

THE BANGLADESH JOURNAL OF BOTANY

(Bangladesh J. Bot.)

ISSN 0253-5416 (print), 2079-9926 (online)

This publication is covered by Current Contents, Current Advances in Plant Sciences, Biological Abstracts, Elsevier Abstracts and several other Abstracting Systems.

In addition all papers of each issue are available in the
websites: <www.bdbotsociety.org>, <www.banglajol.info/index.php/BJB>

Bangladesh Botanical Society established in 1972 has been publishing the Bangladesh Journal of Botany since its inception. The journal was previously published biannually, however, since 2014, the society publishes the journal quarterly, one issue each in March, June, September and December.

Scientific papers written in English on any field of plant sciences from anywhere in the world are considered for publication in the Bangladesh Journal of Botany.

All manuscripts intended for publication in the journal should be sent to the Chief Editor, Bangladesh Journal of Botany, c/o. Department of Botany, University of Dhaka, Dhaka-1000, Bangladesh as word file through e-mail: <journalbbs2021@gmail.com>, <bdbotsoc@gmail.com>

Copies are available from the Secretary General, Bangladesh Botanical Society, c/o. Department of Botany, University of Dhaka, Dhaka-1000, Bangladesh.
Fax: 880-2-9667222, E-mail: <bdbotsoc@gmail.com>, website: <www.bdbotsociety.org>

Price of the journal

	<u>SAARC countries</u>	<u>Other countries</u>
Each issue	US\$ 30.00 + 5.00 (Postage)	US\$ 30.00 + 8.00 (Postage)
Each volume (4 issues)	US\$ 120.00 + 10.00 (Postage)	US\$ 120.00 + 16.00 (Postage)

In Bangladesh, Tk. 500.00 for one issue and Tk. 2000.00 for each volume.

Published by the Chief Editor, Bangladesh Journal of Botany, c/o. Department of Botany, University of Dhaka, Dhaka-1000, Bangladesh, on behalf of the Bangladesh Botanical Society on 23 June, 2025. Fax: 880-2-8615583, website: <www.bdbotsociety.org>, E-mail: <bdbotsoc@gmail.com>

Printed by: SRL Printing Press, 12, Babupura, Nilkhet, Dhaka-1205, Bangladesh
Cell: 01552-388130, 01612-388130

THE BANGLADESH JOURNAL OF BOTANY

(Bangladesh J. Bot.)

ISSN 0253-5416 (print), 2079-9926 (online)

Vol. 54

No. 2

June 2025

EDITORIAL BOARD

- Chief Editor** : **Prof. Dr. Md. Abul Bashar**
Department of Botany, University of Dhaka,
Dhaka -1000, Bangladesh
Microbiology, Plant Pathology
E-mail: journalbbs2021@gmail.com
- Executive Editor** : **Prof. Dr. Ashfaque Ahmed**
Department of Botany, University of Dhaka,
Dhaka -1000, Bangladesh
Ecology, Natural Resource Management, Climate Change
E-mail: journalbbs2021@gmail.com

Editors

Prof. Dr. M. Azizur Rahman
Department of Botany, University of Chittagong
Chittagong - 4331, Bangladesh
Agronomy, Horticulture

Prof. Dr. Mohammad Zashim Uddin
Department of Botany, University of Dhaka
Dhaka -1000, Bangladesh
Plant Taxonomy, Ethnobotany

Prof. Dr. Z N Tahmida Begum
Department of Botany, University of Dhaka
Dhaka -1000, Bangladesh
Phycology, Limnology

Prof. Dr. M. A. Gafur
Department of Botany, University of Chittagong
Chittagong - 4331, Bangladesh
Environmental Sciences

Prof. Dr. Feroza Hossain
Department of Botany, Jahangirnagar University
Savar, Dhaka -1342, Bangladesh
Plant Physiology

Prof. Dr. Shamim Shamsi
Department of Botany, University of Dhaka
Dhaka -1000, Bangladesh
Mycology and Plant Pathology

Prof. Dr. Md. Mahfuzur Rahman
Pro-Vice Chancellor, Jahangirnagar University
Savar, Dhaka -1342, Bangladesh
*Ecology and Environment, Ecosystem Ecology,
Restoration Ecology, Nature and Plant Conservation*

Prof. Dr. Nazmul Alam
Department of Botany, Jahangirnagar University
Savar, Dhaka -1342, Bangladesh
Plant Breeding, Plant Tissue Culture

Prof. Dr. Sabrina Naz
Department of Botany, University of Rajshahi
Rajshahi-6205, Bangladesh
Phycology, Limnology, Hydrobiology

Prof. Dr. Shaikh Bokhtear Uddin
Department of Botany, University of Chittagong
Chittagong - 4331, Bangladesh
Ethnobotany, Pharmacognosy, and Biodiversity

Dr. Haseeb Md. Irfanullah
Independent Consultant-Environment, Climate
Change, & Research System, Dhaka, Bangladesh
Biodiversity Conservation, Climate change

Prof. Dr. Farzana Ashrafi Neela
Department of Botany, University of Rajshahi
Rajshahi-6205, Bangladesh
Microbial Ecology, Bacteriology, Phytopathology

Prof. Dr. Mohammed Almujaaddade Alfasane
Department of Botany, University of Dhaka
Dhaka -1000, Bangladesh
Phycology, Limnology, Hydrobiology

Prof. Dr. Mohammad Nurul Islam
Department of Botany, University of Dhaka
Dhaka -1000, Bangladesh
Plant Breeding, Genetic Eng. and Biotechnology

BANGLADESH BOTANICAL SOCIETY
EXECUTIVE COMMITTEE
(2024-2026)

PRESIDENT

Prof. Dr. Md. Azizur Rahman
C/o. Department of Botany, University of Chittagong
Chittagong-4331, Bangladesh

VICE-PRESIDENTS

Prof. Dr. Mihir Lal Saha
Department of Botany, University of Dhaka
Dhaka-1000, Bangladesh

