

ISSN 0970-4183

# JOURNAL OF THE ANDAMAN SCIENCE ASSOCIATION

Volume 28

Number 2

July - December 2023



**Andaman Science Association**  
**ICAR - Central Island Agricultural Research Institute**  
**Port Blair - 744 101 (A & N Islands)**



# Journal of the Andaman Science Association

The official Journal of Andaman Science Association

Volume 28 Number 2

2023

## About Andaman Science Association (ASA)

Andaman and Nicobar Islands which are situated at Latitude 6°- 14° N and Longitude 92°-94° E, consists of 836 green emerald islands, islets and rocks. Almost all the islands are oriented in the north-south direction like an arc and stretch over a length of about 1912 km. Most of the islands are originated due to volcanic eruption in the sea, while few of them originated by coral reef formation. All the islands are biological and geological paradise having indigenous biota of flora & fauna and geological wonders which are yet to be unearthed. To conduct research in these small and fragile islands, there are several scientific organizations that have been doing focused research in different areas. However, there was no platform for them to present their research works which had local importance. Andaman Science Association (ASA) was established in 1984 at CARL, Port Blair with an objective to promote research and development in the unique Island ecosystem. Journal of the Andaman Science Association, published by ASA, is a unique journal that provides platform for those associated with tropical and island agriculture, horticulture, fisheries, animal science, oceanographic and marine biological studies, disaster management, issues related to science and technology, environment, forest etc. ASA intermittently organizes National and International seminars, conferences, knowledge sharing meets etc.

**- Dr. Eaknath B. Chakurkar**  
President

## Patrons

Dr. M.S. Swaminathan  
Prof. R.B. Singh

Prof. M.G.K. Menon  
Dr. N.T. Singh

Dr. S. Ayyappan

## Patron (ex-officio)

Dr. Eaknath B. Chakurkar  
Director, ICAR - CIARI, Port Blair

## Editorial Board

### Chief Editor:

Dr. D. Bhattacharya, Principal Scientist  
ICAR-CIARI, Port Blair

### Managing Editors:

Dr. A. K. De, Sr. Scientist  
ICAR-CIARI, Port Blair

Dr. K. Saravanan, Scientist  
ICAR-CIARI, Port Blair

### Co-Editors;

#### Plants and Agricultural science

Dr. Ajit Arun Waman, Scientist  
ICAR-CIARI, Port Blair

Dr. Shrawan Singh, Sr. Scientist  
ICAR-IARI, New Delhi

#### Animal Science

Dr. S. B. Barbuddhe, Director  
ICAR- NRC on Meat, Hyderabad

Dr. P. Perumal, Scientist  
ICAR-CIARI, Port Blair

#### Marine and Fisheries Science

Dr. Sreekanth G.B., Scientist  
ICAR – CCARI, Goa

Dr. S.Venu, Associate Professor  
Pondicherry University

#### Ecology/ Environmental science/ Biodiversity Conservation

Dr. C. Siva Peruman, Scientist – E, &  
Officer – in - Charge, ZSI, Port Blair

Dr. L.J. Singh, Head of Office  
BSI, ANRC, Port Blair

#### Anthropology/ Ethno Botany/ Ethno Zoology/ Social Science

Dr. Santosh S.Mane, Scientist, Central  
Ayurveda Research Institute, Patiala

Dr. T. Sujatha, Sr. Scientist  
ICAR-CIARI, Port Blair

## Executive Council

### President

Dr. Eaknath B. Chakurkar  
Director, ICAR-CIARI, Port Blair

### Vice-president

Dr. Jai Sunder  
ICAR-CIARI, Port Blair

Dr. C. Sivaperuman  
ZSI-RO, Port Blair

### General Secretary

Dr. T. Sujatha  
ICAR-CIARI, Port Blair

### Technical Secretary

Dr. Pooja Bohra  
ICAR-CIARI, Port Blair

### Joint Secretary

Dr. I. Jaisankar  
ICAR-CIARI, Port Blair

Dr. S. Venu

Pondicherry University

### Treasurer

Dr. T. Subramani  
ICAR-CIARI, Port Blair

## Submission of Manuscript

Authors should submit their articles to the Journal of Andaman Science Association through email / online to facilitate quicker and more efficient processing.

Email: secretaryasa84@gmail.com

Website : jasa-islands.org

## Councillors, Andaman Science Association

Dr. Kailash Chandra ( ZSI, Kolkata)	Dr. B. Gangwar (New Delhi)
Dr. A.B. Mondal (CRIJAF, Kolkata)	Dr. B. Gangaiah (CIARI, Port Blair)
Dr. Lal Ji Singh (ANRC, BSI, Port Blair)	Dr. R.K. Gautam (CIARI, Port Blair)
Dr. C. Raghunathan (ANRC, ZSI, Port Blair)	Dr. S.K. Zamir Ahmed (CIARI, Port Blair)
Dr. N.V. Vinithkumar (ANCOST- NIOT, Port Blair)	Dr. Nagesh Ram (CIARI, Port Blair)
Dr. H. D. Pradeep, FSI, Port Blair	Dr. I. Jaisankar (CIARI, Port Blair)
Dr. R. Mohan Raju (PUC, Port Blair)	Dr. T.P. Swarnam (CIARI, Port Blair)
Dr. T. Sathish (ANCOST- NIOT, Port Blair)	Dr. V. Baskaran (CIARI, Port Blair)
Dr. S. K. Chaturvedi (JNRM, Port Blair)	Dr. P.K. Singh (CIARI, Port Blair)
Dr. Santosh S. Mane (AYUSH, Port Blair)	Dr. A. Anuraj (CIARI, Port Blair)

