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DISTINCTIVENESS

Details	Link
LIST OF MEDICINAL PLANTS	Click Here
PLANTATION BY DIGNITARIES	Click Here
LIST OF RESEARCH WORK AND PROJECT WORK COMPLETED ON MEDICINAL PLANTS	Click Here
RESEARCH PAPER ON MEDICINAL PLANT	Click Here
PROJECT CERTIFICATE ON MEDICINAL PLANT	Click Here
STAFF AND STUDENTS' INVOLVEMENT IN THE DEVELOPMENT OF MEDICINAL GARDEN	Click Here
INSECT AND PASTE REPELLANT PLANTS IN THE MEDICINAL GARDEN (LEMON GRASS, VETIVER PLANTS, AND ALOE VERA)	Click Here
HERBARIUM PREPARATION GUIDANCE	Click Here
LETTER OF APPRECIATION AND RECOGNITION BY INDUSTRIES	Click Here

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List and Photos of medicinal plants

Entrance of KCP medicinal garden (77 plants)

RARE PLANTS ARE HIGHLIGHTED IN RED COLOUR

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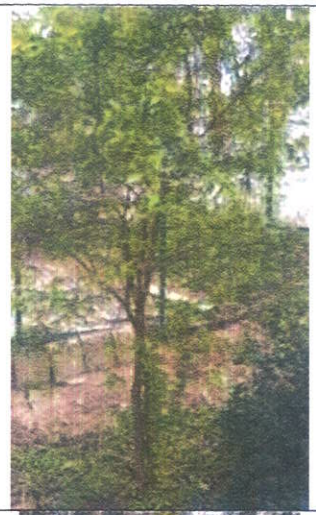
Sl No	*Local Name*	*Scientific name*	*Medicinal uses*	*Total No of plants*	*Photo*
1	Pomegranate	*Punica granatum*	Antihypertensive	1	
2	Parijatha	*Nyctanthes arbor-tristis*	Antidiabetic	1	

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3	Shankhpushpi	*Convolvulus pluricaulis*	Antidepressant	1		
4	Amla	*Emblica officinalis*	Antidiabetic	1		

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5	Cinnamon	*Cinnamomum zylenicum*	Antidiabetic	2	
6	Sappan wood	*Caesalpinia sappan*	Antibacterial	1	

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7	Nutmeg	*Myristica fragrans*	Anti-inflammatory	1	
8	Japaneese mint	*Mentha Urensis*	Antidiarrhoea	2	

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9	Rasna	*Alpinia officinarum*	Stimulant	1		
10	Indian trumpet plant	*Oroxylum indicum*	Astringent	1		

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11	Chaste tree	*Vitex trifolia*	Antiasthamic	2		
12	Guggul	*Commiphora weightii*	Antiinflammatory	2		

13	Swallow root plant	*Decalepis hemiltonii*	Antioxidant	2		
14	All Spice plant	*Pimenta dioica*	Stimulant	2		

15	Annatto plant	*Bixa orellana*	Stomachic	1	
16	Champa plant	*Magnolia champaca*	Cardiotonic	1	

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17	Stevia	*Stevia rebaudiana*	Anti diabetic	1	
18	Rauwolfia	*Rauwolfia serpentine*	Antihypertensive	2	

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Sl No	*Local Name*	*Scientific name*	*Medicinal uses*	*Total No of plants*	*Photo*
1	Ashoka	*Saraca ashoka*	Anti arthritic	2	
2	Night blooming jasmine	*Cestrum nocturnum*	Antiepileptic	2	

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3	Vetiver	*Chrysopogon zizanioides*	Insect repellant	2	
4	Lemon	*Citrus lemon*	Antioxidant	2	

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5	Liquorice	*Glycyrrhiza glabra*	Antiinflammatory	2		
6	Curry tree	*Murraya koenigii*	Hepatoprotective	2		

7	Shatavari	*Asparagus racemosus*	Anti TB	2	
8	Ginger	*Zingiber officinale*	Stimulant	2	

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9	Jasmine	*Jasminum officinale*	Hepatic disorder	1		
10	Henna	*Lawsonia inermis*	Antibacterial	2		

11	Citronella	*Cymbopogon citratus*	Anxiolytic	2		
12	Kurchi	*Holarrhena antidysenterica*	Antibacterial	2		

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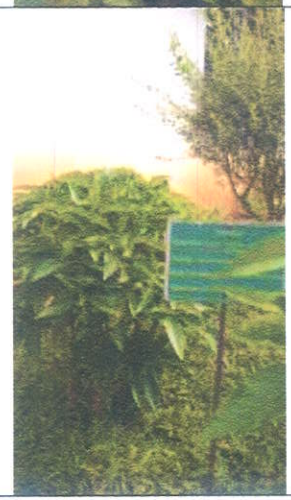
13	Lavanga Tulsi	*Ocimum grattissimum*	Analgesic	2	
14	Vasaka	*Adhatoda vasika*	Anticough	2	

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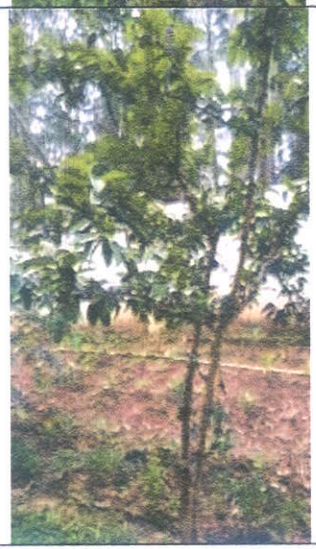
15	Gymnema	*Gymnema sylvestres*	Antidiabetic	2		
16	Guava	*Psidium guajava*	Wound healing	1		

17	Tinosopra	*Tinospora cordifolia*	Antidiabetic	2		
18	Kalmegh	*Andrographis paniculata*	Hepatoprotective	2		

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19	Tincture plant	*Collinsia tintoria*	Natural dyes	2		

Sl No	*Local Name*	*Scientific name*	*Medicinal uses*	*Total No of plants*	*Photo*
1	Jal Brahmi	*Bacoppa monnieri*	Antiepileptic	2	
2	Bael	*Aegle marmelos*	Antiobesity	2	

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3	Sanjeevani	*Selaginella bryopteris*	Dysuria	1	
4	Vanamugali	*Acmella calva*	Stimulant	1	

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5	Mango ginger	*Curcuma amada*	Antioxidant	2		
6	Liquorice	*Glycyrrhiza glabra*	Antiinflammatory	1		

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7	Coleus	*Coleus forskohlii*	Antihypertension	2	
8	Insulin plant	*Costus igneus*	Antidiabetic	2	

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9	Garlic	*Allium sativum*	Anticancer	2	
10	Noni	*Morinda citrifolia*	Antiinflammatory	2	
11	Tree turmeric	*Coscinium fenestratum*	Antidiabetic	1	

12	Tulsi	*Ocimum sanctum*	Antimicrobial	2	
13	Bursera plant	*Bursera fagaroides*	Anti psoriatic	2	
14	Sleepy plant	*Mimosa pudica*	Against snake bite	2	