Prof. Dr. Nazmul Alam
Department of Botany, Jahangirnagar University
Savar, Dhaka-1342, Bangladesh

SECRETARY GENERAL

Prof. Dr. Mohammad Zashim Uddin
Department of Botany, University of Dhaka
Dhaka-1000, Bangladesh

JOINT SECRETARY GENERALS

Prof. Dr. Mohammed Nurul Islam
Department of Botany, University of Dhaka
Dhaka-1000, Bangladesh

Prof. Dr. Mohammed Musharof Hossain
Department of Botany, University of Chittagong
Chittagong-4331, Bangladesh

TREASURER

Prof. Dr. Mohammed Almujaaddade Alfasane
Department of Botany, University of Dhaka
Dhaka-1000, Bangladesh

MEMBERS

Prof. Dr. M A Gafur
C/o, Department of Botany, University of Chittagong
Chittagong-4331, Bangladesh

Prof. Dr. Shamim Shamsi
Department of Botany, University of Dhaka
Dhaka-1000, Bangladesh

Prof. Dr. Farzana Ashrafi Neela
Department of Botany, University of Rajshahi
Rajshahi-6205, Bangladesh

Prof. Dr. Feroza Hossain
Department of Botany, Jahangirnagar University
Savar, Dhaka-1342, Bangladesh

Dr. Haseeb Md. Irfanullah
Independent Consultant - Environment, Climate
Change, & Research System, Dhaka, Bangladesh

Prof. Dr. Shaikh Bokhtear Uddin
Department of Botany, University of Chittagong
Chittagong-4331, Bangladesh

Prof. Dr. M. Mahfuzur Rahman
Department of Botany, Jahangirnagar University
Savar, Dhaka-1342, Bangladesh

Prof. Dr. Ashfaq Ahmed
Department of Botany, University of Dhaka
Dhaka-1000, Bangladesh




Prof. Dr. Md. Abul Bashar
C/o, Department of Botany University of Dhaka
Dhaka-1000, Bangladesh

Prof. Dr. Syeda Sharmeen Sultana
Department of Botany, University of Dhaka
Dhaka-1000, Bangladesh

Prof. M A Bari
House #39, Apt # 102, Road # 12/A
Dhanmondi, Dhaka-1205, Bangladesh

Prof. Dr. Z N Tahmida Begum
Council Member and Senior Fellow
Bangladesh Academy of Sciences
Dhaka-11207, Bangladesh

Bangladesh Journal of Botany is indexed in the following online scholarly database:

 INTERNATIONAL STANDARD SERIAL NUMBER INTERNATIONAL CENTRE		 Open Journal Systems
	 DIGITAL OBJECT IDENTIFIER	
	 DIRECTORY OF OPEN ACCESS SCHOLARLY RESOURCES	
	 National Center for Biotechnology Information	
		
		 SCI JOURNAL
		

**Bangladesh Journal of Botany is indexed in the following
online scholarly database link**

<https://www.sciencegate.app/source/79159>

<https://www.scijournal.org/impact-factor-ofbangl-j-bot.shtml>

<https://www.journaldata.com/journal/bangladesh-journal-ofbotany.html>

<https://paperpile.com/n/bangladesh-journal-ofbotany-abbreviation/>

<https://www.bioxbio.com/journal/BANGL-JBOT>

<https://www.ncbi.nlm.nih.gov/nlmcatalog/101694350>

<https://portal.issn.org/resource/ISSN/2079-9926>

<https://countryofpapers.com/journal/bangladesh-journal-of-botany>

<https://www.letpub.com/index.php?page=journalapp&view=detail&journalid=1030>

<https://academic-accelerator.com/Impact-Factor-IF/Bangladesh-Journal-of-Botany>

<https://www.editage.com/journal/bangladeshjournal-of-botany>

<https://www.researchgate.net/journal/Bangladesh-Journal-of-Botany-2079-9926>

<https://publons.com/journal/11847/bangladesh-journal-of-botany/>

<https://ores.su/en/journals/bangladeshjournal-of-botany/>

<https://www.scimagojr.com/journalsearch.php?q=16809&tip=sid>

<https://www.resurchify.com/impact/details/16809>

<https://bib-pubdb1.desy.de/record/26490>



Professor Ahmad Shamsul Islam
(6 August 1924 - 14 April 2025)

On 14 April 2025, the first day of Bangla Year 1432, we lost Professor Ahmad Shamsul Islam - a fellow botanist, a former president of Bangladesh Botanical Society, and the founding Chief Editor of *Bangladesh Journal of Botany*. Over the past eight decades, Professor A.S. Islam inspired numerous biologists and their institutions around the world through his passion in teaching, pioneering research, prolific writing, outstanding mentoring, and by establishing novel research and academic programmes, learned societies, and scholarly journals.

Professor Islam was born on 6 August 1924 in Medinipur, West Bengal. From the Presidency College in Calcutta, he secured bachelor's degree in Botany with honours in 1945. Two years later, he obtained a master's degree from the same institution with specialisation in Genetics and Plant Breeding. In 1954, Professor Islam received a Ph.D. from the University of Manchester, UK for his work on seedless strawberry breeding. He was also awarded Currie Memorial Prize for this outstanding work.

Before joining the University of Dhaka as a Lecturer (1948-50), Professor Islam started his career as a Scientific Officer at Bangladesh Jute Research Institute (1947-48). He was a Professor of Botany at the University of Dhaka (1970-86), Chairman (1971-73; 1981-84), and a Supernumerary Professor (1987-92) of the Department of Botany.

Professor Islam also taught and guided research students at the University of Sind (1955-1970), the University of Dar-es-Salaam (1973-75), and the University of Kenya (1975-77). Besides, he worked at the University of Cornell (1961-62), the University of California (1962-63), the University of Tokyo (1970), and the University of Nottingham (1980, 1984). Later in his career, he worked as an honorary faculty member in the Department of Botany, University of Texas (1993-2005). Professor Islam also coordinated the establishment of Biotechnology Programme at the BRAC University (2006) in Dhaka.

