

A Review of *Heracleum Rigens*, *Eryngium Foetidum* L., *Passiflora Subpeltata* Medicinal Plants

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Abstract - Traditional medical practices have relied on the healing qualities of medicinal plants for ages. *Heracleum rigens*, *Eryngium foetidum* L., and *Passiflora subpeltata* have been singled out for their unique medicinal qualities and historic use from among the many plants with potential medical advantages. Insights into the chemical contents, traditional applications, and therapeutic potential of the medicinal herbs *Heracleum rigens*, *Eryngium foetidum* L., and *Passiflora subpeltata* may be gained via a systematic study of these species.

Keywords - Medical plant, species, traditional applications, chemical contents.

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INTRODUCTION

Mother Nature has given humanity a bounty. The connection between people and the natural world is complex and inescapable. Ever since the dawn of civilization, man has had an insatiable curiosity for exploring the unknown. The wonders of nature, such as flora, never cease to amaze and inspire him in his quest. What we now call "ethno botany" was originally a study of the connections between indigenous people and the flora of their environments. The field of research known as "ethnobotany" examines indigenous peoples and the special knowledge they possess about the characteristics and use of plants. It's the scholarly investigation of old beliefs and practices using plants in medicine, religion, and other areas of human life. It sheds light on the wide variety of plant-based remedies used around the globe. It draws on the disciplines of Botany, Anthropology, Economics, and Paleo-ethnobotany to create a unique body of knowledge. Since the dawn of civilization, people have relied on a wide variety of plants. Early man's insatiable curiosity led to his methodical study of plants, which shaped not only his way of life but also his approach to the natural world. [1]

He ate them, drank them, slept in them, dressed in them, and decorated himself with them. In 1874, Stephen Powers coined the term "Aboriginal Botany" to describe the study of how primitive and aboriginal peoples relied on plants for everything from food and medicine to shelter and ceremonial rituals. (Ford, 1978.) In 1898, Walter Hough used the term "ethnobotany" to describe the "study of plants in their relation to human culture" (Ford, 1978). This definition

included the spiritual and psychological significance of plants in human society. In 1900, according to Barrows, researchers began looking into the spiritual, cultural, and anthropological importance of plants. In the history of the University of Chicago, he was the first person to get a Ph.D. in ethnobotany. "Study and evolution of the knowledge of all phases of plant life amongst primitive societies and of the effect of the vegetal environment upon the life, customs, beliefs, and history of the people of such societies,"

In order to study the plants used by primitive and aboriginal people, the American botanist John William Harshberger first used the term "Ethnobotany" in 1895. This term was derived from the word "Ethic," which means classification of humans into social and cultural groups. "The ancient Hindus should be given the credit of cultivating what is now called ethnobotany," the first Indian authors to adopt the word ethnobotany. "the study of interrelations of primitive man and plants." Ethnobotany as only applying to "primitive man." Ethnobotany is "the multitudinous connections direct or indirect between man and plants," [2]

Ethnobotany is the study of how people in traditional societies interact with plants. Ethnobotany studies how native people interact with their natural plant environments. The study of the significance of plants to indigenous and tribal peoples is known as "ethnobotany," a subfield of economic botany. Glimpses of Indian ethnobotany was a significant book for the field of ethnobotany in India. This book broke new ground by providing a 360-

degree overview of contemporary ethnobotanical research in India. Definition of ethnobotany that is more up-to-date. The focus of ethnobotany, he argues, is on the whole context of plants within a society and their direct connection with people. The scope of ethnobotanical research is expanded by this definition.[3]

CONTEMPORARY TRENDS

The biodiversity of the Indian subcontinent is unparalleled. There are 15,000 species of higher plants in India, including 9,000 types of wild plants that are cultivated by indigenous peoples. About 950 species of the roughly 7,500 wild plants employed by the tribes' traditional healers were found to have novel claims and warranted scientific examination. The tribals consume a wide variety of natural vegetation. Cordage, insecticides, feed, fiber, and gum are just few of the many uses for plants.[4]

Ethnobotanical studies have piqued the interest of scientists across the globe. The medicinal plants are used in a wide variety of conventional treatments. The fundamental beneficial medications used to cure many human disorders have been successfully extracted by scientists from plants. The Central Drug Research Institute (CDRI) in Lucknow; the Central Institute of Medicinal and Aromatic Plants (CIMAP) in Lucknow; the National Botanical Research Institute (NBRI) in Lucknow; the Regional Research Laboratories (RRL) in Jammu and Tawi; the Tropical Botanic Garden and Research Institute (TBGRI) in Trivandrum; and the Central Council for Research in Ayurveda and Siddha (CCRAS) in New Delhi.[5]

