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Ethnomedical Knowledge of Plants used by the Tribal people of Purandhar in Maharashtra, India

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Abstract

This study presents the results of a field survey of the plants used medically by the tribal people of Purandhar in Maharashtra, India. Tribes like *Dhangars* and *Gowlis* inhabit the dry deciduous forests of the region. This is an effort to record the valuable ethnomedical knowledge of these Purandhar tribes. A total of 77 species belonging to 30 families and 56 genera were included. These plants are used to treat various aliments, discomforts and diseases like whooping cough, asthma, diabetes, diphtheria, conjunctivitis, snake bite, scorpion bite, etc.
Keywords: Ethnobotany, Medicinal plants and Purandhar.

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 ethnomedicobotanical study of the tribal people can open new frontiers for searching more active and efficient herbal drugs. In an exploratory study of medicinal plants used by tribal communities of Purandhar *viz: Dhangars* and *Gowlis*, 77 plants have been recorded. In the present paper we give the details of these medicinal plants that are being used for healing and or curing various discomforts, ailments and diseases for more than 300 yrs in Purandhar. Although many studies concerning the use of medicinal plants in several parts of Maharashtra have been carried out, the ethnobotany of the Purandhar region is poorly known and is being reported here for the first time.

Study area

Purandhar in Maharashtra, India, lies between 17°02’.00 E and 18°17’.30 N. The different vegetation types present in this region are scrub, deciduous and dry deciduous forest (Fig. 1 & 2). The present study was carried out in

selected areas of Purandhar where tribes are known to have inhabited the land since the 16th Century.

Figure 1. Purandhar landscape.

Figure 2. Vegetation on Purandhar fort.

Methodology

Periodic field trips were conducted in different seasons of the tribal areas for three consecutive years. The frequent visits made it possible to develop a good rapport with the elderly people and traditional healers (or *Vaidoos*), thereby making it possible to acquire the details of medicinal plants and their uses. The information was collected from 80 people (54 women, 26 men) whose ages ranged from 45 to 86 years. Most of the interviewees (65) were more than 50 years old. The plant collections were made in three seasons (summer, monsoon and winter), as some of the plants are seasonal. The plants were identified with the help of different floristic works (Cook, 1967; Santapau, 1958; Sharma *et al*., 1996; Singh *et al*., 2000; Singh *et al*., 2001, as well as through comparison with specimens previously

authenticated and preserved in the Herbarium of the Botanical Survey of India, Western Circle, Pune. Specimens of our plants are preserved in the herbarium of the Medicinal Plants Conservation Center (MPCC), Pune. The acquired information was cross checked with available literature about these medicinal plants and their ethnobotany (Jain, 1991; Chopra *et al*., 1956; Chopra and Verma, 1968; Agharkar, 1953; Vartak, 1997).

Results AND Discussion

The results of this study are given in Table 1, wherein species are arranged alphabetically by genus.
For each species are the botanical name with authority and voucher specimen number, family, local name, parts used, ailments treated, preparations and total number of reports (*n*) and relevant percentage (%) of citations.
A total of 77 plants from 30 different families have been documented for their healing properties. These plants are used to treat 33 types of ailments and / or discomforts. Of these, 11 plants were reportedly used to treat different type of stomach and urinary problems; 6 were used in the the treatment of muscle and joint pains; 5 for treatment of stroke and excessive heat; 4 for relief of asthma while 4 others for the healing of wounds; and 3 for treatment of skin diseases and infections. With respect to other ailments or diseases, generally one or two plant species were said to be used. The use and acceptability of these plants, which are claimed to be effective remedies, is quite popular and high among the *Dhangar* and *Gowli* tribes that inhabit Purandhar. About 45 of their species are very well known for their pharmacological, biochemical and clinical applications (Kirtikar and Basu, 1951; Bhattacharjee, 1998; Kurian, 1999; Dhiman, 2003), but the remaining plant species will need further confirmation and study to prove them as efficient healers.