One of the most commendable achievements of Professor A.S. Islam is the establishment of Plant Breeding and Tissue Culture Laboratory in the Department of Botany of the University of Dhaka. In his professional career, he guided about 20 doctoral researchers and numerous master's and M.Phil. theses. Over those years, he also conducted many research projects to improve many food and cash crops, including jute, barley, aubergine, tomato, sugarcane, rice, ipilipil, cotton, and kenaf.

An outstanding writer and editor, Professor Islam published over 100 papers and authored two textbooks: *Fundamentals of Genetics* (1982) and its Bangla version *Bangshagatibidyar Mulkatha* (1985). He was the Chief Editor of *Plant Tissue Culture* (Bangladesh). He was also the Editor of

Sind Univ. Sci. Res. Journal, Pakistan Journal of Botany, Dhaka Univ. Stud. Sci., and Dar-es-Salam Univ. Sci. Res. Journal.

Professor A.S. Islam was associated with many learned scientific societies. He was the President of Bangladesh Association for Plant Tissue Culture (BAPTC) and was a Fellow of Bangladesh Academy of Sciences (BAS). He was the General Secretary of Bangladesh Association for Advancement of Science (BAAS) and a Fellow of Islamic Academy of Sciences.

In recognition of his contributions to education, science, and development, Professor Islam received numerous awards. He was awarded President's Gold Medal (1984) for his contribution in agriculture and received Ekushey Padak (the prestigious Martyrs' Day Medal) (1987) in education. He was awarded Bangladesh Academy of Sciences' Award (1987), Honourary DSc degree from Viswa Unnayan Samaj of India, Gold Medal by Bangladesh Botanical Society (1997), Lifetime Achievement Award by GNOBB (2017), and honoured as an eminent botanist by the Dhaka University Botany Alumni Association (DUBAA) in 2022.

Professor Islam and his wife were successful parents who now live through their children. Their eldest son Dr. Yusuf Mahbubul Islam is the Vice Chancellor of Southeast University in Dhaka; daughter Dr. Zeba I. Seraj, who was a Professor of Biochemistry and Molecular Biology at the University of Dhaka, is currently a UGC Professor in Bangladesh; and youngest son Khalid Wahidul Islam in a computer scientist working in San Francisco, USA.

On 6 August 2024, family and well-wishers of Professor A.S. Islam celebrated his 100 years - a century full of numerous outstanding incidences and scientific developments in the region Professor Islam was born and around the globe. He showed outstanding leadership in being a pioneer in so many ways even well into the last decades of his life. A great educator, scholar, scientist, administrator, mentor, and thought leader, Professor Islam touched so many lives with his honesty, intellect, simplicity, spirituality, and, of course, humour.

We pray for the departed soul of Professor Ahmad Shamsul Islam. May Allah grant him Jannah.

Professor Dr. Md. Abul Bashar
Chief Editor
Bangladesh Journal of Botany

BANGLADESH JOURNAL OF BOTANY
(Bangladesh J. Bot.)

Vol. 54

No. 2

June 2025

CONTENTS

- 177-183 **Sanu Raja Maharjan, Deepa Dhital, Lal Bahadur Thapa, Ram Kailash Prasad Yadav and Chandra Prasad Pokhrel** - Forest characteristics and carbon stock along an elevation gradient in Phulchoki Hill, Nepal
DOI: <https://doi.org/10.3329/bjb.v54i2.81655>
- 185-190 **Mst Motmainna, Abdul Shukor Juraimi, Aiman Hanis Jasmi, Duy Le and Mahmudul Hasan** - Effects of Almix 20WP on selected sedges and broadleaf weeds in rice
DOI: <https://doi.org/10.3329/bjb.v54i2.82255>
- 191-198 **Serkan Cayit and Mehmet Arif Özyazici** - Growth, yield and quality of some pearl millet [*Pennisetum glaucum* (L.) R. Br.] genotypes grown in the semi-arid climate zone in Türkiye
DOI: <https://doi.org/10.3329/bjb.v54i2.81698>
- 199-209 **Md Siddiq Hasan, Sheikh Sunzid Ahmed, SM Nasir Uddin, Momtaz Begum and M Oliur Rahman** - Deciphering morphometric relationships of Anacardiaceae (R. Br.) Lindl. in Bangladesh
DOI: <https://doi.org/10.3329/bjb.v54i2.82020>
- 211-219 **Rohit Gangwar, Krishna S Tomar, Ajay Kumar Singh, Rakesh Kumar and Vijay Sharma** - Genetic diversity analysis in marigold (*Tagetes* spp.)
DOI: <https://doi.org/10.3329/bjb.v54i2.81654>
- 221-231 **Vikas Gupta and Meenakshi Gupta** - Effects of sowing environments and n-levels on dry matter partitioning and phenological stages in wheat varieties of N-W Himalayas, India
DOI: <https://doi.org/10.3329/bjb.v54i2.81651>
- 233-238 **Chaw Way Hai, Pranti Biswas Esha and Mohammad Musharof Hossain** - Morphomolecular approach to identify *Flavodon flavus* (Kl.) Ryv.: A potential macrofungi of Bangladesh
DOI: <https://doi.org/10.3329/bjb.v54i2.81697>
- 239-244 **Rukiye Boran Gulen, Aysel Ugur and Nurdan Sarac** - *In vitro* determination of the skin anti-aging potential of *Centaurea urvillei* Dc. Subsp. *Armata* Wagenitz
DOI: <https://doi.org/10.3329/bjb.v54i2.82023>
- 245-252 **Hong Lang, Heng Liu and Mingliang Jiang** - Effects of melatonin treatment on seed germination of leaf chicory (*Cichorium intybus*) under salt stress
DOI: <https://doi.org/10.3329/bjb.v54i2.82027>
- 253-260 **Nhi Thi Hoang Ho, An Thien Tran, Ngoc Thi Nhu Le, Han Ngoc Ho and Hai Thi Hong Truong** - Distribution of *Anoectochilus roxburghii* (Wall.) Lindl in Bach Ma National Park of Central Vietnam
DOI: <https://doi.org/10.3329/bjb.v54i2.82289>
- 261-267 **Pradip Kumar Patel, Sameer Kumar Singh, Kamal Ravi Sharma, Umesh Chandra and Vijay Kumar Mishra** - Efficacy of some phyto extracts and insecticides for the management of aphid [*Lipaphis erysimi* (Kaltenbach)] in mustard
DOI: <https://doi.org/10.3329/bjb.v54i2.82256>
- 269-276 **Seema Dahiya, Meena Sewhag, Dharam Bir Yadav, Rajbir Garg, Ankur Chaudhary, Satpal Singh and Naresh Kumar** - Characterization of herbicide and factors responsible for metsulfuron-methyl resistance of *Rumex dentatus* in wheat field
DOI: <https://doi.org/10.3329/bjb.v54i2.82292>
- 277-284 **Abhijit Mandal, Teekam Singh, Ayan Sarkar, Anchal Dass, Manoj Chaudhary and Smruti Ranjan Padhan** - Effects of irrigation regimes and nitrogen management practices on wheat productivity, soil health, and CO₂ equivalent GHG emissions in rainfed environments
DOI: <https://doi.org/10.3329/bjb.v54i2.82294>

