



SOME UNREPORTED ETHNOBOTANICAL USES FROM ROTI GHAT AREAS OF DAUND TAHASIL IN PUNE DISTRICT (M.S.) INDIA

S.M. SAMUDRA

Departemnt of Botany, K.G. Kataria College Daund, Pune-413801.

ABSTRACT

This region has been inhabited constantly by a group of nomadic tribals viz. Mahadeo Kolis, Dhangar, and Bhils for curing certain ethnobotanical ailments since ancient times. The present paper enumerates traditional ethnobotanical uses of 19 species belonging to 18 genera and 16 families by the natives of the study area i.e. Roti Ghat of Daund tahasil in district (M.S.) India. Out of these, seed in 3 plants, leaf in 6 plants, leaf and stem in 4 plants, root in 2 plants, stem in 2 plants, fruit in 1 plants and flower in 1 plant are used for ethnobotanical purposes by the local inhabitants

Keywords: Nomadic tribals, Roti Ghat, ethnobotanical.

INTRODUCTION

Nearly 70 percent of the world population is dependent on the traditional medicines for primary healthcare. India is known for its rich diversity of medicinal plants and hence called botanical garden of the world (Vedavathy et al, 1997). There is increase in the wage of herbal medicines in recent past and almost 95 percent consumption of these plants is made through collections from the forests (Gupta, 2003). The traditional knowledge of medicinal plants in the tribal people is very ideal source for exploring bioactive compounds of therapeutic importance in phytochemical research. This ethno-medicobotanical study of the tribal people can open new frontiers for searching more active and efficient herbal drugs. Since the beginning of civilization, human being has been remained constantly dependent on the endemic plants for certain primary needs and specific ailments cure and care. in course of time, his interactions with the wild plants as well as animals increased which has made him a superpower of earth planet. Documentation of human relationship and interactions with the plants in a scientific way has become a prime need of time these days which is called as ethnobotany (Cotton, 1996). In recent years, ethno-pharmaceutical studies are recognized as the most fruitful methods for identifying new sources of drugs. It is interesting to note the most recent popular plant-based drugs of ethnobotanical interests.

STUDY AREA

Roti Ghat the study area located in between 180 18' to 180 41' north latitude and 740 07' to 740 51' east longitude. Geographically area of the study region is 914 hectors according to 2011 census. The average height of study area is 554 meters from mean sea level. As a beautiful hilly landscape famous for its diversified vegetation, it is situated 28 km away from Daund tahasil Pune district. The forest is of mixed

deciduous type including some evergreen patches. The average rainfall of 325 cm/year and temperature range of 20°C to 36°C.

Although much has been documented on the ethno-medicinal and ethno-floristic aspects of plants in the district, there is not even a single concrete report on traditional ethnobotanical uses of plants in Roti Ghat areas of Daund taluka. Keeping this in view, the present work was conducted to record some unreported traditional ethnobotanical information hidden in this pocket.

Inhabitants:

The proposed study site has been remained inhabited constantly by the indigenous nomadic tribals viz. Mahadeo Kolis, Dhangars and Bhils which have been carrying out traditional ethnobotanical practices since ancient times. Their major occupation is agriculture along with animal husbandry and poultry as a secondary job. The forest resources in their surrounding areas play a very significant role in their routine life as they are enriched with traditional ethnobotanical knowledge which has been transmitted in them from their forefathers through the words of mouth in an informal way.

METHODOLOGY:

An ethno-medico-botanical survey was carried out during July-2011 to December- 2012 to collect traditional information from the inhabitants regarding ethnobotanical significance of the endemic flora in Roti Ghat areas, through group discussions, questionnaires and informal interviews (Schulte 1962, Jain 1989, Alexiades 1996 and Martin 1995). The information gathered was confirmed from traditional herbal practitioners and other knowledgeable informants. Simultaneously the plant species of ethnobotanical interests were collected in either flowering or fruiting stage and identified with the help of standard floras viz. Cooke 1967, Almeida 1996 and Pradhan and Singh 1999. Such plants were dried and mounted on herbarium sheets and preserved as voucher specimens in the Department of Botany, K.G. Katarai College Daund, Pune for future study.

RESULTS:

The taxa of ethnobotanical significance have been enumerated alphabetically (Table 1) in the sequence of Botanical name followed by family name, local or vernacular name, plant part used and unreported ethnobotanical uses.

Table: 1-Information of the plant species with unreported ethnobotanical uses.