Table 1 Medicinal plants used in the Purandhar region of Maharashtra, India

Botanical name and voucher specimen	**Family**	**Local name**	**Parts used**	**Uses/Ailments treated**	**Preparations (administration)**	**Citations**	
						(*n*)	(%)
Acacia pennata (L.) Willd. (MPCC 1900)	Mimosaceae	Chilhar	Seed	Body pain	Oil (E)	5	6.25
Achyranthes aspera var. *aspera* L. (MPCC 1459)	*Amaranthaceae*	Aghada	Leaves	Cough	Decoction (I)	12	15.00
Aloe vera (L.) Burm. f. (MPCC 3554)	Liliaceae	Korpad	Leaves	Skin diseases, healing wounds	Exudate (E)	18	22.50
Argemone mexicana L. (MPCC 3557)	Papaveraceae	Bilayat	Root	Scorpion bite	Paste (E)	3	3.75
Asparagus racemosus var. *javanica* (Kunth) Baker (MPCC 3405)	Liliaceae	Shatavari	Tuber	Lactation	Powder (I)	19	23.75
Azadirachta indica A. Juss. (MPCC 306)	*Meliaceae*	Kadulimb	Young branch	Brushing teeth	Direct (I)	22	27.50
			Leaves / Fruit	Skin diseases	Juice (I)	12	15.00
			Leaves	Loosing weight	Juice (I)	4	5.00
Bacopa monnieri (L.) Penn. (MPCC 959)	Scrophulariaceae	Bhramhi	Leaves	Menstrual disorder	Juice (I)	1	1.25
Bauhinia purpurea L. (MPCC 3638)	Caesalpinaceae	Motha apta	Leaves	Scorpion bite	Paste (E)	5	6.25
Bauhinia racemosa Lam. (MPCC	Caesalpinaceae	Apta	Root	Joint pain	Paste (E)	2	2.50

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Blainvillea acmella (L.) Philipson (MPCC 1885)	Asteraceae	Singi	Leaves	Healing wounds	Juice (E)	4	5.00
Boerhavia repens var. *diffusa* (L.) Hook. (MPCC 288)	Nyctaginaceae	Punarnava	Root	Excessive body heat	Powder (I)	6	7.50
Boerhavia repens var. *repens* L. (MPCC 333)	Nyctaginaceae	Punarnava	Leaves	Blood purifier	Juice (I)	7	8.75
Butea monosperma var. *monosperma* (Lam.) Taub. (MPCC 2904)	Fabaceae	Palas	Flower	Reduce excessive heat	Infision (I)	5	6.25
Calotropis gigantea (L.) Ait. (MPCC 2525)	Apocynaceae	Rui	Leaves	Swelling of stomach	Paste (E)	13	16.25
Calotropis procera (Ait.) R. Br. (MPCC 3564)	Apocynaceae	Rui	Latex	Muscle contraction	Direct (E)	20	25.00
Carissa congesta var. *congesta* L. (MPCC 160)	Apocynaceae	Karwand	Root	Skin allergy, itches	Paste (E)	6	7.50
Cassia auriculata L. (MPCC 2235)	Caesalpinaceae	Tarwad	Leaves	Ringworms	Paste (E)	2	2.50
Cassia fistula L. (MPCC 212)	Caesalpinaceae	Bahawa	Pod	Healing wounds	Powder (E)	9	11.25
Cassia occidentalis L. (MPCC 3425)	Caesalpinaceae	Tarota	Seed	Asthma	Powder (I)	3	3.75
Cassia pumila Lam. (MPCC 1572)	Caesalpinaceae	Harankhuri	Leaves	Whooping cough	Decoction (E)	1	1.25
Cassia surattensis Burm. f. ssp. *glauca* (Lam.) K. & S. (MPCC 616)	Caesalpinaceae	-	Root	Snake bite	Juice (I)	3	3.75
Cassia tora L. (MPCC 2934)	Caesalpinaceae	Takla	Seed	Stroke	Paste (E)	2	2.50
Celastrus paniculatus Willd. (MPCC 958)	Celastraceae	Malkangni	Seed	Joint pain	Oil (E)	6	7.50
Ceropegia oculata Hook. (MPCC 2919)	Apocynaceae	Dudhani	Leaves	Conjunctivitis	Juice (I)	1	1.25
Curcuma pseudomontana Grah. (MPCC 412)	Zingiberaceae	Ranhalad	Tuber	Blood purifier	Extract (I)	3	3.75
Datura metel L. (MPCC 3590)	Solanaceae	Dhotra	Leaves	Swelling.	Paste (E)	8	10.00
Dioscorea bulbifera L. (MPCC 3410)	Dioscoreaceae	Kand vel	Bulbil	Stomachache	Juice (I)	11	13.75
Dioscorea pentaphylla var. *pentaphylla* L. (MPCC 2011)	Dioscoreaceae	Fulora	Tuber	Blood purifier	Cooked eaten (I)	3	3.75
Eclipta prostrata (L.) L. (MPCC 2714)	Asteraceae	Maka	Root	Jaundice	Juice (I)	5	6.25
Emblica officinalis Gaertn. (MPCC 1112)	Euphorbiaceae	Awla	Fruit	Loss of vision	Eaten raw (I)	3	3.75
				Acidity and pittha.	Eaten raw with salt (I)	30	37.50
Ensete superbum Cheesm. (MPCC 3584)	Musaceae	Rankel	Scape	Kidney stone	Eaten raw (I)	2	2.50
Eucalyptus globulus Labill. (MPCC 3587)	Myrtaceae	Nirgil	Bark	Strengthening gums	Powder (I)	6	7.50
			Seed	Skin diseases	Oil (E)	3	3.75
Euphorbia fusiformis Buch.-Ham. (MPCC 3588)	Euphorbiaceae	Chirkandi-cha kanda	Latex	Conjunctivitis	Latex (E)	8	10.00
Euphorbia heterophylla L. (MPCC 1507)	Euphorbiaceae	-	Latex	Skin allergy, itches	Direct (E)	3	3.75
Euphorbia hirta L. (MPCC 2614)	Euphorbiaceae	Dudhi	Leaves	Lactation	Direct (I)	6	7.50