- 285-291 **AMM Golam Adam, Md Sharif Mia and Umma Fatema Shahjadee** - Influence of NAA on growth, yield attributes and yield of BRRI dhan-48 (*Oryza sativa* L.)
DOI: <https://doi.org/10.3329/bjb.v54i2.82296>
- 293-300 **SR Maneesha and Mathala J Gupta** - Prospects of pineapple cultivation under polyhouse in coastal zones of India
DOI: <https://doi.org/10.3329/bjb.v54i2.82298>
- 301-309 **Hayal Akyildirim Beğen and Özgür Eminağaoğlu** - Revalidation of *Hedlundia caucasica* (Zinserl.) Mezheniskyj based on molecular and morphological evidence
DOI: <https://doi.org/10.3329/bjb.v54i2.82314>
- 311-318 **K Ashok Kumar and Dillip Kumar Swain** - Impacts of split application of organic fertilizer on nitrogen uptake and use efficiency in direct-seeded rice
DOI: <https://doi.org/10.3329/bjb.v54i2.82025>
- 319-324 **Jasdeep Kaur, BS Dogra, Nikhil Thakur and Rishabh Kumar** - Genetic potential and trait analysis of garlic (*Allium sativum* L.) landraces from the lower western Himalayas
DOI: <https://doi.org/10.3329/bjb.v54i2.82026>
- 325-335 **Nan Deng, Qingan Song and Yuxin Tian** - Geometric morphologic variation of *Dalbergia hupeana* Hance leaves and its response to different spatial structures
DOI: <https://doi.org/10.3329/bjb.v54i2.82322>
- 337-348 **Qingjun Zhao** - Impact of climate-resilient crop varieties on sustainable agriculture: an analysis of physiological and yield performance
DOI: <https://doi.org/10.3329/bjb.v54i2.82299>
- 349-359 **Vivek Bhanwala, Bijender Singh Beniwal, Sonu Sheoran, OP Sheoran and Anita Kumari** - Impact of time and level of pruning on growth, flowering and yield characteristics of rose
DOI: <https://doi.org/10.3329/bjb.v54i2.81658>
- 361-368 **Devi Lal Kikraliya, UN Shukla, Ramesh, Anuj Kumar, Krishna Saharan, KK Bijarnia, Sarita and AK Meena** - Weed suppression, grain yield and economics of wheat affected by weed management practices
DOI: <https://doi.org/10.3329/bjb.v54i2.82287>
- 369-376 **Yihai Lu, Qianyan Zhu, Zhenxian Wang, Ling Wang, Xiucui Fan, Ziguo Zhu and Guirong Li** - Effects of grape (*Vitis vinifera* L.) R2R3-Myb transcription factor, MYB6 on drought stress tolerance in transgenic tobacco
DOI: <https://doi.org/10.3329/bjb.v54i2.82324>
- 377-387 **Lina Jiang, Liangzhao Zhang and Junguo Zhou** - Impact of pumpkin rootstock on DNA methylation and epigenetic profile of grafted self-bred cucumber progeny
DOI: <https://doi.org/10.3329/bjb.v54i2.82359>

Short communications

- 389-392 **Mohammad Maksudul Hassan, Naimul Hasan, Iqbal Shahriar Khan, Md Ekramul Hasan, Mohammad Tohidul Amin and Toshinobu Tokumoto** - Effects of plant growth regulators on eelgrass (*Zostera marina* L.) germination
DOI: <https://doi.org/10.3329/bjb.v54i2.82325>
- 393-396 **Mehmet Köten and Meryem Kuzucu** - Estimation of some chemical and nutritional characteristics of *Pistacia terebinthus* L. fruits
DOI: <https://doi.org/10.3329/bjb.v54i2.78108>
- 397-401 **K Raja and D Thirusendura Selvi** - Evaluation of seed storage potential in rice landraces, India
DOI: <https://doi.org/10.3329/bjb.v54i2.80313>
- 403-407 **S Geethanjali, N Saranya, T Uma Maheshwari and P Jeyaprakash** - Impact of storage on variations in volatiles, essential phytonutrients and minerals in aggregatum onion
DOI: <https://doi.org/10.3329/bjb.v54i2.80608>

Guidelines to authors

Bangladesh Journal of Botany publishes original research papers related to any field of Plant Sciences from anywhere in the world. But it does **not** publish **review articles** and **check lists**. Each volume of the journal comprises four issues, published in March, June, September and December every year.

