



Ethnobotanical studies on certain tree species of Ambaji forest of Banaskantha district, Gujarat, India

DRASHTI SONI, KHUSHBU MEHTA AND R.S. PATEL

ABSTRACT

Banaskantha district, in northern part of the Gujarat state, lies between 230.35' to 240.34' north latitudes and 710.00' to 730.00' east longitudes. Out of 300 sq. km. geographical area of the range, about 542 sq. km is notified as Ambaji-Balaram wildlife sanctuary. The present investigation was carried out in Ambaji range forest of Banaskantha district of North Gujarat. Tribal people of Ambaji forest range directly depend upon forest resources for their daily needs. In this context an ethnobotanical surveys were undertaken to record ethnobotanical uses and ethnomedicinal remedies of plant species growing in Danta and Ambaji forest areas. During the present investigation it was observed that tree species are being greatly used for various purposes. *Lannea, Alangium, Butea, Zizyphus, Acacia, Diospyros, Boswellia, Gmelina, Ailanthus* etc. are the commonly found trees in this forest. Besides this some minor forest products like bark, gum, flowers, fruits, fuel wood are interwoven with tribal's life for their survival. The species like *Dendrocalamus, Holoptelea, Phoenix, Wrightia, Acacia* etc. are used for various purposes. A large number of traditional herbal healers exist belonging to the tribal community and are utilizing local plants in ethno-medicinal practices prevalent in the area and resulted in the documentation of medicinal plant species. The study thus underlines the potentials of the ethnobotanical research and the need for the documentation of traditional ecological knowledge pertaining to the medicinal plant utilization for the greater benefit of mankind in different regions. The first hand information on the medicinal plants used by the villagers was arranged alphabetically by genus and species name following as. During the present research work, different areas of Ambaji forest were frequently visited and specimens were collected and identified. Each plant species discussed with its scientific name, local name, family name and its uses. The name of the resource person for each use is also appended.

Key words : Ethnobotanical studies, Tribes, Ambaji forest, Banaskantha district

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INTRODUCTION

Banaskantha, Sabarkantha, Mehsana and Patan are the four districts of North Gujarat, among them in Banaskantha district the Danta and Ambaji range forests are the part of Danta taluka having the part of Aravalli hills. Ambaji range forest is a part of Danta taluka situated on eastern part of the Banaskantha district in North Gujarat. The forest type is dry deciduous and scrub (Champion and Seth, 1968) harbors about 400

tracheophyte plant species, including pteridophytes, gymnosperms and angiosperms. These forest areas are inhabited by around 20 tribes. These forests are inhabited by a variety of ethnic groups including the tribes like Bubadiya, Parghi, Taral, Bhemiya, Dhrangi, Khair, Laur, Makwana, Dabhi, Solanki, Chauhan, Gamar, Parmar, Rohisa, Rathod, Mansi, Damor, Khermal, Kodarvi etc. These tribes cover 48 per cent of the total population. The *adivasi* (local people) dwelling in the forest have good knowledge of herbal medicine. The herbal practice is a part and parcel of their life and is developed into an efficient method of healthcare system, though it is diffused outside their societies. The present data were collected through frequent field studies conducted during the ethnobotanical survey of different parts of Ambaji range forest. It was observed that the tribes have specific folk remedies for almost all kinds of diseases except severe cases. It is glibly asserted that good

MEMBERS OF THE RESEARCH FORUM

Address for correspondence :

DARSHTI SONI, K.K.S.J. Maninagar Science College, AHMEDABAD (GUJARAT) INDIA

Coopted authors :

KHUSHBU MEHTA AND R.S. PATEL, K.K.S.J. Maninagar Science College, AHMEDABAD (GUJARAT) INDIA

