



**CONTENT**

**REVIEW ARTICLE**

• **Proteomics: A Tool In Future**

*Pallavi Salve, Rupali Kirtawade, Deepali Gharge, Pandurang Dhabale and Kishor Burade.....99*

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**ABSTRACT**

Scientists are very interested in proteomics because it gives a much better understanding of an organism than genomics. First, the level of transcription of a gene gives only a rough estimate of its level of expression into a protein. Whole Genome Sequence gives complete proteins contain, but does not show how proteins function or biological processes occur. Proteomics gives large-scale study of proteins, particularly their structures and functions. Proteomics is a term in the study of genetics which refers to all the proteins expressed by a genome; proteomics involves the identification of proteins in the body and the determination of their role in physiological and pathophysiological functions. The term "proteomics" was coined to make an analogy with genomics, the study of the genes. The word "proteome" is a blend of "protein" and "genome". Proteomics technologies are of major three types Expression Proteomics, Structural Proteomics, Functional Proteomics. Proteomics is applied in various fields like Tumor Metastasis, renal disease diagnosis, Neurology etc. But proteomic technologies hold great promise in the search for clinically useful protein biomarkers for the early detection, diagnosis and prognosis of cancer and for monitoring response to therapy.

**KEY WORDS:** Proteomics, genomics, Genome, proteome

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• **Rocky Mountain Fever: A Review**

*Nachiket S Dighe, Shashikant R Pattan, Sanjay B Bhawar, Santosh B Dighe, Mayur S Bhosale, Vishal B Tambe, Vinayak M Gaware, Mangesh B Hole and Sapana M Nagare.....104*

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**ABSTRACT**

Rocky Mountain spotted fever (RMSF) is a disease caused by the bacterium *Rickettsia rickettsii* which is spread to humans by ticks. Symptoms include the sudden onset of fever, headache and muscle pain followed by the development of a rash. In the laboratory, rickettsiae cannot be cultivated on agar plates or in broth, but only in viable eukaryotic host cells. Rocky Mountain spotted fever and Mediterranean spotted fever are rickettsial infections primarily of endothelial cells that normally have a potent anticoagulant function. As a result of endothelial cell infection and injury, the hemostatic system is perturbed and shows changes that vary widely from a minor reduction in the platelet count to severe coagulopathies, such as deep venous thrombosis and disseminated intravascular coagulation. Animals probably become infected by aerosol and by the bite of any of the 40 species of ticks that carry the organisms. From the portal of entry in the skin, rickettsiae spread via the bloodstream to infect the endothelium and sometimes the vascular smooth muscle cells, brain, lungs, heart, kidneys, liver, gastrointestinal tract and other organs. *Rickettsia* species enter their target cells, multiply by binary fission in the cytosol and damage heavily parasitized cells directly. The target cells are macrophages in the lungs, liver, bone marrow, spleen, heart valves and other organs. Clinico-epidemiologic diagnosis is ultimately a matter of suspicion. Empirical treatment and later laboratory confirmation gives specific diagnosis. Some laboratories are able to identify rickettsiae by immunohistology in skin biopsies as a

timely, acute diagnostic procedure, but to establish the diagnosis; physicians usually rely on serologic demonstration of the development of antibodies to rickettsial antigens in serum collected after the patient has recovered. Currently, assays that demonstrate antibodies to rickettsial antigens themselves are preferable to the nonspecific, insensitive Weil-Felix test that is based on the cross-reactive antigens of OX-19 and OX-2 strains. Tetracycline, Doxycycline and chloramphenicol are the drugs of choice for treatment. Control of the tick population on the property, keeping pets tick-free are some measures to control the disease.