In 1978, the health sciences in Andhra Pradesh's tribal communities were the subject of a research by the Andhra Pradesh Tribal Research Institute (APTRI). According to the research, private practitioners, Ayurvedic physicians, or traditional healers are the primary sources of care for chronic illnesses among tribal communities, whereas residents in remote locations rely mostly on mobile medical units. They believe that becoming pregnant and giving birth are completely natural processes that don't call for any intervention from doctors. Not only did this research help us better understand the historical ties between humans and plants, but it also provided a wealth of information that has facilitated developments in areas as diverse as plant-based cuisine, manufacturing, medicine, and the arts.[6]

As a result, ethnobotany is crucial since the data being collected is quickly becoming obsolete. There must be an application and incorporation of the ethnobotanical knowledge into the development procedure. Any future plans for tribal development in forested regions should include safeguarding ethnobotanical variety in the dominant ecosystems. Before traditional cultures are destroyed, there must be an immediate inventory and recording of all ethnobotanical information among the many ethnic groups; who should utilize this knowledge

and what portion of this knowledge should be used are surely within the purview of the tribals. Hundreds of tribal tribes call India home, and the 2011 census found that they made up over 8.20% of the country's total population. There are around 27,49,663 people of tribal descent living in Andhra Pradesh as per the 2011 Census. These groups of people may be found all across Andhra Pradesh, but especially in the plains and hilly regions. These indigenous girijans and tribals are unique in their beliefs, practices, diet, and medical expertise.[7]

With the overarching goal of compiling a thorough account of the many facets of ethnobotany, the current research has been limited to the Giddalur Forest Division in the Prakasam district in Andhra Pradesh, India. The Prakasam district is home to 1,511,145 ST people. The Giddalur forest division is one of the 38 mandals that make up Prakasam district. Approximately 15,245 people of the chenchu tribe call this region home. It's equivalent to around a third of the state's overall chenchu population. The chenchus and the sugalis are the two most prominent ethnic groups in this section of the giddalur forest. The Yanadis and the Yerukala are the two largest indigenous communities in the greater Prakasam area. In Nallamalais, the Chenchus are the dominant ethnic group. The Chenchus, a food-gathering people who spoke Telugu, made their home in the Nallamalai forest's interior. They try alternative methods like prayer and tarot readings before resorting to medical medication. Traditional Chenchu and Sugali knowledge of ethnomedicinal plants is the primary focus of this research..

It's common knowledge that Earth provides a home for a wide variety of species, including humans. All of life's necessities are provided for by nature. Humans have been elevated to the position of top terrestrial predator because of their higher intellect. Since humans are so interdependent with the natural world, we must utilize these resources responsibly and work to keep the ecosystem in check. Everything we need for life, we may find in nature. The water we drink, the air we breathe, the food we eat, and many other items that we utilize in our everyday lives all originate in the natural world.[8]

There have been therapeutic ingredients in nature for thousands of years, and many contemporary pharmaceuticals have been and are being derived from these same sources, with their applications in herbal medicine serving as inspiration. This ancient practice of using plants as medicine is making significant contributions to modern medicine. Around 80% of the global population relies on traditional plant remedies as their main form of treatment. The World Health Organization recommended that medicinal plants be explored as a means of obtaining a wider range of medications. Therefore,

research into such plants is necessary to learn more about their qualities, effectiveness, and safety.[9]

The Indian Materia Medica contains roughly 2000 medications, the vast majority of which are derived from plants. Only about 400 of these drugs have their origins in animal or mineral sources. There are between 600 and 700 plants utilized for therapeutic purposes in the Ayurvedic, Unani, and siddha systems . Research into the efficacy of plants and herbs is encouraged by the World Health Organization in situations when safe synthetic medicine alternatives are not readily accessible. There are around 3,000 plant species in India that are recognized for their therapeutic use . About 80% of the world's population relies on and trusts traditional medicines as their main health care, demonstrating the vital role that the plant-based medical system plays in health care. About 65 percent of the rural population in developing nations like India relies on traditional systems of medicine to provide their most basic health care needs. Materia Medica has rich traditions of indigenous herbal medicine that have kept many rural people in developing nations like India healthy. Both the Rig Veda (4500 B.C.E.) and the Atharva Veda (1600 B.C.E.) describe a wide variety of plants used for medical purposes. These are the first manuscripts that served as the foundation for the Ayurvedic medical tradition. More than 700 plants and their applications are described in Ayurvedic texts including the CHARAKA SAMHITA and the SUSHRUTA SAMHITA, both of which date back to the sixth century B.C. There are about 15,000 different kinds of flowering plants in India, and around 17% of them have medicinal properties.[10]