Sr. No	Botanical name	Family	Local Name	Part used	Unreported ethnobotanical uses
1	<i>Abelmoschus moschatus</i> Medik.	Malvaceae	<i>Kastur bhendi</i>	Seed	One to two tolas (10-20 gm) of seeds with 1-2 tsp of sugar and 2-3 fresh sabja leaves (<i>Ocimum basilicum</i>) are boiled together in a cup of goat's milk for 2-3 minutes and the infusion is given twice a day for 2-3 days to treat ulcers in mouth.
2	<i>Abrus precatorius</i> Linn.	Fabaceae	<i>Lal gunj</i>	Leaf	fresh leaves are crushed in Til (<i>Sesamum orientale</i>) oil and the extract is mashed on the throat topically twice a day for 3-4 days to relieve laryngitis.
3	<i>Acacia leucophloea</i> (Roxb.) Willd.	Mimosaceae	<i>Hiwar</i>	Leaf & stem	Fresh plant twigs are tied at the marriage place of Hindu community as an indication that the boy or girl is getting married for the first time.
4	<i>Achyranthes aspera</i> Linn.	Amaranthaceae	<i>Aghada</i>	Root	Fresh roots extracted in warm water mixed with 1-2 tsp of honey and lemon (<i>Citrus limon</i>) juice is given to obese people

					regularly for 18-21 days to reduce body weight.
5	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	<i>Bel</i>	Leaf	Fine paste from a handful of fresh leaves in sheep's milk is massaged topically on the forehead to relieve headache.
6	<i>Agave americana</i> Linn.	Liliaceae	<i>Ghyapat</i>	Entire plant	The plants are grown around the fields for fencing as well as preventing soil erosion.
7	<i>Argyreia nervosa</i> (Burm.f.)Boj.	Convolvulaceae	<i>Samudra-Shok</i>	Leaf	A cupful poultice from green and healthy leaves is given orally once a day in early morning with a pinch of sugar to with empty stomach for 5-6 days against acidity.
8	<i>Bauhinia acuminata</i> Linn.	Caesalpinaceae	<i>Safed kanchan</i>	Seed	The seeds are roasted on fire, de-husked and eaten for gaining strength.
9	<i>Caesalpinia decapetala</i> (Roth.)Alst.	Caesalpinaceae	<i>Chillar</i>	Fruit	The fine paste from certain amount of young pods in specific quantity of goat's milk is applied externally on the swollen and painful legs and around the naval region of the pregnant women for sure and early relief.
10	<i>Caesulia axillaris</i> Roxb.	Asteraceae	<i>Kala maka</i>	Leaf & stem	An extract from certain quantity of younger leaves and tender shoots made in coconut oil and applied externally on the bald region of head to stimulate healthy and fresh hair growth.
11	<i>Canvalia cathartica</i> Linn.	Fabaceae	<i>Abai vel</i>	Seed	Seeds from partly matured pods are eaten raw and also cooked as vegetable by the local inhabitants.
12	<i>Caralluma adscendens</i> var <i>fimbricata</i> (Wall.) Gravely & Mayumath.	Asclepiadaceae	<i>Shindal makadi</i>	Leaf & stem	*Extract from 4-5 fresh and young 2-3 inches long stem pieces with leaves in a cup of coconut milk is mixed with a pinch of black (<i>Piper nigrum</i>) pepper powder, 1-2 tsp of sunth (<i>Zingiber officinale</i>) powder and little quantity of rock salt and the mixture is then given orally twice a day for 3-4 days to the patient to treat laryngitis.
13	<i>Catharanthus pussilus</i> (Murr.) G.Don.	Apocynaceae	<i>Chandani</i>	Leaf	An extract from a handful of fresh leaves in warm water is mixed thoroughly with 1-2 tsp soil from termite mound and a pinch of common salt and applied externally 3-4 times to cure irritation and swelling due to wasp sting.
14	<i>Cereus pterogonus</i> Lem.	Cactaceae	<i>Tridhar</i>	Latex	About 2-3 tsp of latex from plant is mixed with a pinch of Haldi (<i>Curcuma domestica</i>) powder in a cup of Til(<i>Sesamum indicum</i>) oil and massaged once daily at night for 8-9 days to cure arthritis.
15	<i>Cissus repanda</i> Vahl.	Vitaceae	<i>Ghuetuli</i>	Leaf & stem	A handful of fresh leaves and tender shoots are fried slightly in vegetable oil and crushed with 5-6 black (<i>Piper nigrum</i>) pepper and 2-

