



# RESEARCH JOURNAL OF PHARMACOGNOSY AND PHYTOCHEMISTRY (RJPP)

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### REVIEW ARTICLE

#### **Traditional Indian Herbal Plants Tulsi and Its Medicinal Importance**

*KP Sampath Kumar, Debjit Bhowmik, Biswajit, Chiranjib, Pankaj and KK Tripathi Margret Chandira.....93*

#### **ABSTRACT:**

Tulsi has got the great medicinal value. Studies have also shown Tulsi to be effective for diabetes, by reducing blood glucose levels. The same study showed significant reduction in total cholesterol levels with Tulsi. Another study showed that Tulsi's beneficial effect on blood glucose levels is due to its antioxidant properties. The Rama Tulsi is the effective remedy for the severe acute Respiratory Syndrome. Juice of its leaves gives relief in cold, fever, bronchitis and cough. Tulsi oil is also used as the ear drop. Tulsi helps in curing malaria. It is very effective against indigestion, headache, hysteria, insomnia and cholera. The fresh leaves of Tulsi are taken by the millions of people every day. For over the centuries Tulsi (the queen of herbs) has been known for its remarkable healing properties. Modern scientific research offers impressive evidence that Tulsi reduces stress, enhances stamina, relieves inflammation, lowers cholesterol, eliminates toxins, protects against radiation, prevents gastric ulcers, lowers fevers, improves digestion and provides a rich supply of antioxidants and other nutrients. Tulsi is especially effective in supporting the heart, blood vessels, liver and lungs and also regulates blood pressure and blood sugar. Recent studies suggest that Tulsi may be a COX-2 inhibitor, like many modern painkillers, due to its high concentration of eugenol (1-hydroxy-2-methoxy-4-allylbenzene). Tulsi also shows some promise for protection from poisoning and cataracts. The oil extracted from the Karpooora Tulsi is mostly used in the herbal toiletry. Its oil is also used against the insects and bacteria. Tulsi can not only keep the dreaded Swine flu or H1N1 flu at bay but also help in fast recovery of an afflicted person, Ayurvedic practitioners claim. "The anti-flu property of Tulsi has been discovered by medical experts across the world quite recently. Tulsi improves the body's overall defence mechanism including its ability to fight viral diseases.

#### **Zingiber officinale the Herbal and Traditional Medicine and Its Therapeutically Importance**

*Debjit Bhowmik, Chiranjib, Pankaj, KK Tripathi, MR Chandira and KP Sampath Kumar.....102*

#### **ABSTRACT:**

Ginger is a perennial herb, with underground branching stems (rhizomes) which are swollen and tough. The leaves and rhizomes of ginger have a characteristic fragrance when cut or bruised. Rhizomes are dug out after the leafy parts are dried. Ginger, the underground stem, or rhizome, of the plant *Zingiber officinale* has been used as a medicine in Asian, Indian, and Arabic herbal traditions since ancient times. Ginger is considered an herbal remedy in many cultures. Over the years, it has been used to reduce inflammation, help with digestion, improve cardiovascular health and even historically to ward off diseases like the plague. The rhizome can be sliced, chopped, minced or served fresh but will always carry the trademark "heat" that has made it a medicinal mystery. Historically, people used ginger to fight disease and cure a fever since people would sweat when they

would eat the root. Although that helps, since it gets the metabolism racing and warms the body, we now realize that ginger offers additional medicinal benefits. Consumption of ginger helps with blood circulation and has anti-inflammatory qualities that ease arthritis and other body aches and pains. It increases the body's production of saliva and other digestive fluids, which relieves an upset stomach and supports healthy digestion. Speeding up digestion helps clean the kidneys and bowels to remove toxins from the body. It also helps ease morning sickness, nausea and motion sickness. Ginger is said to improve digestion and has been known to pep up the appetite, promote saliva production, combat dyspepsia and relieve flatulent colic . It is also thought to be helpful for stomach cramps, alcoholic gastritis and hangover. The shogaol content in Ginger increases the activity of the digestive tract and is particularly helpful in digesting rich, fatty foods. Ginger has been used to cleanse the body of toxins through the skin by stimulating and increasing perspiration and has also been useful in breaking fevers. It is slightly diuretic and further cleanses the body by strengthening kidney function and increasing kidney filtration

