

**PROCEEDINGS OF THE NATIONAL CONFERENCE
ON**

**“RECENT ADVANCES IN MEDICINAL PLANT RESEARCH
& ITS APPLICATION IN HUMAN HEALTH”**

2nd & 3th MARCH 2015

Sponsored by

**UNIVERSITY GRANTS COMMISSION, CRO, BHOPAL, (M.P.)
&
CCOST, RAIPUR, C.G.**



Organized by
**Department of Zoology
Bhilai Mahila Mahavidyalaya,
Hospital Sector, Bhilai, Chhattisgarh**

**Editor
Dr. Sudha Agrawal
H.O.D. Zoology**

**Co-Editor
Dr. Bhawana Pandey
H.O.D. Biotechnology & Microbiology**

ABOUT THE INSTITUTE

About Our College

Tel: 0788-2242699, 2210078;
website: www.bmmbhilai.com
Email: bmahila@rediffmail.com



Our college was established in 1979 with a vision to be acknowledged as a proactive institution which strives hard to fulfill the aspirations of students, help them in developing sound knowledge base, correct skills, attitudes and understanding to enable them to sail-confidently through complexities and challenges of life. Catering to the demands of parents and needs of the society this is the only Girls College of Bhilai which is running 9 UG & 12 PG courses along with professional courses of P.G.D.C.A. and B.Ed.

Mission of the College has always been commitment to women, as such education is perceived to be the means of both personal and social transformation and provides upliftment that helps in the all round growth of students.



BHILAI MAHILA MAHAVIDYALAYA
HOSPITAL SECTOR, BHILAI NAGAR (C.G.) 490009
Affiliated to Pt. Ravishankar Shukla University, Raipur (C.G)
Under Section 2(f) and 12(B) of the UGC Act 1956:
☎ 2242966 (P & T) 2896269 (BSP)
Website: www.bmmbhilai.com

FROM THE PRINCIPAL DESK

It is a matter of great honour and pride to organize and host “The UGC, CRO, Bhopal sponsored National Conference on Recent Advances in Medicinal Plant Research and its application in Human Health.”

For centuries people have used plants for healing. Plant products as parts of foods or botanical potions and powders have been used with varying success to cure and prevent diseases throughout history. Written records about medicinal plants date back at least 5000 years to the Sumerians and archeological records suggest even earlier use of medicinal plants.

It is estimated that 70-80% of people worldwide rely chiefly on traditional, largely herbal, medicines to meet their primary health care needs. The global demand for herbal medicine is not only large, but also growing. Various technologies have been adopted for enhancing bioactive molecules in medicinal plants. Biotechnological tools are important for the multiplication and genetic enhancement of the medicinal plants by adopting techniques such as in vitro regeneration and genetic transformation. It could also be harnessed for the production of secondary metabolites using plants as bioreactors.

WITH A PHENOMENAL 44% FOREST COVER (12% share of India’s forests), including three national parks and eleven wildlife sanctuaries, Chhattisgarh can undoubtedly be branded as the ‘Green State’. It is prime tiger state, comprising mainly tropical moist and dry deciduous forests (Sal, teak and bamboo) and significantly rich in endemic species as well as medicinal plants (more than 500 species have been identified so far).

With the increasing demand for herbal medicine in the present day urban markets, it is likely that Chhattisgarh is bound to emerge as a major centre in the near future. Chhattisgarh primarily derives its identity from the culture, music and craft of the 42 different tribes inhabiting it. With the tribes constituting 31.8% of its total population (2001 Census), Chhattisgarh rank 8th in India in terms of the density of tribal population.

Mahua (*Madhuca longifolia*) is one of the most commonly found trees in Chhattisgarh. It is revered by the tribal's for its many uses; so much so that 'a local saying describes heaven as a forest of miles and miles of Mahua trees'! Its bark and the oil extracted from its seeds are used for medicinal purposes. In fact, tribals often have more faith in Mahua's medicinal properties than modern medicines. The oil is also used for cooking. The Mahua drink, made by fermenting the flowers of the tree, is an integral part of all festivities. In some cases marriages are not considered complete with-out a ceremonial drink!