Papers should be submitted to the Chief Editor, Bangladesh Journal of Botany, c/o. Department of Botany, University of Dhaka, Dhaka-1000, Bangladesh by post or by email as a Microsoft Word document 2007 version (doc.) file. All correspondence should be made through email address:

<journalbbs2021@gmail.com>, <bdbotsoc@gmail.com>

The manuscript should be type-written with 2.5 cm margins in all sides in A4 size (21.0 × 29.7 cm) offset papers. A manuscript for **Full paper** should not exceed **12 typed pages** in double line space including Figures, Graphs and Tables. In case of **short communication**, the total typed pages should be **6 (six)**. The author will have to submit the paper in two hard copies and in CD, if sent by post.

Full paper/Short communication: The following instructions should be followed during the preparation of a manuscript. On the first page of the manuscript, only the Title of the paper and the name(s) of the author(s) with the address should be typed. In case of more than one author, the 1st address means where the research work was carried out. Identity of the author(s) must not appear anywhere in the manuscript except the 1st page. The corresponding author should be indicated by asterisk. The email address of the corresponding author must be given. On the second page the **Title of the paper, Keywords and Abstract** should be given. In case of Full papers, the following pages should contain **Introduction, Materials and Methods, Results and Discussion, Acknowledgement(s)** (if any) and **References**, while for a short communication, the following pages should contain the **Abstract** and the text without any headings but **Acknowledgement** (if any) and **References**. In both cases **Tables and Figures should be given at the end**. Authors must be careful when they reproduce text, tables and illustrations from other sources, to avoid plagiarism. Manuscripts will be subjected to peer review and if needed overviewed by the subject Editor of the Editorial Board. Acceptability as Full paper or Short communication or rejection of a reviewed manuscript is finalized in the Editorial Board Meeting. All accepted papers by the Editorial Board are subjected to editorial changes.

Title: It should be informative, brief and very specific. Please have a look at any published article.

Abstract: Each paper should have an abstract containing the gist of results obtained and should not exceed 150 words.

Text: The text of the article should be clear and precise. Methods already published should be indicated by references. In case of modifications of a method give explicit descriptions. Results should be stated concisely and presented logically referring to tables and graphs. Data of tables and graphs should not be repeated in the text. Simple data may be presented as a text instead of Tables and Figs. Each result should be followed by discussion or interpretation (in any case the Results and Discussion must not be separated) with appropriate reference(s). Concluding remarks (without heading) must be given (that tally with the objective) in the last paragraph. The references in the text should be arranged chronologically. Units of measurement to be used: m^2/sec , mg/l, kg/ha, etc.

Tables, Graphs and Figures: Number of tables, graphs and figures should be minimum, giving statistical analysis. The same data should not be used in tables, graphs or figures. **Tables should be typed on separate pages**. Please have a look at any published paper of BJB for the style. Figures and graphs should be drawn with Indian ink on tracing paper and should be properly labelled so that these can be reduced up to half or even less of their original size. Symbols in the graphs should be distinct and labels should be readable.

The photographs should be submitted on glossy paper or in JPEG format. Black and white and coloured photographs are accepted.

References: The number of references should be normally restricted to a **maximum of 25** for a full paper. Majority of them should preferably be of articles **published in the last 10 years**. Accepted papers may be referred with the name of the Journal and indicated as "in press". Unpublished observations and personal communications may be inserted in parentheses in the text. Avoid using

abstracts as references. In the text a reference should be given within brackets without a comma between the name of the author and the year. For two or more references, however, each reference should be separated by a comma. References in the Reference section should be arranged alphabetically beginning with the author(s) and followed by the year of the publication, title of the paper, abbreviated name of the journal, volume, number (if any) within brackets, colon and page numbers. Please follow strictly the styles of various references given below:

Barz WH and Oksman-Caldentey KM 2002. Plant biotechnology- an emerging field. *In*: Plant biotechnology and transgenic plants, Oksman-Caldentey KM and Barz WH (Eds), pp. 1-21. Marcel Dekker, New York.

Crawford RMA 1993. Changing perspective of flood-induced injury in higher plants. *In*: Plants for the Environment, Khan MS, Khan MAA, Hadiuzzaman S and Aziz A (Eds), pp. 85-93. Proc. 7th Bot. Conf., 13-14 Dec., 1992. Bangladesh Bot. Soc., Dhaka.

Islam AS and Rashid A 1960. First successful hybridization between the two jute yielding species, *Corchorus olitorius* (Tossa) × *C. capsularis* (White). *Nature* **185**: 258-259.

Alam A, Yeasin M and Ahmed A 2024. Carbon pool and respiration of rhizosphere soils of different mangrove plant species distributed in the Bangladesh Sundarbans. *Bangladesh J. Bot.* **53**(1):131-140.

Khan MS, Haq E, Huq S, Rahman AA, Rashid SMA and Ahmed H (Eds) 1994. Wetlands of Bangladesh. Bangladesh Centre Adv. Stud., Dhaka. 91 pp.

Watson JD 1976. Molecular biology of genes. WA Benjamin, California. 739 pp.

Abbreviations and contractions: Abbreviations used in the American Journal of Botany should be followed. Abbreviations should have full-stop (e.g., Fig. for Figure) but for contractions there should not have any full-stop (e.g. Figs for Figures, Dr for Doctor, *No.* for *Numero*. Number in English).

Declaration: All authors are requested to sign a declaration form (also available in the website) certifying that the work was carried out by themselves and the contents of the paper were neither published before nor submitted for publication in any other journal, and that they have submitted their articles for consideration by the Editorial Board of the Bangladesh Journal of Botany.

Affiliation: All authors are requested to mention and sign their affiliation to their respective Universities/Institutes.

