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Study on Some Weeds of Ethnomedicobotanical Importance

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ABSTRACT: Tropical primary forest is often considered to be the most important habitat for traditional peoples to gather medicinal plants. However, the role of weeds, commonly found in disturbed areas, in traditional medicinal floras has been overlooked. Data are presented showing the significant representation of weeds in the medicinal floras of the Highland Maya in Chiapas, Mexico and in the medicinal flora of Native North Americans as a whole. The frequency with which weeds appear in these pharmacopoeias is significantly larger ($P < 0.0001$) than what would be predicted by the frequency of weed species in general. Explanations based on human ecology and biochemical ecology are presented.

KEYWORDS: weeds, ethnomedicobotanical, importance, floras, traditional, ecology

I. INTRODUCTION

An ethnobotanical exploration was carried out during 2010-2012 in the Parner tahsil of Maharashtra State. The aim of this study was the identification and documentation of ethnomedicinally important weed flora found in the tehsil, a drought prone area of Maharashtra. Total of 61 weed species belonging to 55 genera and 33 families were documented having medicinal importance. Out of 33 weed families 4 were monocotyledons (with 5 genera and 5 species) and 29 were dicotyledons (with 50 genera and 56 species). The ratio of monocotyledon to dicotyledon families is 1: 7.75. Family Solanaceae contributed significant number of species (7 species), followed by Euphorbiaceae and Asteraceae (6 species each), Amaranthaceae (5 species), Fabaceae (4 species), and Cleomaceae, Malvaceae, Cyperaceae and Verbenaceae (2 species each). The rest of the families were represented by only one species each. These weeds are used by local populace for the treatment of various diseases and disorders of human. Data was systematically arranged in alphabetic order of botanical name, family, vernacular name, [1,2,3] flowering and fruiting period, part(s) used and ethnomedicinal uses. It was found that the area is rich in indigenous knowledge associated to weeds but still there is large number of underutilized weeds which could not prove useful yet. This information will be beneficial in public health, research and providing lead to plants that can be useful in future for utilization and conservation of indigenous knowledge of weeds. Further studies on the phytochemical screening of these native ethnomedicinal weeds may lead to the discovery of new bioactive molecules towards the development of drugs for safer use. On the other hand, the above findings may be of immense help to the labourers or marginal farmers to get additional livelihood for organized collection, processing and marketing of these medicinal crop weeds depending on the demand of the pharmaceutical houses. Weeds are a serious problem in agriculture and tremendously reduce the productivity of agricultural trends by competing with crop plants for water, mineral nutrients, space and light. Weeds can be defined as the plants growing in the wrong places from farmers' point of view. These are comprised of more aggressive, troublesome and undesirable elements of the world's vegetation (King, 1974). [4,5,6] More than 80% of the developing world continues to rely on traditional medicines predominantly plants for primary healthcare (Farnsworth and Soejarto, 1991; Pei, 2002). Global demand for herbal medicine is not only large, but also growing (Srivastava, 2002). The market for ayurvedic medicines is estimated to be expanding at 20% annually in India (Subrat, 2002). Only 15% pharmaceutical drugs are consumed in developing countries, and relatively more affluent people take a large proportion of even this small percentage (Toledo, 1995). Weeds are one of the major additional source of the medicinal importance in the human diet. These weeds are also used by vaidyas for different formulation and maximum pharmaceutical industries to synthesis different drugs. Thus medicinal plants can prove a significant source of income for rural life in developing countries. Survey and documentation of a country's or community's natural resources is an important prerequisite for proper utilization of its

raw materials. Full knowledge of various plants is necessary, so as to change proper utilization (Choudhari et al., 2008).[7,8,9] There is a need for discovery of new secondary metabolic compounds that are safe, effective, which over compass resistance and also less toxic (Ngono et al., 2011). Indigenous people have long history and expertise in the use of medicinal plants, but information on these plants and their uses is mainly passed from one generation to the other orally and even to date is poorly documented (Mulay and Sharma, 2012). The lack of organised documentation for medicinal plant knowledge may also contribute to the loss of medicinal plant knowledge, particularly of plants and that neglected or non-preferred (Musa et al., 2011). Like every communities in the developing nations, the people of Parner tahsil depend on medicinal plants to meet their domestic and health needs. However, ethnomedicinally, the area remains unexplored and no comprehensive account of local tradition is available. Hence, to fill up the gap the present investigation has been undertaken.