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15	Agnimantha	*Clerodendrum phlomidis*	Anti-inflammatory	2	
16	Rose apple tree	*Jambosa jambos*	Antioxidant	1	
17	Betel	*Piper betle*	Stimulant	2	

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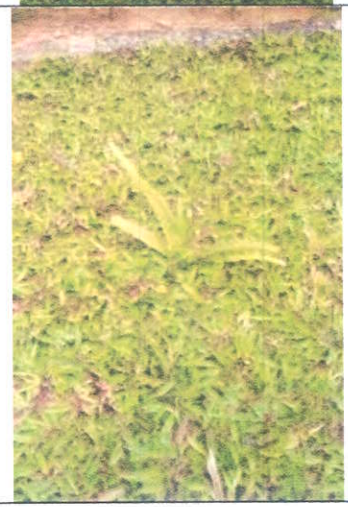
18	Kaadu basale	*Kalanchoe pinnata*	Antiulcer	1	
19	Rosemary	*Rosmarinus coronarium*	Astringent	2	

20	Garden Rue	*Ruta graveolens*	Stimulant	2		
21	Aloe	*Aloe vera*	Antioxidant	1		

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3	Long pepper	*Piper longum*	Antitumor	2		
4	Rauwolfia	*Rauwolfia serpentine*	Antihypertensive	2		

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5	Papaya	*Carica papaya*	Antimicrobial	1	
6	Lavanga Tulsi	*Ocimum grattissimum*	Analgesic	1	

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7	Rasna	*Alpinia officinarum*	Stimulant	1	
8	Lemon grass	*Cymbopogon flexuosus*	Insect repellant	2	
9	Devil's Backbone	*Cissus quaddrangularis*	Antiobesity	1	

10	Neem	*Azadirchta indica*	Antimicrobial	1		
11	Basmati plant	*Pandams amaryllifoliu*	Anxiolytic	2		

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12	Sapota	*Manikara zapota*	Antioxidant	1		
13	Tulsi	*Ocimum sanctum*	Antimicrobial	1		

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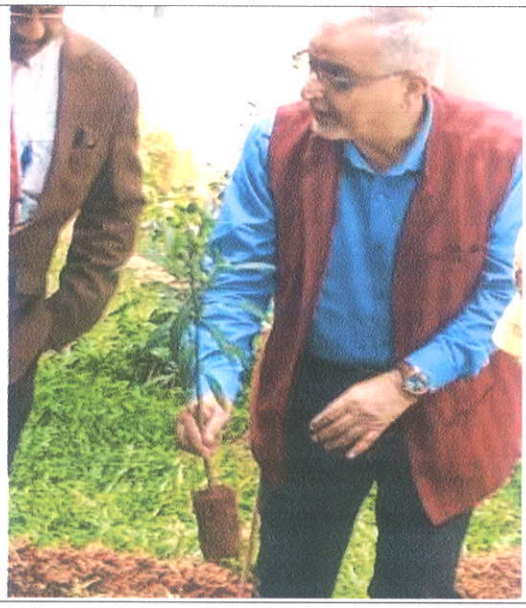
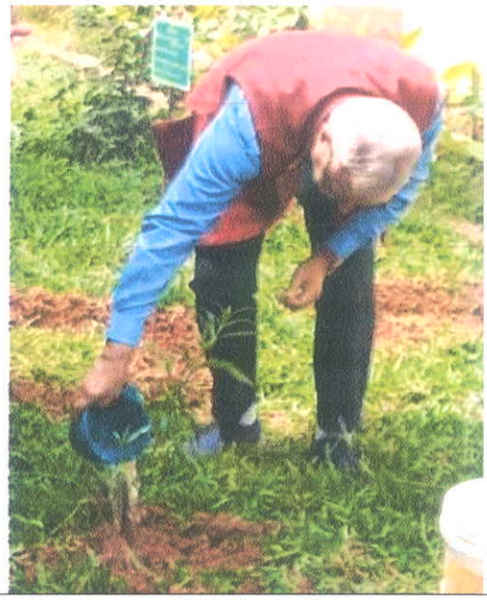
Plantation by dignitaries





Plantation by Mr. Roop Khar DIRECTOR, B.S .Anangpuria Educational Institutions Faridabad, (FORMER DEAN and HEAD JAMIA HAMDARD)

Plantation by Sunil Attavar, Chairman and Managing Director , Group Pharmaceuticals Limited

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Plantation by Mrs. Kavitha Gopalan IAS Professional composite public policy

Plantation by Prof. S.K Srivastava, member coordinator, from BHU. And Rahul Rathod, member, NAAC team 2017

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Plantation by Mrs. Archana Mudgal, PCI.

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LIST OF RESEARCH AND PROJECT WORK COMPLETED ON MEDICINAL PLANTS

Sl No.	Name of student	Title of project	Guide name	Co-guide name	Funded by	Status
2016 - 17						
1	Vasudev	Formulation and evaluation of herbal oils for disinfectant and mosquito repellant activity	Dr. Kuntal Das	Dr. Raman Dang	KCP	Completed 12/11/2016 and published
2	Someswar Deb, Thejaswini Karanth	Estimation of phytochemicals and screening of anthelmintic activity of *Melia dubia* Cav. leaf extracts collected from different states	Dr. Kuntal Das	Dr. Raman Dang	KCP	Completed 17/11/2016 and published
2017-18						
3	Gowthami V, Yahya Ahmed S and Md. Belal	Effect of methanolic leaves extracts of *Phlebodium decumanum* and *Bauhiana variegate* for anti psoriasis activity on albino mice	Dr. Kuntal Das	Dr. Raman Dang	KCP	Completed 18/12/2017
4.	Gowthami V	Comparative proximate analysis, phytochemical screening and antioxidant study of leaf and root extracts of *Decalepis hamiltonii* Wight & Arn.	Dr. Kuntal Das	Dr. Raman Dang	KCP	Completed 27/12/2017

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2018-19						
5	Usha M, James Sounder and Venkatesh Prasad S	Proximate analysis, metal ion content, antioxidant and antiepileptic activity of methanol and aqueous root extracts of *Decalepis nervosa*	Dr. Kuntal Das, Saifullah Khan	---	KCP	Completed and published
COVID YEAR		**2019-20**				
2020-21						
6	Prethewsh nadh. S, nandini. L, monika.k, reena thapa, maria danish allwin	Comparative Phytochemicals And Estimations Of Constituents Present In Decalepis Species Through Hplc	Dr Kuntal Das		KCP	Completed and published
7	Amrutha. S , Aparana Bhaskar , Arnab Manna , Chandan a Shree G, Harshitha. P	Comparative phytochemical screening and evaluation of *in vitro* anti-inflammatory activity of *Euphorbia hirta* leaves and roots	Dr Kuntal Das		KCP	Completed and published
	VIII SEM PROJECT COMPLETED					
8	RUBY, Syed Mohasinm Thriveni, Navya Sp	Comparative Phytochemicals and estimation of constituents present in Stevia Leaves through HPLC	Dr Kuntal Das		KCP	Completed and evaluated

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9	Jayalakshmi, Kingsly Dass, Maithili Sinha,Milan Bahadur, Md. Fadil	Comparative Phytochemical screening and antimicrobial activity of different parts of Mimosa Pudica Linn	Dr Kuntal Das		KCP	Completed and evaluated
10	Amrutha S Aparna Bhaskar, Arnab Manna ChandanaShree G Harshitha P	Comparative Phytochemical Screening and evaluation of In vitro antiinflammatory activity of euphoria Hirta leaves and roots	Dr Kuntal Das		KCP	Completed and evaluated
11	Prethewsh Nadh Nadini L Monika K Reena Thapa Maria Danish Allwin	Comparative Phytochemicals and estimations of constituents present in the leaves of Decalepis Species through HPLC	Dr Kuntal Das		KCP	Completed and evaluated

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Annals of Phytomedicine 6(2): 119-125, 2017

DOI: 10.21276/ap.2017.6.2.12; Print ISSN : 2278-9839 and Online ISSN : 2393-9885

Ann. Phytomed., 6(2): 119-125 (2017)

Original article

Comparative proximate analysis, phytochemical screening and antioxidant study of leaf and root extracts of *Decalepis hamiltonii* Wight & Arn.

