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Review On *Cucumis Sativus* (Family: Cucurbitaceae) And *Plumbago Zeylanica* (Family: Plumbaginaceae) With Special Reference To Gwalior District, M.P., India

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Abstract:

Cucumis sativus (Family: Cucurbitaceae) and *Plumbago zeylanica* (Family: Plumbaginaceae), both are very common Indian plant which also cultivated at Gwalior District, M.P. Exhaustive studies showed that *Cucumis sativus* have antifungal, antacid, carminative activity, activity against ulcerative colitis, hepatoprotective activity, hypoglycemic & hypolipidemic activity, wound healing activity and *Plumbago zeylanica* have antimicrobial, antifungal, antiviral & antibacterial activity, antioxidant activity, anthelmintic & antimalarial activity, anticancer, antidiabetic, wound healing, CNS, anti-inflammatory activity etc. Based on their medicinal and ethnobotanical value, here review of both plants has been chronicled.

Keywords: *Cucumis Sativus*, Cucurbitaceae, Plumbago Zeylanica, Plumbaginaceae, Gwalior

INTRODUCTION:

In ethnobotany, the dynamic relationship between plants and people is studied. The search for exotic spices like cinnamon, cloves, nutmeg, and more may be traced back to colonial times. The search for natural remedies for a number of novel and emerging ailments intensified as ignorant colonial traders and settlers accidentally spread tropical pathogens around the planet. Entrepreneurs and scientists searched these unexplored areas in search of "green gold," creating the ethnobotanical industry [1]. Ethnobotanists are constantly searching for new botanical products, especially medicinal plants. Despite their success, indigenous intellectual property has been lost as a result of these bioprospecting efforts. Ethnobotanical study changed in the 1960s as scientists began to focus less on lists of helpful plants and more on

philosophical and conceptual issues. Studying ethnobotany became increasingly interdisciplinary as it became more accessible to academics from other disciplines. When methods from the labs and disciplines of other fields were used, data analysis became more quantitative. The investigation spans a time period from the late Pleistocene to the present [2].To better understand the relationships between regional flora and indigenous communities in far-flung, frequently-isolated regions, ethnobotany was developed. The better, the more organic and passive. Many people think that migrants lose their ethnobotanical knowledge after moving, despite the fact that it is evident that immigrants go to considerable lengths to keep using their traditional foods and medicinal plants. This is especially true when the plants act as cultural identifiers for persecuted diaspora cultures. For instance, Africans held a great urge to resemble their native plants in the Americas while they were enslaved. Despite the great challenges, the Columbian Exchange sent substantial amounts of their valuable flora to the New World. Because of this, African plant-based culinary and therapeutic practises had an easier time surviving among the New World descendants of their African forebears. It can be difficult for foreign migrants to move useful plants. To get past customs, many people sneak plants or seeds into the country. If native species are weedy and dispersed widely, they have a propensity to emerge before invaders do. If nothing else works, visitors should try to remember the names of pharmacies and grocery stores [3, 4] instead of trying to remember the names of nearby species that can stand in for them.

The selected plant namely *Amaranthus spinosus* (Family: Amaranthaceae) and *Aristolochia indica* (Family: Aristolochiaceae) has been found Gwalior, M.P., India which is the famous for medicinal plant cultivation.

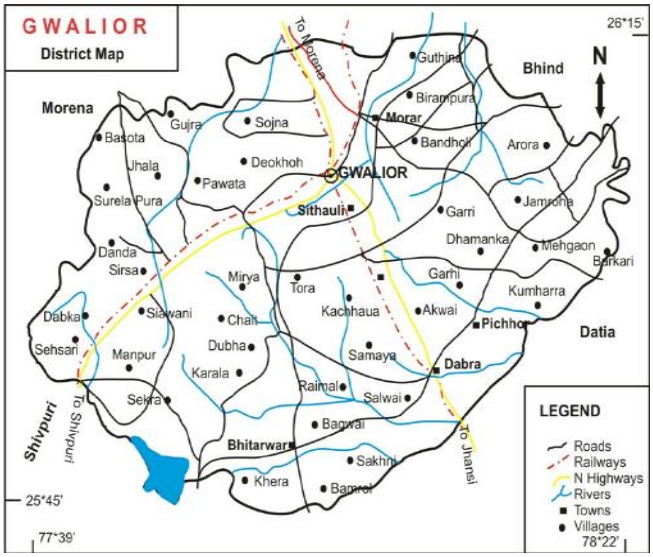

Figure 1: Gwalior District, M.P.