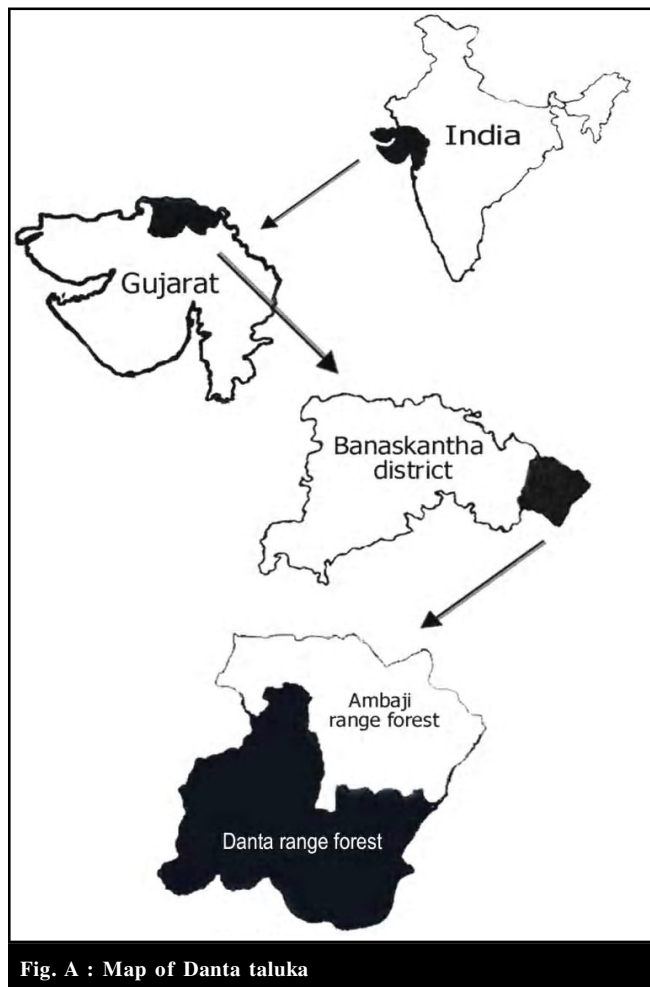


Fig. A : Map of Danta taluka

health is the primary need of mankind. Infact, rural people prefer folk medicine because it is more proximate, convenient and cheaper and it has become tradition than any modern medicine systems. The present work reports information on little known uses of some plant species.

MATERIALS AND METHODS

The study area was surveyed regularly to record the floristic wealth of Ambaji forest. During the ethnobotanical survey of different forest areas of Ambaji, various local medicine men, healers and local people were contacted and got information questionnaire and interviews about forest plants. Instead of asking the plan; names and their medicinal as well as local uses they are aware, we collected the plants through field exploration and showed them to name them. We tried to confirm their identity by putting couple of questions related to their habit, habitat etc. By confirming the identity, we asked few more questions to get the information on the medicinal uses, preparation of medicine, method of usage, wherefrom

they got this information, for how long they art-practicing this medicine and useful things etc. The plant samples have been scientifically identified (Shah, 1978) comparison of the collected data with the published literature in the field of ethnobotany (Harshburger, 1896), (Jain, 1991), (Pade, 1966) revealed that the ethnobotanical information for some plant species is not reported earlier and becomes first report. Each of these plant species is provided with botanical name followed by local names, family and its ethnobotanical uses. The name of the resource person is also provided in parenthesis at the end of each usage (Patel, 2002; Patel, 2002).

RESULTS AND DISCUSSION

The findings of the study have been discussed in detail as under:

***Bombax ceiba* L. (SIMLO, SAVAR); Bombacaceae:**

- About 100g of fresh inner bark is crushed into paste and applied on broken horn of cattle. It sets well in few days. (Bhikhabhai).
- Fresh stem bark paste (paste is made by rubbing stem bark on a moist stone) and applied on skin diseases and pimples. (Somabhai).
- Tanpura is made from Log. (Arjanbhai)

***Sterculia urens* Roxb. (KADAYO); Sterculiaceae:**

- Tribals made wound on stem for the collection of gum. The gum is edible and called 'kadaya gum' (Nanabhai).
- Dried stem branches are used as fuel wood by local people. (Ladubhai).

***Limonia acidissima* L. (KOTHU, KOTHU); Rutaceae:**

- Wood is used for making agricultural tools and for hut pillars (Fulabhai).
- Dried empty epicarp is used as a box carry chewing tobacco and other things (Bhikhabhai).
- Ripe fruits are edible and sold in local markets (Somabhai).

