

Ethnobotanical Observations of Euphorbiaceae Species from Vidarbha region, Maharashtra, India

G. Phani Kumar* and Alka Chaturvedi#

Defence Institute of High Altitude Research (DRDO), Leh-Ladakh, India

#PGTD Botany, RTM Nagpur University, Nagpur, India

*corresponding author: phani_bot@rediffmail.com

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Abstract

An attempt has been made to explore traditional medicinal knowledge of plant materials belonging to various genera of the Euphorbiaceae, readily available in Vidharbha region of Maharashtra state. Ethnobotanical information were gathered through several visits, group discussions and cross checked with local medicine men. The study identified 7 species to cure skin diseases (such as itches, scabies); 5 species for antiseptic (including antibacterial); 4 species for diarrhoea; 3 species for dysentery, urinary infections, snake-bite and inflammations; 2 species for bone fracture/ dislocation, hair related problems, warts, fish poisons, night blindness, wounds/cuts/ burns, rheumatism, diabetes, jaundice, vomiting and insecticide; 1 species as laxative, viral fever and arthritis. The results are encouraging but thorough scientific scrutiny is absolutely necessary before being put into practice.

Key words: Ethnopharmacology; Vidarbha region; Euphorbiaceae; ethnobotanical information.

Introduction

The medicinal properties of a plant are due to the presence of certain chemical constituents. These chemical constituents, responsible for the specific physiological action, in the plant, have in many cases been isolated, purified and identified as definite chemical compounds. Quite a large number of plants are known to be of medicinal use remain uninvestigated and this is particularly the case with the Indian flora. The use of plants in curing and healing is as old as man himself (Hedberg, 1987). Natural products are also of great interest in the process of drug discovery. Their large diversity in nature, permit the identification of lead molecules of great interest for the development of new therapeutic agents, as well as biochemical and molecular mechanism of action involved in most physiological and pathological processes. Furthermore, a growing world-wide interest in the use of phytopharmaceuticals as complementary or alternative medicine, either to prevent or to ameliorate

many diseases, has been noted in recent years.

Species of Euphorbiaceae have been used by local population of many countries in folk medicines as remedies against several diseases and complaints such as cancer, diabetes, diarrhoea, heart diseases, hemorrhages, hepatitis, jaundice, malaria, ophthalmic diseases, rheumatism and scabies etc., (Ayensu, 1978; Baslas, 1982). In India, following genera of Euphorbiaceae are reported as medicinal plants: *Acalypha*, *Aleurites*, *Andrachne*, *Antidesma*, *Bridelia*, *Chrozophora*, *Hippomaneae*, *Hura*, *Jatropha*, *Mallotus*, *Manihot*, *Phyllanthus*, *Putranjiva*, *Ricinus*, *Tragia* and *Trewia* (Ambasta, 1986; Nandkarni, 1954; Chopra et al., 1992, 1992; Kirtikar and Basu, 1975). Apart from these many of Euphorbiaceae members have been used in traditional folk medicines such as *Acalypha indica* for rheumatic arthritis, *Phyllanthus fraternus* for treatment of leprosy (Chaturvedi and Diwanji, 1995). The plants of Euphorbiaceae are also known to cure gonorrhoea, urino-genital infections, jaundice and are used as diuretic and astringent (Siwakoti and Varma, 1996).

Materials and Methods

Plant materials belonging to various genera of the Euphorbiaceae, readily available in Vidharbha region of Maharashtra state were collected from Nagpur, Chandrapur and Gadchiroli districts. Specimens were satisfactorily identified and confirmed with the help of the herbarium at Department of Botany, Nagpur University, Nagpur. One sample of all these plant herbarium specimens were submitted to the Department of Botany, Nagpur University campus, Nagpur. For the present investigation, Gond, Kavar and Halbi tribes were selected. Gond tribe comprises of different sub-tribes. However, present study was restricted to only two sub-tribes viz., Madiagond and Rajgond. Madiagonds of all the three districts were surveyed. Whereas, Rajgonds, Kavar and Halbi tribes inhabiting Gadchiroli district were included in present investigation. The survey was conducted according to the methods evolved and adopted by different ethnobotanists. The methodology used by various investigators is based on the emphasis of the nature of information sought. The methods adopted for investigation are those of Schultes (1962) and Jain (1984, 1987 and 1991).

