JOURNAL OF THE **ANDAMAN SCIENCE ASSOCIATION**

Volume 30 Number 1 January - June 2025

Published by

Andaman Science Association C/o ICAR - Central Island Agricultural Research Institute PB 181, Port Blair - 744 101. (A & N Islands)

Designed and Printed at : Shri Vignesh Prints 65/33, Pudur 2nd Street, Ashok Nagar, Chennai - 600 083, Mobile : 94449 36628, 94449 44196

une 2025

ISSN 0970-4183



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

INSTRUCTIONS FOR AUTHORS

The Journal of Andaman Science Association (ISSN 0970-4183) is an official Journal of the Andaman Science Association, C/o. Central Island Agricultural Research Institute (CIARI), Port Blair - 744 101, Andaman and Nicobar Islands. Journal provides publications of articles in all areas of Agricultural Sciences, Horticultural Sciences and Forestry, Life Sciences, Environmental Sciences, Genetics, Molecular Biology, Biotechnology, Plant Pathology, Entomology, Biomedical Sciences, Botany and Plant Sciences, Soil Sciences, Zoology, Endocrinology, Toxicology Mycology and Parasitology, Microbiology, Cell Physiology, Environmental Biotechnology, Animal Sciences and Fisheries Sciences. The Journal welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence. Papers will be published shortly after acceptance. All articles are peer-reviewed.

File formats: Authors should submit their manuscripts in duplicate (Printed in A4 sheet) and electronic copy in CD. Submit the full manuscript including text, tables, figures (graphs and pictures) as a single file using Microsoft Word File for Rich Text Format (RTF), the font should be in Times New Roman.

First Page: The first page must include the following information, title of the manuscript and Author(s) address including email and telephone numbers.

Abstract: The abstract should describe the purpose of the study, major finding and conclusions. The abstracts should be limited to 250 words.

Keywords: 4-6 keywords should be provided below the abstract.

Introduction: The introduction should be brief, the relevant literature on the subject, and the proposed approach or solution. It should be understandable to colleagues from a broad range of scientific disciplines.

Methodology: The methodology should be complete enough to allow experiments to be reproduced. However, only truly new procedures should be described in detail; previously published procedures should be cited, and important modifications of published procedures should be mentioned briefly. Capitalize trade names and include the manufacturer's name and address. Subheadings should be used. Methods in general use need not be described in detail.

Results: This section should include only results that are relevant to the aims and hypotheses summarized in the introduction. The results should be written in the past tense when describing findings in the authors' experiments. Previously published findings should be written in the present tense. Results should be explained, but largely without referring to the literature. Discussion, speculation and detailed interpretation of data should not be included in the Results but should be put into the Discussion section.

Discussion: This should interpret the findings in view of the results obtained in this and in past studies on this topic. State the conclusions in a few sentences at the end of the paper. The Results and Discussion sections can include subheadings, and when appropriate, both sections can be combined.

The Acknowledgments of people, grants, funds, etc. should be brief.

References: In the text, a reference identified by means of an author's name should be followed by the date of the reference in parentheses. When there are more than two authors, only the first author's name should be mentioned, followed by 'et al'. In the event that an author cited has had two or more works published during the same year, the reference, both in the text and in the reference list, should be identified by a lower case letter like 'a' and 'b' after the date to distinguish the works.

Format references

Book: Ludwig, J.A. & Reynolds, J.F. (1988). Statistical Ecology, A Premier on Methods and Computing. A Wiley-Interscince publication. 337 p.

Journal: Menon, A.G.K. & Talwar, P.K. (1972). Fishes of the Great Nicobar Expedition, 1966, with a description of a new gobioid fish of the family Kraemeriidae. Records of Zoological Survey of India 66(1-4): 35-61.

Book Chapter: Mohan, P.M., Dhivya, P., Subburaman, S. & Sachithanandam, V. (2012a). Status of the benthos and its environment in Jolly Buoy Island, Mahatma Gandhi Marine National Park, Andaman, India. pp. 23-48. In: Ecology of faunal communities on the Andaman and Nicobar Islands, (Eds.) Venkataraman, K., Raghunathan, C. and Sivaperuman, C., Springer, Heidelberg.

Proofs and Reprints: Electronic proofs will be sent (e-mail attachment) to the corresponding author as a PDF file. Page proofs are considered to be the final version of the manuscript. With the exception of typographical or minor clerical errors, no changes will be made in the manuscript at the proof stage. Because AJMR will be published freely online to attract a wide audience), authors will have free electronic access to the full text (in both HTML and PDF) of the article. Authors can freely download the PDF file from which they can print unlimited copies of their articles.

Copyright: Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, or thesis) that it is not under consideration for publication elsewhere: that if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher.

Fees and Charges: Authors are required to pay a Rs. 50/-per page as printing charges and handling fee. It is also a prerequisite is one of the author among the authors must be the member of the Andaman Science Association. Publication of an article in the Journal of the Andaman Science Association is not contingent upon the author's ability to pay the charges.



