



SOCIETY FOR ETHNOPHARMACOLOGY, India (SFE - INDIA) NEWS LETTER

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Editorial

Recent notification of Pharmacy Practice Regulation 2015 is a landmark in the history of Pharmaceutical Profession in India, which will certainly help in giving proper shape to the unorganized state of Pharmacy Practice in India. In the present regulation the Pharmacy Practice is well defined with regulatory point of view. The document is available at <http://www.pci.nic.in/Circulars/Pharmacy%20Practice%20Regulations.pdf>
In spite of such a comprehensive regulation there are apprehensions, from different quarters, about the proper implementation of the proposed regulation. We hope that concerted efforts from all stake holders will help in its implementation to give a proper shape to the profession.

Recent activities of SFE-India

A special issue

“Ethnopharmacology and Validation of Traditional Medicine”

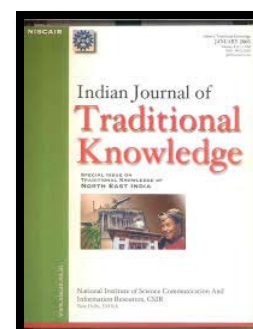
Published by

Indian Journal of Traditional Knowledge (IJTK), published from
NISCAIR, CSIR, New Delhi

(Scientific presentations at the)

2nd International Congress of the Society for Ethnopharmacology, India
(SFEC-2015)

Nagpur, India, February, 2015.



A special issue Ayurveda

Will be published by

Journal of Ethnopharmacology, Elsevier Science.

Developed by

School of Natural Product Studies
Jadavpur University, Kolkata

Society for Ethnopharmacology, India
Jadavpur, Kolkata



Homage to Dr. APJ Abdul Kalam

Dr. APJ Abdul Kalam, one of the most distinguished scientist and administrator India has ever produced with the unique honour. His contribution at **Indian Space Research Organization (ISRO)**, **Defense Research and Development Organisation (DRDO)** and several civilian space program and military missile development efforts was markedly incredible. As the Chief Scientific Adviser to the Prime Minister he played a pivotal role in the Pokharan II nuclear tests in 1998. and He has been awarded the coveted civilian awards - **Padma Bhushan (1981)** and **Padma Vibhushan (1990)** and the highest civilian award **Bharat Ratna (1997)** and later he has elected as the **11th President of India**. After leaving the President's Office he became the Chancellor of the Indian Institute of Space Science & Technology Thiruvananthapuram, Professor of Aerospace Engineering at Anna University. He also became a Visiting Professor at the Indian Institute of Management (IIM) Shillong, the Indian Institute of Management (IIM) Ahmedabad, and IIM Indore, he taught information technology at the International Institute of Information Technology, Hyderabad. Dr. Kalam was also a noted author with a number of popular penned books like '**India 2020: A Vision for the New Millennium**' (1998), '**Wings of Fire: An Autobiography**' (1999), '**Ignited Minds: Unleashing the Power Within in India**' (2002), and '**A Manifesto for Change: A Sequel to India 2020**' (2014). He was a very simple person with only a few personal belongings. He remained active until the last day of his life, scheduled to deliver a lecture at the Indian Institute of Management, Shillong on 27 July 2015. He was delivering a lecture; he was suddenly collapsed and was rushed to the Bethany Hospital where the attending physicians declared him dead due to cardiac arrest. His last rites were performed in his hometown, Rameswaram in presence of his beloved students and people of the locality along with several dignitaries.

Our heartfelt condolences on his demise caused by his untimely death.

Few memorable Glimpse of 12th International Congress of International Society for Ethnopharmacology (ISE)



Inauguration during 12th International Society for Ethnopharmacology, February 19-21, 2012



Special lecture delivered by Dr. APJ Abdul Kalam on "Dynamics on Ethnopharmacology" during 12th Congress of the International Society for Ethnopharmacology, February 19-21, 2012

The Society for Ethnopharmacology, India is extremely grateful to Dr. APJ Abdul Kalam for his inspiration and support during its creation. After the grand success of the 12th International Congress of International Society for Ethnopharmacology (ISE) on "Traditional Medicines and Globalization-Future of Ancient Systems of Medicine" organized by the **School of Natural Product Studies, Jadavpur University Kolkata** during February 17-19, 2012, SFE-India was formed by the eminent academicians, researchers, industrialists for promotion and development of Ethnopharmacology and Natural Product Research.

Dr. APJ Abdul Kalam in his inaugural lecture on "**Dynamics of Ethnopharmacology**" and also his article, published in "**Traditional Medicine and Globalization – The Future of Ancient Systems of Medicine**" edited by Dr. Pulok K Mukherjee, mentioned about the need and utility of SFE-India.