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### Historical and Chemical profile of *Pleione bulbocodioides* Rolfe

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#### ABSTRACT:

Over the past decades, herbal medicine has become a thing of global significance with medicinal and economic implications .Wide spread use of herbs throughout the global has raised serious concerns over this quality, safety and efficacy .Thus exact scientific assessment has become a precondition for acceptance of herbal health claims. *Pleione bulbocodioides*(Orchid) is a tree, native to France, they are well adapted to cold temperatures and even frost belongs to the family Orchidaceae and is widely used in chinies herbal medicine. There are approx twenty species of pleione. The plant is used in traditional medicine for the treatment of various ailments such as antimicrobial,anticancer and antiallergic. From tubers of *Pleione bulbocodioides* number of phytoconstituents are isolated which has significant pharmacological activity.

**KEYWORDS:** *Pleione bulbocodioides*, stilbenoids, bichroman.

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#### ABSTRACT

Diabetes mellitus, commonly known as diabetes, is one of the world's oldest known diseases. In 1997, diabetes prevalence was introduced as a "basic health indicator" for member states by the WHO, which estimated in 1995 that the number of people with diabetes in the world would reach 300 million by 2025. Although the symptoms of diabetes mellitus were documented in the Papyrus Ebers nearly 3500 years ago, a truly effective means of treating the disease has not been found. Insulin controls blood sugar levels and prevents keto-acidosis but it does not control all the defects of diabetes. The currently available oral hypoglycemic agents in allopathic system of medicine are no more effective than insulin in combating the wide variety of complications of diabetes. At present we are able to treat only symptoms but not the disease. The remedial measure may lie in the Ayurvedic system of medicine. The various herbal drugs such as *Gymnema sylvestris*, *Pterocarpus marsuprium*, *Syzygium cumini* etc. known for their potential hypoglycemic (antidiabetic) activity shall be discussed. The various branded herbal formulations like Madhu meh-hari, Diabecon, Merciana, Madhuhari etc. available in the market as antidiabetic remedies are also discussed along with their clinical merits. It may be concluded that since ayurvedic formulations contain number of ingredients in which one ingredient may act to enhance the action of other ingredient. Also as a result of diabetes other related diseases like wound healing capacity, eye diseases, renal infections etc may be taken care of with ayurvedic formulations that contain various ingredients in it.

**KEYWORDS:** Diabetes, Ayurvedic Herbal Drugs, Marketed Products,

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### **Vitex negundo Linn; a Review on Its Ethnobotany, Phytochemical and Pharmacological Profile**

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*Vitex negundo* Linn. is an large shrubs or small trees which is used in several traditional medicines to cure various diseases. This shrub has been known to posses hepatoprotective, antioxidant, anti-inflammatory, analgesic and antifungal activity. A wide range of chemical compounds including polyphenolic, terpenoids , glycosidic iridoids and alkaloids are present in this shrubs. Vitegnoside, negundoside, agunside, 5,3-dihydroxy-7,8,4-trimethoxy flavanone, 7,8-dimethyl herbacetin 3-rhamnoside etc. have been isolated from this plant. The presented review summarizes the information concerning the botany, ethnopharmacology, phytpchemistry, biological activity and toxicity of the *Vitex negundo* shrubs.

**KEYWORDS:** *Vitex negundo* Linn, antioxidant, phytpchemistry, anti-inflammatory, toxicity.

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### **Anthelmintic Activity of Spondias pinnata (Linn. F) Kurz**

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#### **ABSTRACT:**

Present study reports anthelmintic activity of various extracts of the bark of Spondias Pinnata against Indian earthworms Pheritima posthuma. The results revealed that all the tested extracts of Spondias Pinnata bark possess anthelmintic activity in a dose dependant manner. Potency of the test samples was found to be inversely proportional to the time taken for paralysis/death of the worms. The activities were comparable with the reference drug piperazine citrate. Among the tested extracts, the chloroform extract was found to possess promising anthelmintic activity in comparison to other extracts. The present study therefore justifies its use in the folklore remedies as an anthelmintic drug of natural origin.