**KEY WORDS:** Black Measles, Chloramphenicol, Rickettsia, Tetracycline

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- **Marburg Haemorrhagic Fever: A Review**

*Shashikant Pattan, Nachiket Dighe, Sanjay Bhawar, Vinayak Gaware, Deepak Musmade, Mangesh Hole, Smita Parjane, Mayur Bhosale and Sapana Nagare..... 117*

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**ABSTRACT**

Marburg virus belongs to the same virus family, filoviridae, as the virus, which causes Ebola haemorrhagic fever. Marburg virus was first recognized in 1967 when outbreaks of haemorrhagic fever occurred in Marburg and Frankfurt in Germany and in Belgrade in the former Yugoslavia. Multiple organ failure Severe bleeding, Jaundice ,Delirium ,Seizures ,Coma and Shock are common symptoms. Nosocomial transmission via contaminated syringes and needles has been a major problem. Transmission by droplets and small-particle aerosols was observed in outbreaks among experimentally infected (Marburg) and quarantined imported monkeys. Many people were infected as a result of being exposed to African green monkeys imported from Uganda. Secondary spread of the disease is via contact with infected persons or contact with blood, secretions, or excretions of infected persons. The virus may continue to be shed in the patient's semen for up to 3-4 months after illness. One reason the viruses are so deadly is that they interfere with the immune system's ability to mount a defense. ELISA can reveal the correct diagnosis. Till today, no vaccine is available but supportive hospital therapy should be utilized including balancing the patient's fluids and electrolytes, maintaining their oxygen status and blood pressure, replacing lost blood and clotting factors and treating them for any complicating infections.

**KEY WORDS:** Marburg virus, haemorrhagic fever, Filoviruses

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**RESEARCH ARTICLE**

- **Studies on the Hematological Effect of the Extracts of Cordia dichotoma Forst. F. Fruits**

*IJ Kuppast, P Vasudeva Nayak, MC Ravi and SS Biradar..... 117*

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**ABSTRACT**

In the present study anti-anaemic effect of the petroleum ether, solvent ether, ethyl acetate, butanol and butanon extracts of *Cordia dichotoma Forst.f.* fruits was evaluated in albino rats. The rats were made anaemic as per standard procedure and were treated daily by extracts in the dose of 100, 200 and 300 mg/kg body weight for 15 days *p.o.* After 15 days of daily treatment with the extracts of fruits, the haematological parameters measured are clotting time, bleeding time, hemoglobin content, total count of red blood corpuscles, white blood cells and differential count of leucocytes. From the statistical analysis of the study it has been found that ethyl acetate, butanol and butanon extract of *C. dichotoma* fruits causes significant dose dependent rise in hemoglobin content and RBC count. However, reduction in clotting and bleeding time was not found to be dose dependent. The WBC count was found to rise only in higher doses of extracts (300mg). In case of higher doses (200 and 300mg/kg body weight) the extracts of fruits reduced the clotting and bleeding time, where as lower dose (100 mg/kg body weight) there was no significant change in bleeding and clotting time. The results suggest that the extracts of *C. dichotoma* fruits have significant ant-anaemic effect and are haematologically non toxic.

**KEY WORDS:** Hematological Effect Extracts *C. dichotoma forst.f.* Fruits

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- **Immunostimulant Activity of Aqueous Extract Roots of Glycyrrhiza glabra**

Prashant Bagherwal, Akash P Dahake and Chirantan Chakma.....120

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**ABSTRACT**

Aqueous extract of roots of *Glycyrrhiza glabra* was evaluated for immunomodulatory activity using *E.coli* induced abdominal sepsis, Carbon clearance test, Haemagglutination antibody titre value and delayed type hypersensitivity at different dose levels i.e. 75, 150 and 300 mg/kg of body weight p.o. The results of the studies were compared with the control group. The extract was found to be effective in reducing mortality in *E.coli* induced abdominal sepsis. The immunostimulant effect was observed with increased phagocytosis in carbon clearance test. The extract was found to have significant immunostimulant activity in haemagglutination antibody titre value and delayed type hypersensitivity at dose levels of 150 and 300 mg/kg of body weight.

