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Ethnobotanical studies of ghatsiras region in Ahmednagar district Maharashtra state (India)

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ABSTRACT

The present paper focuses on the traditional knowledge of inhabitants on the uses of wild plants in Ghatsiras area of Pathardi Taluka in Ahmednagar district of Maharashtra state. A total of twenty one plants used for various needs by the residents of study area are enumerated. The entire plant of *Actinopteris radiata* (Sw.) Link *Cuscuta reflexa* Roxb. , the roots of *Abrus precatorius* L. *Adhatoda vasica* Nees. *Asparagus racemosus* Willd. *Balanites aegyptiaca* (L).Diels *Solanum xanthocarpum,* L *Tecoma stans* (L).Juss. ex.Kunth. *Withania somnifera* Dunal , stem bark of *Clerodendron serratum* (L).Moon., *Ailanthus excelsa* Roxb., shoot apex of *Cynodon dactylon* (L).Pers., leaves of *Annona squamosa* Pers., *Aristolochia bracteolata* Lamk., *Boerhaavia diffusa* L.,*Catharanthus roseus* (L).Don., fruits of *Emblica officinalis* Gaertn., *Physalis minima* L., *Tinospora cordifolia* (Linn.) Miers and Thoms and the seeds of *Datura metel*, L., *Jatropha gossypifolia* L., are found to have ethnobotanical importance.

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Key words : Ghatsiras, Inhabitants, Traditional knowledge, Ethnobotanical uses

INTRODUCTION

Ancient ethnobotanical literature on global level suggests that the tribal, aboriginal people and forest dwellers have used large number of wild ethnoflora from hundreds of years for curing various ailments along with other routine uses *viz.,* food, agricultural implements, fodder, gums, resins, tannins alkaloids etc (Heywood, 1992).Traditional healers,ayurvedic practitioners,vaidyas and ethnic societies largely depend on plants for herbal drugs. Therefore, there is a need for scientific documentation of ethnobotanically important plants and to spread the traditional knowledge with regard to uses of plants which is done in the present work. Plants and information about their uses need to be preserved for our future.

Interest in ethnobotanical explorations to gather information on the uses of plants by the tribal and rural people has increased significantly in recent years. (Jain 1963, 1967,1981,1987,1989, 1994, 1999, Joshi 1982, Patil and Ramaiah 2006, Deore and Somani 2006, Schultes 1962, Sharma and Malhotra 1984, Vartak.and Gadgil 1981, Upadhye and Kumbhojkar,1992, Kulkarni and Kumbhojkar 1992, Tosh 1996, Painuli and Maheshwari 1996, Singh and Sharma1998, Chauhan 2004).

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Study area:

Ghatsiras is a religious place situated on the bank of Dhora river that originates in Vridheshwar hills on the Western side of Pathardi Taluka in Ahmednagar district of Maharashtra state in India and lies at an altitude of 650-700 meters between 19°10'31"N – 19° 31'32" N latitude and 74°71'49"E – 75° 10'51" E longitude. The area is occupied by 39 per cent forests which are basically mixed typed. It is inhabited mostly by Mahadeo Koli tribal community who has been depending on the wild flora since long for their traditional needs and curing specific ailments. Ghatsiras experiences an average rainfall of about 378 cm and temperature range of 20°C to 36°C (Almeida, 2007).

MATERIALS AND METHODS

An ethnobotanical survey was carried out during July-2006 to December- 2007 to collect traditional information from the inhabitants regarding ethnobotanical importance of flora in Ghatsiras area, through group discussions, questionnaires and informal interviews. The information gathered was confirmed from ayurvedic practitioners and other people.

Simultaneously the plant species of ethnobotanical significance were collected and identified with the help of standard flora. (Cooke1967, Santapau, 1953, Almeida 1990, 1996, Pradhan and Singh 1999 and Naik 1998). Such plants were dried and mounted on herbarium sheets and preserved as voucher specimens in the Department of Botany, P.V.P.college, Pravaranagar for record and reference.