Traditional medical practices like as Ayurveda, Siddha, Unani, homeopathy, etc., make effective use of these herbs. The World Health Organization defines a medicinal plant as one that has properties that make it suitable for therapeutic use. Although medicinal plants are those whose therapeutic capabilities and components have been shown and confirmed scientifically, they have not yet undergone sufficient examination . Medicinal plants are those that naturally contain active chemicals that may be utilized to treat illness or reduce discomfort. Modern medicine, which includes Allopathy, is largely based on the principles of western science and has dominated for the past three centuries, while traditional medicine, which includes Ayurveda, Unani, siddha, and homeopathy, is still widely practiced around the world.

The field of ethnobotany is developing quickly. It has developed conceptually and practically during the last three decades. While it originally referred to the study of plants used by indigenous peoples for food, medicine, and shelter, the term "ethnobotany" has come to include much more. There are over 250 million people that identify with a tribal or ethnic group. The word "ethnic" is used to describe distinct racial groupings of humans that are indigenous to a certain area. More than 53 million tribal or ethnic people from more than 550 tribal or ethnic communities

representing 227 ethnic groupings live on the Indian subcontinent. Roughly 8% of India's total population belongs to this group. The locations of tribal groups are among the most inaccessible in the nation. The indigenous communities each have their own unique traditions, diets, and stores of traditional medical knowledge.[11]

For the effective and continued application of medicinal plants in battling diverse illnesses, there is an urgent need for systematic documenting of folk medical practices. The data collected might potentially be used to create environmentally friendly insecticides, drugs, foods, and patents. The necessity to record traditional healing practices has been elevated by the protection of intellectual property. The growing use of antibiotics has led to the development of antibiotic-resistant bacteria, reducing the efficacy of traditional therapy. As a result, research into novel antimicrobial agents is urgently required. There are several antibacterial compounds in plants. Herbal biomolecules have been proposed as a potential alternate strategy for managing antibiotic-resistant human infections. Some bioactive chemical substances in plants have been shown to have therapeutic effects on human physiology. Alkaloids, flavonoids, tannins, and phenolic chemicals are the most notable examples of these bioactive secondary metabolites found in plants. Therefore, three ethnomedicinal plants were chosen to conduct antibacterial activities and establish their therapeutic efficacy. *Heracleum rigens*, *Eryngium foetidum*, and *Passiflora subpeltata* were the lucky plants chosen.

Heracleum rigens

Kingdom	:Plantae
Division	:Angiospermae
order	:Apiales
family	:Apiaceae
Genus	:Heracleum
Species	:rigens



Figure 1: Heracleumrigens

Fig. 2 shows the distribution of the endangered South Indian aromatic medicinal plant *Heracleum rigens* Wallichis in western India. This fragrant plant grows up to 1 m in height on a semi-erect stem and has aromatic tuberous roots. The leaflets of the basal leaves are complex and pinnate, with rounded tips. Upper leaves are simple, while below ones have crenate-serrate edges. The 10-30 simple umbels of blooms may be either white or yellow. The arrangement consists of involucre of multiple bracteoles and involucel of numerous bracts that are linear-lanceolate and hirsute or caducous. Sometimes the outer petals and sepals are bigger than the inner ones. The elliptic to obovate schizocarpic fruit is 8-10 mm in length and 5-7 mm in breadth. Winglike lateral ribs and thin, elongated dorsal ribs characterize mericarps. Urinary problems, cough, hyperacidity, wounds, gastrointestinal problems, heart illnesses, and vomiting are only some of the conditions for which *H. rigens* has been utilized historically. Tribal populations in Yavatmal Dist. utilize the seeds and root tubers to cure asthma and local illnesses.[12]

Hyperacidity, urinary infections, gastrointestinal problems, wounds, heart illnesses, and other therapeutic purposes are only some of the many conditions for which *H. rigens* has been historically utilized in Ayurveda. Constipation, indigestion, phlegm, stomachache, diarrhoea, headache, and gastric diseases are all treated with this method in Siddha (Yoganarasimhan., 1996). Anti-inflammatory and cancer-fighting activities have been attributed to plant seed oil (Jagannath et al., 2012). Traditional medicine relies heavily on it, although there have been no comprehensive investigations of its antibacterial or antifungal effects. This is why it has been chosen for an initial phytochemical screen and antimicrobial assessment.

