



The NEHU Journal

Vol. XVIII, No.1, January-June 2020

NEHU

ISSN. 0972 - 8406

The NEHU Journal

Vol. XVIII, No.1, January-June 2020

Editor: **Prof. S.R. Joshi**

Department of Biotechnology & Bioinformatics

NEHU, Shillong

Email : editornehujournal@gmail.com

Editorial Committee Members

Prof. A.S. Dixit, Department of Zoology, NEHU, Shillong

Prof. S. Mitra, Department of Chemistry, NEHU, Shillong

Prof. I. Syiem, Department of Education, NEHU, Shillong

Dr. R. M. Shangpliang, Department of Sociology, NEHU, Shillong

Dr. Sudipta Ghosh, Department of Anthropology, NEHU, Shillong

Dr. K. Upadhyay, Department of BSSS, NEHU, Shillong

Dr. B. Dutta, Department of History, NEHU, Shillong

Contents

Editorial	iv
The deadly dozen: An overview of the top killer viruses	
<i>D. Syiem and Mayashree B. Syiem</i>	1
<i>In vitro</i> seed storage of <i>Paphiopedilum villosum</i> Lind., an endangered lady's slipper orchid	
<i>Reema Vareen Diengdoh, Suman Kumaria and Meera Chettri Das.....</i>	21
Colorimetric detection of Pb²⁺ ions using PVP-capped silver nanoparticles	
<i>Siewdorlang Diamai and Devendra P. S. Negi</i>	33
<i>In-vitro</i> comparative studies of <i>Apium graveolens</i> L. extracts for antioxidant and anti-inflammatory activity	
<i>Casterland Marbaniang, Rajeshwar Nath Sharan and Lakhon Kma.....</i>	43
Photic and nonphotic cues in regulation of seasonal reproduction in birds	
<i>Anand S. Dixit, Debashish Khanikar and Bidisha Kataki</i>	61
Multi-spectroscopic investigation on the contradictory relevance of metal nanoparticles in pharmacological milieu of protein	
<i>Prayasee Baruah, Imocha Rajkumar Singh and Sivaprasad Mitra.....</i>	82
First record of new 'invasion' in northeast India by <i>Centaurea cyanus</i> L. (Asteraceae)	
<i>Uma Shankar</i>	100
DECLARATION	
<i>Form IV Rule 8.....</i>	113

Editorial

Dear Researchers and Readers

The prevailing pandemic has led to a paradigm shift in educational pedagogy and to a 'New Normal' in the execution of the teaching-learning process. This phase has been difficult for the human race with uncertainties looming over the development of a vaccine against COVID-19. It would not be out of place to appreciate the response of authors in contributing manuscripts even during this crisis when laboratory research and experimentation have been limited due to health regulations and protocols. The quality articles that we received for the present issue of the journal speaks immensely of the dedication and commitment of researchers to move on with the changing times.

The content of the present volume begins with the article on **“The deadly dozen: An overview of the top killer viruses”** by D. Syiem and Mayashree B. Syiem present a comprehensive review of viruses and emerging diseases that is being witnessed in the present times with reference to COVID-19.

Reema Vareen Diengdoh and co-authors highlight the importance of the endangered lady's slipper orchid and how **“*In vitro* seed storage of *Paphiopedilum villosum* Lind., an endangered lady's slipper orchid”** can assist in conservation of this economically important plant.

“Colorimetric detection of Pb²⁺ ions using PVP-capped silver nanoparticles” by Siewdorlang Diamai and Devendra P. S.Negi present a research paper on colloidal silver nanoparticles (AgNPs) synthesis using polyvinylpyrrolidone (PVP) as a capping agent and the mechanism of aggregation of the AgNPs in the presence of Pb²⁺ ions.

Casterland Marbaniang and co-authors present an in-depth discussion based on the findings on **“*In-vitro* comparative studies of *Apium graveolens* L. extracts for antioxidant and anti-inflammatory activity”** wherein the plant's secondary metabolites using various solvent extracts are compared as antioxidant and anti-inflammatory agents.

“Photic and nonphotic cues in regulation of seasonal reproduction in birds” by Anand S. Dixit, Debashish Khanikar and Bidisha Kataki present a review on the recent advances on the roles of photic and non-photoc cues in regulation of seasonal reproduction and associated functions in birds highlighting annual variation in day length as the most consistent and reliable cue in timing life history stages including reproduction, molt and migration in most birds.

“Multi-spectroscopic investigation on the contradictory relevance of metal nanoparticles in pharmacological milieu of protein glycation and cholinergic inhibition” by Prayasee Baruah, Imocha Rajkumar Singh and Sivaprasad Mitra highlights how unique physico-chemical behaviour of engineered nanoparticles have brought about a large-scale revolution in many fields like medicine, industry, agriculture and technology,

simultaneously may also result in certain toxicity due to unsolicited interactions with diverse biological systems and cellular processes.

Uma Shankar in his research article “**First record of new ‘invasion’ in northeast India by *Centaurea cyanus* L. (Asteraceae)**” reports the first record of the herbaceous plant, *Centaurea cyanus* L. of Asteraceae family from northeast India with an extensive search in the floras of the region.

The present issue contains articles drawn mainly from Life Sciences and Physical Sciences and to have received papers from eminent scholars in their specialization is indeed encouraging and motivating. However, realizing the time constraints and other engagements that they are faced with to write full length articles, we intend to include short commentary by invitation from them on specific topics for future issues.

Before I conclude, I would like to place on record my gratitude to the reviewers of the articles for giving valuable comments with notable promptness. Suggestions, cooperation and contributions of the editorial members have always been a source of guidance and strength. I earnestly appeal to scholars to submit/continue submitting manuscript(s) for publication in future issues of The NEHU Journal.

Stay safe

Prof. S.R. Joshi

Editor