RESULTS AND DISCUSSION

The scientific, vernacular and family names, plant part used and the ethnobotanical importance of twenty one plants is enumerated in Table 1 .

Twenty one plants having ethnobotanical importance are reported, of these eighteen plants are used for curing various ailments. (Table 1). All parts of two plants, roots of seven plants, stem bark of two plants, shoot apex of one plant, leaves of four plants, fruits of three plants and seeds of two plants are used for various purposes by the inhabitants (Table 2). More surveys need to be carried out to know about the

Table 1 : Botanical name, vernacular name, family, plant part used and ethnobotanical used of different plants

Botanical name	Vern. name	Family	Part used	Ethnobotanical uses
Abrus precatorius L.	*Gunj*	Fabaceae	Root	Handful of fresh roots is crushed in a cupful of goat's milk, filtered and the extract is given with 1-2 tsp of castor oil (*Ricinus communis*) as Laxative.
Actinopteris radiata (Sw.)Link.	Bhui-Tad	Actinopteridaceae	Whole plant	Decoction of whole plant in a cupful of goat's milk is administered with a pinch of sugar for curing diarrhoea.
Adhatoda vasica Nees.	Adulsa	Acanthaceae,	Root	1-2 tsp of root decoction and 1 tsp powder of dried ginger (*Zingiber officinale*) rhizome is mixed in a glassful of goat's milk and given to patient suffering from bronchial ulcer.
Ailanthus excelsa Roxb.	Maharukh	Simaroubaceae	Stem bark	One tola (about 10g) fresh stem bark is crushed in castor (*Ricinus communis*) oil and rubbed on the skin twice a day for 2-3 days to cure ringworm disease of pet animals like dogs,cats etc.
Annona squamosa Pers.	Seetaphal	Annonaceae	Leaf	An extract from 3-4 fresh leaves mixed with 1tsp Nilgiri oil (*Eucalyptus globules*) is used as laxative in pet animals
Aristolochia bracteolata Lamk.	Gindhan	Aristolochiaceae,	Leaf	Fresh leaf extract and neem (*Azadirachta indica*) oil is mixed together and rubbed on the skin of pet animals twice a day for 3 days to get rid of ticks.
Asparagus racemosus Willd.	Shatavari	Liliaceae	root tubers	Half tola (about 5g) fresh root tubers are eaten raw along with roasted garlic (*Allium sativum*) for increasing sex desire and potency in men.
Balanites aegyptiaca (L).Diels	Hingani	Balanitaceae	Root	Fresh root pulp in honey is used as laxative in children below 6 years age.
Boerhaavia diffusa L.	Punarnawa	Nyctaginaceae	Leaf	Fresh leaves along with dried coconut (Khobara) are given to children early in the morning after exercise for improving intelligence.
Catharanthus roseus (L).Don.	Sadafuli	Apocynaceae	Leaf	Leaf paste along with turmeric powder (*Curcuma longa*) and castor (*Ricinus communis*) oil is rubbed on body part twice a day for 3 days to get relief from muscular pains in the swelling.

Table 1 : Contd….