## Copyright Information and Guidelines to the Authors

### Ownership & Distribution rights

© 2013 Andaman Science Association, Port Blair

All rights are reserved no parts of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by means, without written permission of the publishers.

### Copyright Information

#### For Authors

As soon as an article is accepted for publication, authors will be requested to assign copyright of the article (or to grant exclusive publication and dissemination rights) to the publisher (ASA). This will ensure the widest possible protection and dissemination of information under copyright laws

#### For Readers

While advice and information in this journal is believed to be true and accurate at the date of its publication, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may have been made. The publisher (General Secretary, ASA on behalf of the President Andaman Science Association) makes no warranty, express or implied, with respect to the material contained herein.

### General Information (ASA)

All rights reserved to the Andaman Science Association. All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (eg. offprints), as well as translation rights. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without permission in writing from the Andaman Science Association. Enquiries concerning publication of any part of published article in JASA or any proceedings of ASA should be address to the President, Andaman Science Association, at the address give below.

@Andaman Science Association 2013

Address for Correspondence:  
The President,  
Andaman Science Association,  
C/o Central Island Agricultural Research Institute  
Post Box No. 181, Garacharma, Port Blair -744 101  
(A & N Islands) India

**JOURNAL OF THE ANDAMAN SCIENCE ASSOCIATION**  
**The Official Publication of the Andaman Science Association**

**Volume 28-2      July - December 2023**

**CONTENTS**

<b>Sl.No</b>	<b>Title and author</b>	<b>Page No</b>
1	Exploring Promising Species and Innovative Techniques for Sustainable Island Mariculture: A Comprehensive Review <i>Imelda-Joseph, Sekar Megarajan and Shoji Joseph</i>	128-142
2.	Improved Practices for Harnessing the Potential of Tree Spices <i>P. M. Haldankar, S. B. Thorat, H. Cheriyan, Y. S. Saitwal and N. V. Dalvi</i>	143-157
3.	Studies on electrocardiographic changes in xylazine-butorphanol and dexmedetomidine-butorphanol premedicated goats with tiletamine-zolazepam induction and total intravenous anaesthesia (TIVA) and partial intravenous anaesthesia (PIVA) protocol <i>Sanjaykumar Vithalrao Udharwar, John Martin K. D., Aziz Zarina, Sudheesh S. Nair, S. Anoop, C. Jayakumar and Syam K. Venugopal</i>	158-165
4.	Comparative Evaluation of the Isoflurane-sparing Effects of Premedication with Dexmedetomidine-Butorphanol and Xylazine-Butorphanol in Tiletamine-Zolazepam induced anaesthesia in Goats <i>Sanjaykumar Vithalrao Udharwar, John Martin K. D., Sudheesh S. Nair, S. Anoop, C. Jayakumar, Aziz Zarina, Senthilkumar, S. and Syam K. Venugopal</i>	166-172
5.	New hosts for the Andaman Baron butterfly, <i>Euthalia aconthea acontius</i> (Hewitson, 1874) (Lepidoptera: Nymphalidae) in an Island Ecosystem <i>Neelam Purti, Lal Ji Singh and Arun K. Pandey</i>	173-187
6.	<i>Teramnus</i> P. Browne (Papilionadeae- Leguminosae) - A new addition to flora of Andaman and Nicobar Islands, India. <i>Fouziya Saleem, Lal Ji Singh, and Arun K. Pandey</i>	188-192
7.	Study on length-weight relationship and condition factor for few freshwater fish species from Southern India <i>N. Daniel</i>	193-197
8.	Effects of Feeding Different Levels of Rice Distillers Dried Grains with Soluble on Growth Performance and Carcass Characteristics of Japanese quail ( <i>Coturnix coturnix japonica</i> ) <i>C. Pandian, A. Ashok, S. Ezhil Valavan and R. Richard churchil</i>	198-202
9.	Mutation Studies in Black Turmeric ( <i>Curcuma caesia</i> Roxb.) <i>Bhoomika H. R, Anitta Benny and Dushyanthakumar B.M.</i>	203-209
10.	Matrix Metallo Proteinases modulates the semen quality profiles of Kangeyam bull <i>S. Anandhi, T. C. Balamurugan, R. Prakash Krupakaran, C. Senthamil Pandian and P. Perumal</i>	210-217
11.	Influence of sex and age on Serum Matrix Metalloproteinases expression in bovine species <i>T. C. Balamurugan, R. Prakash Krupakaran, S. Anandhi, C. Senthamil Pandian and P. Perumal</i>	218-224