

Ethnobotanical Studies on Wild Nutraceuticals of Mahad

Miss. Priya Pradip Kadam and Vaishnavi Deshmukh

Department of Botany

Hirwal Education Trust's College of Computer Science and Information Technology, Mahad-Raigad, India
priyakadam6191@gmail.com

Abstract: *This study is being presented to you with an emphasis on the utilization of wild nutraceuticals for everyday human growth that is sustainable. Several untamed plants discovered in Raigad's Mahad area have been studied. This is a modest step toward utilizing unidentified plants and publicizing their advantages, which is quite important. There are other additional unidentified herbs that require inquiry. This would be very beneficial for the pharmaceutical sector. More and more, we should rely on natural remedies rather than chemical ones. This would increase the nation's ecological relevance. A country's economy would thrive as jobs would be created and tourism would increase.*

Keywords: Sustainable development, wild nutraceuticals, wild plants, Amaranthaceae, Artificial, Botanical name, Chemical Base etc

I. INTRODUCTION

The tribal people live in the foothills of the mountains close to Mahad while traveling on the highway. A man suffered an accident that was quickly treated with a cheap allopathic cream. As opposed to administering it, he sprinted over to the bushes, grabbed a rare wild plant, crushed it, and put it to the wound. Therefore, the subject is "Wild Nutraceuticals of Mahad, District- Raigad, India." I came to the realization that certain plants might only be found in these locations and that they might even be edible or medicinal. Then, a notion crossed my mind: why not employ these plant species instead of buying pricey, artificial, processed, chemical-based medications that will undoubtedly have negative effects? I came to the realization that certain plants might only be found in these locations and that they might even be edible or medicinal. Then I had the thinking, "Why do we always rush toward expensive, artificial, processed, chemical-composed medications that unquestionably cause side effects when we could use such plant species instead?" and "Why not bring them into the spotlight for our benefit as well as the benefit of our future generation." At that time, I began studying the local vegetation. In the Bazarpeeth (market place) of adjacent villages, numerous tribes trade those herbs. And because they are used in daily life, the peasants also buy them. There are some historical accounts of tribal societies from various regions using wild plants as food. The earliest modern botanist, John Graham (1839), identified 14 edible species in the Western Ghats region.

It enables us to get knowledge from the past and the various perspectives on the world represented by the various human civilizations that exist now. Ethnobotany is a branch of survival science. Vartak (1981) listed 120 edible species; Saikia et al. (2010) included 27 wild and domesticated edible plant species from Assam and Arunachal Pradesh, whose flowers are consumed as food. Vartak (1988) noted the significance of the Vitaceae family, while Mohanty (2010) found 38 lesser-known wild edible species from the forest locales in the Dhenkanal region of Odisha.

Ethnobotanical studies on wild nutraceuticals involve the examination of the traditional knowledge and use of wild plants for their nutritional and medicinal properties within specific cultural or indigenous communities. These investigations are crucial for a number of reasons.

1. Traditional Knowledge Preservation: Ethnobotanical studies help document the traditional knowledge of local communities regarding the identification, collection, preparation, and use of wild plants with nutraceutical properties. This knowledge is often passed down through generations and plays a vital role in community health and well-being.