Euphorbia thymifolia L. (MPCC 3604)	Euphorbiaceae	-	Leaves	Abortifacient	Juice (I)	2	2.50
Ficus benghalensis L. (MPCC 3590)	Moraceae	Wad	Leaves	Cracks on feet	Latex (E)	6	7.50
Ficus racemosa L. (MPCC 1875)	Moraceae	Umbar	Bark	Strengthening gums	Powder (I)	2	2.50
Ficus religiosa L. (MPCC 3592)	Moraceae	Pimpal	Bark	Asthma	Powder (I)	3	3.75
Frerea indica Dalz. (MPCC 4953)	Apocynaceae	Potdukhi	Leaves	Promoting hair growth	Paste (E)	1	1.25
Gloriosa superba L. (MPCC 1523)	Liliaceae	Kallawi	Leaves	Easy delivery	Paste (E)	13	16.25
Gmelina arborea Roxb. (MPCC 789)	Verbenaceae	Shivan	Leaves	Urinary disorders	Extract (I)	2	2.50
Gymnema sylvestre (Retz.) R. Br. (MPCC 641)	Apocynaceae	Bedki	Leaves	Diabetes	Powder (I)	1	1.25
Hemidesmus indicus var. *pubescens* (Wight & Arn.) Hook. f. (MPCC 1580)	Periplocaceae	Anantmul	Root	Excessive body heat	Powder (I)	21	26.25
Hibiscus cannabinus L. (MPCC 3540)	Malvaceae	Ambadi	Leaves	Laxative	Eaten raw (I)	2	2.50
Hibiscus rosa-sinensis L. (MPCC 92)	Malvaceae	Jasvand	Root	Blood discharge	Powder (I)	1	1.25
			Flower	Maintaining dark black hairs	Oil (E)	13	16.25
Iphigenia pallida Baker (MPCC 339)	Liliaceae	Lasun kand	Leaves	Perforation of eardrum	Juice (I)	1	1.25
Justicia adhatoda L. (MPCC 3674)	Acanthaceae	Adulsa	Leaves	Cough	Powder (I)	11	13.75
Kalanchoe pinnata (Lam.) Pres. (MPCC 3605)	Crassulaceae	Panphuti	Leaves	Muscle pain	Paste (E)	5	6.25
Lantana camara var. *aculeate* (L.) Moldenke (MPCC 2034)	Verbenaceae	Tantani	Fruit	Menstrual disorders	Powder (I)	3	3.75
Lawsonia inermis L. (MPCC 4955)	Lythraceae	Mehandi	Leaves	Excessive body heat	Paste (E)	2	2.50
Mangifera indica L. (MPCC 4952)	Anacardiaceae	Amba	Seed	Dysentery	Paste (E)	23	28.75
Mimosa hamata Willd. (MPCC 2221)	Mimosaceae	Chapta khair	Leaves	Leprosy	Paste (E)	2	2.50
Mimosa pudica L. (MPCC 3678)	Mimosaceae	Lajalu	Leaves	Stroke	Extract (I)	5	6.25
Ocimum tenuiflorum L. (MPCC 2005)	Lamiaceae	Ran tulas	Leaves	Fever , cold	Juice (I)	29	36.25
Opuntia elatior Mill. (MPCC 4954)	Cactaceae	Nivdung	Stem	Muscle pain	Juice (E)	8	10.00
Phyllanthus amarus Schum & Thonn. (MPCC 3620)	Euphorbiaceae	Bhui awla	Leaves	Jaundice	Decoction (I)	9	11.25
Plumbago zeylanica L. (MPCC 2620)	Plumbaginaceae	Chitrak	Root	Skin diseases	Paste (E)	9	11.25
Pongamia pinnata (L.) Pierre (MPCC 3621)	Fabaceae	Karanj	Seed oil	Whooping cough	Oil (I)	2	2.50
Punica granatum L. (MPCC 4956)	Punicaceae	Dalimb	Fruit rind	Cough, toothache	Powder (I)	15	18.75
Rubia cordifolia L. (MPCC 640)	Rubiaceae	Manjistha	Leaves	Uterine pain	Juice (I)	1	1.25
Sida mysorensis Wight and Arn. (MPCC 32)	Malvaceae	-	Leaves	Healing wounds	Powder (E)	3	3.75