"Your end, which is endless, is as a snowflake dissolving in the pure air"

International Update:

Creating natural Fragrance and Aroma in Lab: A Scientific marvel

Since time immemorial flavors and fragrances are extracted from plants and animals. Now they are used as food additives, beverage, feed cosmetic, detergent, chemical and pharmaceutical formulations and mainly produced through chemical synthesis or less by extraction from plant and animals. Due to increased interest and health awareness, today people are favored to use the fragrances and flavors of natural origin. Mankind is using microbial systems to impart new aromas to the fermentation products like beer, wine, cheese etc from ages while vanillin (1874) and coumarin (1868), was the first synthesized fragrance and flavour used in the food industry. The worldwide demand of flavors and fragrances was estimated to be US\$ 16 billion in 2013, and now most of these compounds are prepared by chemical technology and only a small fraction are from plant or through microbial sources.

Roses are ornamental plants used as cut flowers, and sources of essential oils for perfume and cosmetics. Breeding for cut flowers and visual attributes can reduce scent of the plant, but the cause for the lack of fragrance is unknown and does not seem to be linked to increased vase life. Though the scent of roses is composed of hundreds of volatile molecules, monoterpene alcohols characterize typical rose scents in cultivars like Papa Meilland rose; while volatile phenolic compounds characterize tea-scented roses. Monoterpene alcohol and 2-phenylethanol represent 70% of the scent content, and genes involved in the biosynthesis of phenolic scent compounds, 2-phenylethanol, and sesquiterpenes have already been characterized, but the basis for monoterpene biosynthesis remains obscure. Recently a breakthrough report published in Science claimed that the monoterpene biosynthesis in plants plastid can be manipulated by combining transcriptomic and genetic approaches. The group found that the Nudix hydrolase RhNUDX1, localized in the plant cell cytoplasm, is part of a pathway for the biosynthesis of free monoterpene alcohols in roses, and RhNUDX1 protein shows geranyl diphosphate diphosphohydrolase activity *in vitro* that supports geraniol biosynthesis in plants.

Reference:

Magnard JL, Rocchia A, Caissard JC, Vergne P, Sun P, Hecquet R, Dubois A, Hibrand-Saint Oyant L, Jullien F, Nicolè F, Raymond O, Huguet S, Baltenweck R, Meyer S, Claudel P, Jeauffre J, Rohmer M, Foucher F, Huguene P, Bendahmane M, Baudino S (2015). Biosynthesis of monoterpene scent compounds in roses. Science 349(6243): 81-83.

A common pain killer Aspirin can be a cancer chemopreventive?

Aspirin, a common inhibitor of cyclooxygenase (COX), is a pain killer that globally prescribed for prevention of blood clot, is now emerge as a chemopreventive agent for some types of cancer. Regular aspirin use is associated with a decreased incidence of developing cardiovascular diseases and cancer, as aspirin has several additional mechanisms of action that may contribute to its anti-cancer effect that includes apoptosis and angiogenesis, crucial for the development and growth of malignancies. Randomised studies with aspirin designed to prevent cardiovascular disease have demonstrated a reduction in cancer deaths with long-term follow-up, and recent epidemiological evidence demonstrated regular aspirin use in cancer improves outcomes suggesting it possible role in cancer prevention and treatment where the risk: benefit ratio is different.

Inflammation is known to be the leading cause of life-style disorder and tumour-promoting inflammation is considered as one of the enabling characteristics of cancer development. Strong epidemiological evidences indicated that the chronic inflammatory disease increases the risk of some cancers, and the non steroidal antiinflammatory drugs (NSAIDs), particularly aspirin, are powerful

A tumour contains many different inflammatory cells and mediators. Targeting those factors through different model system (genetic, transplantable and inducible murine models) substantially reduces the development, growth and spread of cancer. Thus, this complex network of inflammation may provide targets for prevention and treatment of malignant disease, through novel cancer prevention and treatment strategies, although clinical research on targeting cancer-related inflammation and innate immunity in advanced-stage cancer patient remains in its infancy. Following the successes of immunotherapies on adaptive immune system, several groups of researchers assert that inflammation and innate immunity are important targets in cancer patients on the basis of extensive preclinical and epidemiological data. The adaptive immune response is heavily dependent on innate immunity, thus, inhibiting some of the tumour-promoting immunosuppressive actions of the innate immune system might enhance the potential of immunotherapies that activate a nascent antitumour response, and drug like aspirin can be the hallmark of such investigative therapy.