Eryngium foetidum L.

Kingdom :Plantae
 Division :Angiospermae

order :Apiales
 family :Apiaceae
 Genus :Eryngium
 Species :foetidum



Figure 2: Eryngiumfoetidum

The tap-rooted biennial plant *Eryngium foetidum* (Fig. 1.3) has long, equally branching roots. The oblanceolate leaves are arranged in a helical fashion around the compact stem. They cluster together at the root and may grow to be 30 cm in length and 4 cm in width. There is a tiny yellow spine on each tooth of the serrated leaf edge. The plant's central rosette of leaves gives way to a tall peduncle topped by a dense umbel inflorescence of green or creamy white flower heads on spikes. While the calyx is green, the corolla is a soft white. As an ethno-medicinal plant, *E. foetidum* has been used to treat a wide variety of medical conditions, including but not limited to: high blood pressure, nausea, vomiting, burns, earaches, stomachaches, asthma, arthritis, snake bites, scorpion stings, diarrhea, malaria, the flu, infertility complications, and epilepsy . The indigenous people of Yavatmal District rely on it as a remedy for diarrhea and other intestinal illnesses.

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Another name for *E. foetidum* is *E. antihystericum*. The fact that it has traditionally been used to treat epilepsy is reflected in the plant's scientific name, "antihystericum." The plant is sometimes referred to as spirit weed or fit-weed due to the belief that it may calm a person's "spirit" and thereby stop epileptic "fits." There has been scientific inquiry into this plant's potential anticonvulsant effects. In rats, a

decoction of the leaves was shown to have anti-inflammatory and pain relieving properties.

Hypertension, headache, fever, chills, vomiting, burns, worms, earache, stomachache, constipation, asthma, arthritis, snake bites, scorpion stings, diarrhea, malaria, flu, infertility complications, and epilepsy are just some of the ailments for which *E. foetidum* has been used as an ethno-medicinal plant. Eryngial is the primary component of the plant's essential oil. Scientific studies have shown its pharmacological effects to be anti-carcinogenic, anti-diabetic, anti-inflammatory, anti-clastogenic, and anthelmintic. The leaves are used to stimulate hunger, while the raw root is used to treat scorpion stings. A Japanese patent for a skin-lightening product lists this plant as an ingredient.[13]

Passiflorasubpeltata

Kingdom	:Plantae
Division	:Angiospermae
order	:Passiflorales
family	:Passifloraceae
Genus	:Passiflora
Species	:subpeltata



Figure 3: Passiflorasubpeltata

As seen in Figure one such climbing vine is called *Passiflora subpeltata*. The state of Maharashtra is the primary distribution point inside India. These slender, green tendrils belong to a climber. The maximum length of the leaves is 10 cm, and they are a light green color with three lobes. The lobes taper to rounded points. The leaf stem has anywhere from one to three glands. At the point where the leaf stalk joins the stem, two stipules, which resemble leaves, form. White flowers with a little greenish hue and a diameter of around 5 cm. The berry-like fruit is roughly 4 centimeters in length, oval in form, with a blue green tint. According to research, it may act as an

antioxidant, analgesic, anti-inflammatory, and thermogenic. Yavatmal District's indigenous population uses it to heal jaundice, stomach problems, and other illnesses.[14]

CONCLUSION

Traditional use, chemical make-up, and pharmacological actions are all discussed in this survey of medicinal plants. It lays the groundwork for future investigations, including clinical trials, that may verify their traditional usage and investigate their full medicinal potential. The study as a whole highlights the significance of combining traditional knowledge with scientific research in order to fully use the therapeutic potential of these plants. They contribute to the growing area of herbal medicine and may one day serve as alternatives to conventional therapies since they provide prospective pathways for the creation of natural cures and therapeutic agents.

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