iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** XII **Month of publication:** December 2023

DOI: https://doi.org/10.22214/ijraset.2023.57406

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue XII Dec 2023- Available at www.ijraset.com

A Study on Ethnomedicinal Plants Used by Indigenous Tribes of East Godavari Forest Area

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Abstract: ***In the present research, we investigated ethno medical information from the Indigenous people of Rampachodavaram Mandal, East-Godavari District, Andhra Pradesh, India. We interviewed the tribal people at their residences. As part of the oral interviews, specific questions were asked and the information provided by the informants was noted. For their health, the local tribes were familiar with most of the common diseases like pain, cuts, fever, headaches, wounds, headaches, and sprains. Additional field trips were conducted in different seasons in the same area to gather information and also to confirm the data already collected. A total of 140 ethno medicinal plant species were collected from 125 genera of 62 families used to treat 52 diseases.***

Keywords: ***Folk knowledge, Indigenous communities, Ethno medicine, Phytopharmacological studiesTraditional knowledge***

I. INTRODUCTION

The study of traditional medicine is ethno medicine. Ethno medicine is older than civilization. It is part of thecustoms and traditions of a specific community and is now considered a new source of wisdom. Historically, the use of plants for treating human and animal diseases in India can be traced back to the Rig-Veda, the earliestscripture of the Hindus (4500 -1600 BC) (Jain, 1994).

A multitude of tribal groups and very diversified vegetation make India a top country for ethno botany knowledge. It is estimated that India is home to 17,500 angiosperm species alone (Jain, 2000). Glimpses of Indian Ethno botany (Jain, 1981) contributed to the development of ethnobotanic studies in India. These studies are especially important for aboriginal people (Maheshwari and Singh, 1984). In the last decade, the Department of Environment and Forest has been consistently conducting research on ethno biology, which has generated a lot of curiosity about tribal medicine. Since time immemorial the primitive societies have depended on plants remedies for the treatment of diseases and disorders (Singh *et al.* 2003). Indianethno botanical contributions have earned the nation a prominent place on the world map of ethnobotanical studies(Jain 1963, c; 1965; 1967a, b; 1991, b).

A future role for ethno botany may be to contribute to sustainable development and the conservation of biodiversity (Rajasekaran & Warren1994). A large number of wild plants are useful for the tribal people for meeting their multifarious needs (Anonymous1990). In Andhra Pradesh, ethno botany has been well explored (Hemadri 1976, Rama rao and others 1999, R.V. Reddy andcolleagues1996, C.S. Reddy and colleagues 2000, Savitramma and others 2007, Krishnamurthy1958, Sudhakar & Rao 1985, M.S. Raju 1996, Lakshmi & Lakshminarayana 2008). The present study aims to investigate the ethno medicinal plants used by primitive tribes of Maredumilli Mandal and the practices they employ.

II. METHOD

A. *Objectives of the Study*

The present work is carried out in this manner to cover the objectives given here under:

1) Collection and authentication of medicinal plants.
2) Preparation of medicinal plant extracts in aqueous and methanolic solvents.
3) To study the screening of active compounds or metabolites, for antibacterial activity of theselected plants through the process of preliminary phyto chemical analysis.
4) To study the quantitative phyto-chemical analysis of selected plants (TPC and TFC).
5) To check the antibacterial activity of selected plants against *Xanthomonas species.*

