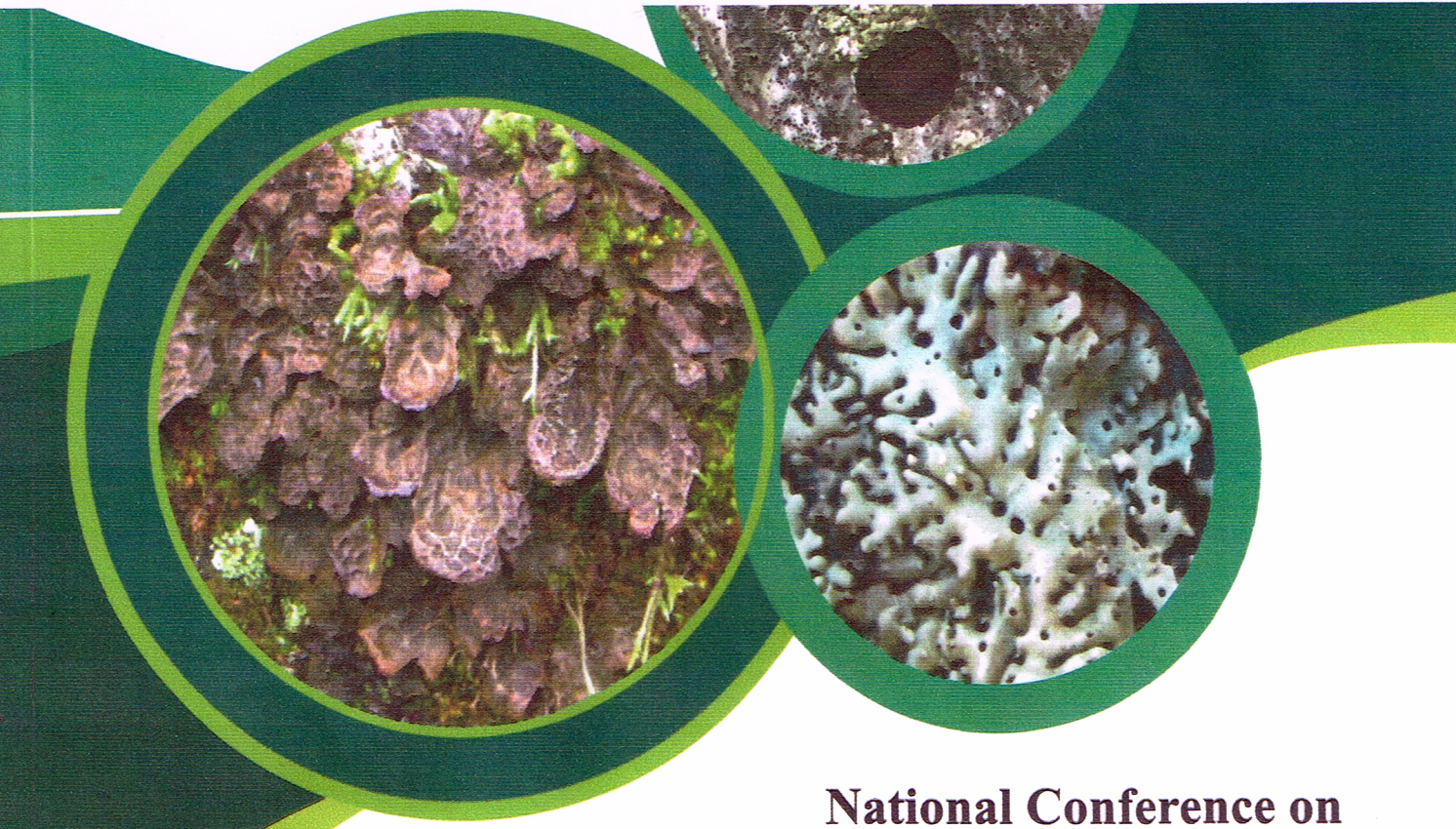

# National Conference on
# Current Developments and Next Generation Lichenology

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***With special session on Biological Diversity Act - 2002***

# *Souvenir and Abstracts*

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**PPD-07**

## Seven New Records of the Lichen Graphidaceae from Mangrove Forest in Thailand

**Vasun Poengsungnoen, Kansri Boonpragob, Kawinnat Buaruang and Pachara Mongkolsuk**
*Lichen Research Unit, Department of Biology, Faculty of Science, Ramkhamhaeng University, Bangkok 10240, Thailand*
*vasun_poeng@hotmail.com*

Graphidaceae has the highest diversity among the crustose lichens, with nearly 2,400 known species. Our study explored the diversity of this family in the mangrove forest, Thailand, during 2012-2017. Over 1,000 specimens were collected comprising of 45 species. Among these, seven species are reported for the first time in the country; *Fissurina subcontexta* (Nyl.) Nyl., *Graphis capillacea* Stirt., *Graphis streimannii* A.W. Archer, *Graphis sundarbanensis* Jagadeesh & G.P. Sinha, *Leucodecton occultum* (Eschw.) Frisch, *Phaeotrema pachysporum* (Nyl.) Zahlbr., and *Thelotrema capetribulense* Mangold.

**Keywords:** Diversity, *Graphis*, Taxonomy

**PPD-08**

## Employing FTIR Spectroscopy for Characterization of Secondary Metabolites in *Pyxine cocoes* Commonly Growing Lichen Species Around Thermal Power Plants of Uttar Pradesh, India

**Namita Gupta[1], S. K. Dwivedi[1] and D. K. Upreti[2]**
*[1]Department of Environmental Science, Babasaheb Bhimrao Ambedkar University, Raebareily Road, Lucknow - 226 025, Uttar Pradesh, India*
*[2]Lichenology Laboratory, CSIR- National Botanical Research Institute, Rana Pratap Marg, Lucknow - 226 001, Uttar Pradesh, India*
*namitag09@gmail.com*

Fourier- Transform Infrared (FTIR) Spectroscopy was used to identify and determine the spectral features of secondary metabolites in *Pyxine cocoes* (Sw.) Nyl., a lichen species found growing around thermal power plants, i.e. Panki, Tanda and Feroze Gandhi Unchahar thermal power plants, to find specific spectroscopic biomarkers for rapid identification and discrimination. Though, secondary metabolites can be characterised by utilising TLC, HPLC or GC techniques but developing specific biomarkers by FTIR is a more fast and reliable technique.

FTIR spectra showed structural peculiarities of metabolites in lichens as well as variations in functional groups i.e. N-H stretching Amide-A, O-H stretching of hydroxyl groups and carboxylic acid (primary, secondary, amines and amides), $SO_3$ asymmetric, C-O bonding due to polysaccharides and C-Br stretching (alkyl halides) which indicating the role of metabolites in sequestration of metals.

Since secondary metabolites play an important role in chelation, therefore, the variation in the functional group bands in IR region showed the effect of the pollutant on the functional groups chemistry of the particular lichen species. This phenomenon is principally involved in metal absorption