Kuntal Das, V. Gowthami and Raman Dang

Krupanidhi College of Pharmacy, #12/1, Chikkabellandur, Carmelaram Post, Varthur Hobli, Bengaluru-560035, Karnataka, India

Received September 3, 2017; Revised October 24, 2017; Accepted October 30, 2017; Published online December 30, 2017

Abstract

Decalepis hamiltonii Wight & Arn. (DH, family: Asclepiadaceae) is an endemic and endangered plant in India. The plant is commonly known as Swallow root and rarely located in Bangalore, Karnataka. The present study was revealed to establish proximate analysis, phytochemical screening and antioxidant activity on leaves and root methanolic extract of the domesticated DH plant. Moisture content and ash content was estimated for both leaves and roots and gave higher values for leaves (7.4 % and 6.7 %, respectively) than roots. Thereafter, various elements such as Fe, Cu, Zn, Cd, Cr, Pb, Ni, As, K, P, Ca and Na were estimated and revealed absent of non essential heavy metals (Cd, Cr, Ni, Pb, As) in leaves whereas below detectable limits of the same was detected for root sample. Various chemical tests for leaves and roots were carried out and revealed presence of flavonoids, tannins, glycosides, steroids, terpenoids, carbohydrate and phenols. Furthermore, total phenolic, total flavonoids content was resulted higher for leaves extracts and the same trend followed for antioxidant activity when IC_{50} values were compared with standard ascorbic acid and roots extract. Finally concluded that leaves extract had powerful antioxidant properties than roots extracts and the activity was dose dependent manner.

Key words: *Decalepis hamiltonii* Wight & Arn. antioxidant studies, elemental analysis, methanol extract, phytoconstituents, proximate analysis

1. Introduction

Since ancient time, a vast number of species have gone extinct from natural processes. Today, most plant species become extinct because of habitat destruction due to large population, introduction of non-native organisms and direct cutting. The value of endangered species has increased with the recognition that human activities cause extinction. In general, benefits of plant species are classified as ecological, economic and social with identification of higher therapeutical activities. Many traditional medicines rely mostly on medicinal plants which are further dependent on chemical races. Chemical races with respect to genetic diversity and ecological diversity are both components of biological diversity of endangered plant. Survival ability of a species in environmental change is directly depends on genetical diversity. Decalepis is such an example of climbing shrub with aromatic tuberous roots plant belongs to an endangered and is characterized by its ability to exist under different climatic conditions. The plant has domesticated from the natural habitat and surely there are many changes occurred along with many physical and metabolic changes especially in chemical constituents.

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Looking at that the present plant *Decalepis hamiltonii* Wight & Arn. (DH), belongs to family Asclepiadaceae, was selected which is grown only in the Southern part of India. The plant is commonly known as swallow root plant. It grows in between the rocks. Milky latex is present in the entire plant especially in leaves and roots (Vedavathy, 2004). Traditionally, the root is used as health drink and currently it is used as various food preparations, consumed as pickles and beverages (Harish *et al.*, 2005; Reddy *et al.*, 2007) and plenty pharmaceutical applications (Wealth of India, 1959). Research evidences revealed the root contain volatile oil, main chemical component as 2-hydroxy-4-methoxybenzaldehyde. Apart from that, root also contains benzaldehyde, salicylaldehyde, methyl salicylate, vanillin (Nagarajan *et al.*, 2001), beta amyrin acetate, alpha and beta amyrin (Murti and Seshadri, 1941). The root of this plant is use for treatment of skin diseases, blood purifier, diarrhoea, diuretics, *etc.* (Chopra *et al.*, 1956; Dey *et al.*, 1999; Arutla *et al.*, 2012). It is also used in Parkinson's diseases (Johromi *et al.*, 2015). Recent study established antioxidant nature of root extract. 4-hydroxyisophthalic acid (4-HIPA) isolated from aqueous extract of *D. hamiltonii* roots and studied for treatment of neurodegenerative disorders by cellular antioxidant defense system (Haddadi *et al.*, 2016). Whereas, very few reports of leaves extracts on therapeutic effects, as antimicrobial effect was revealed recently (Rajani *et al.*, 2016). Hence the present study has undertaken to establish detail proximate analysis, phytochemical screening and antioxidant study of leaf and root methanolic extracts of DH and explore their new area of therapeutic applications.

Annals of Phytomedicine 9(1): 162-170, 2020

DOI: http://dx.doi.org/10.21276/ap.2020.9.1.21

Annals of Phytomedicine: An International Journal

http://www.ukaazpublications.com/publications/index.php

Print ISSN : 2278-9839 Online ISSN : 2393-9885

Original article: Open access

Mitigation of dermal auto immune disease through combined action of natural constituents: An advantageous over allopathic medicines

Kuntal Das*, Adnan A. Khan*, V. Gowthami, Vivek Sharma and S. Yahya Ahmed

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Article Info

Article history
Received 1 March 2020
Revised 25 April 2020
Accepted 28 April 2020
Published online 30 June 2020

Keywords
Bauhinia variegata (L.) Benth.
Phlebodium decumanum (Willd.) J. Sm.
PSI
Psoriasis
epidermal thickness
Quercetin

Abstract

The present study was aimed for the phytochemical screening of *Phlebodium decumanum* (Willd.) J. Sm. (PD) and *Bauhinia variegata* (L.) Benth. and their synergistic efficacy for the treatment of psoriasis. Herb extract ratio followed by Pharmacognostical screening for both the plants (PD and BV). Thereafter, TLC was performed to detect the constituents. Furthermore, two different dose levels (200 mg/kg b.w., and 400 mg/kg. b.w.) were used for both the methanol extracts (based on acute toxicity study) and the result was compared with standard Rentino A (0.05%). Psoriasis severity index (PSI) according to the phenotypic changes (redness, erythema, and scales) and histological features (epidermal thickness) were evaluated for 28 days. Finally, the correlation study was performed between the activity, yield of extract and constituent present. Series of chemical tests revealed the presence of alkaloids, flavonoids, steroids and polyphenols in both PD and BV plants and based on the chemical nature further Quercetin (flavonoid) was isolated from both the plants. Further, resulted progressive reduction ($p<0.05$) in the severity of psoriatic lesions (redness, erythema, and scales from histopathology study) from the 7th day to the 28th days and decreased epidermal thickness in animals treated with combined extracts at a dose of 400 mg/kg b.w. Finally, the result concluded that the isolated Quercetin showed significant anti-psoriasis activity when compared with the combination of methanolic extract of both the studies plants by the mechanism of inhibition of the keratinocyte proliferation.