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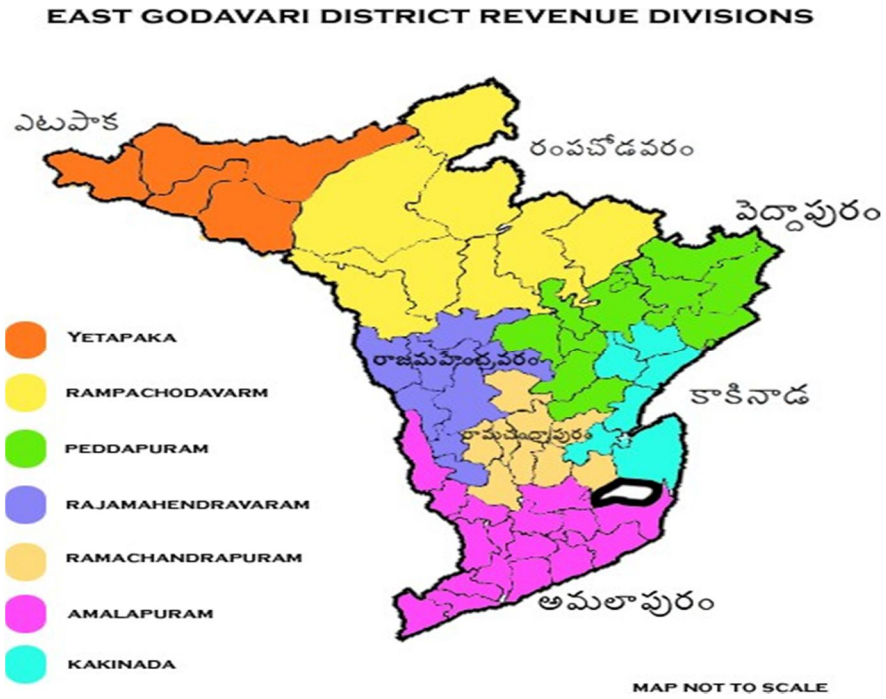
B. Collection and authentication of Medicinal Plants

1) Selected five medicinal plants namely Azadirachta indica (Maliaceae), Mentha arvensis (Lamiaceae), Murraya paniculata (Rutaceae), Nyctanthes arbor-tristis (Oleceae) and Tinospora cordifolia (Meninspermaceae) were collected from rampachodavaram forest area

2) These plants were authenticated by the experts of taxonomist in Botany, Andhra University, Visakhapatnam, Andhra Pradesh, India.

C. Selection of Bacteria

Two bacterial species namely Xanthomonas citri & Xanthomonas campestris were selected to determine the antibacterial activities of plant extracts. The selected bacterial cultures were procured from Indian Agriculture Research Institute (IARI), New Delhi, Pusa, India.



III. MATERIAL AND METHODS

An ethno medical study was conducted by interviewing tribal elders and elderly people, herbal healers, tribal gurus, and vydhyas during different seasons during the years. Field trips were conducted several times between the years 2020 and 2021 in the district to document the ethno medical knowledge of the tribal people in Maredumilli. In order to perform the survey, information from questionnaires on medicinal plants—including their local names, components used, preparation and administration methods—as well as information from elderly farmers and local tribes were recorded. Data were collected by means of direct field visits and interviews with persons such as local elderly people, school teachers, and forest dwellers. Information was collected on plant species, parts, vernacular names, and methods of use of useful plants. The ethno medicinal plants were identified with the help of regional floras(Gamble & Fischer, 1935 Herbarium specimens of the plants were deposited at theBotany Department of the Andhra University in Visakhapatnam, Andhra Pradesh, India. Data on ethno medicine is arranged alphabetically by botanical names, family names, vernacular names, habits, useful parts, and diseases.

IV. DISCUSSION

Traditional healers and local herbal medicinal practitioners say that a variety of traditional formulations are utilized to cure a number of human diseases/ailments. Several plant parts are used to treat different diseases, including the leaves of eighteen different species, the roots of thirteen different species, the stem barks of six different species, the seeds of five different species, the fruits of four different species, the entire plant of one species, and the flowers of one species.