Reference:

- Crusz SM, Balkwill FR (2015). Inflammation and cancer: advances and new agents. *Nature Review Clin Oncol*. 30. Doi: 10.1038/nrclinonc.2015.105.
- Thun MJ, Jacobs EJ, Patrono C (2012). The role of aspirin in cancer prevention. *Nature Reviews Clinical Oncology* 9: 259-267.
- Langley RE, Burdett S, Tierney JF, Cafferty F, Parmar MKB, Venning G (2011). Aspirin and cancer: has aspirin been overlooked as an adjuvant therapy? *British J Cancer* 105: 1107–1113.

Bacteria may help to quit smoking!

A group of researchers identified a gene called *nicA* from a bacterium *Pseudomonas putida* S16 found in tobacco field that degrade nicotine. This gene was expressed and characterized as a *nicotine oxidoreductase* to catalyze the initial steps of nicotine metabolism. Biochemical analyses with resting cells and purified enzyme suggested that *nicA* encodes an *oxidoreductase*, to convert nicotine into 3-succinoylpyridine through pseudooxynicotine. Based on enzymatic and radio-labeling studies scientist found that nicotine degradation is achieved by enzyme-catalyzed dehydrogenation, followed by spontaneous hydrolysis and repetition of dehydrogenation and hydrolysis. The sequence comparisons showed that NicA had 40% similarity to genes encoding NADH dehydrogenase subunit I and Cytochrome *c* oxidase subunit I in eukaryotes. This finding demonstrates that the molecular mechanism of nicotine degradation involves the pyrrolidine pathway similar to mammals, where pseudooxynicotine (direct precursor of a potent tobacco-specific lung carcinogen) is produced. Another bacterium *Pseudomonas* sp. Zutskd of tobacco field can degraded nicotine completely when the concentration of reducing sugar was lower than 8 g/l; while addition of yeast extract and phosphate improved nicotine degradation upto 97% (1.6 g/l) in just 12 h. This raises hope for the chain smokers to quit smoking with a natural gift.

Reference:

- Tang H, Wang L, Meng X, Ma L, Wang S, He X, Wu G, Xu P (2009). Novel Nicotine Oxidoreductase-Encoding Gene Involved in Nicotine Degradation by *Pseudomonas putida* Strain S16 *Appl Environ Microbiol* 75(3): 772–778.
- Zhong W, Zhu C, Shu M, Sun K, Zhao L, Wang C, Ye Z, Chen J (2010). Degradation of nicotine in tobacco waste by newly isolated *Pseudomonas* sp. Zutskd. *Bioresource Technology* 101(18): 6935–6941

Regulatory Updates:

Essential Drug List (EDL) in Ayurveda published

Department of AYUSH, under the Ministry of Health & Family Welfare, Govt. of India published a list of 277 Ayurvedic medicines as Essential Drugs List (EDL) in 2013, which is available at <http://www.indianmedicine.nic.in/writereaddata/linkimages/4199115593-Essential%20Ayurveda%20Medicines%20for%20Uplaoding%20on%20Web%20site.pdf>

Manual for Inspectors – Procedural Guidelines for Inspection of Ayurveda, Sidda and Unani Drug Testing Laboratory published

The provision for approval of Institutions for carrying out tests on Ayurvedic, Siddha and Unani Drugs and the Raw Materials used in their Manufacture on behalf of Licensees for Manufacture for sale of Ayurvedic, Siddha and Unani Drugs has been introduced in the year 2003 vide Part XVI (A) of Drugs and Cosmetics Rules. In order to proper implementation “Manual for Inspectors – Procedural Guidelines for Inspection of Ayurveda, Sidda and Unani Drug Testing Laboratory” has been published by Dept. of AYUSH, Ministry of Health & Family Welfare in the year of 2013, which is available at <http://indianmedicine.nic.in/writereaddata/linkimages/1257531966-Inspector%20Manual%20Website.pdf>

Guidelines for inspection of GMP compliance by Ayurveda, Siddha and Unani Drug Industry published

Good Manufacturing Practices for Ayurvedic, Siddha and Unani Medicines (Schedule T) has been introduced in 2000 and updated in 2003 vide GSR 198 (E) dtd. 7.3.2003. In order to proper implementation “Guidelines for inspection of GMP compliance by Ayurveda, Siddha and Unani Drug Industry” has been published by Dept. of AYUSH, Ministry of Health & Family Welfare in the year of 2014, which is available at: <http://www.indianmedicine.nic.in/showfile.asp?lid=779>

Achievements of Members:

Dr. Mukesh Nandave, Associate Professor, SPPSPTM, has received “Best Research Output of the Year 2014-2015 Award”

Dr. Mukesh Nandave, Associate Professor, SPPSPTM, has received “Best Research Output Award for the Year 2014-2015”, during the Convocation-2015 of SPP School of Pharmacy & Technology Management (SPP SPTM), SVKM's NMIMS University, Mumbai held on 1st August 2015. Dr G. N. Singh, Drugs Controller General (India) was the Chief Guest and Dr Hashit Joshipura, SVP, South Asia and the Managing Director, India GlaxoSmithKline Pharmaceuticals Ltd., was the Guest of Honor.