1. Introduction

Psoriasis is a chronic disease on skin with extra skin cells. It forms scales and red patches which are silver coloured, itchy and also sometimes painful. It is an auto immune disease which forms in any age group of people, provoked by various triggers such as mild trauma, sunburn, infections, stress and even by systemic drugs (Boehncke and Schon, 2015). It is mainly located on the elbows, knees and scalp but people are not taking seriously the dermatitis which may sometimes has connection with arthritis, myopathy, enteropathy, spondylitic heart disease, diffuse cutaneous and mucosal pustules and electrolyte disturbances etc. (Samuel *et al*., 1986). Of late, psoriasis is a serious global problem due to unavailability of proper treatments to cure psoriasis from root level (Roberson and Bowcock, 2010) and even the treatments are totally based on controlling the symptoms of the disease. Recent market survey revealed about 25 million people living with psoriatic disease in Worldwide which is 2-3% of the total population and the same is increasing day-by-day due to negligence (Figure 1). Different treatment strategies are available with synthetic medicines but affordability, availability, and prolonged side effects for the psoriasis still a challengeable task (Kim and Del Rosso, 2010). Therefore, treatment based on the natural products is now recent trend which showed much better therapeutic efficacy and also curing psoriasis for long. Herbs or herbal formulations in sole or in combinations are less expensive and are free from risk of side effects that created the interest as a viable alternative of allopathic medicines for psoriasis treatment (Deng *et al*., 2014, Das *et al*., 2019). Therefore, in the present study two important plants were selected (*Bauhinia variegata* (L.) Benth. and *Phlebodium decumanum* (Willd.) J.Sm.) for treatment of psoriasis and established potent drug combination as antipsoriasis activity. *Bauhinia variegata* (BV) is a common flowering tree which is abundantly available in roadside throughout India, belongs to the family Fabaceae. The plant is commonly known as Kanchan or Cow's paw (Kirtikar and Basu, 1999) whereas, *Phlebodium decumanum* (PD) is commonly known as the ornamental fern, belongs to the family Polypodiaceae, is abundantly available in damp regions in many parts of India (Das *et al*., 2017). Traditionally BV plant is antidiabetic, antiulcer, antioxidant, nephroprotective, hepatoprotective as well as Immunomodulatory (Patil *et al*., 2010; Panda *et al*., 2011) which are due to the presence of some important phytoconstituents, *viz*., Lupeol, β-Sitosterol, Kaempferol and Quercetin (Jash *et al*., 2014) and other constituents like terpenoids, tannins, saponins, reducing sugars, steroids and cardiac glycosides (Gupta *et al*., 1980; Al-Shafi, 2013). In other

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UKaaZ

Annals of Phytomedicine 5(2): 91-96, 2016
Journal homepage: www.ukaazpublications.com
Print ISSN : 2278-9839 and Online ISSN : 2393-9885

ANNALS OF
PHYTOMEDICINE
An International Journal

Original article

Economical novel formulation and evaluation of herbal oils for mosquito and house fly repellent activities

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Received October 10, 2016: Revised October 25, 2016: Accepted October 29, 2016: Published online December 30, 2016

Abstract

Aromatic plants contain compounds that they use in preventing attack from phytophagous insects with the multiple mechanisms like repellents, feeding deterrents, toxins, and growth regulators etc. Looking at that the present study was carried out with the aim of mosquito and house fly repellent activities with the novel herbal oil formulations. The oils of patchouli, eucalyptus, rosemary, citronella and neem leaves were extracted by hydro distillation method using Clevenger apparatus and various formulations were prepared, *viz.*, tincture, candle and crystal cake. Tincture was evaluated by sprayed in known mosquito larvae and observed for death rate using acetone as control; candle was evaluated on flammability, burning time as well as mosquito and insect repellency test. Furthermore crystal cake formulation was evaluated on appearance, volatility time, stability of fragrance, mosquito and insect repellency test. All the formulations showed remarkable significant dual activities against mosquito and insect population. Based on these preliminary actions, all these formulations were tested in Varthur locality (30 houses and 20 chicken shops) for one month where mosquito and insect populations were more and resulted significant elimination of both the populations. This result may be due to the presence of the active constituents like volatile alcohol, ketone and other constituents in the oils. The result revealed the formulated tincture spray and candle were more effective than crystal cake in relation to killing mosquitoes, insects, stability of fragrance, *etc.*

Key words: Clevenger apparatus, formulations, herbal oils, physical parameters, mosquito and insect repellency test

1. Introduction

In recent era, vector-borne diseases are spread over the world and chronic infections are transmitted by the infected arthropods, *viz.*, mosquitoes, ticks, bugs, sand flies, black flies and house flies, are serious threat to society for transmission of several life killing diseases. These diseases profoundly restrict socioeconomic status and many of the diseases are located in the tropical and subtropical areas (Bhupen Kalita *et al.*, 2013). Among them, mosquito and fly menaces are a serious global problem and these are increased due to deforestation, industrialized farming and stagnant water (Rani *et al.*, 2013). Malaria, filariasis, Dengue fever, yellow fever, Japanese encephalitis, Ross river virus, Burma forest virus, Murrcey valley encephalitis, chicken guinea, *etc.*, are spread through mosquitoes and reported more than 3 million deaths according to the World Health Organization (WHO) (Ribeiro and Francischetti, 2003; Kaufmann and Briegel, 2004; Harzsch and Hafner, 2006). Thereafter, house flies are very common in Asian countries especially in India. House flies are also carriers of various communicable diseases. Flies collect pathogens on their legs and mouths when females lay eggs on decomposed feces, garbage and animal corpses, thus populations of flies are increases. Diseases carried by house flies are includes typhoid, cholera and dysentery. Other diseases are like salmonella, anthrax and tuberculosis. They are also transmit the eggs of parasitic worms. The estimated actual burden of cholera is in the vicinity of 3 to 5 million cases and 100 000 to 130 000 deaths per year (Zuckerman *et al.*, 2007). There are several ways to control or destroy the population of mosquitoes and flies by means of chemical treatments like DEET (*N, N*-Diethyl-*meta*-toluamide), DDT (dichlorodiphenyltrichloroethane), can be readily absorbed through the skin, causing many skin poisonings, especially of children. DEET is suspected to be a carcinogen, teratogen and mutagen. They also causes rashes, swelling, eye irritation, and worse problems, though unusual including brain swelling in children, anaphylactic shock, and low blood pressure (Shasany *et al.*, 2000; Phal *et al.*, 2012). Thereafter house flies are controlled by organochlorines, organophosphates, pyrethroids but these chemicals again detrimental to environment and have unwanted side effects an even long term usage of these chemicals developed insects resistance (Thomas and Jesperson, 1994). Even though elimination or eradication of mosquitoes, flies or their larvae, as well as development of economic, less toxic, more effective, human-friendly insect repellants have not received proper focus or attention in the research field but in recent era, the thought is gradually turned towards herbal formulations which are known to be effective