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Clerodendron serratum (L).Moon.	Bharang	Verbenaceae	Stem bark	One tola (about 10g) fresh stem bark is soaked in cow's urine overnight. On the next day, it is crushed in lime and used as biopesticide for thrips, grasshoppers and aphides.
Cuscuta reflexa Roxb.	Amarvel	Convolvulaceae	Whole plant	Entire plant (about 10 gm) is crushed in ginger *(Zingiber officinale)* and rubbed on painful joints in patient suffering from rheumatism.
Cynodon dactylon (L).Pers.	Harali	Poaceae	Shoot apex	21 Fresh shoot apices are offered to Lord Ganesha during Ganesha festival celebrated in Bhadrapad month of Hindu calendar (August-September months).
Datura metel, L.	Kala-Dhotra	Solanaceae	Seed	The dry seeds are powdered and filled in rolled dry Badam (*Terminalia catappa*) leaves and smoked like cigars for curing asthma.
Emblica officinalis Gaertn.	Awala	Euphorbiaceae	Fruit	Fresh fruits are eaten raw by elders suffering from acidity.
Jatropha gossypifolia L.	Mogali Erand	Euphorbiaceae	Seed	Seed oil and kerosene in 1:1 ratio mixed together and used as lubricant for bullock-cart wheels.
Physalis minima L.	Popati	Solanaceae	Fruit	Ripened fruits are eaten raw for curing liver disorders.
Solanum xanthocarpum, L.	Kate-Ringni	Solanaceae	Root	Fresh root extract in cupful of boiled water is consumed by elders along with honey early in the morning for 2-3 days to expel out intestinal worms.
Tecoma stans(L).Juss.ex.Kunth	Sukali	Bignoniaceae	Root	Half tola (about 5g) fresh roots are crushed in common salt and the extract obtained is applied on skin to relieve pains due to wasp sting.
Tinospora and Thoms.	Gulwel	Menispermaceae,	Fruit	Fresh pulp from mature fruits is mixed in cow's urine and given twice a day for 9 days to the patient suffering from chicken guinea.
Withania somnifera Dunal	Askand	Solanaceae	Root	The dry roots are powdered and given along with goat's milk early in the morning for 6-7 days to patient suffering from rheumatism.

Table 2 : Various parts of the plant used by the inhabitants

Sr..No.	Plant part used	Name of plant species	Number of plants
1.	Root	*Abrus precatorius* L., *Adhatoda vasica* Nees., *Asparagus racemosus* Willd., *Balanites aegyptiaca* (L).Diels., *Solanum xanthocarpum* L., *Tecoma stans* (L).Juss. ex.Kunth., *Withania somnifera* Dunal .	7
2.	Stem	*Clerodendron serratum* (L).Moon., *Ailanthus excelsa* Roxb.	2
3.	Leaf	*Boerhaavia diffusa* L., *Aristolochia bracteolata* Lamk., *Catharanthus roseus* (L).Don., *Annona squamosa* Pers.	4
4.	Fruit	*Physalis minima* L., *Emblica officinalis* Gaertn., *Tinospora cordifolia* (Linn.) Miers and Thoms.	3
5.	Whole plant	*Actinopteris radiata* (Sw.)Link., *Cuscuta reflexa* Roxb.	2
6.	Shoot apex	*Cynodon dactylon* (L).Pers.	1
7.	Seed	*Datura metel*, L., *Jatropha gossypifolia* L.	2

plant resources which are of immense value to the living and welfare of tribal community. Such studies help to preserve and pass on the traditional ethnobotanical knowledge of the tribals and other ethnic communities to the next generations. Efforts must be taken to protect and conserve such plants from being lost due to deforestation and urbanization.

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REFERENCES

Almeida, M.R. (1996). *Flora of Maharashtra.* Blatter Herbarium. St.Xaviers College, MUMBAI, (India).

Almeida, M.R. (2007). *A checklist of plants of Ahmednagar District*. Enercon, Orient Press Ltd. BOMBAY, (India).

Almeida, S.M. (1990). *The flora of Sawantwadi.* Maharashtra. Vol. I & II

Chauhan Virendra Singh, (2004). Ethnobotany of Katkari Tribals in Pune district. Ph.D thesis submitted to Pune University.

Cooke, T. (1967). *Flora of Bombay Presidency (1903-1905).* Vol. I, II and III Botanical Survey of India. Calcutta.

Deore, C.R.and Somani, V.J.(2006). Ethnobotanical studies of Nandurbar district with special emphasis on wild plants. *Bioinfolet.,* **3**(3): 183-185p.

