

**Journal  
of  
Biodiversity Conservation  
and Bioresource Management**

*J. biodivers. conserv. bioresour. manag.*

Vol. 5(1)

- Ninth Issue** : **June, 2019**
- Copyright© 2019** : **Biodiversity Conservation Trust Foundation (BCTF). All rights reserved. No part of the publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the Editor-in-Chief.**
- Published by** : **Biodiversity Conservation Trust Foundation (BCTF)  
c/o- EBBL, Department of Zoology,  
University of Dhaka, Dhaka-1000, Bangladesh  
E-mail: [bctfbd@gmail.com](mailto:bctfbd@gmail.com)**
- ISSN** : **2412-2416**
- Cover design** : **Eftesum**
- Compose** : **Sajeda Akand, Shahanaz Rahman, Shanjida Sultana**
- Proof readers** : **Prof. H. R. Khan, Sajeda Akand, Shahanaz Rahman**
- Available at** : **EBBL, Department of Zoology, University of Dhaka,  
Dhaka-1000, Bangladesh**
- Price** : **BDT 600.00**  
: **US \$ 50.00**  
: **Euro 40.00**
- Printed in Bangladesh** : **Sarker Printers  
13 Nilkhet Babupura, Katabon Dhal  
Dhaka-1205, Bangladesh  
E-mail: [sjahansarker@gmail.com](mailto:sjahansarker@gmail.com)**

# BIODIVERSITY CONSERVATION TRUST FOUNDATION (BCTF)

**Founder:** Dr. M. A. Bashar

## **JBCBM Advisory Board**

Prof. Dr. Abu Hassan Ahmad,  
University Sains Malaysia, Malaysia  
Prof. Dr. A. R. Shakoori,  
University of the Punjab, Pakistan  
Prof. Dr. Z. N. Tahmida Begum,  
University of Dhaka, Bangladesh  
Prof. Dr. Musharraf Hossain Mian (Ex. VC),  
Bangladesh Agricultural University, Bangladesh  
Prof. Dr. Samiran Chakrabarti,  
University of Kalyani, India  
Prof. Dr. M. Nurul Islam (Ex. VC),  
Mawlana Bhashani S & T University, Bangladesh  
Prof. Dr. Pramod Kumar Jha,  
Tribhuvan University, Nepal  
Prof. Dr. Noor Jahan Sarker,  
University of Dhaka, Bangladesh  
Prof. Dr. Yearul Kabir,  
University of Dhaka, Bangladesh  
Dr. F. H. Ansarey, Executive Director,  
ACI Pvt. Ltd., Bangladesh  
Dr. Mokhlesur Rahman,  
Centre for Natural Resource Studies, Bangladesh

Prof. Dr. Marc Jarry,  
IBEAS, University of PAU, France  
Dr. Gerard Fabres,  
Rue Principale, 32160, Tasque, France  
Prof. Dr. Sankar K. Ghosh (VC)  
University of Kalyani, WB, India  
Prof. M. A. Halim Khan (Ex. VC),  
BSMRKB, Bangladesh  
Prof. Dr. Mohammed Shafi,  
University of Dhaka, Bangladesh  
Prof. Dr. Susanta Kumar Chakraborty  
Vidyasagar University, India  
Prof. Dr. A. T. A. Ahmed,  
University of Dhaka, Bangladesh  
Prof. Dr. Shahadat Hossain Mondal,  
University of Rajshahi, Bangladesh  
Prof. Dr. Ahmed Mustafa,  
Purdue University, Fort Wayne, USA  
Prof. Dr. Mahfuzul Hoque  
University of Dhaka, Bangladesh  
Prof. Dr. Badrul Amin Bhuiya,  
University of Chittagong, Bangladesh

## **Editorial Board**

Prof. Dr. M. A. Bashar — Editor-in-Chief

Prof. H. R. Khan — Executive Editor

## **Members**

Prof. Dr. R. M. Shahjahan  
Department of Zoology, University of Dhaka  
Prof. Dr. M. A. Bashar  
Department of Botany, University of Dhaka  
Prof. Dr. S. Hoque  
Department of Soil, Water & Environment,  
University of Dhaka