***Ailanthus excelsa* Roxb. (ARDUSO); Simaroubaceae:**

- Tanpura – a musical instrument, is made from its wood because its wood is long lasting and create good sound. (Arjanbhai).
- Boiled leaves are used to cure stomach diseases and kill worms (Somabhai).

***Boswellia serrata* Roxb. (SALAD, DHUPELIO, GUGAL); Burseraceae:**

- Fresh leaves paste discrled water and bathing with this cures vomiting (Somabhai).
- Gum is sold in local market (Bhuriben).
- Gum is plastered on spine stinging (Punabhai).

***Zizyphus mauritiana* Lam. (BOR, BOADI); Rhamnaceae:**

- About 100ml of root juice is taken regularly a week to cure tuberculosis (Ladubhai).
- Wood is heavy and strong, so it is used for making cots and stands for keeping earthen pots (Arjanbhai).

***Mangifera indica* L. (KERI, AMBO); Anacardiaceae:**

- Fresh leaves are used to prepare “Torans” for religious purposes (Kantaben).
- Dried malformed inflorescence are powdered and given with water to animals, as a cure for swollen stomach (Somabhai).

***Lannea coromandelica* (Houtt.) Merrill. (GOLADO); Anacardiaceae:**

- Log is carved as a tub to store water for cattle (Somabhai).
- Wood is lightweight and durable, so it used for making stand for a flour mill (Nanabhai).
- Pillars for houses are made from its wood (Bhikhabhai).
- Dried branched are used as fuel (Kantaben).

***Butea monosperma* (Lam.) Taub. (KHAKHRO, KESUDO); Papilionaceae:**

- Cover of earthenpots are made from its wood because it does not get rotten in wet condition (Lilaben).
- Roof is made from leaves by tribals (Bhikhabhai). Local people use flowers in holly festival as dye (Punabhai).
- Leaves are used as fodder in cold season (Bhuriben).
- Flowes are soaked in water and bathing with the water cures sunstroke (Nanabhai).

***Derris indica* (Lam.) Bennet. (KARANJ, KANJO); Papilionaceae:**

- Fresh stem branches are used as tooth brushes to cure toothache (Devabhai).
- Seed paste is smeared on skin to cure itching (Somabhai).

***Erythrina suberosa* Roxb. (JAGRAIYO KHAKHARO); Papilionaceae:**

- It is common belief and practice to allow cattle pas over pegs made from the tree cut on Sundays will keep the animals free from diseases. [Fulabhai].

***Cassia fistula* L. (GARMALO); Caesalpiniaceae:**

- Stem bark is mixed with few other things while making liquor to increase its intoxication. It is called “Dhadhiyo”. (Somabhai). Fresh bark is used as rope for binding purpose (Bhikhabhai).

***Delonix elata* (L.) Gamble (HINDRO, SANDSRO); Caesalpiniaceae:**

- Used as a fencing material by tribes (Sadabhai).

***Acacia chundra* (Roxb. ex Rottl.) Willd. (KHAIR, KAIR); Mimosaceae:**

- Local people use wood as pillars of house and to make pestle and mortar; as it is commonly found and its wood is very hard and durable (Ladubhai).

***Acacia leucophloea* (Roxb.) Willd. (RUNGIO); Mimosaceae:**

- Wood is used to make agricultural tools like plough and “Rop de vano pado” as the wood is very strong and durable and it does not decay. (Noniyabhai).
- Wood is resistant to termite and hence used in building construction purposes and carpentry work (Somabhai).

***Albizia odoratissima* (L. f.) Bth. (KALIYO, DHOLOSARAS); Mimosaceae:**

- Wood is used for making doors because it is more stronger than the wood of khair (*Acacia chundra*) polished wood shines bright (Fulabhai).

***Albizia procera* (Roxb.) Bth. (GORIO, GORIJO); Mimosaceae:**

- Stem pieces is used as fish pison in fishing (Somabhai).