**KEY WORDS:** *Glycyrrhiza glabra*, Sepsis, Haemagglutination, Hypersensitivity

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- **Anti Diabetic Activity of Sida cordifolia Linn of Nilgiris Root on Alloxan Induced Diabetic Rats**

T Prabhakar, PKM Nagarathna and BS Vikram.....125

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**ABSTRACT**

The aim of the present study was to screen the antidiabetic potential of the root of *Sida cordifolia* linn. In the present study, root of *Sida cordifolia* linn was screened for antidiabetic activity. Root powder of *Sida cordifolia* was subjected to hot continuous extraction (soxhlet) with various solvents like petroleum ether, (40-60° c), chloroform, butanol, butanone and alcohol. Aqueous extract was prepared by cold maceration. After preliminary phytochemical investigation, all the extracts were evaluated for anti diabetic activity after single dose (acute study) and after prolonged treatment (chronic study in alloxan induced diabetic albino rats. All the extracts were given orally at a dose of 250mg/Kg b.w. Glibenclamide was used as standard drug (10mg/Kg b.w. P.o). Alcohol butonal, Chloroform, aqueous and butanone showed significant antidiabetic activity in acute as well as prolonged treatment compared to control. Petroleum ether extract did not show significant anti diabetic activity on prolonged treatment. Among all the extracts, alcoholic extracts had more significantly reduced the blood glucose level after single dose and nearly equal to standard glibenclamide after prolonged treatment.

**KEY WORDS:** *Sida cordifolia*, anti diabetic, Glibenclamide, Alloxan.

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- **Antidiarrhoeal Activity of Bark Extracts of Caesalpinia sappan. Linn.**

Rasheed Ahmed, KL Senthilkumar and M Rajkumar.....128

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**ABSTRACT**

The antidiarrhoeal activity and gastrointestinal motility reducing activity of alcoholic and aqueous extracts of bark of *Caesalpinia sappan*, linn. were evaluated at two dose levels. Both the extracts showed significant antidiarrhoeal activity and reduced the mean weight of faeces and reduced the gastrointestinal motility significantly.

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- **Effect of Chlorophytum borivilianum on Fluoxetine Induced Sexual Dysfunction in Female Rats**

Neeraj Vyawahare, Virendra Kagathara, Rohini Pujari, Manoj Patil, Imtiyaz Ansari and Amol Bhandare.....130

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**ABSTRACT**

Treatment with selective serotonin reuptake inhibitors (SSRI's) has been shown to cause reduced libido in women. A large body of evidence suggests that serotonin may influence sexual behavior in estradiol + progesterone primed, ovariectomized female rats. In the present study, the effect of 2 weeks of fluoxetine administration (10 mg/kg daily) and co administration of fluoxetine (same dose) and hydroalcoholic extract of *Chlorophytum borivilianum* (CB) (100, 300 and 500 mg/kg daily) on

copulatory behavior in hormone primed ovariectomized rats was investigated. Fluoxetine significantly reduced various proceptive and receptive behaviors of female rats as compared to normal rats. In contrast, these behavioral parameters were significantly increased by co administration of various doses of CB with fluoxetine as compared to fluoxetine treated rats. The results point towards the potential role and probable use of CB in females with antidepressant induced reduced libido.

**KEY WORDS:** *Chlorophytum borivilianum*; fluoxetine; libido; ovariectomized; proceptive; receptive

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• **Phytochemical Evaluation of Extracts of Stem of *Eclipta alba* (Bhringaraja)**