Additional information: All authors must be members of the Bangladesh Botanical Society at the time of submitting their papers. Annual membership subscription of a local author is **BDT 750.00**. For foreign authors, for a single-author manuscript **US\$ 50** fixed and for multi-authors manuscript **US\$ 30 per author**. Life membership subscription of a local author is **BDT 5000.00**, while for a foreign author it is **US\$ 250.00**. Contributors are given 5 copies of reprints free of cost. For additional reprints the author(s) will be billed at cost price and for this they must inform the Chief Editor in writing, after the paper is accepted for publication. The Society will bear the cost of up to **six printed pages** of the journal including plates, Figs, etc. The author(s) will have to bear the cost for extra printed pages (if any). For multicolour printing, the author should request the Chief Editor after the paper is accepted for publication and the author(s) will have to pay the extra cost.

Payment should be made following an invoice/a demand slip issued by the General Secretary/Chief Editor addressing the Author for correspondence/Institute concerned, via bank account or via Western Union favoring the Savings Bank account of the "**Bangladesh Botanical Society**", Dhaka, Bangladesh. Payment could also be made directly at the office of the Bangladesh Botanical Society, c/o, Department of Botany, University of Dhaka, Dhaka-1000, Bangladesh in local currency on a printed Money Receipt as approved and issued by the Bangladesh Botanical Society.

Website: <www.bdbotsociety.org>

BANGLADESH JOURNAL OF BOTANY
(Bangladesh J. Bot.)

Vol. 54

No. 1

March 2025

CONTENTS

- 1-6 **Joseph C Paquit** - Impact of seed vigor and water stress on the growth and survival of falcata (*Falcataria falcata* (L.) Greuter & R. Rankin) seedlings
DOI: <https://doi.org/10.3329/bjb.v54i1.80283>
- 7-15 **Huaguang Hu and Zhenming Zhang** - Enhancement of antioxidant enzymes activities and growth performance of *Zoysia macrostachya* Franch. & Sav. subjected to salt heterogeneity
DOI: <https://doi.org/10.3329/bjb.v54i1.80304>
- 17-23 **Yusuf Ziya Kocabaş and Ahmet İlçim** - Rediscovery of the *Salvia haussknechtii* Boiss. (Lamiaceae) in Kahramanmaraş - A lost endemic species of Türkiye
DOI: <https://doi.org/10.3329/bjb.v54i1.80584>
- 25-31 **Susmita R Lisa, Md Al Amin Sikder, Sania Ashrafi, Md Ruhul Kuddus and Mohammad A Rashid** - Exploration of chemico-biological potentials of *Polygonum plebeium* R. Br.
DOI: <https://doi.org/10.3329/bjb.v54i1.80579>
- 33-38 **Rauf Ahmed Bhuiyan, Md. Almujaaddade Alfasane and Moniruzzaman Khondker** - New records of phytoplankton from wetlands of Lalmai hill areas of Cumilla: Chlorophyceae
DOI: <https://doi.org/10.3329/bjb.v54i1.80282>
- 39-47 **Md Jannatul Hasan Jihad, Saima Haque, Mohammad Eyakub Ali and Shahrear Ahmad** - Microbial interaction of arbuscular mycorrhizal fungi as a bioenhancer on germination, growth and yield of soybean
DOI: <https://doi.org/10.3329/bjb.v54i1.80589>
- 49-52 **Nowreen Jahan, Ishrat Jahan Bonna and Syeda Sharmeen Sultana** - Heterochromatin distribution pattern in five varieties of *Trichosanthes anguina* L. from Bangladesh
DOI: <https://doi.org/10.3329/bjb.v54i1.80309>
- 54-60 **Md Shohag Hossen, Shariful Islam, Md Ismail, Khairul Anam Evan, Md Khondakar Raziur Rahman, Md Arif Hossain, Md Ikramul Hasan, Sanjana Chowdhury Nahin, Sayma Siddique Mitu, Tahmina Jahin, Jannatun Nayeem, Shaikh Bokhtear Uddin and Mohammad Omar Faruque** - Larvicidal activities of 215 medicinal plants extracts against *Aedes aegypti* from Bangladesh
DOI: <https://doi.org/10.3329/bjb.v54i1.80737>
- 61-66 **Kholoud Alzahrani, Samyah Jastaniah and Magda Aly** - Multiple plant growth-promoting traits of selective endophytic bacteria from *Plectranthus hijazensis* in Shada Al-Asfal Mountain
DOI: <https://doi.org/10.3329/bjb.v54i1.80308>
- 67-74 **Haibo Wu, Lianchun Wang, Linan Kang, Chao Liu and Mingwei Li** - Identification and growth promotion effect of rhizosphere probiotics in Kiwifruit
DOI: <https://doi.org/10.3329/bjb.v54i1.80749>
- 75-81 **Sujitha Palanisamy and Uma Maheswari Thiyagamoorthy** - Probiotication of finger millet (*Eleusine coracana* L.) porridge for enhancing its function and safety
DOI: <https://doi.org/10.3329/bjb.v54i1.78226>
- 83-90 **Yehia Hazzazi, Uzma Hanif, Zainib Binte Zia, Joty J Muhammed, Nidal Shaban and A El-Shabasy** - Comparative anatomy of *Salvadora oleoides* Decne. and *Salvadora persica* L. from Dera Ghazi Khan, Pakistan
DOI: <https://doi.org/10.3329/bjb.v54i1.80286>
- 91-98 **Rifat Samad** - Effects of waterlogging on ion absorption, translocation and biochemical responses in maize
DOI: <https://doi.org/10.3329/bjb.v54i1.78108>