***Dichrostachys cinerea* (L.) W. and A. (MORDHUNDHIYU); Mimosaceae:**

- Local people use the wood for making agriculture tools and pegs to bind cattles (Fulabhai).

***Anogeissus latifolia* (Roxb.) Wall. ex Bedd. (DHAVDO); Combretaceae:**

- Wood is used for cot making (Bhikhabhai). Stem gum, ghee, ajwan, jaggery and zinger powder is mixed and in preparation of a local sweet. It is given to women after delivery for physical strength till 37 days (Noniyabhai).

***Terminalia bellirica* (Gaern.) Roxb. (BEHDR, BEHDA); Combretaceae:**

- Wood is used as building material as a support of houses (Bhikhabhai).
- A cup of fruit juice is taken regularly to improve digestion (Sadabhai).

***Alangium salvifolium* (L. f.) Wang. (ANKOLI, ANKOL); Alangiaceae:**

- About 100g fresh roots are rubbed with water and applied on the poisonous animal sting (Fulabhai).
- Dried branches are used as fence and to make handle of agricultural implements (Sadabhai).

***Madhuca indica* J.F.Gmel. (MHOVA, MAHUDO); Sapotaceae:**

- Wood is useful for making building materials and as fuel (Laliben).
- Fresh corollas are edible and sold in local market (Vadliben).
- Seeds oil is edible (Noniyabhai).

***Diospyros melanoxylon* Roxb. (TIBRU, TIMBRU); Ebenaceae:**

- Wood is used for housing purpose and firewood (Bhuriben).
- Dried leaves are used to make “Bidies” (Nanabhai).
- Ripe fruits are edible and sold in local markets (Punabhai).

***Holarrhena antidysenterica* (L.) Wall ex G. Don (KUDA, DOLA KUDA); Apocynaceae:**

- About 25g fresh roots are pounded with 100ml water and taken one spoonful as a for cure stomach pain (Nanabhai).
- A tea spoonfull stem bark powder is taken to cure diarrhoea (Somabhai). Leaves are used as dishes (Sadabhai).

***Wrightia tinctoria* R. Br. (KUDA, DUDHLO); Apocynaceae:**

- Wood is widely used for making spoons (Kantibhai). Local people use its wood as to make yoke for bullock; as it is commonly found moulded very easily and very light in weight (Bhikhabhai).
- Latex is applied on wounds (Venabhai).

***Cordia dichotoma* Forsk. (VADGUNDO, MOTOGUNDO); Boraginaceae:**

- Ripe fruits are edible (Fulabhai).

***Cordia gharaf* (Forsk.) F. N. Will (GUNDI, NANI GUNDI); Boraginaceae:**

- A tea spoonfull of stem bark juice is given orally to cure dysentery (Somabhai).
- Ripe fruits are edible (Chhatrabhai).

***Tecomella undulata* (Sm.) Seem (RAGAT ROHIDO); Bignoniaceae:**

- A teaspoonful of leaf juice is taken thrice a day to cure fever (Somabhai).

***Oroxylum indicum* (L.) Vent. (TETU); Bignoniaceae:**

- Fresh steam bark paste is applied on skin burns (Somabhai).

***Gmelina arborea* Roxb. (SIVAN); Verbenaceae:**

- Wood is used to make drums (Arjanbhai). Wood is also used to make cots (Noniyabhai).

***Vitex negundo* L. (NAGOD); Verbenaceae:**

- Leaf paste is applied on rheumatic swellings (Devabhai and Somabhai).

***Holoptelea integrifolia* (Roxb.) Planch. (KANJO); Ulmaceae:**

- Wood is very strong and durable. Agricultural tools and pullies (Fulabhai).
- Fresh stem bark strips are used as rope in binding the bundle of sticks (Nanabhai).

***Ficus benghalensis* L. (VAD, VALLO); Moraceae:**

- Yellow old leaves are steamed and applied on abdomen to cure stomach pain (Devabhai). Leaves are used as fodder for goats and camels (Khemabhai).
- Latex is applied on cracks of sole (Somabhai).
- Fresh aerial roots are used as tooth brush cures



toothache (Nanabhai).