2. Nutritional Value: Wild nutraceuticals are often rich in essential nutrients, vitamins, minerals, and antioxidants. Studying these plants helps to identify potential sources of nutrition, especially in regions with limited access to cultivated crops.
3. Medicinal Uses: Many wild plants have been used for their medicinal properties for centuries. Ethnobotanical studies provide insights into the therapeutic uses of these plants, which can lead to the discovery of new medicinal compounds or natural remedies.
4. Biodiversity Conservation: Researching wild nutraceuticals can contribute to the conservation of biodiversity. Understanding the value of these plants can lead to better protection of natural habitats where they grow.
5. Sustainable Harvesting Practices: Ethnobotanical studies can inform sustainable harvesting practices to ensure that the collection of wild nutraceuticals does not harm the ecosystem or deplete these valuable resources.
6. New Food Sources: Discovering and promoting the use of wild nutraceuticals can diversify diets, enhance food security, and reduce reliance on a limited number of cultivated crops. This can be particularly important in regions susceptible to crop failures or food shortages.
7. Phytochemical Research: Ethnobotanical studies may lead to further scientific investigations into the chemical composition of these wild plants. This can help identify bioactive compounds, which may have potential applications in the food and pharmaceutical industries.
8. Cultural and Traditional Practices: These studies respect and acknowledge the cultural and traditional practices of indigenous and local communities. They can contribute to the recognition and preservation of cultural heritage.
9. Community Health and Well-being: Utilizing wild nutraceuticals can improve the nutritional status and overall health of local communities, especially in resource-limited areas.

Wild plants refer to plant species that grow in their natural environment without human cultivation or intervention. These plants can be found in various ecosystems, such as forests, grasslands, wetlands, and deserts. Wild plants are essential components of natural ecosystems and play crucial roles in providing food and habitat for wildlife, as well as contributing to overall ecosystem health.

Wild plants can include a wide variety of species, from trees and shrubs to wildflowers, herbs, and grasses. Many of these plants have been used by indigenous peoples and local communities for various purposes, including food, medicine, clothing, and tools. In some cases, wild plants have also been domesticated and cultivated by humans to create crop varieties, which are used in agriculture.

It's important to note that foraging wild plants should be done with care and respect for local laws and ecosystems. Some wild plants may be edible, while others can be toxic or harmful if consumed. If you are interested in foraging or learning more about wild plants, it's advisable to do so under the guidance of experts or with appropriate training to ensure safety and sustainability.

Wild plants play a significant role in ecosystems and offer a wide range of benefits to the environment, wildlife, and human society. Here are some of the key importance of wild plants:

1. Biodiversity: Wild plants contribute to the overall biodiversity of ecosystems. They provide habitat and food sources for various animal species, from insects to birds and mammals. The diversity of plant species supports a wide array of life forms.
2. Ecosystem Services: Wild plants provide essential ecosystem services, including soil stabilization, erosion control, water purification, and nutrient cycling. They help maintain the health and functioning of natural ecosystems.
3. Food Sources: Many wild plants are edible and have been a source of food for humans and wildlife for centuries. They can be rich in essential nutrients and can supplement diets with a variety of flavors and textures.
4. Medicinal Use: Numerous wild plants have been used in traditional medicine systems around the world. They contain compounds with potential therapeutic properties and are used to treat various health conditions.
5. Cultural and Traditional Uses: Wild plants are integral to the cultural and traditional practices of indigenous communities. They are used for rituals, ceremonies, and as symbols of cultural heritage.
6. Genetic Diversity: Wild plants serve as a valuable source of genetic diversity for crop breeding. These plants can provide genes for resistance to pests, diseases, and environmental stresses, which can be incorporated into cultivated crops.
7. Environmental Adaptation: Wild plants have evolved over time to adapt to their specific environments. They can

serve as indicators of environmental conditions and climate change, helping scientists monitor the health of ecosystems. 8. Pollinator Support: Many wild plants provide nectar and pollen for pollinators like bees, butterflies, and hummingbirds. They are crucial for the pollination of both wild and cultivated plants, ensuring the production of fruits and seeds.

Conservation of wild plant species and their ecosystems is essential to preserving these benefits. Sustainable practices, responsible foraging, and the protection of natural habitats are crucial to maintaining the importance of wild plants for future generations.

