CURRENT RESEARCH AND INNOVATIONS IN LIFE SCIENCES



First Edition Volume - 1

Dr. Amit Kumar Sharma Dr. Rishi Thakur Mr. Munit Sharma Mr. Munish Sharma



Current Research & Innovations in Life Sciences

Volume 1

<u>Editors</u>

Dr. Amit Kumar Sharma

Ph.D. Zoology (Fish and Fisheries)

Dr. Rishi Thakur Ph.D. Biochemistry

<u>Co-editor</u>

Mr. Munit Sharma Mr. Munish Sharma



Publisher

JPS Scientific Publications, India

PUBLISHED BY



JPS Scientific Publications, India Periya Olaipadi, Tiruvannamalai (District) Tamil Nadu, India. Email: <u>jpsscientificpublications@gmail.com</u> Website: http://www.jpsscientificpublications.com

Copyright © 2021 All rights reserved (Editors)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, including electronic, mechanical, photocopying recording or otherwise without the prior written permission of the publisher or the copyright holder.

This book contains information obtained from authentic and highly reliable sources. Reasonable efforts have been made to publish reliable data and information, but the author/s, editor/s and publisher cannot assume responsibility for the validity, accuracy or completeness of all materials or information published herein or the consequences of their use. The work is published with the understanding that the publisher and author/s are not attempting to render any professional services. The author/s, editor/s and publisher have attempted to trace and acknowledge the copyright holders of all material reproduced in this publication and apologize to copyright holders if permission and/or acknowledgements to publish in this form have not been taken. If any copyrighted material has not been acknowledged, please write to us and let us know so that we may rectify the error, in subsequent reprints.

Editorial enquires: <u>munishsharma785@gmail.com</u> dr.amitgkv@gmail.com

ISBN: 978-81-950475-3-6





Dr. Amit Kumar Sharma (M.Sc., B.Ed., Ph.D.) presently working as a Research Associate in NMSHE (DST, Govt. of India) project by Department of Zoology and Environmental Science at Gurukul Kangri (Deemed to University), Haridwar, Uttarakhand, India. He is working on Mahseer and *Schizothorax* population dynamics and its conservation programmes and active member of the aquatic biodiversity group working in Himalayan aquatic ecosystem specially Ganga river conservation programmes. He is primarily investigating the habitat characteristics and quality of the Rivers Ganga, and its tributaries in

Garhwal region in the Indian Himalayan biogeographic zone. He is placing special emphasis on the endangered Mahseer fish species found within these rivers, which are under severe threat due to various anthropogenic factors. He is also active review member of various reputed international research journals and published various research articles in Journals of National and International repute.



Dr. Rishi Thakur (M.Sc., Ph.D.) presently working as Assistant Professor in Department of Plant Sciences at Central University of Himachal Pradesh, TAB Shahpur, Kangra, Himachal Pradesh, India. He has an academic experience of about 5 years and research experience of about 10 years. His interests of research area are Ethnobotany, Phytochemistry, Antioxidant, Proximate Studies of Medicinal Plants, Plant Physiology and Biochemistry. He has published many research papers in National and International journals of repute. He is placing special emphasis on the phytochemical studies of high valued medicinal plants found in the Himalayan region.

Mr. Munit Sharma (M.Sc., B.Ed.) is a research scholar working in the field of ethnobotany, phytochemistry and pharmacology of medicinal plants. He received his Master degree in Botany from H.N.B. Garhwal Central University, India. He has published many research papers in national and international peer reviewed journals.



Mr. Munish Sharma (M.Sc.) is a young researcher working in the field of ethnobotany, *In-vitro* secondary metabolites production and conservation of threatened high value medicinal plants using modern biotechnological techniques. He received his Master degree in Botany from Central University of Himachal Pradesh, India. He has published many research papers in national and international peer reviewed journals. He has 6 conferences abstracts, and 2 book chapters in his credit.



<u>Contents</u>

Preface Contributing authors

S.No.	Title and Authors	Page
1	Impact assessment on the land use and land cover of	
	Bhimtal lake in Kumaun (Himalaya) using remote sensing	1-13
	and GIS technique	1-15
	Amit Kumar Sharma, Vishal Kamboj, Arvind Kumar Sharma	
2	Impact of agricultural pollutants on aquatic ecosystem and	
	its management: A critical review	15-35
	Munit Sharma, Navneet, Munish Sharma	
	Riparian flora checklist at mining impacted area of Ganga	
3	river at Haridwar (India)	37-42
	Vishal Kamboj, Nitin Kamboj, Akanksha Bisht	
4	A review on Phytoremediation - an eco-friendly technology	44-68
	Neha Thakur, Munish Sharma, Munish Sharma	11 00
5	A review on ethnopharmacology, phytochemistry and	
	toxicity of <i>Lantana camara</i>	70-80
	Maneesha Devi, Rishi Thakur, Pushpa Guleria, Munish Sharma	
	Medicinal plants from rich diversity of Himalayas- An	
6	overview	82-95
	Akanksha Bisht, Aditi Bisht, Nitin Kamboj, Vishal Kamboj	
7	A review on phytochemical and pharmacological properties	
	of Rosmarinus officinalis L. (Rosemary)	97-110
	Pushpa Guleria, Rishi Thakur, Maneesha Devi, Munish Sharma	
8	A review on population dynamics and status of Avifauna in	
	Hastinapur Wildlife Sanctuary Meerut, Uttar Pradesh, India	112-119
	Nitin Kamboj, Amrit Kumar, Mayank Kumar, Vishal Kamboj	
9	Ethnobotanical study of Justicia adhatoda L. used by the	
	local communities of Kangra region in Himachal Pradesh	121-127
	Sunanda Choudhary, Rishi Thakur, Munish Sharma	
	A review on impact of water pollution on aquatic ecosystem	
10	Munit Sharma, Navneet, Amit Kumar Sharma, Arvind Kumar	129-148
	Sharma, Munish Sharma	

About the book:

The present book entitled "Current Research and Innovations in Life Sciences" gathers the recent and latest trends in innovative research achieved. The book is the most wideranging and convincing account available to analyze the multidisciplinary and multifaceted nature of innovations in the field of advances in Life Sciences. Each and every chapter contains a comprehensive explanation of the projected topics with wellexplained appropriate tables and photo plates. This book composing of 13 highly selective chapters from 24 authors will present their many facets innovations in the context of historic, nature, development, management and conservations in biology. The breadth of this work will allow the readers to gain a complete and panoramic view and can be used as a reference source for various topics in biology.



Editors Dr. Amit Kumar Sharma Dr. Rishi Thakur



PUBLISHED BY

JPS Scientific Publications, India Periya Olaipadi, Tamil Nadu, India. Email: jpsscientificpublications@gmail.com Website: http://www.jpsscientificpublications.com **Co-Editors** Mr. Munit Sharma Mr. Munish Sharma