Prof. Dr. A. R. Mollah  
Department of Zoology, University of Dhaka  
Prof. Dr. M. A. A. Akhand  
Department of Genetic Engineering and  
Biotechnology, University of Dhaka  
Prof. Dr. M. S. Alam  
Department of Zoology, University of Dhaka

**Ex-officio member:** Representative, BCTF

## The Journal

In today's world, one of the most concerned issues to humans is the biodiversity protection. The management of biodiversity conservation is the greatest challenge for human civilization on the planet now. Unfortunately, the term is not well recognized yet to the people at its optimum use. Biodiversity is a complex concept referring to the variety of living entities on the planet in association with their surroundings. The conceptual abstract encompasses three basic components of biodiversity, namely ecosystem diversity, species diversity and genetic diversity. Biodiversity embraces proper distribution and sustainable management of bioresources, analysis of ecosystem services and assurance of conserving genetic resources. The components are inter-linked; biodiversity conservation needs conservation of the linkage through proper researches in the field. Through the integration with diverse disciplines, biodiversity carries priceless contributions in different horizons, such as poverty, food security, livestock, fisheries, forest, wildlife, transport sector, trade policy, ecotourism, human health etc. of our life. Immense implications of biodiversity in economic as well as environmental aspects are truly inevitable. When the precious values of biodiversity in various aspects often remain unjustified behind our vision and beyond our perception then bioresource key-element assessment might be performed by aiming to optimize and evaluate the efforts on researches delivered by the biodiversity researchers. An opportunity for sharing would be created through launching such a new journal to document the researches. It will promote the sharing of ideas on utilization, reliability and sustainable use of bioresources among the researchers through enhancing network and communication in a scholastic way. Focusing the aim, it stands necessary now to express towards the world about the necessity of biodiversity, value of biodiversity, protection and conservation of biodiversity. Our aim is to reach the goal by materializing the following tasks:

- *To focus researches on biodiversity, conservation of biodiversity and management of bioresources at local as well as global levels;*
- *To accommodate outcomes of researches through collaboration and cooperation among the organizations of various disciplines at national and international levels;*
- *To select key words in the field of biodiversity and bioresource management following a technique by going through the journal; examples would be stated as waste-product management, colonization, butterfly colonization, synchronization of coincidences (temporal and spatial) of biotic factors, biotic epicentre, identification of bioresources, bioresource managements, etc.;*
- *To enhance quality of writings as well as inspiring researchers to deliver their optimum efforts towards researches in the field of biodiversity and bioresource management;*
- *To encourage the researchers in the above disciplines towards the management of human resources also in the society.*

Considering the immense importance of biodiversity we intended to launch a scientific research based new journal "***Journal of Biodiversity Conservation and Bioresource Management***" as the spokesman of biodiversity. This was aimed towards the documentation of researches on biodiversity and related fields. The Biodiversity Conservation Trust Foundation (BCTF) intends to take responsibility for bringing the journal to light and we hope that it will fulfill the aspiration of biodiversity researchers. It will commence an open access for implementing strategies to publicize the research findings to the people. This shall create and raise awareness among general mass to make them 'realized' the practicality of the roles of biodiversity and bioresources in their daily life.

JBCBM deals with all plants and animals considering them as bioresources from bimodal (two ways of doing things) ideas. Firstly, plants and animals in different forms are the wealths and resources for the humans. Secondly, these are the vital tools to use as the sources to keep the environment sound on the planet. Technique-innovations on utilization of the bioresources should be the stand point of researches in the field of bioresource management. The JBCBM attempts to advance in the line. By June 2019, the JBCBM has published 9 issues in 5 volumes very successfully starting from 2015. We gratefully appreciate any kind of modifications, suggestions and support from different sources to enhance the standard and volumes of the JBCBM.