II. METHODOLOGY

Between 2020 and 2022, ethnobotanical research was done on the available wild nutraceuticals in the forests of the Mahad tehsil. An on-site seasonal visit with tribal members and elderly villagers was undertaken. And digital camera photography was carried out for accurate botanical identification, the blooming and fruiting stages of wild plants were collected. Specimens were recognized with the use of published works (Cook, 1958; Singh et al., 2001; Sharma et al, 1996). A total of 30 wild edible plant species used by locals and indigenous people are listed, alphabetized, and presented in the given table below along with their botanical name, family, and local name.

Table:1 WILD EDIBLE PLANTS OF STUDY AREA

Sr. No	Botanical Name of plants	Family	Local Name	Edible plants/ parts used
1	<i>Achyranthes aspera L</i>	Amaranthaceae	Aghada	Leaves are used as vegetable
2	<i>Amaranthus viridis L</i>	Amaranthaceae	Math	Leaves are used as vegetable
3	<i>Amorphophallus campanulatus Blume</i>	Araceae	Suran	Tuber is used as vegetable
4	<i>Anacardium occidentale</i>	Anacardiaceae	Kaju	Ripe thalamus is eaten
5	<i>Artocarpus heterophyllus Lam</i>	Moraceae	Phanas	Ripe and unripe fruits
6	<i>Artocarpus incisus</i>	Moraceae	Kaapya Phanas	Ripe fruits is eaten.
7	<i>Bambusaarundinacea(Retz) Wild</i>	Poaceae	Bamboo, Kalak	Very young shoot and rhizome is used as vegetables
8	<i>Benincasahispida (thumb) Cogn</i>	Cucurbitacea	Kohala	Fruits are used as vegetables
9	<i>Brideliaretusa (L) Spreng</i>	Euphorbiaceae	Asana	Ripe fruits are eaten
10	<i>Crissacongesta Weight var.congesta</i>	Apocynaceae	Karvand	Ripe fruits are eaten and unripe fruits are used for manufacturing of pickles
11	<i>Cassia tora L</i>	Caesalpinioaceae	Takla	Young leaves and pods are used as vegetables
12	<i>Celosia argentia L</i>	Amaranthaceae	Kurdu	Young leaves are used as vegetables
13	<i>Centallansiatatica (L) Urban</i>	Apiacea	Brahmi	Fresh leaves are eaten as brain tonic
14	<i>Colocasiaesculenta (L) Schott and Endl</i>	Araceae	Alu	Petiole and leaves are used as vegetables
15	<i>Cordia myxa Linn</i>	Boraginaceae	Bhokar	Ripe fruits are eaten
16	<i>Dioscoreabulbifera L</i>	Dioscoreaceae	Karanda	Bubils and root tubers are eaten
17	<i>Embilica officinalis Fruct</i>	Euphorbiaceae	Avala	Fruits are eaten
18	<i>Eugenia jambolanaLamk</i>	Myrtaceae	Jambhul	Ripe fruits are eaten
19	<i>FicusglomeralaRoxb</i>	Moraceae	Umbar	Ripe fruits are eaten
20	<i>Hibiscus cannabinus L</i>	Malvaceae	Ambadi	Young leaves are used as vegetables
21	<i>Holarrhenapubescens (buch-Ham) Wall</i>	Apocynaceae	Kuda, Pandharakuda	Young pods and flowers are used as vegetable
22	<i>Lantana camara L</i>	Verbinaceae	Ghaneri	Ripe fruits are eaten
23	<i>Mangiferaindica L</i>	Anacardiaceae	Amba	Fruits and endosperm are eaten

24	<i>Opuntia elatior</i> Mill	Cactaceae	Nivdung	Ripe fruits are eaten
25	<i>Oxalis corniculata</i> L	Oxalidaceae	Ambadi	Leaves are used as vegetables
26	<i>Portulaca oleracea</i> L	Portulacaceae	Ghol	Young shoots are used as vegetables
27	<i>Syzygium cumini</i> (L) Skeels	Myrtaceae	Jambhul	Ripe fruits are eaten
28	<i>Tamarindus indica</i> L	Caesalpiniaceae	Chinnch	Fruits are eaten
29	<i>Teramnus labialis</i> (L.f) Spreng.	Fabaceae	Ran-udid	Seeds are eaten
30	<i>Ziziphus jujuba</i> Mill	Rhamnaceae	Bor	Ripe fruits are eaten.