Sida rhombifolia ssp. *rhombifolia* L. (MPCC 28)	Malvaceae	Bala	Leaves	Appetizer	Powder (I)	5	6.25
Sida spinosa L. (MPCC 2537)	Malvaceae	-	Root	Scorpion bite	Paste (E)	1	1.25
Smithia hirsuta Dalz. (MPCC 3123)	Fabaceae	-	Leaves	Laxative	Direct (I)	12	15.00
Solanum anguivi Lam. (MPCC 2627)	Solanaceae	Ranwangi	Seed	Asthma	Powder (I)	2	2.50
Solanum nigrum L. (MPCC 842)	Solanaceae	Ranwangi	Leaves	Laxative	Laxative (I)	4	5.00
Sphaeranthus indicus L. (MPCC 1034)	Asteraceae	-	Leaves	Vermifuge	Juice (I)	3	3.75
Syzygium cumini (L.) Skeels. (MPCC 315)	Myrtaceae	Jambhul	Fruit	Diabetes	Eaten raw (I)	24	30.00
			Bark	Severe toothache	Decoction (I)	3	3.75
Tamarindus indica L. (MPCC 2012)	Caesalpinaceae	Chinch	Leaves	Menstrual disorders	Juice (I)	4	5.00
Terminalia bellirica (Gaertn.) Roxb. (MPCC 231)	Combretaceae	Behada	Bark	Diphtheria	Powder (I)	18	22.50
Terminalia chebula Retz. (MPCC 3212)	Combretaceae	Hirda	Fruit	Strengthening gums	Powder (I)	4	5.00
Terminalia elliptica Willd. (MPCC 731)	Combretaceae	Ain	Bark	Anaphylatic reaction	Powder (I)	2	2.50
Tridax procumbens L. (MPCC 1884)	Asteraceae	Kurmudi	Leaves	Healing wounds	Juice (E)	27	33.75
Tylophora dalzellii Hook. f. (MPCC 3130)	Apocynaceae	-	Leaves & Stem	Asthma	Powder (I)	1	1.25
Vitex negundo var. *negundo* L. (MPCC 2624)	Verbenaceae	Nirgudi	Leaves	Muscular pain	Oil (E)	6	7.50
Wrightia tinctoria ssp. *tinctoria* R. Br. (MPCC 251)	Apocynaceae	Lamb kuda	Seed	Stomachache	Powder (I)	16	20.00

Way of administration: (E) external use; (I) internal use.

Conclusion

This study indicates the importance of large number of plants in tribal medicine, which could be of paramount interest for research and drug development and identification of new bioactive compounds that deserve further study.

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