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# 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.*

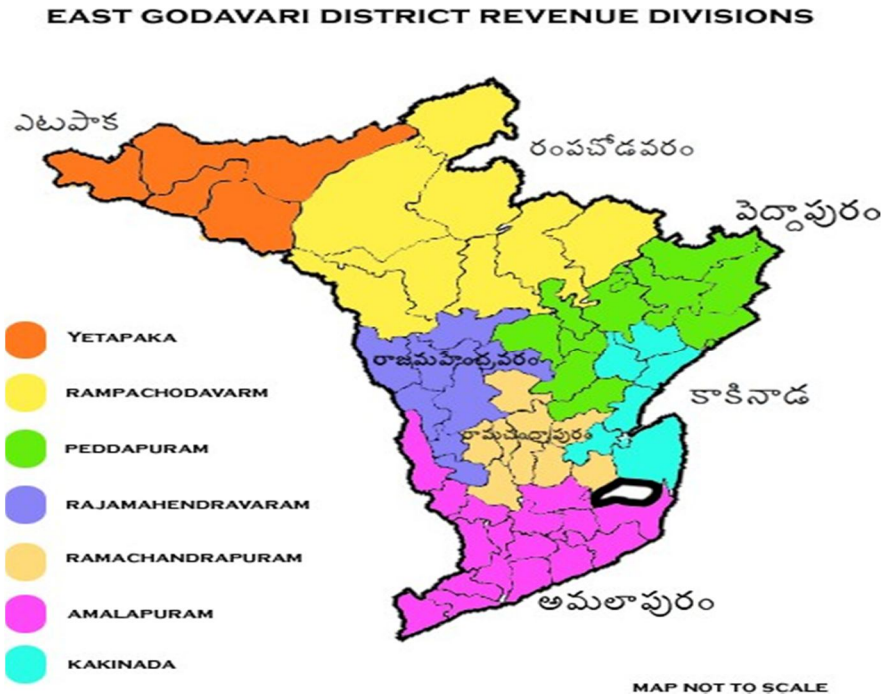
*B. Collection and authentication of Medicinal Plants*

*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.

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 |

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|---|---|---|---|---|---|
| 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 |

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|---|---|---|---|---|---|
| 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

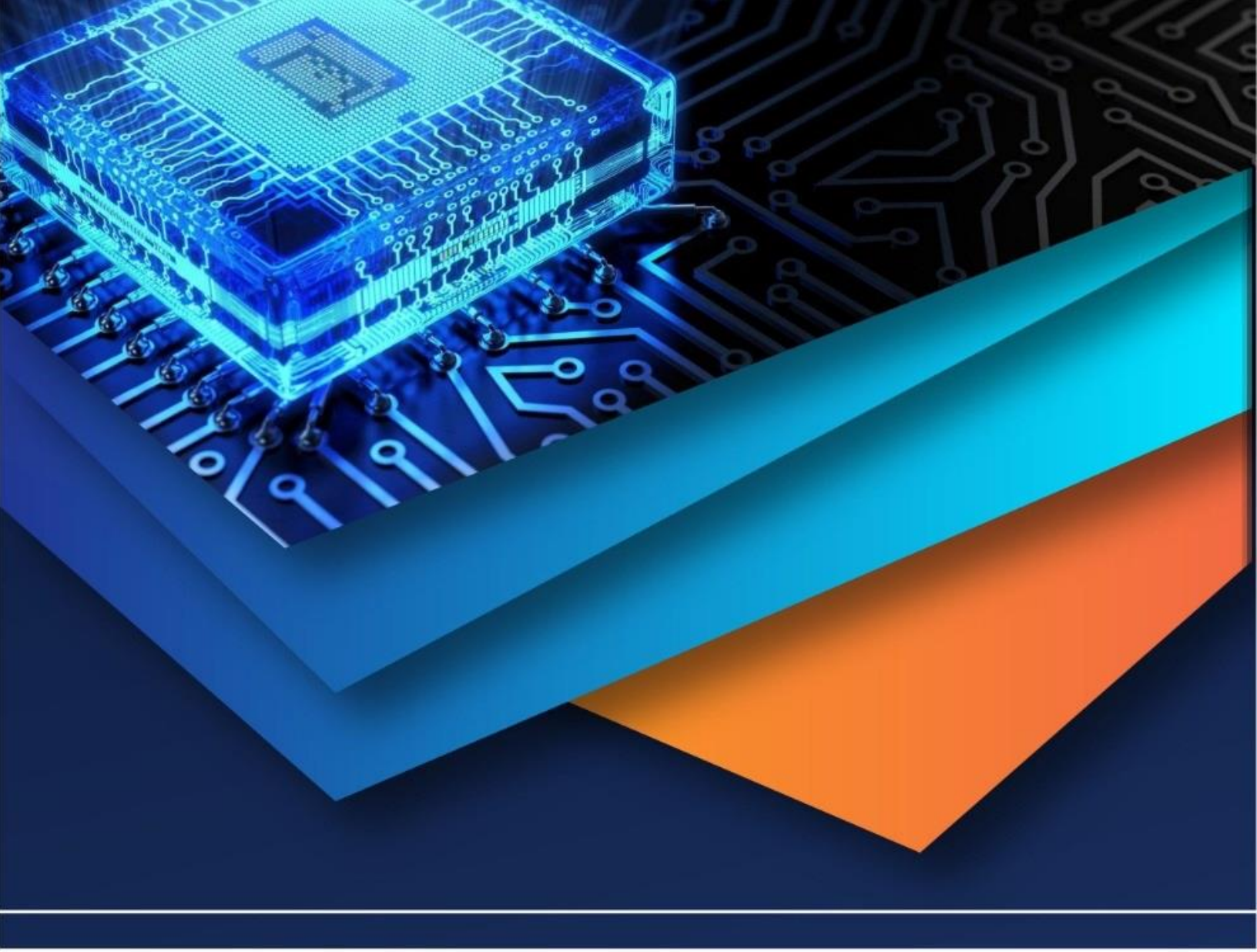
Madhka inidca

Schleichera oleosa

Puerariatuberosa

Pergulariadaemia

Oroxylum indicum



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