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Approximately thirty-three different disorders were treated with plants, either topically or topically, using a variety of preparations such as extracts, decoctions, juices, powders, pastes, infusions, and many more The majority of plant species are employed in suitable forms to treat two or more disorders, with dosages determined by the age of the patient and the nature or intensity of the sickness. The study's findings unequivocally showed that the listed ethno medicinal plants are used to treat a wide range of illnesses, including fever, cough, diarrhoea, amoebiasis, jaundice, liver diseases, anemia, menstrual disorders, snake bite, wounds, external ulcers, ear pain, stomachache, leprosy, diabetes, skin diseases, epilepsy, convulsions, asthma, syphilis, throat issues, vomiting, joint pain, sleep disturbance, heart diseases, leucoderma, edema, worm infestation, bone pain, conjunctivitis, and so forth. Numerous attempts have been made recently to investigate the ethno medicinal significance of plants that indigenous people in various regions of the state employ.

V. CONCLUSIONS

Industrialization, urbanization, modernization and the consequent developmental activities on one side and acculturation of the ethnic societies on the other have set in motion causing destruction of forests and devastation of ethno botanical knowledge. It is high time now, that all the Governmental and Non-Governmental Organizations should redouble their efforts to conserve plants of potential economic value, particularly medicinal plants and the ecosystems they inhabit. The tribal people of the district have very good ethno medicinal knowledge on the use of medicinal plants. In rural areas, such types of knowledge of ethno medicinal plants were restricted to a few persons. The harvesting of the ethno medicinal plants by the maximum use of underground parts from the wild may lead to the extinction of the species in the future.

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Table1:EthnomedicinalplantsusedforIndigenousTribesof Rampa Chodavaram,EastGodavariDistrict

S.No	ScientificName	Family	Habit	PartUsed	Disease
1	*Acalyphaindica*	Euphorbiaceae	Herb	Leaf	Jaundice
2	*Achyranthesaspera*	Amaranthaceae	Herb	Seed	Antidote
3	*Acoruscalamus*	Araceae	Herb	Rhizome	Cold
4	*Aeglemarmelos*	Rutaceae	Tree	StemBark	Cholera