Weeds have been main source of food, medicine and many necessities of life since ages. Tribal people even today depend on all their food, medicine and other needs of life on the surrounding flora. Weeds are naturally grown plants, have significant value in ethanol botany and are group of plants very aggressive competitive noxious and troublesome to man. The weeds like parthenium hysterophorus L. is troublesome and causes allergic diseases but on the other hand they are useful in neuralgia and dysentery and also act as a tonic, the naturally occurring many plants are not really unwanted in the light of traditional herbal medicines (Pantnaik, 1956 and Govindiah 1981). Traditional drugs are receiving great emphasis in the recent years. Marathwada region is basically a tropical climate type containing three Seasons, summer, winter and monsoon. The arid region is to marginally semiarid ecoclimatic zone forming the western peninsula of Marathwada Tribes of this area Jalna Aurangabad Beed Parbhani Osmanabad Latur and Hingoli. Some indigenous plants for the various needs, especially medicines, personal literature revealed that they are only a few records on ethano-medicobotany from Marathwada region. The Ehnobotanical knowledge of this was known through, Jain (1991), Shastri (1996), Dastur (1996), Bhatt et al. 2001 and Jadeja (2005).[10,11,12] some efforts have been made for the studies despite on ethnobotanical but the fact that aborigines exist in millions in this country. The present work is keeping in view that an attempt to report the traditional medicines in the region of different areas. The present investigation is to draw attention of physiochemists and pharmacologists.

II. DISCUSSION

Fabaceae 7.27% (4 species), Cleomaceae, Cyperaceae, Verbenaceae and Malvaceae contributed 3.63% (2 species each) Remaining 24 families contributed 1.81% with single species. These medicinal weeds are reasonably effective remedies for different diseases such as dysentery, vomiting and malarial fever (*Cyperus rotundus*), jaundice, ulcer, genitourinary disorders (*Phyllanthus niruri*), nervous disorders (*Sida cordifolia*), joint pains (*Jatropha curcus*), bronchial asthma (*Solanum virginianum*), bone fracture (*Vitex nigundo*), urinary diseases (*Xanthium strumarium*), wound healing (*Tridax procumbens*), healing fracture bones (*Oxalis corniculata*), headache (*Eclipta prostrate*). The weeds were found to be used for the treatment of common human diseases, including fever, diarrhoea, dysentery, cough and cold, diabetes, jaundice, joint pain, skin infections, food poisoning, back ache, respiratory disorders, gynaecological problems, epilepsy, nervous depression, piles. Reports are also available on different useful weeds from different parts of the Maharashtra State (Kamble et al., 2008; Yadav and Bhamare, 1989; Sonawane et al., 2012; Patale et al., 2015; Patil and Patil, 2005). However the present investigation will certainly highlights new findings about the weeds relating to their sustainable use. The data may provide enough opportunities to study their actual principles in the treatment of human diseases by rural communities. Even though their medicinal value and economic importance are elaborated, pharmacological uses of these weed demand further intensive research for finding uses for human welfare.

In the region of Marathwada, weeds are seen anywhere such as in the wasteland, normal soils, road sides and even in the crop and the ground. Peoples of tribal region use ethnomedicinal plants for treatments of different diseases instead of modernization in that area. Even now a day's majority peoples used these medicinal plants.[13,14,15] Forty-five plant species of twenty-seven families with fifty-five genera were used by the local peoples

Plants are generally rich sources of many natural herbal products which have mostly used for human welfare especially in tonic to loss of viability or debility and also reduce the human pain and suffering many diseases. The World Health Organization (WHO) has estimated that up to 80% of the world's populations rely on plants for their primary Health care (Ramesh, 2008; Akaneme et al., 2008). From the ancient period man has been used several different plants to cure the all body pain and different diseases. Now a days throughout the world several thousands of plants mostly weed plant are medicinal but very few drug plant are cultivated (Upma Dobhal et al., 2006). Many of the drugs used in

modern medicine were initially used in crude form in traditional uses and other useful biological activity (Iwu et al., 1999). On the literature most drug obtained from weeds plant various phytochemical survey are now seen as the first step towards the discovery of useful drugs now the tropical rain forests have been identified as a potential source due to diverse richness in flora. (Ikram, et.al, 1998) In India many unwanted plants so called weeds. Weeds are very common, dominant and wide spread in the crop fields. In India particular in Marathwada region of the Maharashtra state, diversity of unwanted plant in crop fields is vary common, dominant and easily available. Marathwada region comprising of seven districts viz. Aurangabad, Beed, Jalna, Latur, Nanded, Osmanabad and Parbhani forms the part of the vast Deccan plateau of India and its located at 70° 5' - 78° 5' E longitude and 17° 5' - 20° 5' N longitude. Weeds also occupy almost all open spaces. They spread like wildfire and grow abundantly in the crop fields, forest and roadsides. Weeds are growing all types of weather conditions but the monsoon is most conducive for their growth. The weed diversity in the crop fields would be great rich source of medicines and drugs. The local people will be able to make an extra profit by selling the medicinal weeds. [16,17,18]

III. RESULTS

Out of 57 studied problematic weeds, 18 weeds are of medicinally important and used as cure many different diseases. All the weeds are arranged in their Vernacular name, Botanical name, family and Ethnomedicinal uses summarized as following Table no. 1. Weeds are tremendously grow in crop fields and these problems are almost always face the every farmer but now a days these problematic, unwanted weeds can one of the major additional source of the Ethnomedicinal importance of the human diet. These weeds are also used vaidyas for different formulation and maximum pharmaceutical industries to synthesis different drug from weeds. those plant we call the unwanted weeds now in future that plant we will have been call edible food or medicinal plant and they are not going to cut and cultivate fields. therefore, automatically increase the biodiversity of weeds and used for the welfare of human health and will be able to cure different major and minor diseases.