**KEYWORDS:** Anthelmintic, Spondias Pinnata, Pheritima posthuma, Piperazine citrate.

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### **Evaluation of Antimicrobial Potency and Synergistic Activity of Nine Traditionally Used Indian Medicinal Plants**

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Recent acceptance of natural herbal medicines as an alternative form of health care and development of microbial resistance has led to investigate the antimicrobial action of medicinal plants. Present investigation is focused on antimicrobial potential of nine commonly used Indian medicinal herbs. The antimicrobial screening of hydroalcoholic extract of all the nine plants was carried out by agar well-diffusion method and broth dilution method. The efficacy of extracts has been evaluated in terms of minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) against pathogenic strains of *Staphylococcus aureus* (ATCC 6538), *Pseudomonas aeruginosa* (ATCC 9027) and *Candida albicans* (ATCC 10231). MIC values of individual extracts ranged between 0.4-0.9 mg/ml. MIC values of the combined crude extracts were recorded as 0.3 mg/ml (*C. albicans* ), 0.5 mg/ml (*Staph. aureus*), and 0.6 mg/ml (*P. aeruginosa*). The MIC values obtained in each test organisms were inhibitory as well as cidal values. Susceptibility of test organisms was in decreasing order *C. albicans* > *Staph. aureus* > *P. aeruginosa*. Thus our findings validate the use of these medicinal plants in traditional systems of medicines and their potential role in antimicrobial therapy.

**KEYWORDS:** Antimicrobial activity; Hydro alcoholic extract; Synergistic activity

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### Hepatoprotective Activity of *Oxalis corniculata* Leaves against Carbon Tetrachloride Induced Hepatotoxicity in Female Albino Wistar Rats

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In recent times lot of interest has been generated to find out a natural remedy for hepatic disorders caused by toxins like alcohol and hepatitis virus. The present study is designed and investigate the hepatoprotective activity of *Oxalis corniculata* leaves against carbon tetrachloride (CCl<sub>4</sub>) induced hepatotoxicity in female Albino Wistar rats. Forty two Albino Wistar female rats were divided in to seven equal groups each containing six animals. Four groups received the extracts of *Oxalis corniculata* leaves and intraperitoneal (i.p.) CCl<sub>4</sub> (2 ml/kg) with administration of extracts. One group was control, one treated with CCl<sub>4</sub> and one with normal saline. The hepatotoxicity was assessing by plasma concentration of serum bilirubin and enzymes activities. The aqueous extract (500mg/kg b.w) of *Oxalis corniculata* significantly reduced carbon tetrachloride induce damages in the liver which is measured by SGOT, SGPT, SALP and serum bilirubin levels in blood. The attempt has been made to extract the active constituent and identified by phytochemical investigation and hepatoprotective activity of leaves of *Oxalis corniculata*.

**KEYWORDS:** *Oxalis corniculata*, carbon tetrachloride, hepatoprotective.

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Grapefruit (*Citrus paradisi*) is an important member of *Citrus* genus from family Rutaceae. It has been used as a folk medicine in many countries as antibacterial, anti fungal, anti-inflammatory, antimicrobial, antioxidant, antiviral, astringent, and preservative. It is also used for Cancer Prevention, Cellular Regeneration, Cholesterol Lowering, Cleansing, Detoxification, Heart Health Maintenance, High Cholesterol, Lupus nephritis, Rheumatoid Arthritis and Weight Loss. This paper deals with the Powder microscopy and microscopic study of leaf along with the physico-chemical and preliminary phytochemical analyses that could be helpful in setting standards for selection of authentic raw drugs for herbal medicines. Extractive value yield was maximum in aqueous extract whereas maximum phytochemical activity was observed in methanolic extract. Powder microscopy shows presence of prismatic crystals.