Heywood,V.H.(1992). Conservation of germplasm of wild species. In Sandlund, O.T., Hindar, K. and Brown, A.H.D. (eds.). *Conservation of biodiversity for sustainable development.* Scandinavian University Press, Oslo, 189-203.

Jain, S.K (1963). Studies on Indian ethnobotany. Plants used in medicine by the tribals of Madhya Pradesh. *Bull. Region.Res. Lab. Jammu.,* **1**(2) : 126-128.

Jain, S.K. (1967). Ethnobotany. It's scope and study. Indian Museum *Bull.,* **2** (1) : 39-43.

Jain, S.K. (1981).*Glimpses of Indian ethnobotany.* Scientific publishers, JODHPUR, Rajasthan (India).

Jain, S.K. (1987). *A manual of ethnobotany.*pp 94-102. Sci.Publishers, JODHPUR, Rajasthan (India).

Jain,S.K.(1989).*Method and approaches in ethnobotany.* Society of Ethnobotanists. CDRI. Lucknow.

Jain,S.K.(1994). *Ethnobotany and research on medicinal plants in India.* CIBA Foundation symposium 185. Wiley. Winchester. pp. 153-163.

Jain, S. K. (1999). *A hand book of ethnobotany.* 1st ed. Dehra Dun, Bishen Singh Mahendra Pal Singh, **14**, 309 p. ills

Joshi, P. (1982). An ethnobotanical study of Bhils. A preliminary survey. *Jour. Econ. Tax. Bot.,* **3**: 257-266.

Kulkarni, D.K.and Kumbhojkar,M.S. (1992). Ethnobotanical studies on Mahadeo Koli tribe in Western Maharashtra-Part I.Cordage Plants. *J.Econ.Tax.Bot. Addl. Ser.*,**10**:111-115.

Naik, V. N. (1998). *Flora of Marathwada.* Amrut Prakashan, AURANGABAD, M.S.(India).

Painuli, R.M.and Maheshwari,J.K. (1996). Some interesting ethnomedicinal plants used by Sahariya Tribe of Madhya Pradesh.*Ethnobotany in South Asia* (ed.) J.K. Maheshwari,(179-185).Sci. Publication. JODHPUR, Rajasthan (India).

Patil, M.B. and Ramaiah,P.V.(2006). Ethnobotany in human health care of Nandurbar District in Maharashtra State. *Bioinfolet.,* **3** (4): 246-250.

Pradhan, S.G. and Singh,N.P. (1999). *Flora of Ahmednagar District. (MS).* Bishen Singh Mahendrapal Singh. DEHRA DUN, U.K.(India).

Santapau, H. (1953). The flora of Khandala on the Western Ghats of India.Rec. *Bot. survey. India.,* **16** (1): 1-335.

Sharma, B.D. and Malhotra,S.K. (1984). A contribution to the ethnobotany of tribal areas in Maharashtra. *J. Econ.Tax.Bot.,* **5**(3): 533-537.

Schultes, R.E. (1962). The role of ethnobotanists in search for new medicinal plants. *Lloydia*, **25** (4): 257-266.

Singh N.P. and Sharma, P.P. (1998). *Checklist of ethnobotanically important plants. Biodiversity of the Western Ghats of Maharashtra*. (ed.)A.P.Jagtap (211-261). World wide funds for Nature-India, PUNE, M.S.(India).

Tosh, J. (1996). Ethnobotanical study of Western Maharashtra. *J.Econ.Tax.Bot.Addl.Ser.*,**12**: 169-174.

Upadhye, A.S. and Kumbhojkar,M.S. (1992). Ethnobotany of Madhuca from Western Maharashtra. *J. Econ. Tax. Bot .Addl .Ser.*,**10**: 77-81.

Vartak, V.D.and Gadgil,M.N. (1981). Studies on sacred grooves along the Western Ghats from Maharashtra and Goa; *In Glimpses of Indian ethnobotany*.Oxford & IBH, New Delhi. pp. 272-278.