Results and discussion

It is evident that many valuable herbal drugs have been discovered by knowing that particular plant was used by the ancient folk healers for the treatment of some kind of ailment (Ekka & Dixit, 2007). In the present investigation, ethonobotanical observations of tribal areas of Nagpur, Chandrapur and Gadchiroli districts of Maharashtra State were listed in table-1. Several plants of Euphorbiaceae are being used by the tribals of this area for treating their diseases and disorders. In the present investigation, *Euphorbia thymifolia* was found to be used as an anti-inflammatory agent and in cases of bone dislocation of animals. It gives relief from joint pains. This is in conformity with the findings of Binoj Kumar and Balakrishnan (1996). *Croton bonplandianum* has been used in a varied ways by various tribals. It's oil is used as a violent purgative, vesicant and counter irritant (Kapoor et al., 1986). In present investigation, however, it was found to be used also to control scabies, catarrh, bronchitis and asthma. It is observed that the same plant/ part of plants are used for different purposes by different tribes. Disease wise information with regard to the number of plants included in the present study are:

7 species to cure skin diseases (such as itches, scabies); 5 species for antiseptic (including antibacterial); 4 species for diarrhoea; 3 species for dysentery, urinary infections, snake-bite and inflammations; 2 species for bone fracture/ dislocation, hair related problems, warts, fish poisons, night blindness, wounds/cuts/burns, rheumatism, diabetes, jaundice, vomiting and insecticide; 1 species as laxative, viral fever and arthritis. The therapeutic efficacy of the plants, as claimed by the tribals, has so far been confirmed through subsequent surveys and cross-investigations as well with other ethnic groups. The results are encouraging but thorough scientific scrutiny is absolutely necessary before being put into practice.

Table 1. Ethnobotanical observations of Euphorbian species.

S.No	Botanical name	Local Name	Part used	Medicinal Uses
1	<i>Acalypha indica</i> L.	<i>Kupi</i>	Leaf	Antidiabetic
2	<i>Cicca acida</i> (L.) Merr.	<i>Raiawla</i>	Fruit	Remove dandruff, cure night blindness, anti vomiting
3	<i>Cleistanthus collinus</i> Benth.	<i>Garari.</i>	Leaf	Antidote against snake bite
			Leaf & Stem	Insecticide, fish poison
4	<i>Croton bonplandianum</i> Baill.		Leaf & Stem	Control scabies, catarrh, bronchitis & asthma
5	<i>Euphorbia geniculata</i> Orteg.	<i>Dudhani</i>	Leaf	Cure diarrhoea, dysentery
6	<i>Euphorbia hirta</i> L.	<i>Dudhanali</i>	Leaf	Urinary disorders, itches, gonorrhoea
			Latex	Remove warts
			Whole plant	Cure scabies (Skin diseases), burns, antiseptic, antidysentric, antidiarrhoea
7	<i>Euphorbia nivulia</i> Buch-Ham		Stem	Cure bone fractures
			Latex	Antiseptic
8	<i>Euphorbia perbracteata</i> Gage		Whole plant	Insecticide.
9	<i>Euphorbia pulcherrima</i> Willd. ex Klotz	<i>Lalpatta</i>	Latex	Cure rheumatic pain
10	<i>Euphorbia thymifolia</i> L	<i>Sher</i>	Whole plant	Relieve joint pains, antiinflammatory agent, applied on bone dislocation of animals
			Leaves	Antidote for snake bite, astringent, anathelmatic, against ring worm
			Seeds	Laxative for children
11	<i>Euphorbia tirucalli</i> L.		Latex	Remove warts, cure skin diseases, fish poison
12	<i>Kirganelia reticulata</i> (Poir.), Etudes	<i>Pitouri / Pitundi</i>	Whole plant	Stimulant, Astringent, Anathelmatic, Antidote for snake bite & antimicrobial
			Leaf	Cure diarrhoea & diuretic
13	<i>Pedilanthus tithymaloides</i> (L.) Poil		Latex	Cure headache
			Stem & Root	Cure skin diseases
			Whole plant	Cure urinary problems

14	<i>Phyllanthus asparulatus</i> Hutch.	<i>Bhui awli.</i>	leaf	Cure jaundice, remove white spots on skin
			Root	Cure stomach ache
15	<i>Phyllanthus emblica</i> L.	<i>Awla</i>	Fruit	Used in general weakness, cure night blindness, cough, control vomiting, removing dandruff
			Leaf	Antibacterial & antiviral
			Stem	Antiinflammatory agent
			Bark	Cure diarrhoea & dysentery
16	<i>Phyllanthus maderaspatensis</i> L.	<i>Ranavati.</i>	Whole plant	Used in cure jaundice, anti diabetic
			Leaf	Cure wounds & burns
17	<i>Phyllanthus urinaria</i> L.		Whole plant	Control gonorrhoea, rheumatic fever
18	<i>Phyllanthus virgatus</i> Forst.		Whole plant	Antiseptic, antiinflammatory agent
19	<i>Putranjiva roxburghii</i> Wall,	<i>Putravati</i>	Leaf	Viral fever
20	<i>Securinega virosa</i> (Willd.) Mull. Arg	<i>Pandharphali.</i>	Leaf	Control scabies, other skin diseases, vermifuge

Conclusion

Herbal therapy is not only cost effective but also provides means for the treatment of many diseases, which are considered to be incurable in other system of medicines. From the foregoing account it is very clear that the tribes of Nagpur, Chandrapur and Gadchiroli districts are using number of medicines of plant origin. They are consuming various species of family Euphorbiaceae for various diseases related to skin, bowel complaint, joint pains, diabetes and jaundice. These plants are also in use as insecticides, against snake bite and as fish poison.

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