Journal of the Andaman Science Association

The official Journal of Andaman Science AssociationVolume 30 Number 12025

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 CARI, 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. Himanshu Pathak	Dr. S. Dam Roy

Dr. T.V.R.S. Sharma

Patron (ex-officio)

Dr. Eaknath B. Chakurkar Director, ICAR - CIARI, Sri Vijaya Puram

Executive Council

President Dr. Eaknath B. Chakurkar Director, ICAR-CIARI, Sri Vijaya Puram

Vice-president Dr. Jai Sunder ICAR-CIARI, Sri Vijaya Puram

Dr. C. Sivaperuman ZSI-RO, Sri Vijaya Puram

General Secretary Dr. T. Sujatha ICAR-CIARI, Sri Vijaya Puram

Technical Secretary Dr. Pooja Bohra ICAR-CIARI, Sri Vijaya Puram

Joint Secretary Dr. I. Jaisankar ICAR-CIARI, Sri Vijaya Puram

Dr. S. Venu Pondicherry University

Treasurer Dr. A.K. De ICAR-CIARI, Sri Vijaya Puram

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

Editorial Board

Chief Editor: Dr. D. Bhattacharya, Principal Scientist ICAR-CIARI, Sri Vijaya Puram

Managing Editors:

Dr. A. K. De, Sr. Scientist ICAR-CIARI, Sri Vijaya Puram

Dr. K. Saravanan, Scientist ICAR-CIARI, Sri Vijaya Puram

Co-Editors;

Plants and Agricultural science

Dr. Ajit Arun Waman, Senior Scientist ICAR-CIARI, Sri Vijaya Puram

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

Animal Science

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

Dr. P. Perumal, Sr. Scientist ICAR-CIARI, Sri Vijaya Puram

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, Sri Vijaya Puram

Dr. L.J. Singh, Additional Director BSI, ANRC, Sri Vijaya Puram

Anthropology/ Ethno Botany/ Ethno Zoology/ Social Science

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

Dr. T. Sujatha, Principal Scientist ICAR-CIARI, Sri Vijaya Puram

Councillors, Andaman Science Association

Dr. Kailash Chandra (ZSI, Kolkata)	Dr. B. Gangwar (New Delhi)
Dr. A.B. Mondal (CRIJAF, Kolkata)	Dr. B. Gangaiah (ICAR-IIMR, Hyderabad, Telangana)
Dr. Lal Ji Singh (ANRC, BSI, Sri Vijaya Puram)	Dr. R.K. Gautam (ICAR-NBPGR, New Delhi)
Dr. C. Raghunathan (ANRC, ZSI, Sri Vijaya Puram)	Dr. S.K. Zamir Ahmed (ICAR-CIARI, Sri Vijaya Puram)
Dr. N.V. Vinithkumar (ANCOST- NIOT, Sri Vijaya Puram)	Dr. Nagesh Ram (ICAR-CIARI, Sri Vijaya Puram)
Dr. H. D. Pradeep, FSI, Sri Vijaya Puram	Dr. I. Jaisankar (ICAR-CIARI, Sri Vijaya Puram)
Dr. R. Mohan Raju (PUC, Sri Vijaya Puram)	Dr. T.P. Swarnam (ICAR-IIFSR, Modipuram, Meerut, Uttar Pradesh)
Dr. T. Sathish (ANCOST- NIOT, Sri Vijaya Puram)	Dr. V. Baskaran (ICAR-IIHR, Bengaluru)
Dr. S. K. Chaturvedi (JNRM, Sri Vijaya Puram)	Dr. P.K. Singh (ICAR-CIARI, Sri Vijaya Puram)
Dr. Santosh S. Mane (AYUSH, Sri Vijaya Puram)	Dr. A. Anuraj (ICAR-CMFRI, Kochi, Kerala)

Copyright Information and Guidelines to the Authors

Ownership & Distribution rights © 2013 Andaman Science Association, Sri Vijaya Puram

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, Sri Vijaya Puram -744 101 (A & N Islands) India

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

Volume 30-1 January - June 2025

CONTENTS

Sl.No	Title and author	Page No
1	Sustainable technological support options for promotion of horticulture sector to attain nutritional security in tropical islands: a case study of Andaman and Nicobar Islands, India <i>Shrawan Singh*, D. R. Singh and I. Jaisankar</i>	1-12
2	Effect of plant density on corm yield in Elephant Foot Yam (Amorphophallus paeoniifolius) under Island condition I.Jaisankar, V. Damodaran, B. Augustine Jerard, Abhilash, Talaviya Harshangkumar and Manasseh Moses E	13-16
3	Assessment of Genetic Variability and Trait Associations for Yield and Yield Components in Urdbean [<i>Vigna mungo</i> (L.) Hepper] <i>Ajay Kumar, Shiv Shankar Pal, Mukund Trivedi, R.B. Yadav and S.K. Verma</i>	17-22
4	Exploring Genetic Parameters and Yield-Related Traits in Indigenous Lentil Germplasm <i>Ajay Kumar*, Avanish Kumar, S.K. Verma and R. B. Yadav</i>	23-28
5	Efficacy of Integrated Disease Management Strategies for Bacterial Blight in Cowpea: Insights from a Three-Year Study Y. A. Kavathiya, Talaviya H*, H. A. Shekhada, Abhilash, M. R. Thesiya, C. M. Bhaliya, H. V. Korat	29-38
6	Genetic Parameters and Variability Analysis in Mungbean [Vigna radiata (L.) Wilczek.] Ajay Kumar*, Mukund Trivedi, Shiv Shankar Pal, R.B. Yadav and S.K. Verma	39-42
7	An invention of reusable eco-friendly drinking straw: An overview Lal Ji Singh	43-51
8	New hosts for the Andaman Great Duffer butterfly, <i>Discophora timora andamanensis</i> Staudinger (Nymphalidae) in an Island Ecosystem <i>Neelam, Purti, Lal Ji Singh* and Arun K. Pandey</i>	52-62
9	Additions to Legume (Papilionoidae) flora of Andaman and Nicobar Islands, India Fouziya Saleem, M. Anil Kumar, Gautam Anuj Ekka and Lal Ji Singh*	63-68
10	<i>Waltheria indica</i> L. (Malvaceae): A New Generic Report to the Flora of Andaman and Nicobar Islands, India <i>Pankaj Arvind Dhole, Anil Kumar Midigesi, Gautam Anuj Ekka and Lal Ji Singh</i> *	69-73