Agarwal A, Gupta V, Gupta Amita and Jayalakshmi S.....134

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**ABSTRACT**

This paper deals with the detailed phytochemical evaluation of the stem of *Eclipta alba* (Bhringaraja) family: (Compositae). The preliminary phytochemical screening shows that different extracts of plant have different constituents like carbohydrate, alkaloids, phenolics, steroids, glycosides, fat and oils. TLC of the hexane extract after column extraction was shown  $R_f$  value 0.78 in Petroleum ether: Hexane: Chloroform: Methanol, used as mobile phase in 2:4:2:1 ratio and TLC of pet. ether extract also shown  $R_f$  value is 0.72 in Petroleum ether: Hexane: Chloroform, used as mobile phase in 4:3:1 ratio after column extraction. This is evaluated by the instrumental analysis (UV, IR, and NMR) of hexane and pet. Ether extract. They shows consequently that pet. ether extract contains alkane ( $2940\text{ Cm}^{-1}$ ,  $\delta$  0.827), alkene ( $1630\text{ Cm}^{-1}$ ,  $\delta$  1.253- 1.351), monomer of aliphatic acid ( $1760\text{ Cm}^{-1}$ ,  $\delta$  2.169), aromatic amine ( $1570\text{ Cm}^{-1}$ ,  $\delta$  2.593) etc. and hexane extract contains alkane ( $2940\text{ cm}^{-1}$ ,  $\delta$  0.801-0.873), alkene ( $1625\text{ Cm}^{-1}$ ,  $\delta$  0.988-1.075) aldehyde ( $1740\text{ Cm}^{-1}$ ,  $\delta$  2.154 – 2.288) and aromatic alcohol ( $1110\text{Cm}^{-1}$ ,  $\delta$  5.324). These data suggests that the extracts (pet. ether and hexane) may have the glycoside, aliphatic acid, steroids, fats and oils. They are pharmacologically important.

**KEY WORDS:** *Eclipta alba*, flavanoids, glycosides, thin layer chromatography.

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• **Anti-Diarrheal Activity of Methanolic and Aqueous Extracts of *Dillenia indica* L**

Yeshwante SB, Juvekar AR, Pimprikar RB, Kakade RT, Tabrej M, Kale MK and Firke SD.....140

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**ABSTRACT**

The methanolic extract of *Dillenia indica* leaves have been reported to possess anti-inflammatory activity. Inflammatory mediators such as prostaglandins and bradykinins are involved in the pathogenesis of diarrhea. The aim of the present work was to evaluate the anti-diarrheal activity of aqueous and methanolic extracts of *Dillenia indica* leaves. The anti-diarrheal activity was evaluated using Castor oil induced diarrhea model and different parameters such as onset of diarrhea and total number of feces for the period of 4 hours. were observed. The results of test group were compared with Vehicle control group using one way ANOVA followed by Dunnett's Test. The results revealed that both extracts at doses of 200 and 400mg/kg *P.O.* showed significant ( $P<0.01$ ) prolongation of onset of diarrhea and significant ( $P<0.01$ ) reduction in total number of feces after 2<sup>nd</sup> hour of treatment while dose of 100mg does not show any activity. From the results it can be concluded that the inhibition of the diarrhea and prolongation of onset might be due to inhibition of inflammatory mediator release and phyto-constituents such as flavonoids and tannins may have also contributed to the anti-diarrheal activity.

**KEY WORDS:** *Dillenia indica*, Dilleniaceae, Castor oil, Aqueous and methanolic extracts

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• **Screening of Some Indigenous Plants for Their Antipyretic Activity**

SB Patil, GM Chavan, DS Ghodke, Nilofar S Naikwade and CS Magdum.....143

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**ABSTRACT**

In the present study, aqueous extract of leaves of *Capparis zeylanica* Linn, *Annona reticulata* Linn and *Clerodendron phlomidis* Linn were given at a dose of 200mg/kg, 400mg/kg (p.o.).

The antipyretic activity was done after inducing hyperpyrexia by injecting subcutaneously 20% aqueous suspension of Brewer's yeast in rats. Rats developing 0.5<sup>o</sup> C-1<sup>o</sup>C or more rises in rectal temperature 18 h after injection were taken for study.

The results proved that the aqueous extract of leaves of *Clerodendron phlomidis* Linn and *Annona reticulata* Linn has significant antipyretic activity and were compared with paracetamol (150 mg/kg body weight, p.o.), a standard antipyretic agent. Aqueous extract of leaves of *Capparis zeylanica* Linn has not reduced elevated fever in experimental rats.