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DOI: 10.21276/ap.2016.5.2.11

UKaaZ

Annals of Phytomedicine 5(2): 58-68, 2016
Journal homepage: www.ukaazpublications.com
Print ISSN : 2278-9839 and Online ISSN : 2393-9885

ANNALS OF PHYTOMEDICINE
An International Journal

Original article

Effect of cultural condition on element contents in raw material vis-a-vis impact of solvent nature on estimation of phytochemicals and screening of anthelmintic activity of *Melia dubia* Cav. leaf

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Abstract

A comparative study was conducted to reveal the anthelmintic activity potential of aqueous and methanol leaves extracts of *Melia dubia* Cav. (MDC), collected from four different demographical locations of India, *viz*., West Bengal, Karnataka, Kerala and Tamil Nadu. Preliminary soil nature was analyzed as per the standard methods and elemental analysis for raw leaf samples was carried out by atomic absorption spectrophotometer which revealed safety use of raw materials for further study. Thereafter, preliminary phytochemical screening of aqueous leaf extracts (collected from all the zones) showed the presence of flavonoids, glycoside, alkaloids, phenols, carbohydrates whereas alkaloids, phenols, flavonoids, steroids, tannins, carbohydrate and proteins are present in methanol leaf extracts. Based on the results, total phenolic and total tannin contents were estimated by Folin-ciocalteu method where gallic acid was used as standard. Chloride colorimetric method was applied for total alkaloid content where atropine used as a standard. The result showed increased in total phenol and total tannins content (102.13 ± 0.01 mg and 64.24 ± 0.13 mg of gallic acid equivalents, respectively) and alkaloids content (82.71 ± 0.12 as mg of atropine equivalents) in methanol leaf extract collected from West Bengal zone (soil pH 6.32 ± 0.01), followed by Kerala zone (99.26± 0.01 mg for phenolics content, 58.36 ± 0.01 mg for tannin and 78.86 ± 0.01 mg for total alkaloids) where soil was pH 6.48 ± 0.11. Furthermore, the anthelmintic activity was carried out against *Pheretima posthuma* (Earthworms) at varied concentrations of 25, 50, 100 and 150 mg/ml and compared with standard albendazole (25 and 50 mg/ml) and distilled water as control. Both the extracts exhibited concentration dependent paralytic effect, followed by death on the test organism. Among the zones, methanol and aqueous extracts from West Bengal zone showed highest paralytic activity against the test organism (paralysis at 6.47 and 10.3 min, followed by death at 9.42 and 16.27 min, respectively at 150 mg/ml) and the effects may be due to high content of phenolics, tannins and alkaloids in methanol leaf extract of MDC. Finally concluded that MDC leaf has powerful anthelmintic activity and proved as a novel source of antiparasitic drug.

Key words: *Melia dubia* Cav., anthelmintic, geographic zones, extracts, phytochemical study

1. Introduction

It is known to us that higher plants are novel sources for development of lead compounds and drug discovery. Therefore, a vast percentage of the world populations (more than 80%) have faith on herbal medicines for their primary health care needs (Valentina *et al*., 2013), and about 85 per cent of traditional medicines involve the use of plant extracts due to lower side effects than synthetic drugs (Murthy *et al*., 2005). Traditional folk remedies from plants have always showed the path to the scientists to search for new medications and newer drug molecules in order to maintain and promote healthy life against parasitic worms. Over two billion people are suffering from parasitic worm infections reported by the World Health Organization (Mulla *et al*., 2010) and is estimated by the year 2025, about 57% of the population will be influenced by this infection which will be one of the major health problem in the developing countries (Clewes and Shaw, 2000). Infection with parasitic worms is known as helminthiasis which is common infectious agents of humans and humans are the reason for spread of these pathogens to uninvolved populations through travel, migration and military operations as a result lymphatic filariasis (a cause of elephantiasis), onchocerciasis (river blindness), and schistosomiasis occurs. Despite the prevalence of parasitic infections, there are scanty researches on anthelmintic drugs due to increasing resistance towards worms (Sondhi *et al*., 1994) and therefore alternative strategies against those parasitic worms are most essential. Looking at that the therapies with natural plant products is one of the major options to control these pathologies infected by those worms', *viz*. pinworm, roundworm, or tapeworm. Hence thorough screening is required to establish genuine plant drug for their anthelmintic activity. Several researchers have reported

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COMPARATIVE PHYTOCHEMICAL SCREENING AND EVALUATION OF *IN VITRO* ANTI-INFLAMMATORY ACTIVITY OF *EUPHORBIA HIRTA* LEAVES AND ROOTS

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Comparative phytochemicals and estimation of constituents present in Stevia leaves through HPLC method

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This is to certify that the students RUBY RAUNIYAR SHAH (Reg. No: 17P0816), SYED MOHASIN ABBAS (Reg. No: 17P0829), THRIVENI L (Reg. No: 17P0831), NAVYA SP (Reg. No: 18P0547), have satisfactorily completed the dissertation entitled **"Comparative phytochemicals and estimation of constituents present in Stevia leaves through HPLC method"** as prescribed by the Pharmacy Council of India and Rajiv Gandhi University of Health Sciences, Bengaluru, Karnataka for 8th Semester Bachelor of Pharmacy in Quality Control and Standardization of Herbals (Pharmacognosy and Phytochemistry) during the academic year 2021 under the guidance of **Dr. Kuntal Das**. This work is submitting for the fulfillment of the criteria and to get degree completion certificate.

Date: 08/12/21

Dr. Kuntal Das, Professor & HoD.

Department of Pharmacognosy and Phytochemistry
Krupanidhi College of Pharmacy, Carmelaram post, Varthur Hobli,
Bengaluru, KARNATAKA –560035

Krupanidhi College of Pharmacy QAC Date Bangalore-35 Karnataka

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ENDORSEMENT BY THE PRINCIPAL

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Date: 9/12/2021

Dr. Rajendra S. V, Principal, Professor & HoD.

Department of Pharmacology and Toxicology
Krupanidhi College of Pharmacy, Carmelaram post, Varthur Hobli,
Bengaluru, KARNATAKA –560035

Krupanidhi College of Pharmacy IQAC Date: 18/12/21 Bangalore-35

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Varthur Hobli, Bangalore - 560 035

EVALUATION CERTIFICATE

This is to certify that this project has been evaluated.

