetable.
34	<i>Indigofera cordifolia</i> Heyne ex Roth.	Fabaceae	Plant is burnt and smoke is given 2 to 3 times for treating night blindness.
35	<i>Indigofera glandulosa</i> Wendl.	Fabaceae	Fruits are dried and crushed to make powder. This powder is mixed with water and taken to cure stomach ache. Leaves are burnt and ash is mixed with Coconut oil and applied on foot cracks.
36	<i>Ipomoea aquatica</i> Forsk.	Convolvulaceae	Leaves are used as vegetable by tribal people.
37	<i>Ipomoea nil</i> (L.) Roth.	Convolvulaceae	Leaves are boiled in water and paste is applied on burns. Leaves are used as vegetable by tribal. The plant is used as fodder for goats.
38	<i>Ipomoea obscura</i> (L.) Ker.	Convolvulaceae	Leaves are crushed and paste is applied on boils and swellings.
39	<i>Ipomoea turbinata</i> Lag.	Convolvulaceae	Stem is dried and crush to make powder. This powder is boiled in water and used against cold and fever. Roots are chewed for piles. Leaves and swollen pedicel are used as vegetable. Flowers are used as vegetable.
40	<i>Lagascea mollis</i> Cav.	Asteraceae	Leaves are crushed and paste is applied on wounds. Fresh fruits are eaten by the tribal.

Sr.no	Botanical Name	Family	Uses
41	<i>Lagerstroemia microcarpa</i> Wight.	Lythraceae	Bark is crushed in water and extract is given stomach ache. Wood is used for construction of huts.
42	<i>Lannea coromandelica</i> (Houtt.) Merr.	Anacardiaceae	Bark is crushed and paste is applied on wounds. Bark is crushed, heated and applied on swellings. Fruits are used as fish poison. Wood is used for preparing door frames and musical drums.
43	<i>Ledebouria revoluta</i> (L.f.) Jessop.	Liliaceae	Young leaves are used as vegetable.
44	<i>Leea asiatica</i> (L.) Ridsdale	Leeaceae	Leaves are crushed and extracted juice is administered orally as antidote for snake bite. Ripe fruits are consumed by the tribal.
45	<i>Lepisorus thunbergianus</i> (Kaulf.) Ching	Polypodiaceae	Stem pieces are kept in amulet (Tabij) and tied around neck or arm to keep evil power away.
46	<i>Lygodium flexuosum</i> (L.) Sw.	Lygodiaceae	Rhizomes are rubbed on stone and slurry is applied for wound healing and fracture. Rhizomes are sold in market by the tribal.
47	<i>Macaranga peltata</i> (Roxb.) Muell. –Arg.	Euphorbiaceae	The latex of the plant is applied on cuts and wounds.
48	<i>Mallotus polycarpus</i> (Benth.) Kulju & Welzen	Euphorbiaceae	Leaves are dried and burn to ash. This ash is applied on piles to reduce pain. Fruits are eaten by the tribal.
49	<i>Marsilea minuta</i> L.	Marsileaceae	Leaves are used as vegetable. Leaves are crushed by hand and paste is applied for swelling of body parts.
50	<i>Momordica dioica</i> Roxb. Ex. Willd.	Cucurbitaceae	Leaf juice is added in milk and consumed to enhance sexual power.
51	<i>Nanorrhinum ramosissimum</i> (Wall.) Betsche.	Scrophulariaceae	Juice of plant is given to induce lactation in feeding mothers.
52	<i>Neuracanthus sphaerostachys</i> (Nees) Dalz.	Acanthaceae	The root is crushed and extract is used to treat kidney stone.
53	<i>Oldenlandia corymbosa</i> L.	Rubiaceae	Entire plant is crushed and the plant paste is applied on boils.
54	<i>Parthenium hysterophorus</i> L.	Asteraceae	Roots are chewed and applied twice a day to relieve pain from scorpion bite.
55	<i>Pavonia zeylanica</i> (L.) Cav.	Malvaceae	The unripe fruits are eaten by tribal women to promote lactation.
56	<i>Pedaliium murex</i> L	Pedaliaceae	Leaves are crushed and extract is given to cure impotency in males. The tribal used leaves as vegetable.
57	<i>Rotala serpyllifolia</i> (Roth) Bremek	Lythraceae	Juice of whole plant is used in skin diseases. Entire plant is crushed and paste is applied for body ache.
58	<i>Solanum viarum</i> Dunal.	Solanaceae	The fruits are crushed by hand and applied on joints to cure joint pain. The unripe fruits are used as vegetable by the tribal.

Sr. no.	Botanical Name	Family	Uses
59	<i>Sonchus oleraceus</i> (L.) L.	Asteraceae	Leaves are crushed by hand and juice is applied on wounds.
60	<i>Thysanolaena latifolia</i> (Roxb. Ex Hornem.) Honda.	Poaceae	Tubers are chewed to relieve throat pain and tonsillitis. The bark and leaves are crushed and paste is applied on boils. Leaves are chewed to stop hiccups.
61	<i>Trema orientalis</i> (L.) Blume	Ulmaceae	Leaves are crushed and extract is given to reduce fever. Flowers and fruits are crushed and extract is given to small children to reduce cough. Fruits are eaten by the tribal.

62	<i>Typha domingensis</i> Pers.	Typhaceae	The inflorescence is used for skin diseases and boils. Fibers from the spikes are used in Chilam and smoked.
63	<i>Vigna vexillata</i> (L.) A. Rich.	Fabaceae	Roots are given to females to chew thrice a day to stop excess menstrual flow. Fruits are used as a vegetable.
64	<i>Zaleya decandra</i> (L.) Burm. f	Aizoaceae	Leaves are used as vegetable by the tribal.

Result and Conclusion

Traditional plant knowledge has been transmitted verbally through the ages in tribal societies. In general, anthropogenic pressure is constantly rising in our nation due to population pressure, increased demand for agricultural land, industrialization, and agricultural methods. The tribe's culture is evolving as a result of the destruction of the trees. We will need to take steps to ensure the long-term preservation of both these flora and ethnic groups since these variables will ultimately lead to the loss of the empirical data that these groups currently possess. It should be emphasized that the Kokni tribe still uses their traditional medical system. The oral tradition of passing down folklore continues from generation to generation. Their understanding of the therapeutic properties of plants has not previously received adequate attention. They are still essentially unknown or less well-known in contemporary society.

Folk or traditional medicines are valued in tribal societies. Due to a lack of hospitals and physicians and the high expense of their care, a sizable portion of the tribal community relies on it. Even today, different plant species are used to treat a variety of human illnesses. The tribal people who inhabit the forest eat a range of wild plants that are unknown to people who live in cities. The tribal civilization frequently consumes certain plants because they are rich in nutrients. Tribal peoples rely on both developed crops and organic forest items for their daily sustenance. The indigenous people must rely on forest goods because the food that is cultivated is not always sufficient, especially during the monsoon season. The indigenous people gather a variety of plants during the monsoon season that they use as veggies and sell in the neighborhood market to get money.

The tribe members fish and catch crabs from rivers, rivulets, and other bodies of water to supplement their nutrition. They use a variety of readily available plant species' roots, barks, leaves, and fruits. It implies that contemporary scientific standards must be applied to traditional plant uses. There is a lot of information available concerning herbal medications, but the claims are not necessarily true. If the knowledge is supported by scientific evidence, ethnomedicinal plants can unquestionably help in the search for new drugs or lead compounds for drug development.

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