# Journal of Biodiversity Conservation and Bioresource Management

*J. biodivers. conserv. bioresour. manag.*

Vol. 5(1), 2019

## CONTENTS

<b>Sadia, H. E., F. Jeba, A. T. M. M. Kamal and A. Salam</b> - Air pollution tolerance index of <i>Mangifera indica</i> plant species growing in the greater Dhaka region, Bangladesh DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42180">https://doi.org/10.3329/jbcm.v5i1.42180</a>	1
<b>Irshad, M., M. Idrees, A. Tariq, M. L. Pathak, M. Hanif and R. Naeem</b> - Genetic diversity among <i>Asparagus</i> species using morphological characteristics and RAPD markers in Pakistan DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42181">https://doi.org/10.3329/jbcm.v5i1.42181</a>	13
<b>Begum, R. A., M. T. Alam, H. Jahan and M. S. Alam</b> - Partial sequence analysis of mitochondrial <i>cytochrome B</i> gene of <i>Labeo calbasu</i> of Bangladesh DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42182">https://doi.org/10.3329/jbcm.v5i1.42182</a>	25
<b>Howladar M. M., M. J. Uddin, M. M. Islam, Z. Parveen and M. K. Rahman</b> - Effects of arsenic and phosphorus on the growth and nutrient concentration in rice plant DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42183">https://doi.org/10.3329/jbcm.v5i1.42183</a>	31
<b>Bekheet, S. and V. Sota</b> - Biodiversity and medicinal uses of globe artichoke ( <i>Cynara scolymus</i> L.) plant DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42184">https://doi.org/10.3329/jbcm.v5i1.42184</a>	39
<b>Khan, A., S. M. A. Shah, A. Sohail, A. Haleem, M. Maryam, T. Burni and M. Asad</b> - Genetic variability, heritability and selection response for yield attributes in nine rice ( <i>Oryza sativa</i> L.) genotypes DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42185">https://doi.org/10.3329/jbcm.v5i1.42185</a>	55
<b>Ahmed, A., N. Akter, S. Hasan and M. Ataulloh</b> - Spatio-temporal variations of water quality and phytoplankton diversity of the different rivers flowing within Sundarban mangrove wetland ecosystem of Bangladesh DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42186">https://doi.org/10.3329/jbcm.v5i1.42186</a>	61
<b>Rabbe, M. F., M. F. Jaman, M. M. Rahman and M. M. Alam</b> - Some behavioural aspects on the <i>Hemidactylus</i> species of Bangladesh DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42187">https://doi.org/10.3329/jbcm.v5i1.42187</a>	77
<b>Mahajabin, S., S. Rahman, A. S. Chamon, M. N. Mondol and A. H. M. Rahman</b> - Effect of eggshell and lime on growth and mineral nutrition of kalmi ( <i>Ipomoea aquatica</i> : Convolvulaceae) grown on lead contaminated soil DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42188">https://doi.org/10.3329/jbcm.v5i1.42188</a>	85
<b>Bayle, G. K.</b> - Ecological and social impacts of eucalyptus tree plantation on the environment DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42189">https://doi.org/10.3329/jbcm.v5i1.42189</a>	93
<b>Bhuiyan, M. A. H., S. A. M. S. Islam, A. Kowser, M. R. Islam, S. A. Kakoly, K. Asaduzzaman and M. Khondker</b> - Phytoplankton flora of Tanguar haor ecosystem in Bangladesh: Cyanophyta, Pyrrophyta, Chrysophyta and Euglenophyta DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42190">https://doi.org/10.3329/jbcm.v5i1.42190</a>	105
<b>Akter, T., S. Akther, S. Sultana, J. A. Jhorna and S. Begum</b> - The bees (Apocrita: Hymenoptera) of Dhaka city, Bangladesh DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42191">https://doi.org/10.3329/jbcm.v5i1.42191</a>	113
<b>Alam, M. M., H. R. Khan, R. M. Shahjahan, J. T. Sadia and M. A. Bashar</b> - Biology of <i>Danaus chrysippus</i> L. (Lepidoptera: Danaidae): feeding potentials in the larval host plants and adult nectar plants DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42192">https://doi.org/10.3329/jbcm.v5i1.42192</a>	121
<b>Talukder, M. J. H. and Hui Sun</b> - The microbial diversity and structure in peat land forest in Indonesia DOI: <a href="https://doi.org/10.3329/jbcm.v5i1.42193">https://doi.org/10.3329/jbcm.v5i1.42193</a>	133