A list of the Medicinal Plants found in Chhattisgarh are:

Vernacular Name	Scientific Name	Use
Maidalakdi	<i>Litsea sebiferapers</i>	Bark used for joining broken bones
Manjur Godi	<i>Vitex penduncularis</i>	Leaves used to treat malaria
Kali Haldi	<i>Curcuma caesia</i>	Tuber used to treat leprosy
Chitrak	<i>Plumbago rosea</i>	Rheumatism
Safed Madar	<i>Calotropis procera</i>	Root used as an antidote to snake poison
Pashadbhed	<i>Saxiferaga ligulata</i>	Root used to dissolve gallstones
Indrayanbadi	<i>Citrullus colosinthis</i>	Leaves burnt to inhale smoke to treat asthma
Nirgundi	<i>Vitex negundo</i>	Seeds used as water purifier
Chota dudhi	<i>Ichnocapus frutescens</i>	Roots consumed to purify blood
Jamun	<i>Eugenia jambolana</i>	Bark and seeds used to treat diabetes

We all realize that hosting conferences primarily aims to promote the scientific information to the participants. It is a platform for the exchange of innovative ideas research issues. We hope the students community will enrich from the vast knowledge of enthusiastic eminent guest experts of the areas.

Dr. (Mrs.) Zehra Hasan
Principal



BHILAI MAHILA MAHAVIDYALAYA
HOSPITAL SECTOR, BHILAI NAGAR (C.G.) 490009
Affiliated to Pt. Ravishankar Shukla University, Raipur (C.G)
Under Section 2(f) and 12(B) of the UGC Act 1956:
☎ 2242966 (P & T) 2896269 (BSP)
Website: www.bmbhilai.com

MESSAGE FROM EX PRINCIPAL

It is a matter of great pleasure to know that Zoology Department of Bhilai Mahila Mahavidyalaya is organizing a two day National conference on "Recent advances in medicinal plant research and its application on human health".

Usefulness of plants of Medicinal values is elaborately referred to in the Ancient Vadas and there exists a huge potential of wide variety of medicinal plants available in India particularly in the tribal / agency areas. It has so far remained a very less tapped resource although fit for treatment of various health problems much economically and with efficacy. Their continuous use by tribals for various ailments and Ayurveda and Unani systems of medicines continuing their successful use all over the Indian sub-continent is a matter compelling all to carry it forward with vigour.

Looking at the side effects of the synthetic drugs and increasing unaffordable health care expenses, there is an urgent need for today's community of scientists to tap this vibrant potential of medicinal plants. Reports of cost-effectiveness of some of the medicinal plants like Kasturi benda seeds for treatment of nervous disorders O-mungos for neutralizing snake venom effects like neurosis and neurotoxicity and Cucumis sativus, Celosia etc. acting as repellants of disease carrying vector insects, like Aloe vera for skin problems, Neem (A.indica) as antifungal, antiviral, Tulsi (O.tenuiflorum) for healing and numerous other preparations based on Medicinal Plants can no longer be ignored. Researchers may also try and broaden the scope of Thangedu (Senna auriculata) which has been reported to be a H₂O purifier. This is in view of the major thrust of Government to keep the rivers and H₂O bodies clean.

By organizing this seminar scientists from various disciplines, teachers and students can get a platform to interact and discuss the latest research work going on in the country and abroad, their application and further scope in the field.

In fact there is a fear that some varieties of Medicinal plants, if not harnessed now, could become extinct for ever – this to my mind, should give the impetus needed for revolutionizing our efforts.

I Congratulate the College Principal and staff of Zoology Department for organizing this path breaking conference and wish them a great success.


(S.K. Dooda)



BHILAI MAHILA MAHAVIDYALAYA
HOSPITAL SECTOR, BHILAI NAGAR (C.G.) 490009
Affiliated to Pt. Ravishankar Shukla University, Raipur (C.G)
Under Section 2(f) and 12(B) of the UGC Act 1956:
2242966 (P & T) 2896269 (BSP)
Website: www.bmmbhilai.com

FROM THE EDITOR'S DESK

Medicinal plants play a critical role in healthy human life. Chhattisgarh state is rich in medicinal flora. The tribals here have been using them from time immemorial for curing various diseases. How to get these plants work for the people across the globe? This can be done only through painstaking research.

The conference “Recent Advances in Medicinal Plants Research and its application in Human Health” was organized with the objective of increasing awareness among all with the latest developments in the field. It was a pleasure to find that quite a few participants are very actively pursuing research in medicinal plants and their contribution to human health. Eminent persons from across various locations participated and enriched the learned audience. It goes without saying that research has not remained confined to merely Chhattisgarh region. The scope of the conference was wide enough to cover various related topics of the subject such as quality control, methodology, selection parameters etc. also.