III. RESULT AND DISCUSSION

The main aim of this paperwork is to carry out research on wild species for sustainable development and its use for future generations. Total 30 wild plant species belongs to 21 Different Families each one having its own specific benefits. Some can be used medicinally, some in industries, and some can be eaten. We found out that there are many unknown such herbs which would be helpful also are sustainable. Efforts are made on use of them instead of any other artificial products.

IV. ACKNOWLEDGEMENTS

It is my pleasure to expressing sincere thanks and deep sense of gratitude to the college for the valuable guidance and support needed during completion of this work.

V. CONCLUSION

In our country and other nations, there have been many research articles published on wild edible plants, but the Konkan zone has seen very little of this kind of work. Research on such untamed nutraceuticals that contribute to sustainable development by being used to create a better tomorrow and switching to more natural uses needs to receive more attention.

REFERENCES

- [1]. Mohanty ,R.B.2021,new wild edible plants from some tribal pockets of Dhenkanal district, Odisha, Ethnobotany 22,pp-111-113
- [2]. Maheshwari,J.K.andJ.P.Singh.1984.Contribution to the ethnobotany of Bhoxtaribe of Biharand Pauri Garhwal districts,U.P.J.Econ.Tax.Bot.5:251-259.
- [3]. Saini M.L,SainiR,RoySandKumar A(2008) Comparative pharma cognostical and antimicrobial studies of *Acacia* species (Mimosaceae).JournalofMedicinalPlantsResearchVol.2:378–386
- [4]. Farnsworth, N.1990.The role of ethnopharmacology in drug development. In: Bioactive compounds from plants, (D.J.ChadwickandJ.Marsh,eds.).JohnWileyandSonsPublisher.NewYork.pp2-21.
- [5]. Jain,S.P.1984.EthnobotanyofMorniandKalesar(Ambala-Haryana).J.Econ.Tax.Bot.5:809-813.
- [6]. Sharma, S., Roy, S., Raghuvanshi R.K., Kumar,A.,(2012a). *Cassia fistula* L. and *Cassia occidentalis* L.: Plants of Traditional Medicines. The Journal of Ethnobiology and Traditional Medicine. Photon 11 7156-161.
- [7]. Upadhyay B.,Parveen, Dhaker,A.Kand KumarA.(2010)Ethnomedicinal and ethnopharmaco-statistical studies of Eastern Rajasthan, India *Journal of Ethno pharmacology*, 129(1,4):64-86.
- [8]. Singh,K.P.,Upadhyay,B.,Prasad,R.andKumar,A.(2010):Screening of *Adhatoda vasica* Nees as Putative HIV-Protease inhibitor. Journal of Phytology Phytopharmacology 2,78–82.
- [9]. Upadhyay,B.,Singh,K.P.andKumar,A.(2010a):Pharmacognostical and antibacterial studies of different extracts of *Euphorbia hirta* L. Journal of Phytology 2,55–60
- [10]. Upadhyay, B., Singh, K.P. and Kumar A.(2010b):Ethno-medicinal, phytochemical and antimicrobial Studies of *Euphorbia tirucalli* L. Journal of Phytology 2,65–77
- [11]. Singh, N. P. and Karthikeyan, S. 2000. Flora of Maharashtra State. Dicotyledones, BSI Calcutta, I.
- [12]. Vartak. V. D. and Gadgil, M. 1980 studies in Ethnobotany.
- [13]. Sharma P. P. and Singh N. P.2001.Ethno-medicinal uses of some edible plants in Dadra, Nagar Haveli and Daman. Ethnobotany 13:121-125.