**KEYWORDS:** *Citrus paradisi*, Rutaceae, Grapefruit, Microscopy.

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Mandar B Mulik, Ganesh S Deshmukh and Mitesh D Phale.....144

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Stability testing is to provide evidence on how the quality of plant products varies with the time under influence of a variety of environmental factors such as temperature and humidity. Hence, kokum juice was subjected to accelerated stability studies and evaluated by anthocyanins content. Anthocyanins are present in the fruit of *Garcinia indica*, which is responsible for colour of kokum juice. The anthocyanins in juice were studied during six months period by subjecting it to accelerated conditions. The total acidity, brix and pH of the formulation were also monitored as the parameter of stability testing. The study was carried out as per the ICH guidelines.

The method used for total anthocyanins determination involved UV spectroscopy. Measurement of the absorbance was done at 510 nm on sample diluted with pH 1.0 and 4.5 buffers. The pigment content was calculated in absolute quantities with the aid of extinction coefficients. 30 ml of juice was withdrawn from four samples of capacity 200 ml each on 0, 1 and 3 month intervals. The results suggest that an increase in temperature decreases the anthocyanins stability. The degradation of anthocyanins in kokum juice samples was observed which is out of the limits of acceptance criteria according ICH guidelines.

**KEYWORDS:** Anthocyanins, cyanidin-3-glucoside, *Garcinia indica*, kokum juice.

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Use of Antioxidant in cancer treatment is a rapidly evolving area. Antioxidants have been extensively studied for their ability to prevent cancer in humans. *Artemisia nilagirica* (clarke) is an indigenous plant having ample medicinal application. Phytochemical screening of the plant was carried. Ethanolic extract of plant was carried. Antioxidant activity of the Plant was evaluated against Swiss albino mice. Result indicate that plant contain flavonoids, steroids, terpenoid, saponins, tannins, proteins and essential oil. Moreover ethanolic extract of *Artemisia nilagirica* had exhibited very good antioxidant activity.

**KEYWORDS:** *Artemisia nilagirica*, Antioxidant activity, Ethanolic extract

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The pharmacognostic and phytochemical examinations of different solvents extracts of seeds and leaves of *Strychnos potatorum* were conducted and their antidiabetic activity was evaluated. The administration of methanolic extracts of seeds and leaves of *Strychnos potatorum* by oral route at doses; 200 and 400 mg/kg b.w. at every 3 hour interval reduced blood glucose levels by 24.23%, 25.67%, 16.47% and 17.88%, respectively in alloxan-induced diabetic rats.

**KEYWORDS:** *Strychnos potatorum*; Alloxan; antihyperglycemic activity; Loganiaceae; MESP (methanolic extract of seed Powder); MELP (methanolic extract of leaf powder).

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### Preliminary Phytochemical Screening and Antioxidant Activity of Petroleum Ether Extract of *Trichosanthes dioica* Roxb (Fruits)

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*In-vitro* antioxidant activity of petroleum ether extract of *Trichosanthes dioica* was determined by DPPH free radical scavenging assay, Reducing power assay, Nitric oxide scavenging activity, Hydrogen peroxide radical scavenging activity using ascorbic acid as a standard. The IC<sub>50</sub> values were calculated for all the models in order to evaluate the antioxidant efficiency of *Trichosanthes dioica* extract. In all the testing a significant correlation existed between concentration of the extract and % inhibition of free radicals. Obtained results clearly indicated that petroleum ether extract of *Trichosanthes dioica* possesses significant antioxidant potential as compared with standard.

**KEYWORDS:** *Trichosanthes dioica*, Nitric oxide, % Inhibition

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### Inhibitory Effects of Ethanolic Extract of *Physalis minima* on Amylase, Lipase and Alpha Glucosidase

*SN Raju, D Sathis Kumar, Otilia Banji, David Banji, P Yogeswaran, D Narender Prasad and A Harani*.....159

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#### ABSTRACT:

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**KEYWORDS:** Physalis minima, amylase, lipase, alpha glucosidase.

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**Hypoglycemic Effect of Foeniculum vulgare Mill. Fruit on Dexamethasone Induced Insulin Resistance Rats**

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**ABSTRACT:**

**Aim:** - To assess the hypoglycemic effect of *Foeniculum vulgare* Mill. Fruit on dexamethasone induced insulin resistance rats.