	Internal examiner	External Examiner
Signature		
Name		Bindu Sakumaran
College		Vivekananda College of pharmacy
Date		11/12/2021

Krupanidhi College of Pharmacy IQAC Date 18/12/21 Bangalore

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Varthur Hobli, Bangalore - 560 035

DECLARATION BY THE CANDIDATES

We hereby declare that the dissertation/thesis entitled " **COMPARATIVE PHYTOCHEMICALS AND ESTIMATIONS OF CONSTITUENTS PRESENT IN THE LEAVES OF *DECALEPIS* SPECIES THROUGH HPLC**" bonafied and genuine research work carried out by us under the guidance of **Dr. Kuntal Das**, Professor & HOD, Department of Pharmacognosy and Phytochemistry, Krupanidhi College of Pharmacy, Bengaluru.

nandini
Aliwin
Monika

Place: Bengaluru

Signature of the Student

Krupanidhi College of Pharmacy IQAC Bangalore-35 Karnataka
Date 18/04/22

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Krupanidhi College of Pharmacy
Chikkabellandur, Carmelaram Post,
Bangalore - 560 035

ENDORSEMENT BY THE GUIDE

This is to certify that the project entitled "**COMPARATIVE PHYTOCHEMICALS AND ESTIMATIONS OF CONSTITUENTS PRESENT IN THELEAVES OF *DECALEPIS* SPECIES THROUGH HPLC**" is a bonafied research work done by **Prethewsh Nadh. S (17P0808), Monika. K (17P0792), Nandini. L (17P0796), Reena Thapa (17P0813), and Maria Danish Allwin (17P0784)** as prescribed by the Pharmacy Council of India and Rajiv Gandhi University of Health Sciences, Bengaluru, Karnataka for 8th Semester Bachelor of Pharmacy in Quality Control and Standardization of Herbals (Pharmacognosy and Phytochemistry) during the academic year 2021 under my guidance. This work is submitting for the fulfillment of the criteria and to get degree completion certificate.

Date: 08/12/21

Dr. Kuntal Das, Professor & HOD

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Krupanidhi College of Pharmacy,

Carmelaram Post, Varthur Hobli, Bengaluru

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ENDORSEMENT BY THE HEAD OF THE DEPARTMENT

This is to certify that the student **Prethewsh Nadh. S (17P0808), Monika. K (17P0792), [illegible] (17P0796), Reena Thapa (17P0813), and Maria Danish Allwin (17P0784)**, have successfully completed the dissertation entitled "**COMPARATIVE PHYTOCHEMICALS AND ESTIMATIONS OF CONSTITUENTS PRESENT IN THE LEAVES OF [illegible] SPECIES THROUGH HPLC**" as prescribed by the Pharmacy Council of [illegible] Rajiv Gandhi University of Health Sciences, Bengaluru, Karnataka for 8th Semester Bachelor of Pharmacy in Quality Control and Standardization of Herbals (Pharmacognosy and Phytochemistry) during the academic year 2021 under the guidance of **Dr. Kuntal Das**. This [illegible] is submitting for the fulfillment of the criteria and to get degree completion certificate.

Date: 18/12/21

Dr. Kuntal Das, Professor & HOD

Department of Pharmacognosy and Phytochemistry

Krupanidhi College of Pharmacy,

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Karnataka – 560035

Krupanidhi College of Pharmacy IQAC Bangalore-35 Date 18/12/21

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Varthur Hobli, Bangalore - 560 035

ENDORSEMENT BY THE PRINCIPAL

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Date: 9/12/2021

Dr. Rajendra S. V, Principal, Professor & HOD.

Department of Pharmacology and Toxicology

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EVALUATION CERTIFICATE

This is to certify that this project has been evaluated.

	Internal examiner	External Examiner
Signature		
Name	Dr. KUNDAL DAS	Bindu Sukumaran.
College	Krupanidhi College of Pharmacy	Vivekanarda College of Pharmacy
Date	11/12/2021	11/12/2021

Krupanidhi College of Pharmacy IQAC Date: Bangalore

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KRUPANIDHI COLLEGE OF PHARMACY
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Staff and Students' involvement in the development of medicinal garden

Academic Year	Course	No of the students involved	Role	Staff name	Purpose	Management support
2016-17	*1st D.Pharm*	*15*	*Identification of various species of medicinal plants*	*Prof. Saifulla Khan*	*Plant identification*	*Procurement of plants from different sources*
2017-18	*2nd D.Pharm*	*22*	*Identification of soil fertility for proper plant growth*	*Prof. Saifulla Khan*	*Plant identification*	*Procurement of soil and fertilizers from Market*
2018-19	*4th B.Pharm*	*18*	*Identification of plants acts as insect repellant*	*Dr. Kuntal Das*	*Plant identification*	*Procurement of plants from different sources*
2020-21	*4th B.Pharm*	*34*	*Identification of plants acts as cosmetic formulations*	*Dr. Kuntal Das*	*Plant identification*	*Procurement of plants from different sources*

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Students engaged in the activities of maintaining the medicinal garden

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Insect and paste repellant plants in the medicinal garden (Lemon grass, vetiver plants, and Aloe Vera)

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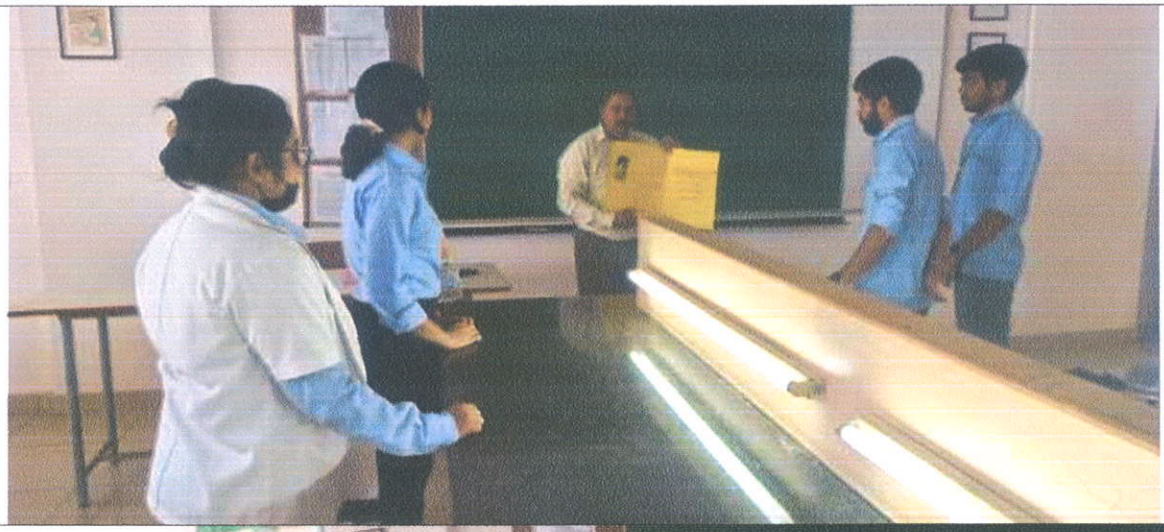
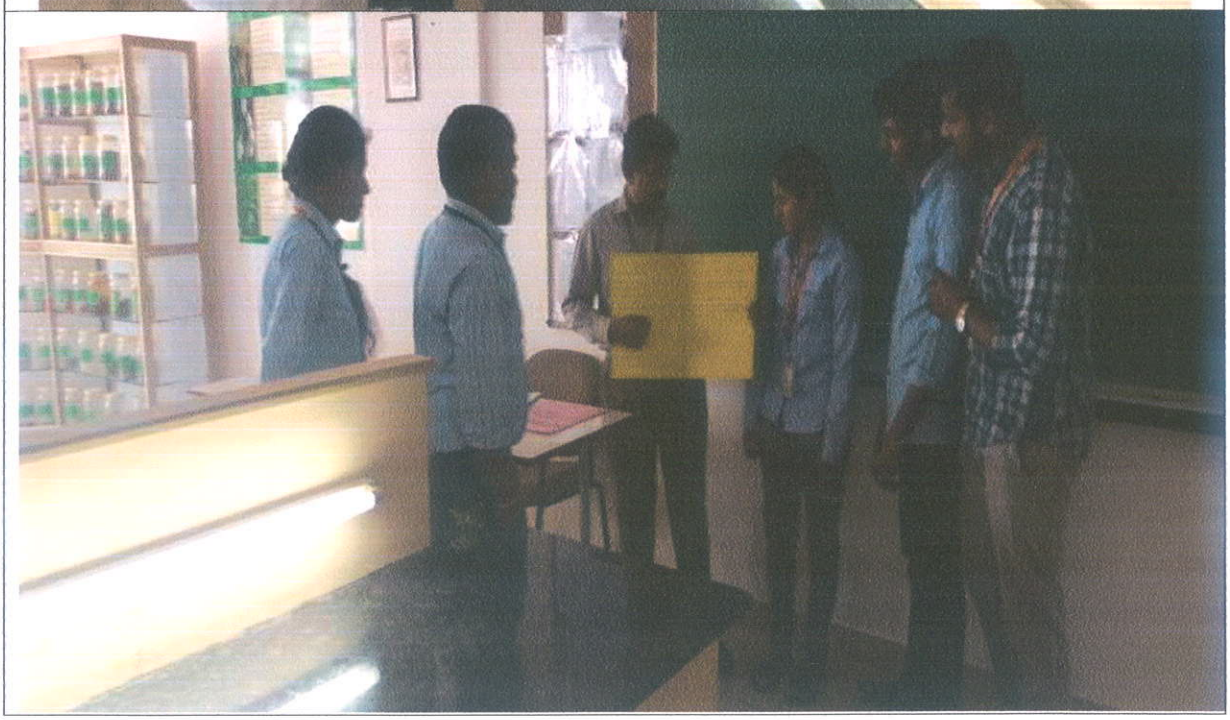
Herbarium preparation guidance