REVIEW OF LITERATURE:

Despite the significance of plant sex determination in preserving genetic variation, M.E. Pawekowicz et al. (2019) noted that the management of this procedure is not well understood. Recently, cucumbers have become recognized as a superior model system for studying sex determination. In this paper, we present the current status of cucumber sex determination and put forth a model to explain how the molecular mechanisms governing this phenomenon are regulated. From genetically based research to direct RNA analysis and from gene-by-gene analyses to genomic-scale analyses, transcriptional profiling of hormonally regulated genes implicated in sex-specific patterns of floral development has advanced. An organized sequence of activities that are coordinated into the formation of flowers follows the genetic makeup of the plants. They are also controlled on a number of levels by endogenous and environmental variables. New applications and research into the mechanisms underpinning the growth, operation, and evolution of cucumber sex determination and floral morphogenesis will surely be inspired by recent discoveries that have helped us better understand how sex is expressed. It is envisaged that thorough research into putative sex-determination genes in model species will help to clarify the sex-determination gene network and should have a significant impact on plant breeding. [5]

According to Dahrazma et al. (2019), the necessity for novel agricultural approaches is highlighted by the paucity of water and the issue of safe food production. In numerous ways, increasing the dissolved oxygen content of water encourages plant development. The purpose of the current study was to examine the morphological and physiological responses of cucumbers (Cucumis sativus L.) to water enriched with air Micro-NanoBubbles (MNBs) as an oxygen saturation measure. The plants from early seed planting (two groups, 32 plants each) were cultured for 12 weeks in either tap water or air-nanobubble water, and zeta potential measurements were used to confirm the steric stability of MNBs in water (-20.47 mV). The number of blossoms on the plants that received air MNB irrigation was nearly 3.8 times greater than the number of blossoms on the plants that received tap irrigation. Up to 77% more leaf area was added by MNBs. Chlorophylls a, b, and carotenoids, for example, were each 1.34, 1.44, and 1.35 times more abundant in plants irrigated with MNBs than in plants watered with tap water. Overall, this study showed that water with air micro-nanobubbles had a beneficial impact on cucumber plants and may be a useful tool for the efficient, profitable, and environmentally friendly production of the plant. [6]

According to Hina Saeed and Anam Waheed (2017), plants are employed as medicines in several nations and are the source of potent and strong pharmaceuticals. Despite advancements in modern medical and

pharmaceutical research, the usage of medicinal plants has been a significant part of daily life over the centuries. Since many different medicinal plant parts have different therapeutic characteristics and are utilized as raw pharmaceuticals, herbal drugs are a significant component of all traditional medical systems. Since the beginning of time, plants have been preferred to all other therapeutic agents because they are affordable, readily available, and suitable for the individual's urgent needs. The majority of plants are used to cure conditions like diabetes, hepatitis, haemorrhoids, toothaches, constipation, and digestion. [7]

According to T.B. Sahu and J.B. Sahu (2015), many civilizations still rely on plants for their fundamental healthcare requirements. Medicinal plants have been used for ages. The usage of plant-based health products has significantly increased recently in both developed and developing nations, which has led to an exponential rise in the demand for herbal products worldwide. In this article, Cucumis sativus, a member of the Cucurbitaceae family that includes both wild and cultivated species, is discussed. Although it is commonly used as a vegetable and in salads, little is known about its therapeutic value. The existence of numerous phytochemicals such as tannins, cardiac glycosides, terpenoides, polysaccharides, resins, saponins, and phytosterols has been confirmed by phytochemical study of these plants. On the other hand, alkaloids, flavonoids, glycosides, steroidal terpenes, and phylobatamins were discovered in cucumber fruits. The plant demonstrates a range of pharmacological properties, including antibacterial, antifungal, cytotoxic, antacid, carminative, action against ulcerative colitis, hepatoprotective, hypoglycemic, hypolipidemic, wound healing, and more. According to a study on the plant's safety profile, it can be used safely for therapeutic purposes. [8]