This compendium includes all the proceedings of the conference along with all the papers presented by all the researchers. In some cases editing has been done to shorten the length but the key points have all been maintained intact.

I would be failing in my duty if I do not extend my heartfelt thanks to all the sponsors who helped us organize the conference with their financial support. The Principal ones being UGC, Bhopal; CCOST, Raipur, Chhattisgarh Govt.; and State Bank of India, Hospital Area, Bhilai.

Dr. Sudha Agrawal
Convenor

PREFACE

Relationship between human and plants has existed since the existence of life on earth. Chhattisgarh has been declared a herbal state. Bastar region of the state is rich in folklore medicine and traditional ancient practices and knowledge. There is potential in tapping the plant world of the region for developing drugs for cure of diseases.

The National conference “Recent Advances in Medicinal Plant Research and its application to human health.” Was held in Bilai from 2nd and 3rd March 2015 and to discuss the current trends in plant medicine research for exchange of ideas & knowledge, to learn new techniques & future possible collaboration with invited delegates (scientists, researchers & experts). Since this region of Chhattisgarh is comparatively less developed & students & faculty do not get exposure to advances in modern scientific research, organizing the conference will help in giving innovative ideas to students & faculty for future research. The conference will also help post graduate students in deciding the topics of research for their M.Phil/Ph.D.

I wish to thank University Grants Commission, CRO, Bhopal, Chhattisgarh Council of Science and Technology (CCOST), Raipur and State Bank of India, Bilai for their financial support.

I would like to thank Dr. Z. Hasan Principal, Dr. S. Mene, Vice Principal, Bilai Mahila Mahavidyalaya, Bilai, for providing help and guidance whenever I needed.

I am very much thankful to our Ex Principal Dr. S.K. Dooda who provided lots of encouragement and suggestions.

I would like to thank Mrs Ruby Alleppa, Dr. A. Shrivatava, Ms. R. Yadav, Mrs. G. Mishra and Ms. Rajni Barle and Ms. C. Bhattacharya for their help and cooperation.

I would like to thank my teaching and nonteaching staff and my M.Sc. students for their help and cooperations.

I would like to thank my husband Mr. P. K. Agrawal for providing me lots of encouragement.

Dr. Sudha Agrawal

Eminent Guest Speakers

- Dr. Sudha Chauhan, ICMR, New Delhi
- Dr. Nancy Pandita, Narsee Monjee Institute of Management Science, Mumbai
- Dr. A. Kar, D.A.V.V., Indore (M.P.)
- Dr. Sunanda Panda, D.A.V.V., Indore (M.P.)
- Dr. H.D. Gandhi, Shram Bikas Evam Shodh Sansthan, Bhopal (M.P.)
- Dr. V.K.Gupta,C.M.D.C.,College, Bilaspur
- Dr. Maya Shedpure,Govt. D.B.P.G. Girls College , Raipur
- Dr.Seema Rai ,Guru Ghasidas Vishwavidyalaya, Bilaspur
- Rajendra kale & Vrunda kate, Sri Shail Herb Farm Co., Nagpur