5	*Alangiumsalvifolium*	Alangiaceae	Tree	Leaf	RheumatoidArthritis
12	*Barringtoniaacutangula*	Barringtoniaceae	Tree	Leaf	Headache
13	*Bauhiniaracemosa*	Caesalpiniaceae	Tree	StemBark	Asthma
14	*Bauhiniavahlii*	Caesalpiniaceae	Climber	Root	Dysentery
15	*Boerhaviadiffusa*	Nyctaginaceae	Herb	WholePlant	HIV
16	*Brideliaretusa*	Euphorbiaceae	Tree	StemBark	Chestpain
17	*Buchananialanzan*	Anacardiaceae	Tree	StemBark	Boils
18	*Butea monosperma*	Fabaceae	Tree	StemBark	Antifertility
19	*Caesalpiniabonduc*	Caesalpiniaceae	Shrub	Seed	Abortion
20	*Calotropisgigantea*	Asclepiadaceae	Shrub	Root	Epilepsy
21	*Canavaliagladiata*	Fabaceae	Climber	Root	Diarrhoea
22	*Capparis zeylanica*	Capparidaceae	Shrub	Root	Earache
23	*Cardiospermumhalicacabum*	Sapindaceae	Climber	Leaf	Burns
24	*Cassiaabsus*	Caesalpiniaceae	Herb	Flowers	Asthma
25	*Cassiaalata*	Caesalpiniaceae	Herb	Flowers	Asthma
26	*Cassiaoccidentalis*	Caesalpiniaceae	Herb	Root	Anthelmintic
27	*Cassythafiliformis*	Lauraceae	Parasite	WholePlant	Hydrocele
28	*Celastruspaniculatus*	Celastraceae	Climber	RootBark	Leucorrhoea
29	*Chlorophytumarundinaceum*	Liliaceae	Herb	Tuber	Hydrocele
30	*Chloroxylonswietenia*	Flindersiaceae	Tree	StemBark	Cold
31	*Cleistanthuscollinus*	Euphorbiaceae	Tree	StemBark	Leucorrhoea
32	*Curcumalonga*	Zingiberaceae	Herb	Rhizome	RheumatoidArthritis
33	*Cuscutareflexa*	Cuscutaceae	Parasite	Wholeplant	Epilepsy
34	*Cyperusrotundus*	Cyperaceae	Herb	Tuber	Diarrhoea
35	*Dalbergialatifolia*	Fabaceae	Tree	StemBark	Fever
36	*Daturametal*	Solanaceae	Shrub	Root	Asthma
37	*Dendrophthoefalcata*	Loranthaceae	Parasite	StemBark	Asthma
38	*Desmodiumgangeticum*	Fabaceae	Herb	Leaf	Acidity
39	*Dilleniapentagyna*	Dilleniaceae	Tree	StemBark	RheumatoidArthritis
40	*Dioscoreabulbifera*	Dioscoreaceae	Climber	Tuber	Sterility
41	*Diospyroschloroxylon*	Ebenaceae	Tree	Leaf	Diarrhoea
42	*Diospyrosmelanoxylon*	Ebenaceae	Tree	StemBark	Cold
43	*Ecliptaprostrata*	Asteraceae	Herb	WholePlant	Acidity
44	*Elephantopusscaber*	Asteraceae	Herb	Root	Anthelmintic
45	*Elytrariaacaulis*	Acanthaceae	Herb	Tuber	Anasarca
46	*Erythrinasuberosa*	Fabaceae	Tree	Root	Dysentery
47	*Eucalyptusglobulus*	Myrtaceae	Tree	Leaf	Antiseptic
48	*Eugeniabracteata*	Myrtaceae	Shrub	Root	Dysentery
49	*Euphorbiahirta*	Euphorbiaceae	Herb	Leaf	Dysentery
50	*Evolvulusalsinoides*	Convolvulaceae	Herb	Leaf	Jaundice
51	*Ficusbenghalensis*	Moraceae	Tree	Latex	Boils
52	*Ficusracemosa*	Moraceae	Tree	StemBark	Diarrhoea