**Method:** - Wistar male rats (n=5) were made insulin resistance by administering dexamethasone injection subcutaneously to the overnight fasted rats and continue till the end of the experiment along with methanolic extract of *Foeniculum vulgare* Mill. Fruit for test and pioglitazone for std. At the end of the experimental period i.e. on day 11<sup>th</sup> the animals anesthetize with ether, blood was collected by retroorbital puncture and serum separated for the estimation of glucose, triglycerides, cholesterol, insulin. The animals were weighed at the beginning and at the end of experimental period. The liver and muscle glycogen was also measured.

**Results:** - Methanolic extract of *Foeniculum vulgare* Mill. Fruit lowers blood glucose, triglycerides, cholesterol and increase liver and muscle glycogen in dexamethasone induced insulin resistance rats.

**Conclusion:** The present study was indicating that *Foeniculum vulgare* Mill. Fruit showed significant glucose and triglyceride lowering activities as compared with diabetic control. In comparison with standard pioglitazone, *Foeniculum vulgare* Mill. Fruit showed comparable serum glucose lowering and better triglyceride lowering activity.

**KEYWORDS:** Insulin resistance, *Foeniculum vulgare*, Dexamethasone, Blood glucose,

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**Antimycobacterial and Antimicrobial Activity of Leaf Extracts of Vitex negundo Linn.**

PL Ladda, NS Naikwade and CS Magdum.....166

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**ABSTRACT:**

*Vitex negundo* belonging to the family verbanaceae has been reported to posses many medicinal properties according to indigenous system of medicine. The present work deals with antimycobacterial and antimicrobial activity of *vitex negundo* leaves. The different solvent extracts of the leaves prepared were studied for their antimycobacterial activity by Conventional proportion method and Nitrate reductase assay method. The activity was compared with standard drugs rifampicin and isoniazid. The ethanolic, successive ethanolic and methanolic extracts showed highest antitubercular activity, while petroleum ether extract and chloroform extract was moderately active as compared to other extracts of *Nirgundi*. Aqueous, benzene, acetone extract does not shows any antitubercular activity

Antimicrobial activity of all extracts was screened by Paper Disc method against *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Candida albicans*. The benzene extract showed significant antimicrobial activity compared to petroleum ether and chloroform extract. Preliminary phytochemicals of all extracts were also investigated.

**Conclusion:**

In conclusion nitrate reductase assay was found to be rapid, inexpensive and easy to perform. It also showed good concordance between conventional proportion method and nitrate reductase assay.

All these findings justified the claim made in the indigenous system of medicine for the use of the plant *vitex negundo* against tuberculosis and many other micro-organisms.

**KEYWORDS:** Antimicrobial, antitubercular, nirgundi, NRA etc.

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**Anti-Lipidemic Effect of *Alternanthera sessilis* Linn in Diabetic Rats**

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**ABSTRACT**

Cardiovascular diseases are becoming an increasing problem worldwide. Hypercholesterolemia has been implicated as the major cause for Coronary Heart Diseases. Based on its high Flavonoid content of the herbal plant *Alternanthera sessilis* was tested for antihyperlipidemic property. It showed significant decreases in the levels of serum Total Cholesterol(TC), Triglyceride(TG), Low density lipoprotein(LDL), Very low density lipoprotein(VLDL) and significant increase in the level of High density lipoprotein(HDL) when administered orally for 28 days to alloxan induced hyperlipidemic rats at a dose of 150,300,450 mg/kg

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**Chances of Reduction in Cardiovascular Risk by Ashwagandharishta in Induced Diabetic Condition.**

*Tiwari Preeti and Patel RK.....171*

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**ABSTRACT:**

The objective of the study was to evaluate the chances of reduction in cardiovascular risk factors associated with diabetic conditions. Both types of Ashwagandharishta-T and Ashwagandharishta-M, were prepared by traditional and modern methods, respectively, and evaluated for fasting blood sugar , blood glutathione levels and serum biochemical parameters in alloxan induced diabetic rats. Both the Ashwagandharishta preparations were able to maintain the tested parameters near to normal level significantly.

**KEYWORDS:** Cardiovascular risk , Antidiabetic, Ashwagandharishta, Glutathione

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