Eminent Chief Guest

Dr. Sudha Chauhan
Emeritus Scientist, ICMR, New Delhi

Special Guest

Dr. Nancy Pandita,
Narsee Monjee Institute of Management Science, Mumbai

Contents

1. Effect of Embelin on Reproductive Organs of Male Albino Rats- Sudha Agrawal
2. Study of Antibacterial Activity of *Justicia procumbens* var. Extracts- Bhawana Pandey
3. Possibility of Biological Management of *Parthenium hysterophorous* Linn- Sushma Mene
4. Evaluation of Antimicrobial Activity of Ethanolic Extract of *Thevetia peruviana* (Kaner) Leaves- Sabiha Naz¹ and Sudha Agrawal²
5. Report of Some Medicinal Plants Used in Folk Medicine in Tribal Areas of M.P.- Vibha Choubey¹, Namrata Dubey² and Parmita Dubey³
6. Phytoremediation of Oxidative Stress by Root Extract of *Achyranthes Aspera* in Lymphocytes of *Oryctolagus Cuniculus* L.- Nisreen Husain¹ and Anil Kumar²
7. Antimicrobial Activity of *Nyctanthes Arborescens*- Divya Paikara, Sheetal Singh and Bhawana Pandey
8. Study of Antibacterial activity of crude extract of leaves of *Carica papaya*- Bhawana Pandey, Varsha Chandrakar and Bhagyashree Deshpande
9. Antibacterial Activity of Plant Extract of *Oxalis corniculata*- Sandhya Madan Mohan*, Bhawana Pandey, Bhagyashree Deshpande and Varsha Chandrakar
10. Comparative Study of application of chemical and biofertilizer for better growth of *Vitex*, a medicinal plant- Niharika Dewangan, *Ranjana Shrivastava, **A. K. Shrivastava
11. Review on Dietary Sources of Non Flavonoid Phytoestrogen: Special Reference to Chhattisgarh Region.- Chaitali Y. Mathew and Bhawana Pandey*
12. To study the Chemical Composition and Clinical Property of some medicinal plants found in Chhattisgarh- Sakshi Mishra , Rajani Naranje and Alka Mishra
13. Antimicrobial Activity of *Mimosa pudica* Linn. against some Microbes- Bhawana Pandey¹ and Nisreen Husain²
14. Herbal and Food Plants Used by Tribals and Traditional Healers for the Treatment of Various Disease in Balod, Chhattisgarh- Anju Bhandari¹, Suneeta Patra², P.K. Patra³ and Pratiksha Pandey⁴
15. Some Important Medicinal Plants Used By Tribal People of Chhattisgarh- Bhawana Pandey¹, Pratiksha Pandey² & Divya Paikara³
16. On A New Nematode, *Capillaria striata* N. Sp. from Fresh Water Fish *Channa striatus* (Bloch)- Saman Siddiqui and Rashmi Sa
17. Qualitative Phytochemical Study of Medicinal Plants of Durg District- Rajni Barle¹, Anupama Shrivastava², Geetanjali Mishra³ And Sudha Agrawal⁴
18. Nutritional Status of College Girls of Bhilai- Sudha Agrawal and Ruby Alleppa
19. Characterisation of Photochemically formed Biomimetic Photoautotrophic Supramolecular Assembly “Jeewanu”, Synthesised in Sunlight Exposed Sterilised Aqueous Mixture of Some Inorganic and Organic Substances- V.K. Gupta
20. Study of Vegetation in Govt. Rajiv Lochan College Campus Rajim, Distt. Gariaband (C.G.)- Priti Tiwari¹ and Indu Soni²,

21. A Study on Biochemical Interaction of *E.coli*, *Lactobacillus delbrueckii* and *Bacillus subtilis* on the basis of Striking Characteristics- Sanjeb Mandal*, Soumya Khare*, Munesh Barman**
22. Multifarious Medicinal Value of “Peepal”- A Review- Jyotibala Choubey and Roopam Ajeet Yadav
23. Relation between Sleep-wake Cycle and Body Mass Index:A Preliminary Study- Preeti Karanjgaonkar, Maya Shedpure*, Mamta Ratre, Richa Tikariha Neha Jain
24. Comparative Study of Microbial Population of two different Soils of Durg Region- Pratiksha Pandey¹ and Bhawana Pandey² and Zehra Hasan³
25. *Phytopathological studies on Oxalis corniculata L., a Medicinal Herb of Chhattisgarh-* Smita Sharma * Rupinder Diwan and Rashmi Devi Soni
26. Use of Plant Dyes in Textiles Industries- Sarita Joshi, Suneeta G. Rao, Rajshree Chandrakar and Sandhya Madan Mohan
27. Study of Mammals Biodiversity of Gomarda Sanctuary Sarangarh District Raigarh. Chhattisgarh- Anita Pandey
28. Screening of Antimicrobial Activity of Some Medicinal Plants- Rachana Choudhary¹ and Sonia bajaj²
29. Effect of *Azadirachta indica* on Drosophila Culture- Sudha Agarwal¹ and Hema Kulkarni²
30. Lipolytic Bacteria: A Survey of Edible Oil Factory Effluent- Shobha Gawri¹, Prashant Shukla² and Rachna Bisen
31. *Alternaria*, A Dominant Fungal Pathogen of Nutritionally and Medicinally Significant Plant *Vigna radiate*- Rashmi Devi Soni and Rupinder Diwan
32. Popular Herbs of Chhattisgarh and their Uses in the Treatment of Common Diseases in Baster Region.- Swarn Lata Verma¹ and Anupama Shrivastava²
33. Effect of *Ocimum sanctum* leaf extract on Drosophila- Sudha Agrawal & Renuka Yadav
34. Review Article:Magnetic field effect on Biological System- Neha Jain, Maya Shedpure, Richa Tikariha, Preeti Karanjgaonkar, Mamta Ratre and Sweta Agniwanshi