53	*Ficusreligiosa*	Moraceae	Tree	StemBark	Diarrhoea
54	*Flacourtiaindica*	Flaucortiaceae	Shrub	Root	Bronchialallergy
55	*Garuga pinnata*	Burseraceae	Tree	StemBark	Stomachache
56	*Gloriosasuperba*	Liliaceae	Herb	Leaf	Asthma
57	*Glycosmispentaphylla*	Rutaceae	Shrub	Fruit	Conjunctivitis
58	*Gmelinaarborea*	Verbenaceae	Tree	StemBark	Chestpain
59	*Gmelinaasiatica*	Verbenaceae	Tree	Fruit	Dandruf
60	*Grewiatiliifolia*	Tiliaceae	Tree	Leaf	Lice
61	*Gymnemasylvestre*	Asclepiadaceae	Climber	Root	Snakebite
62	*Haldiniacordifolia*	Rubiaceae	Tree	StemBark	Leucorrhoea
63	*Helicterisisora*	Sterculiaceae	Shrub	Fruit	Dysentery
64	*Hemidesmusindicus*	Asclepiadaceae	Climber	Root	Diarrhoea
65	*Hemionitisarifolia*	Adiantaceae	Herb	WholePlant	Commonproblems
66	*Holarrhenapubescens*	Apocynaceae	Shrub	StemBark	Asthma
67	*Holopteliaintegrifolia*	Ulmaceae	Tree	Root	Abortion
68	*Hugoniamystax*	Linaceae	Shrub	Root	Swellings
69	*Hybanthusennaespermus*	Violaceae	Herb	WholePlant	Impotency
70	*Ichnocarpusfriutiscens*	Apocynaceae	Climber	Root	Epilepsy
71	*Lagerstroemiaparviflora*	Lythraceae	Tree	Leaf	Dysentery
72	*Lanneacoromandelica*	Anacardiaceae	Tree	StemBark	Cuts
73	*Lawsoniainermis*	Lythraceae	Shrub	Leaf	Jaundice
74	*Leonotisnepetiifolia*	Lamiaceae	Herb	Inflorescence	Breast pain
75	*Limoniaacidissima*	Rutaceae	Tree	Root	RheumatoidArthritis
76	*Litseaglutinosa*	Lauraceae	Tree	Seed	Rheumatism
77	*Lygodiumflexuosum*	Lygodiaceae	Herb	Root	Anaemia
78	*Madhucaindica*	Sapotaceae	Tree	Flowers	Asthma
79	*Mallotusphilippensis*	Euphorbiaceae	Tree	Fruit	Anthelmintic
80	*Mangiferaindica*	Anacardiaceae	Tree	Gum	Boils
81	*Manilkarahexandra*	Sapotaceae	Tree	StemBark	Bodypain
82	*Memecylonumbellatum*	Melastomataceae	Tree	RootBark	Leucorrhoea
83	*Mimosapudica*	Mimosaceae	Herb	Root	Epilepsy
84	*Momordicacharantia*	Cucurbitaceae	Climber	Fruit	Diabetes
85	*Moringoleifera*	Moringaceae	Tree	Leaf	Bloodpressure
86	*Mucuna pruriense*	Fabaceae	Climber	Root	Dysmenorrhoea
87	*Murrayapaniculata*	Rutaceae	Shrub	Root	Anaemia
88	*Musa paradasiaca*	Musaceae	Herb	Leaf	Cough
89	*Naraveliazeylanica*	Ranunculaceae	Climber	Leaf	Cold
90	*Naringi crenulata*	Rutaceae	Tree	StemBark	Dysentery
91	*Nelumbonucifera*	Nelumbonaceae	Herb	Perianth	Conjunctivitis
92	*Nyctanthusarbor-tristis*	Nyctanthaceae	Tree	Seed	Dandruf
93	*Ocimumbasilicum*	Lamiaceae	Herb	Seed	Diarrhoea
94	*Ocimumtenuiflorum*	Lamiaceae	Herb	Leaf	Conjunctivitis
95	*Olaxscandens*	Olacaceae	Climber	StemBark	Anaemia
96	*Oroxylumindicum*	Bignoniaceae	Tree	RootBark	Antifertility
97	*Orthosiphonrubicundus*	Lamiaceae	Herb	Root	Diarrhoea
98	*Pavettaindica*	Rubiaceae	Shrub	Leaf	Blisters
99	*Pedaliummurex*	Pedaliaceae	Herb	Leaf	Dysmenorrhoea
100	*Pergulariadaemia*	Asclepiadaceae	Climber	Leaf	Bone fractures