- 99-104 **Farhana Islam Khan, Israt Jahan Imu, Md. Mahfuzur Rahman, Lipa mondal, Tania Hossain and Nahid Sultana** - Phytochemicals, antibacterial and cytotoxic activities of *Nerium oleander* L.
DOI: <https://doi.org/10.3329/bjb.v54i1.77833>
- 105-111 **Nikhil Thakur, Balbir Singh Dogra, Jasdeep Kaur and Harish BM** - Genetic diversity and morpho-physiological traits in cherry tomato genotypes in north-western Himalayas
DOI: <https://doi.org/10.3329/bjb.v54i1.80310>
- 113-122 **Jingjing Cui, Quanguo Zhang, Lingling Yu, Sikander Khan Tanveer, Guiyuan Zhao and Qiang Guo** - Effects of maize-soybean intercropping on soil respiration
DOI: <https://doi.org/10.3329/bjb.v54i1.80315>
- 123-128 **UH Hashi and Maza Munsur** - Effects of integrated nutrient management on growth and yield of soybean
DOI: <https://doi.org/10.3329/bjb.v54i1.80306>
- 129-136 **Lovely Aktar and Mihir Lal Saha** - Optimization of lipase production by *Bacillus subtilis* 20b
DOI: <https://doi.org/10.3329/bjb.v54i1.80585>
- 137-144 **S Sumitha, V Jegadeeswari and Anok Uchoi** - Evaluation of cocoa clones for yield and quality as intercrop in coconut gardens of western ghats, India
DOI: <https://doi.org/10.3329/bjb.v54i1.80592>
- 145-152 **Bekkal Brikci Sohayb, Abdelli Imane and Hassani Faiçal** - Importance of essential oils for the biocontrol of *Tylenchulus semipenetrans* nematode populations through molecular modeling methods
DOI: <https://doi.org/10.3329/bjb.v54i1.80591>
- 153-157 **Anubha Saini, Santosh Kumari, Balbir Singh Dogra, Raj Saini and Shivali Dhiman** - Effects of integrated nutrient management on different horticultural traits in onion
DOI: <https://doi.org/10.3329/bjb.v54i1.80590>
- 159-166 **Rahul Banik, Navnit Kumar, Gangadhar Nanda, Barsha Mansingh, Pranjeet Kalita, Sumit Sow, Shivani Ranjan, Mahmoud F Seleiman and Muhammad Nazim** - Impact of nitrogen levels and varieties on growth and fodder yield of maize
DOI: <https://doi.org/10.3329/bjb.v54i1.80703>

Short communications

- 167-170 **Md Zakir Sultan, Mohammad Abdul Matin, Rabeya Miazi and Mohammad A. Rashid** - Studies on some antiatherosclerotic medicinal plants of Bangladesh
DOI: <https://doi.org/10.3329/bjb.v54i1.80312>
- 171-174 **Jingjing Cui, Zhihua Zhen, Lingling Yu, Lina Liang, Wei Song, Quanguo Zhang and Qiang Guo** - Feasibility of different maize varieties as silage in China
DOI: <https://doi.org/10.3329/bjb.v54i1.80738>
- 175-176 **Sonali Parwan, Harender Raj Gautam, Narender Kumar Bharat, A Aravinthkumar, Sakshi Suchita and Shikha Sharma** - Potential of epiphytic yeasts against *Alternaria brassicicola* causing alternaria leaf spot of cauliflower
DOI: <https://doi.org/10.3329/bjb.v54i1.80610>

BANGLADESH JOURNAL OF BOTANY

(Bangladesh J. Bot.)

Vol. 54

No. 2

June 2025

CONTENTS

- 177-183 **Sanu Raja Maharjan, Deepa Dhital, Lal Bahadur Thapa, Ram Kailash Prasad Yadav and Chandra Prasad Pokhrel** - Forest characteristics and carbon stock along an elevation gradient in Phulchoki Hill, Nepal
DOI: <https://doi.org/10.3329/bjb.v54i2.81655>
- 185-190 **Mst Motmainna, Abdul Shukor Juraimi, Aiman Hanis Jasmi, Duy Le and Mahmudul Hasan** - Effects of Almix 20WP on selected sedges and broadleaf weeds in rice
DOI: <https://doi.org/10.3329/bjb.v54i2.82255>
- 191-198 **Serkan Cayit and Mehmet Arif Özyazici** - Growth, yield and quality of some pearl millet [*Pennisetum glaucum* (L.) R. Br.] genotypes grown in the semi-arid climate zone in Türkiye
DOI: <https://doi.org/10.3329/bjb.v54i2.81698>
- 199-209 **Md Siddiq Hasan, Sheikh Sunzid Ahmed, SM Nasir Uddin, Momtaz Begum and M Oliur Rahman** - Deciphering morphometric relationships of Anacardiaceae (R. Br.) Lindl. in Bangladesh
DOI: <https://doi.org/10.3329/bjb.v54i2.82020>
- 211-219 **Rohit Gangwar, Krishna S Tomar, Ajay Kumar Singh, Rakesh Kumar and Vijay Sharma** - Genetic diversity analysis in marigold (*Tagetes* spp.)
DOI: <https://doi.org/10.3329/bjb.v54i2.81654>
- 221-231 **Vikas Gupta and Meenakshi Gupta** - Effects of sowing environments and n-levels on dry matter partitioning and phenological stages in wheat varieties of N-W Himalayas, India
DOI: <https://doi.org/10.3329/bjb.v54i2.81651>
- 233-238 **Chaw Way Hai, Pranti Biswas Esha and Mohammad Musharof Hossain** - Morphomolecular approach to identify *Flavodon flavus* (Kl.) Ryv.: A potential macrofungi of Bangladesh
DOI: <https://doi.org/10.3329/bjb.v54i2.81697>
- 239-244 **Rukiye Boran Gulen, Aysel Ugur and Nurdan Sarac** - *In vitro* determination of the skin anti-aging potential of *Centaurea urvillei* Dc. Subsp. *Armata* Wagenitz
DOI: <https://doi.org/10.3329/bjb.v54i2.82023>
- 245-252 **Hong Lang, Heng Liu and Mingliang Jiang** - Effects of melatonin treatment on seed germination of leaf chicory (*Cichorium intybus*) under salt stress
DOI: <https://doi.org/10.3329/bjb.v54i2.82027>
- 253-260 **Nhi Thi Hoang Ho, An Thien Tran, Ngoc Thi Nhu Le, Han Ngoc Ho and Hai Thi Hong Truong** - Distribution of *Anoectochilus roxburghii* (Wall.) Lindl in Bach Ma National Park of Central Vietnam
DOI: <https://doi.org/10.3329/bjb.v54i2.82289>
- 261-267 **Pradip Kumar Patel, Sameer Kumar Singh, Kamal Ravi Sharma, Umesh Chandra and Vijay Kumar Mishra** - Efficacy of some phyto extracts and insecticides for the management of aphid [*Lipaphis erysimi* (Kaltenbach)] in mustard
DOI: <https://doi.org/10.3329/bjb.v54i2.82256>
- 269-276 **Seema Dahiya, Meena Sewhag, Dharam Bir Yadav, Rajbir Garg, Ankur Chaudhary, Satpal Singh and Naresh Kumar** - Characterization of herbicide and factors responsible for metsulfuron-methyl resistance of *Rumex dentatus* in wheat field
DOI: <https://doi.org/10.3329/bjb.v54i2.82292>
- 277-284 **Abhijit Mandal, Teekam Singh, Ayan Sarkar, Anchal Dass, Manoj Chaudhary and Smruti Ranjan Padhan** - Effects of irrigation regimes and nitrogen management practices on wheat productivity, soil health, and CO₂ equivalent GHG emissions in rainfed environments
DOI: <https://doi.org/10.3329/bjb.v54i2.82294>