					3 leaves of Krishna Tulasi (<i>Ocimum sanctum</i>) and the paste is administered orally with gur (Jaggery) once a day at night from 5th month up to 7th month of pregnancy to attain healthy growth of foetus.
16	<i>Cissus rotundifolia</i> Vahl.	Vitaceae	Ghotmuli	Leaf	A fine paste from aatpav (aprox.100 gm) leaves and equal amount of sunth (<i>Zingiber officinale</i>) powder in a cup of mohri (<i>Brassica compestris</i>) oil is applied topically on the body region once daily for 10-12 days to cure irritations and inflammations of muscles.
17	<i>Clerodendrum serratum</i> (L.) Moon. Vent.	Verbenaceae	Bharangi	Root	Paste from aatpav (about 100gm) fresh and healthy roots with 1-2 tsp of arjun sadada (<i>Terminalia arjuna</i>) stem bark powder in a cup of coconut oil is applied locally 3-4 times in a day for 9-12 days to cure arthritis.
18	<i>Commiphora wightii</i> (Arnold.) Bhandari	Burseraceae	Guggul	Resin	Dried resin is burnt as Dhoop (incense sticks) during religious ceremonies for worshipping of Gods and Goddesses.
19	<i>Cordia gharaf</i> (Forsk.) Ehrenb. & Asch.	Boraginaceae	Gondhan	Leaf	Handful of fresh, young and healthy leaves crushed with 1-2 tsp of honey, 1-2 tsp of cow ghee and equal amount of glycerine in a cup of cow's milk is given thrice a day up to 5-7 days to cure mouth ulcer and tongue irritation.

Table:2-Analysis of plants verses plant part used.

Sr. No	Part used	Name of plant species	No of plants
1	Root	<i>Clerodendrum serratum</i> (L.) Moon. Vent., <i>Achyranthes aspera</i> Linn.	2
2	Leaf	<i>Cordia gharaf</i> (Forsk.) Ehrenb. & Asch., <i>Cissus rotundifolia</i> Vahl., <i>Catharanthus pusillus</i> (Murr.) G. Don., <i>Argyreia nervosa</i> (Burm.f.) Boj., <i>Aegle marmelos</i> (L.) Corr., <i>Abrus precatorius</i> Linn.	6
3	Fruit	<i>Caesalpinia decapetala</i> (Roth.) Alst.	1
4	Leaf & stem	<i>Cissus repanda</i> Vahl., <i>Caralluma adscendens</i> var <i>fimbriata</i> (Wall.) Gravely & Mayumath., <i>Caesulia axillaris</i> Roxb., <i>Acacia leucophloea</i> (Roxb.).	4
5	Resin	<i>Commiphora wightii</i> (Arnold.) Bhandari.	1
6	Seed	<i>Abelmoschus moschatus</i> Medik., <i>Bauhinia acuminata</i> Linn., <i>Canvalia cathartica</i> Linn.	3
7	Latex	<i>Cereus pterogonus</i> Lem.	1
8	Entire plant	<i>Agave americana</i> Linn.	1

DISCUSSION:

In all total 19 species belonging to 18 genera and 16 families having unreported traditional ethnobotanical has been reported. Out of these, seed in three plants, leaf in six plants, leaf and stem in four plants, root in two plants, latex in one plant, resin in one plant, entire parts in one plant and fruit in one plant are used for certain ethnobotanical purposes by the local inhabitants (Table:2). More surveys are needed in future to carry out to know the plant resources which have an immense value in the routine life and welfare of tribal community. Such studies prove helpful in preservation and passing of the traditional ethnobotanical knowledge from the tribals to other ethnic communities and also to the next generations. Efforts should be taken in protection, conservation and maintenance of the plants which are on the verge of extinction due to deforestation, global warming, industrialization and urbanization.

Few plants of this locality possess potential of better economic exploitation. Some of them are *Clerodendrum serratum* (L.) Moon.Vent., *Achyranthes aspera* L., *Cordia gharaf* (Forsk.) Ehrenb. & Asch., *Cissus rotundifolia* Vahl., *Catharanthus pusiulus* (Murr.) G.Don., *Argyreia nervosa* (Burm.f.) Boj., *Aegle marmelos* (L.) Corr., *Abrus precatorius* L., *Cissus repanda* Vahl., *Caralluma adscendens* var *fimbricata* (Wall.) Gravely & Mayumath, *Caesulia axillaris* Roxb., *Acacia leucophloea* (Roxb.) Willd., *Canvalia cathartica* Linn., *Bauhinia acuminata* Linn., *Abelmoschus moschatus* Medik. Since all these plant species were used in more or less proportion throughout the world, there is wide scope for their bioprospecting. Thereafter our prime duty becomes to protect and conserve these plants via ex-situ or in-situ ways urgently in a proper way.

ACKNOWLEDGEMENT

The author is also thankful to the notified and denotified rural, tribal and non-tribal groups, Vaidyas and traditional healers from the study area for their immense help and co-operation during the entire study and field work.

Thanks, are also due to the authorities of forest department of Ahmednagar district for their immense cooperation and permission for collection and preparation of voucher specimens.

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