101	*Phoenixsylvestris*	Arecaceae	Tree	Root	Asthma
102	*Polyalthiacerasoides*	Annonaceae	Tree	Gum	Chestpain
103	*Pongamiapinnata*	Fabaceae	Tree	Leaf	Cough
104	*Pterocarpusmarsupium*	Fabaceae	Tree	StemBark	Conception
105	*Puerariatuberosa*	Fabaceae	Climber	Tuber	Pepticulcer
106	*Rauvolfiaserpentina*	Apocynaceae	Herb	Root	Fever
107	*Rauvolfiatetraphylla*	Apocynaceae	Herb	RootBark	Bloodpressure
108	*Rubiacordifolia*	Rubiaceae	Herb	Root	Stomachache
109	*Sapindusemarginatus*	Sapindaceae	Tree	Fruit	Asthma
110	*Schleicheraoleosa*	Sapindaceae	Tree	StemBark	Bloodpurification
111	*Scopariadulcis*	Schrophulariaceae	Herb	Root	Dysentery
112	*Semecarpusanacardium*	Anacardiaceae	Tree	Seed	Abdominaswelling

Glycomis pentaphylla



Madhka inidca



Schleichera oleosa



Puerariatuberosa

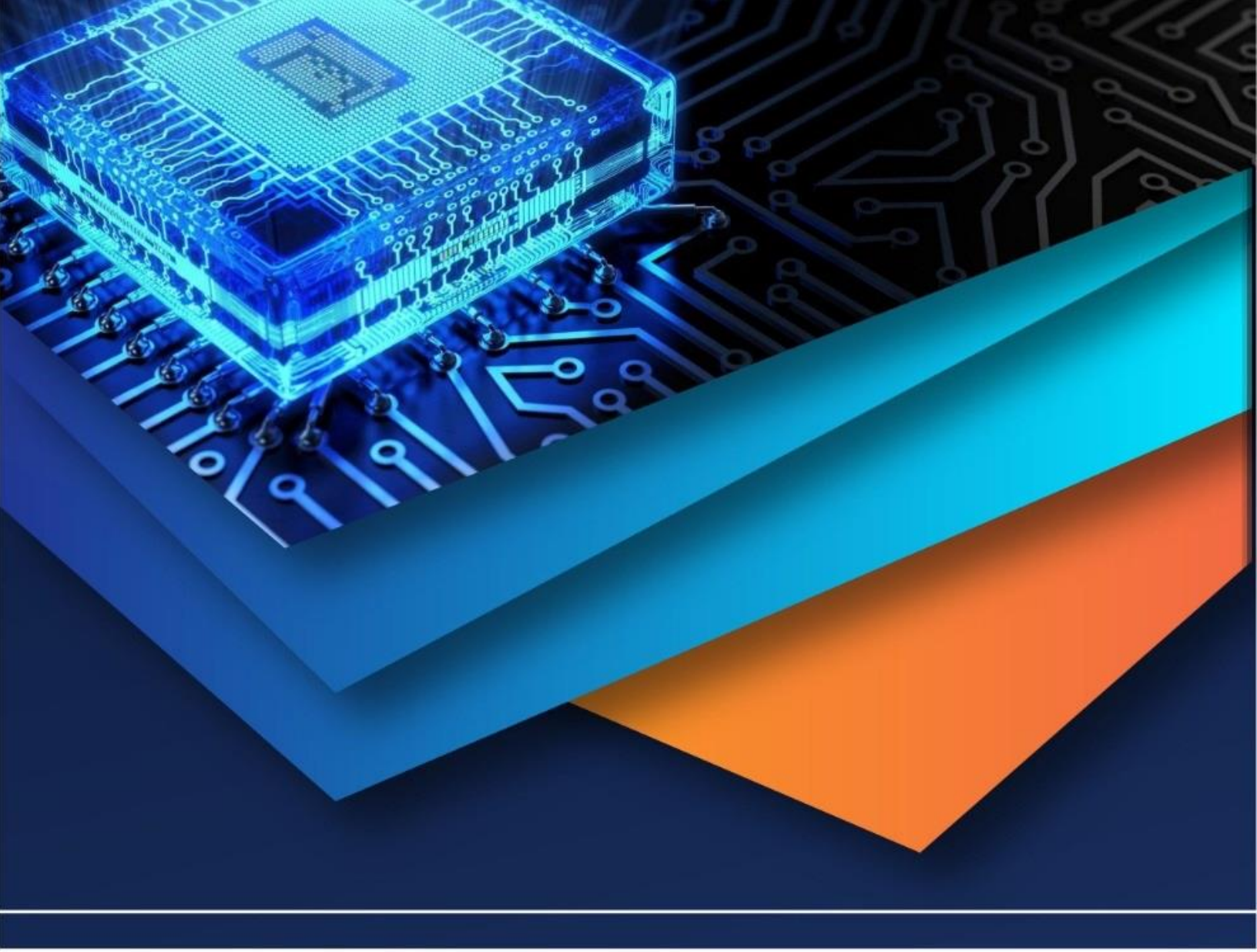


Pergulariadaemia



Oroxylum indicum





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