The Society gratefully acknowledges the financial support received from the **Ministry of Science and Technology**, Government of the People's Republic of Bangladesh and the **University of Dhaka** towards the publication of this Journal.

- 285-291 **AMM Golam Adam, Md Sharif Mia and Umma Fatema Shahjadee** - Influence of NAA on growth, yield attributes and yield of BRRI dhan-48 (*Oryza sativa* L.)
DOI: <https://doi.org/10.3329/bjb.v54i2.82296>
- 293-300 **SR Maneesha and Mathala J Gupta** - Prospects of pineapple cultivation under polyhouse in coastal zones of India
DOI: <https://doi.org/10.3329/bjb.v54i2.82298>
- 301-309 **Hayal Akyildirim Beğen and Özgür Eminağaoğlu** - Revalidation of *Hedlundia caucasica* (Zinserl.) Mezhenkyj based on molecular and morphological evidence
DOI: <https://doi.org/10.3329/bjb.v54i2.82314>
- 311-318 **K Ashok Kumar and Dillip Kumar Swain** - Impacts of split application of organic fertilizer on nitrogen uptake and use efficiency in direct-seeded rice
DOI: <https://doi.org/10.3329/bjb.v54i2.82025>
- 319-324 **Jasdeep Kaur, BS Dogra, Nikhil Thakur and Rishabh Kumar** - Genetic potential and trait analysis of garlic (*Allium sativum* L.) landraces from the lower western Himalayas
DOI: <https://doi.org/10.3329/bjb.v54i2.82026>
- 325-335 **Nan Deng, Qingan Song and Yuxin Tian** - Geometric morphologic variation of *Dalbergia hupeana* Hance leaves and its response to different spatial structures
DOI: <https://doi.org/10.3329/bjb.v54i2.82322>
- 337-348 **Qingjun Zhao** - Impact of climate-resilient crop varieties on sustainable agriculture: an analysis of physiological and yield performance
DOI: <https://doi.org/10.3329/bjb.v54i2.82299>
- 349-359 **Vivek Bhanwala, Bijender Singh Beniwal, Sonu Sheoran, OP Sheoran and Anita Kumari** - Impact of time and level of pruning on growth, flowering and yield characteristics of rose
DOI: <https://doi.org/10.3329/bjb.v54i2.81658>
- 361-368 **Devi Lal Kikraliya, UN Shukla, Ramesh, Anuj Kumar, Krishna Saharan, KK Bijarnia, Sarita and AK Meena** - Weed suppression, grain yield and economics of wheat affected by weed management practices
DOI: <https://doi.org/10.3329/bjb.v54i2.82287>
- 369-376 **Yihai Lu, Qianyan Zhu, Zhenxian Wang, Ling Wang, Xiucui Fan, Ziguozhu and Guirong Li** - Effects of grape (*Vitis vinifera* L.) R2R3-Myb transcription factor, MYB6 on drought stress tolerance in transgenic tobacco
DOI: <https://doi.org/10.3329/bjb.v54i2.82324>
- 377-387 **Lina Jiang, Liangzhao Zhang and Junguo Zhou** - Impact of pumpkin rootstock on DNA methylation and epigenetic profile of grafted self-bred cucumber progeny
DOI: <https://doi.org/10.3329/bjb.v54i2.82359>

Short communications

- 389-392 **Mohammad Maksudul Hassan, Naimul Hasan, Iqbal Shahriar Khan, Md Ekramul Hasan, Mohammad Tohidul Amin and Toshinobu Tokumoto** - Effects of plant growth regulators on eelgrass (*Zostera marina* L.) germination
DOI: <https://doi.org/10.3329/bjb.v54i2.82325>
- 393-396 **Mehmet Köten and Meryem Kuzucu** - Estimation of some chemical and nutritional characteristics of *Pistacia terebinthus* L. fruits
DOI: <https://doi.org/10.3329/bjb.v54i2.78108>
- 397-401 **K Raja and D Thirusendura Selvi** - Evaluation of seed storage potential in rice landraces, India
DOI: <https://doi.org/10.3329/bjb.v54i2.80313>
- 403-407 **S Geethanjali, N Saranya, T Uma Maheshwari and P Jeyaprakash** - Impact of storage on variations in volatiles, essential phytonutrients and minerals in aggregatum onion
DOI: <https://doi.org/10.3329/bjb.v54i2.80608>