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HERBAREUM

CITRONELLA

Krupanidhi College of Pharmacy
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Citronella

Synonym :- lemon lequor, citronella oil, citronella grass, Chamiesta nig, Briquetina T F

Biological source :- It is obtained from steam distillation from the fresh leaves of Cymbogen nardus Linn

Family :- Poaceae

Geographical source :- It is probably indigeneous to Sri Lanka and cultivated in myanmar, Malaysia, Indonesia, Fiji & India, it is cultivated in Kerala.

Description :

Colour :- Pale greenish yellow liquid

Taste :- Pungent

Solubility :- Soluble in 80% alcohol, fixed oil, and insoluble in water

Chemical constituent :-

Volatile oil :-

- Mainly contains geraniol (40-60%) and citronellal

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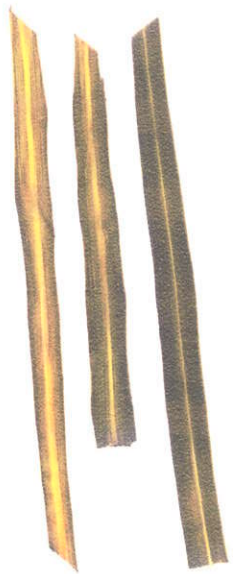
Herbarium Sheet No.



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Herbarium Sheet No. 1
Date of Collection 14-2-16
Locality G.V.K. Campus
Order Liliflorales
Family Poaceae
Genus Cymbogen
Name Bushmitha
Class 1st B. Pharm
Reg No.

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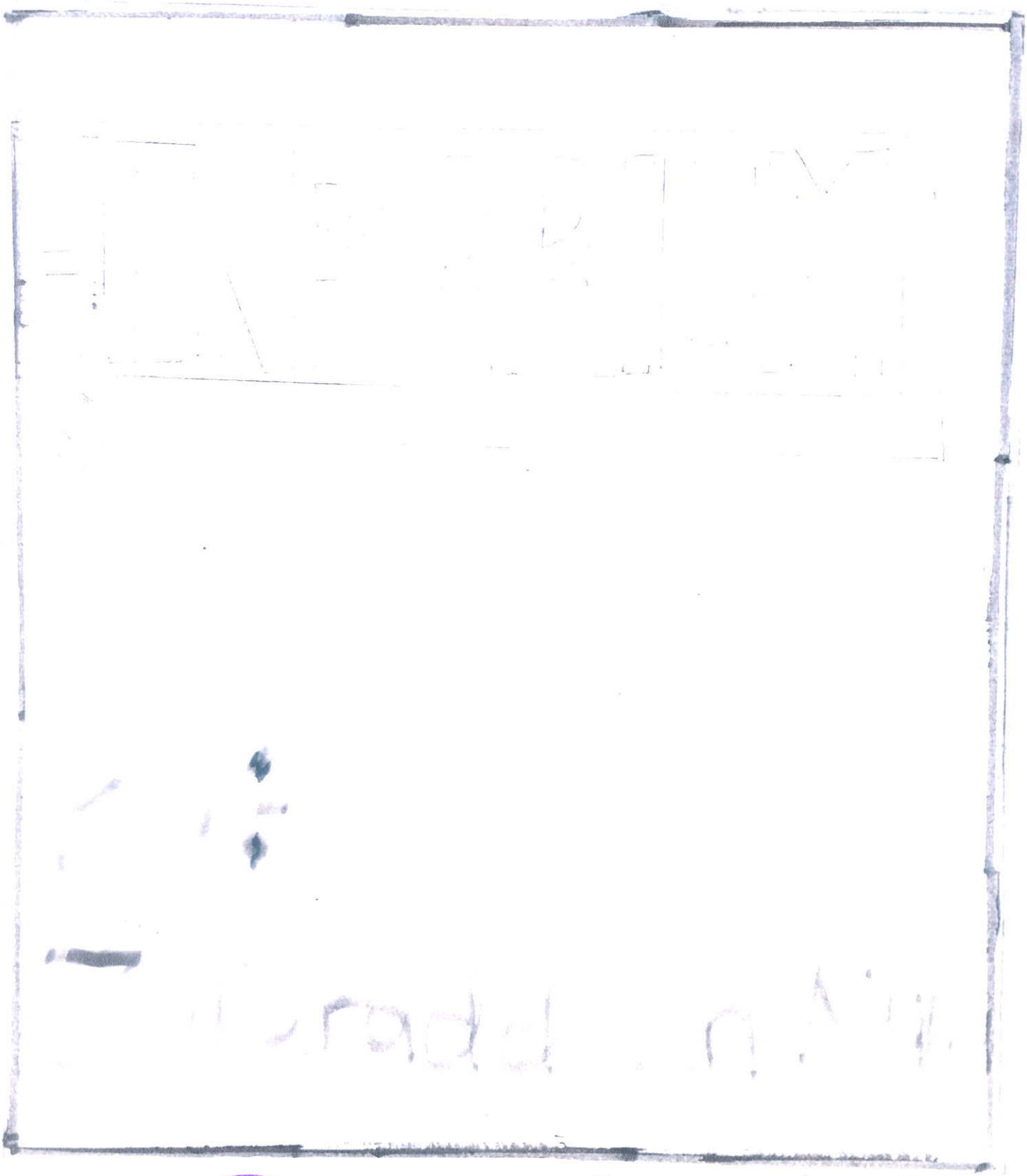

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→ Synonyms:

Aloe barbadensis [illegible] Aloe barbadensis var. chinensis Haw. Aloe flava pers.