This award is dedicated in recognition of excellence in research in terms of number of research publications and presentations, Government and Pharma Industry Grants and interaction with outside scientific world.



We are welcome to you all



2nd Convention 2015
Society for Ethnopharmacology, India

December 5-6, 2015
Kolkata, India

www.ethnopharmacology.in

“Integrated Approaches for Promotion and Development of Herbal Medicine”

Upcoming Events:

National Seminar

“Enabling Environment for Women's Development in Pharmacy and Allied Field”

H.L. Roy Hall, Indian Institute of Chemical Engineers, Jadavpur Campus

September 05, 2015

Organized by

**Association of Pharmaceutical Teachers of
India APTI (West Bengal Branch)**

www.aptiindia.org

In Association with

Society for Ethnopharmacology, India
www.ethnopharmacology.in

National Seminar

"Pharmacovigilance of AYUSH drugs"

Sri Ramachandra University, Porur, Chennai

November 19, 2015

Organized by

**Sri Ramachandra University
Porur, Chennai**
www.sriramachandra.edu.in

In Association with

Society for Ethnopharmacology, India
Jadavpur, Kolkata
www.ethnopharmacology.in

2nd National Convention

“Integrated Approaches for promotion and Development of Herbal Medicine”

Jadavpur University, Kolkata, India.

December 5-6, 2015

Organized by

**School of Natural Product Studies
Jadavpur University, Kolkata**
www.jaduniv.edu.in

In Association with

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Jadavpur, Kolkata
www.ethnopharmacology.in

3rd International Congress of Society for Ethnopharmacology, India (SFEC-2016)

“Ethnopharmacology & Evaluation of Medicinal Plants - Global Perspectives”

Raipur, India

February 19-21, 2016

Organized by

**National Centre for Natural Resources (NCNR)
Pt. Ravishankar Shukla University, Raipur**
www.sfec2016raipur.com

In Association with

Society for Ethnopharmacology, India
Jadavpur, Kolkata
www.ethnopharmacology.in

2nd International Conference (ICNPU-2015)

“Natural Products Utilization: from Plants to Pharmacy Shelf”

Plovdiv, Bulgaria

October 14-17, 2015

Organized by

**International Society for Ethnopharmacology,
UK**
www.ethnopharmacology.org

In Association with

Phytochemical Society of Europe (PSE)
www.icnpu2015.cim.bg

16th International Congress of the International Society for Ethnopharmacology, UK (ISE)

“Traditional Medicine: Protection, Integration, and Innovation”

Yulin, China

May 16-18, 2016

www.ethnopharmacology.org

2ND NATIONAL CONVENTION

Society for Ethnopharmacology, India

***"Integrated Approaches for Promotion and
Development of Herbal medicine"***

December 5 - 6, 2015

Organized by:



**School of Natural Product Studies
Jadavpur University, Kolkata, India**

In association with:



**Society for Ethnopharmacology, India
(SFE-INDIA)**

Jadavpur, Kolkata, India

Affiliated to



International Society for Ethnopharmacology, UK

Submit Abstract for oral and poster presentation

Email: isesnpsju@gmail.com.

**Last Date for Abstract submission &
Registration (Early bird) November 6, 2015**

For details please visit

www.jaduniv.edu.in, www.ethnopharmacology.in

Venue: Jadavpur University, Kolkata

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&

Explore the Opportunity

----- We look forward to continue our bonding

JOIN SFE-INDIA & Explore the Opportunity

"Globalizing Local Knowledge & Localizing Global Technology"

To work for the promotion of Ethnopharmacology - medicinal plants and other natural products

- Networking amongst the researchers in medicinal plants and ethnopharmacology around the globe.
- Sharing of knowledge among researchers, healthcare-practitioners, and decision-makers interested in Ethnopharmacology.
- Dissemination of knowledge for promotion of TM and medicinal plants
- Organizing conference, seminars, symposia, workshops etc in different parts of India.
- Information on activities in respect of Ethnopharmacology around the world.
- Travel grant for students and young scientists and reduced registration fees to attend the events organized by the Society for Ethnopharmacology.
- Access to a wide network of scholars interested in the traditional medicine and Ethnopharmacology.
- Validation and documentation of TM, medicinal plants and natural products
- Encouraging the scientists through awards, honors, grants etc.
- Collaborative approaches for promotion & development of TM and medicinal plants.

*Healing Plants Nature's Gift for Everyone
- Let's Preserve & Promote those Gifts.*



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