According to Rajakrishnan R et al. (2017), the hunt for medicinal plants to treat kidney problems is a crucial area of study in phototherapeutics. A significant medicinal plant with hepatoprotective, anti-inflammatory, anti-diabetic, anti-cancer, and anti-hyperlipidemic properties is Plumbago zeylanica L. In the current investigation, Swiss albino mice were used to examine the preventive effects of P. zeylanica hydroalcoholic extract (HAPZ) against cisplatin-induced nephrotoxicity. Treatment with HAPZ at a higher dose (400 mg/kg) effectively reversed the negative effects of cisplatin on blood urea, creatinine, and kidney weight, showing that HAPZ has renoprotective properties. The drug's strong impact on catalase, glutathione peroxidase, and lipid peroxidation activities is indicative of its antioxidant activity. [9]

According to Arpita Roy and Navneeta Bharadvaja (2017), medicinal plants have long been utilized as a source of medicine and are in high demand all over the world. They have been used for a long time to treat illness and prevent disease. One of the medicinal plants that is frequently used for its therapeutic

properties is Plumbago zeylanica. There are several bioactive substances present in it, including naphthoquinones, flavonoids, alkaloids, glycosides, steroids, tri-terpenoids, tannins, fixed oils, lipids, and proteins, but plumbagin is the most significant of all of them. It has a wide spectrum of medicinal effects, including those against cancer, diabetes, malaria, and bacteria. Numerous investigations have been conducted to assess its potential for pharmaceutical use. The purpose of this review is to provide comprehensive knowledge about P. zeylanica's chemical makeup and medicinal properties. [10]

According to Ankita Sharma and Nimali Singh (2015), the Plumbaginaceae family includes the medicinal plant Plumbago Zeylanica. It is frequently called "chitrak." All of its parts are utilized, but the most bioactive component is found in the roots. This compound is called plumbagoin, and it has a wide range of biological and pharmaceutical effects, including those that are anti-malarial, anti-obese, anti-ulcer, anti-microbial, anti-cancer, anti-inflammatory, and antioxidant. This review's objective is to offer comprehensive information on the chemical components, traditional usage, medicinal activity, and bioactive compounds of the plant. [11]

According to Smita S. Chaudhari and G. S. Chaudhari (2015), the Plumbago zeylanica Linn. (Plumbaginaceae), also known as Ceylon leadwort or Chitrak, has strong medicinal potential and so holds a significant place among medicinal plants used to treat various diseases around the world. It is highly regarded in Ayurveda and Unani. It has a large variety of phytochemicals with a variety of pharmacological functions. The current review emphasizes Plumbago zeylanica Linn's traditional medicinal uses, phytochemistry, and pharmacological activity with the intention of inspiring and grabbing researchers' attention for the development of new medications and extensive use of the plants. [12]

CONCLUSION:

People have used a number of natural treatments to treat and improve their health throughout history. Minerals, plants, and animals can all be found in both nearby and far-off locations. Prior to the discovery of many modern drugs, which gave rise to many of the medications we take today, thousands of years of traditional use existed. Even though they are at the centre of these systems, medicinal plants are essential to the healthcare of about 80% of the world's population. The present drug screening procedure heavily relies on information gleaned from medical folklore. Modern medicines like digitoxin, reserpine, and tubocurarine were discovered by following the trail of folk uses. [13]

Since a long time ago, we've emphasized how little is understood about the relative importance of medicinal (or other valuable) plants in a culture and how crucial it is to contrast how different societies

use plants. Ethnobotanical research enables the selection of species that require urgent phytochemical investigation and that we believe are most likely to have useful compounds. Native Americans use herbal remedies to maintain their health. The traditional use of plants presents an enormous opportunity for the creation of new pharmaceuticals. Additionally, food made from plants might be utilized to emphasize the differences between the two groups. Medication can be found in food, and vice versa. [14]

It is a severe problem because, as a result of acculturation and the degradation of plant habitats, indigenous and smaller communities are losing their traditional languages and expertise. These people, their customs, and the environments in which they live are all under grave danger since they provide both traditional and western medicine with modern plant products for human well-being. Due to the disappearance of traditional wisdom, modern medicine has gotten worse. [15] Indigenous cultures in emerging countries run the risk of being permanently destroyed if forces of contemporary development damage and destroy them. Similar to the current wave of plant and animal extinction, ethnomedicine practitioners are typically more susceptible to extinction than forests and other biomes. Outpacing the extinction of plant species is the loss of knowledge about plants.

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