The simplest and most common definition of weed is “any plant growing where it is not wanted”. This statement contains one very important and central idea about weeds, which is that they are exclusively associated with man and his activities. Because there is no doubt about their importance to man and nearly everybody is familiar with most of weeds. [19,20,21] The study revealed in all 19 weed species belonging to 19 genera and 14 families. During the study 19 plant species of 14 families used for medicinal purposes have been documented. Majority of the species used are from families, Malvaceae (4), Poaceae (2), Amaranthaceae (2) Solanaceae, Asteraceae, Portulacaceae Oxalidaceae. Mimosaceae, Crassulaceae, Cyperaceae, Cuscutaceae, Apiaceae, Chenopodiaceae, Liliaceae (One each). Majority of preparations from Leaves (09), Underground parts (1), Seed (01), Fruits (01), Flower (1) Whole plant (05) etc. According to Anderson (1954), “history of weeds is the history of man”. The plants, which we call today as a weed, are persistent since time immemorial but during the ancient periods the prevailing forest conditions were not suitable for the growth of weedy species, and yet these plants were apparently present in certain places and were thus able to colonize as soon as artificially disturbed sites became available to them. There must always have been small local areas of disturbance due to natural causes such as rivers, but another likely possibility is that many plants of open habitats survived this period in the regions near sea shore or on higher mountain slopes where open conditions were maintained by the general physical environment. Under modern conditions weeds and plants with weedy characteristics are frequently the pioneers of secondary successions caused by man-made or natural disturbances of the environment, but in many cases this weedy phase is quite brief. There is ample evidence that many weed species were also used for food by early man, though this practice is by no means confined to the past. Many of our present-day weeds thus have a long history in India, but a great many others were introduced from other parts of the world much later by successive groups of colonizers. The example of the weeds came from outside are *Parthenium hysterophorus*, *Cassia* sps. *Echornia* sps, etc. [22,23,24] Since man began to create disturbed environments on a large scale it is clear that enormous new possibilities have been opened up for weeds, and it is a striking fact that many weeds which are a serious problem in areas to which they have spread are relatively harmless in the places from which they were introduced. It is worth re-emphasizing that some weedy plants were certainly selected by primitive man as crops. Amongst crops thought to be have been selected and evolved from weedy ancestors are potatoes, carrots, sunflowers, barley, oats and rye; the weedy grass *Aegilops* is known to be an ancestor of modern wheat varieties. Thus weeds can be important to man in many ways, not all of them disadvantageous. The present communication will give a information about the weed plants and some of their utilities for mankind from Hamirpur district. The Hamirpur district is located between 25° 79' N lat., 80° 15' E North latitude and is situated in Yamuna and Upper Betwa River basin partly in the Dhasan river basin. It is smallest district of Uttar Pradesh occupying more or less the central position in the state and with an area of 4121.9 sq.

km. As regards the botanical explorations in Hamirpur, several people have made notable contributions, such as Billore and Hemadri (1972), Santapau (1951) [16], Santapau and Irani (1962) [17], Wadhwa (1970) [20], Puri (1956-57), Rolla Rao (1960), Janardhanan (1964) most of these works resulted in enrichment of the Herbaria except few publications, like Shirke (1978) [19]. Hooker et al. (1872-1897) [15]. However, extensive work for the flora of the Hamirpur district has been done by A. P. Saxena (1999). In spite of such extensive works present investigations indicate that the plant wealth of Hamirpur city area has not been given enough emphasis and needs more attention [25,26,27]

IV. CONCLUSION

The present study helped the social importance of the floristic richness in the Parner tahsil of Maharashtra particularly regarding the significance of medicinal plants in primary healthcare. It is evident that the age old herbal cure practice in the rural areas is losing its popularity due to easy accessibility to modern medicines and ignorance about the potential medicinal weeds. In order to remain away from relying upon antibiotics as well as synthetic medicines which have many negative side effects, the ethno medicinal plants documented for their potential against various ailments are required to be analyzed scientifically for the discovery of new bioactive principles towards the development of drugs for safer use. Further, some species are fast dwindling mainly due to over exploitation, industrialization changes in climatic conditions and use of chemical herbicides. This has definitely affected the flora adversely. For controlling further loss and restoration of plant diversity in future, [28,29,30] reorientation of the attitudes of the local community towards, restoration and maintaining biodiversity is of utmost importance. The study revealed in all 19 weed species belonging to 19 genera and 14 families. During the study 19 plant species of 14 families used for medicinal purposes have been documented. Majority of the species used are from families Malvaceae (4), Poaceae (2), Amaranthaceae (2), Olanaceae, Asteraceae, Portulaccaceae, Oxalidaceae, Mimosaceae, Crassulaceae, Cyperaceae, Cuscutaceae, Apiaceae, Chenopodiaceae, Liliaceae (One each) majority of preparations from Leaves (09), Underground parts (1), Seed (01), Fruits (01), Flower (1) Whole plant (05) etc. [31,32]

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