**KEY WORDS:** *Capparis zeylanica* Linn, *Clerodendron phlomidis* Linn, *Annona reticulata* Linn, antipyretic activity

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- **Cytotoxic Activity of *Glocihdium zeylanicum* Leaf Extract**  
*Srivalli Tripuramallu, Srikanth Sunkara and Venkata Ramana Reddy. Maram.....145*
- 

**ABSTRACT**

In vitro cytotoxic activity of *Glocihdium zeylanicum* has been investigated by trypan blue dye exclusion method at various concentrations on Ehrlich Ascites Carcinoma cells. The ethanolic extracts of *Glocihdium zeylanicum* has showed the significant cytotoxic property by inhibiting the dye exclusion was evaluated by comparing with standard 5-Fluorouracil. The preliminary study indicates the ethanolic extract of *Glocihdium zeylanicum* has significant cytotoxic property and suggests for further investigation for its antitumor and anticarcinogenic function in different models.

**KEY WORDS:** *Glocihdium zeylanicum*, Cytotoxic activity, EAC cells, 5-fluorouracil

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- **Comparison of Diuretic Activity of *Aerva lanata* and *Aerva tomentosa***  
*Deepak Kumar, DN Prasad and SP Bhatnagar.....147*
- 

**ABSTRACT**

Herbal drugs are already in vogue as therapeutic agents for thousands of years but in present times there is a need to re-evaluate their clinical efficacy. Some times different herbs are known by same name; also a large number of plants are collected from wild sources like forests and waste places through unskilled labour for which it is not always possible to differentiate the plant species taxonomically. Thus, the identity and quality of the drug is compromised. *Aerva lanta*(A.l.) is a glaring example, which is adulterated by *Aerva tomentosa*(A.t.) having same family amaranthaceae. *Aerva lanata* commonly known as Bui-Kallan (Pb.) have nearly same synonym, as that of *Aerva tomentosa*, Boikallan (Pb.).Both are used in the traditional system of medicine as diuretic. Till yet no comparison has been made for their diuretic activity. Hence, we compared the diuretic effect of ethanolic extract of aerial parts of *Aerva lanata* and *Aerva tomentosa*.

**KEY WORDS:** Acetazolamide, aquaretic, kaliuretic, chloruretic

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- **Pharmacological Investigation of Protective Effects of *Euphorbia hirta* Whole Plant Extract, Against Duodenal Ulceration in Wistar Rats**  
*Prabhat K Das, Sabuj Sahoo, Ranjan Sethi, Praveen S Nayak and Shweta Nayak.....150*
- 

**ABSTRACT**

Objective: The plant *Euphorbia hirta* is used in gastrointestinal disorders and used as an anti bacterial, anti fungal and having wound healing property. The present study was carried out to evaluate the effect of *Euphorbia hirta* whole plant (ethanolic and aqueous extract p.o.) on gastric and duodenal ulceration.

Materials and Methods: The study was carried out on duodenal ulceration model. The duodenal ulcers were induced by using Cysteamine hydrochloride (450 mg/kg). Ranitidine (20 mg/kg) was used as standard drug. Then the aqueous extract (300mg/kg) and ethanolic (250mg/kg) of the plant is used as the test drug, which is compared against the potent duodenal ulcer causing agent Cysteamine

hydrochloride.

Results: Both the extracts of the plant *Euphorbia hirta* showed potent duodenal ulcer healing effect in Cysteamine induced duodenal ulceration. The aqueous extract of the plant *Euphorbia hirta* showed potent activity than ethanolic extract.

Conclusion: The plant *Euphorbia hirta* Linn. Increases healing of duodenal ulceration and prevents the development of experimentally induced duodenal ulceration in rats.

**KEY WORDS:** Duodenal ulceration, Cysteamine hydrochloride, buffered formaldehyde, paraffin, hematoxylin, eosin.

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