***Phoenix sylvestris* (L.) Roxb. (KHAJURI); Arecaceae:**

- Leaves are used for making mats and baskets (Vadliben).
- Ripe fruits are edible (Vasantbhai).

***Dendrocalamus strictus* Nees. (LAKADI); Poaceae:**

- It is used as a string to build vertical or horizontal supports of shades or for home (Mohanbhai). Tribals use its stem to make rings and wooden stands because they believe it is very light in weight and convenient to shift from one place to another (Bhumabhai).



1. Adivasi woman making Brooms from the leaves of *Phoenix sylvestris* at Ranpur
2. Tribal girl with basket, locally known as “topli” for collecting wheat at Matasur bhankhro
3. Tribal man Arjanbhai demonstrating and showing “Arrow and bow”
4. *Lannea coromandelica* in flowering stage, tribal boy collecting twigs
5. Dr.R.S.Patel identifying and showing *Boswellia serrata* twig to their students at Trishuliya ghat
6. Students Drashti Soni and Khushbu Mehta collecting *Wrightia tinctoria* in fruiting stage (Under the sanctioned GUJCOST PROJECT)

Plate 2 : Forest products and plant collection

– Local people made ‘Pipuda’ (Flute) from hollow stem pieces (Venabhai). Tribals make churning stick from the stem to churn butter milk. Because it is very light in weight and can be handled easily (Punabhai).

Total documented 35 plant species were belonging to 32 genera and 22 families. The present ethnobotanical account; arranged family wise is the result of extensive and intensive studies on the vegetation of Ambaji range forest and its multiple little known uses to the local inhabitants (Plate 1) It is the systematic inventory of the plant wealth of Ambaji forests by means of through explorations of as many areas of this range forest. It would be certainly as a handy resource of information on the phytowealth of Ambaji range in specific. The knowledge of ethnobotanical and medicinal uses has been proved as the backbone for tribal healthcare. Since the tribes are ardent worship folk remedies, they are inclined to prefer local treatment. The knowledge of tribal about plants around them and their usage can be best studied by personal observation and interrogation. The help of reliable old people and medicine man of this particular area is taken in collection of information about the economic and medicinal value of such species (Plate 2). Some little known medicinal uses are recorded here so far not reported in earlier literature and of firsthand information. Some of these folk remedies are more efficient, as the local healers and patients claim, than the modern drugs. Such species, after confirmation of their therapeutic efficacy with modern parameters, may be utilized in the formulation of new drugs. This type of traditional knowledge would be useful to cure several diseases in future, after verification and knowing of its valuable contents by means of phytochemistry. It would likely open new vistas in the field of medical science. Due to environmental changes and for survival of local tribes, destroy the forest wealth. It is necessity to protect and save the forest wealth by silviculture and social forestry programme. Thus more and more concerted steps or action should be taken to conserve the wild and exotic species.

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REFERENCES

- Champion, H.G. and Seth, S.K.** (1968). *A revised survey of forest types of India*, Forest Research of India, DEHRADUN, (UTTARAKHAND) India.
- Harshburger, J.W.** (1896). The purpose of ethnobotany. *Bot. Gaz.*, 31:146-154.

Jain, S.K. (1991). *Dictionary of Indian Folk Medicine and Ethnobotany*. Deep Publications, NEW DELHI, INDIA.

Pade, S.S.D. (1966). *Aryabhashika (Hindustan No Vaidraj)*. Trans. By Vyas, H. B. Sastu Sahitya Vardhak Karyalaya, Ahmedabad (GUJARAT) INDIA.

Patel, K.C. (2002). Floristics and Ethnobotanical Studies on Danta Forest of North Gujarat; Ph.D. Thesis, Sardar Patel University, Vallabh Vidyanagar (GUJARAT) INDIA.

Patel, R.S. (2002). Floristics and Ethnobotanical Studies on Ambaji Forest of North Gujarat; Ph.D. Thesis, Sardar Patel University, Vallabh Vidyanagar (GUJARAT) INDIA.

Shah, G.L. (1978). *Flora of Gujarat State Part I and II*, Sardar Patel University, Vallabh Vidyanagar (GUJARAT) INDIA.