→ Scientific classification:

Kingdom → Plantae
[illegible] → Angiosperms
Order → Asparagales
Family → Xanthorrhoeaceae
Subfamily → Asphodeloideae
Genus → Aloe
Species → A. vera

→ Uses: Extracts from Aloe vera are widely used in the cosmetics and alternative medicine industries, being marked as variously having rejuvenating, healing, or soothing properties.

However research supporting this usage hasn't unequivocally supported benefit and safety under the guidelines of California proposition 65. Orally ingested non-decolorized aloe vera leaf extract has been listed by the OEHHA, along with goldenseal, among "chemicals known to the state to cause cancer or reproductive toxicity.

→ Biological Source: Aloe vera is a succulent plant species of the genus Aloe. It grows wild in tropical climates around the world and is cultivated for agricultural and medicinal uses. Aloe also is used for decorative purpose and grows successfully indoors as a potted plant. The cosmetic and medicinal value of the plant is [illegible] it is found in many consumer products.

→ Description: Aloe vera is a stemless or very short stemmed succulent plant growing to 60–100 cm (24–39 in) tall, spreading by offsets. The leaves are thick and fleshy, green to grey green, with some varieties showing white flecks on their upper and lower stem surfaces. The margin of the leaf is serrated and has small white teeth. The flowers are produced in summer on spike up to 90 cm (35 in tall) each flower being pendulous with a yellow tubular corolla 2–3 cm (0.8–1.2 in long).

→ Cultivation: It has been widely grown as an ornamental plant. The species is popular with modern gardeners as a putatively medicinal plant and for its interesting flowers, form and succulence. The succulence enables the species to survive in areas of low natural rainfall, making it ideal for rockeries and other low water use gardens.

→ Chemical Constituents: It contains 75 potentially active constituents which are vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acid and amino acids.
Vitamins: It contains A (beta carotene), C and E which are antioxidants, and also B12, folic acid [illegible]
Enzymes: It contains 8 enzymes: aliiase, alkaline phosphatase, amylase, bradykinase and [illegible] [illegible] inflammation when applied to the skin topically, while [illegible] calcium, chromium, sodium, zinc.

Name: ZAHARADDEEN NUHU
Class: 1st B.PHARMACY
Reg no:

Nigerian.

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Letter of appreciation and recognition by industries

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green chem®

Date 10/08/2021

Letter of Appreciation

We are thankful to the Krupanidhi College of Pharmacy for providing us with high-quality raw material of Amla fruits to perform research work on the presence of potential phytoconstituents responsible for the nourishment of hair growth.

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Office: 2030, Unit 1A, 1st Cross Road, HAL 2nd Stage, Kodihalli, Bangalore - 560008, India. Ph: +91 80 25269569 / +91 80 41483857 Email: info@greenchem.biz

green chem®

Date 14/11/2018

Letter of Gratitude

We are highly obliged to the Krupanidhi College of Pharmacy, Bangalore for providing us with the rich quality raw materials of Ashwagandha root to perform the research work on potential properties of anti stress benefits. The Nature Garden at Krupanidhi is well developed, maintained and provides rich authentic samples for Quality Research.

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AL-AMEEN
COLLEGE OF PHARMACY

Principal

Ref NO AACP/
Date

04/11/2022

To,
The Principal,
Krupanidhi College of Pharmacy
Bangalore

We are happy to associate with Krupanidhi College of Pharmacy. They have a wonderful medical plant garden. It helps our students to collaborate for herbarium preparation and learning. We have done two of our projects on medical plant research by procuring med plants from Krupanidhi. The garden is well maintained and inspiration for all of us.

Thanks and Regards

Dr. Md SALAHUDDIN

Krupanidhi College of Pharmacy
IQAC
Date: 18/11/22
Bangalore-35

18/11/22
PRINCIPAL
Krupanidhi College of Pharmacy
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Varthur Hobli, Bangalore - 560 035

Hosur Road, Opp. Lalbagh Main Gate, Bangalore - 560 027. ✆: 91-80- 22234619, 22225834, 22107466
Fax : 080 - 22225834, 22278464 E-mail : info@alameenpharmacy.edu Home Page : www.alameenpharmcy.edu

St. JOHN'S PHARMACY COLLEGE

Ref No: 2051/B/SJPC/2022-23

Date- 04/11/2022

To,

The Principal,

Krupanidhi college of pharmacy

Bangalore

We are to happy to associate with krupanidhi college of pharmacy. They have a wonderful medical plant garden. It helps our students to collaborate for herbarium preparation and learning. We have done two of our projects on medical plant research by procuring med plants from krupanidhi. The garden is well maintained and inspiration for all of us.

Thanks and Regards

V. D. Ravichandra

Dr. Ravichandra V D

PRINCIPAL

ST. JOHN'S PHARMACY COLLEGE

VIJAYANAGAR BANGALORE - 104

Krupanidhi College of Pharmacy IQAC Bangalore

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6, 2nd Main, 9th Cross, Vijayanagar II Stage (Hampinagar), Bangalore - 560 0104, India, Phone: 080-23300958 / 23300668

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Letter of Appreciation

We are thankful to the Krupanidhi College of Pharmacy, Bangalore for providing us with the high-quality raw materials of *Carica Papaya* fruit to perform the research work on the presence of active phytoconstituents responsible for the use of treatment of dengue fever.

For Natural Remedies Pvt. Ltd.

NATURAL REMEDIES PVT. LTD. BANGALORE

(Dr. Amit Agarwal)

Director

Krupanidhi College of Pharmacy IQAC Date 18/8/21 Bangalore-35

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Date 14/11/2018

Letter of Gratitude

Kindly accept our gratitude for providing free samples of *Cissus quadrangularis* for our research work. We are highly thankful to the Krupanidhi College of Pharmacy, Bangalore for providing us with the quality raw materials. The Nature Garden at Krupanidhi has been providing us with highly rich authentic sample for quality research.

For Natural Remedies Pvt. Ltd.

NATURAL REMEDIES PVT LTD * BANGALORE *

(Dr. Amit Agarwal)

Director

Krupanidhi College of Pharmacy IQAC Date: Bangalore-35

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AL-AMEEN COLLEGE OF PHARMACY

Principal

Ref NO AACP/
Date

04/11/2022

To,
The Principal,
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Bangalore

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Thanks and Regards

Dr. Md SALAHUDDIN
PRINCIPAL
Al-Ameen College of Pharmacy
Hosur Road, Bangalore - 560 027.

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Krupanidhi College of Pharmacy
Chikkabellandur, Carmelaram Post,
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Krupanidhi College of Pharmacy IQAC Date Bangalore-35

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