

Addendum to the Checklist of Stenoendemic Angiosperms of Tamil Nadu

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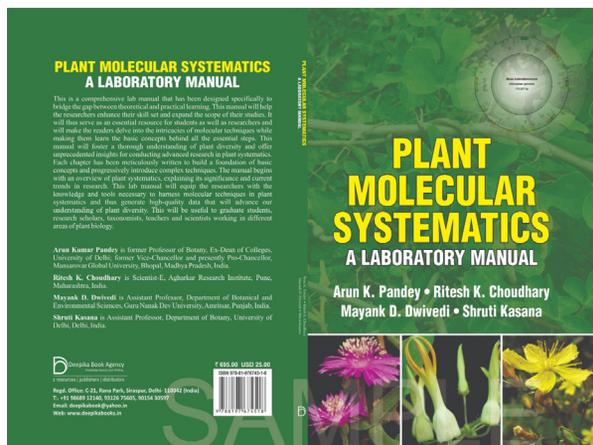
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The taxa *Cordia diffusa* K.C. Jacob (Boraginaceae), *Ardisia anamalaiana* V.Ravich., Murug. & P.S.S.Rich. (Primulaceae), *Aerides agasthiyamalaiana* Karupp. & P.S.S.Rich. (Orchidaceae), and *Impatiens karuppusamyi* P.S.S.Rich. & V. Ravich. (Balsaminaceae) are endemic to Tamil Nadu based on the literature and Herbarium records. Despite their stenoendemic status, these four species have not been listed in our article because of oversight.

Plant Molecular Systematics: A Laboratory Manual

Arun K. Pandey, Ritesh K. Choudhary, Maynak D. Dwivedi and Shruti Kasana, 2025

Published by Deepika Book Agency, pages 202 pages, ISBN: 978-81-976745-1-8; Paperback. Price: ~695/-; US\$ 25.



This book is a thorough and indispensable guide for researchers, teachers, and students in the field of plant molecular systematics. It provides invaluable practical advice on laboratory setup, molecular techniques, and advanced methodologies such as next-generation sequencing (NGS) and molecular clock dating. From establishing a molecular systematics laboratory to implementing complex techniques like DNA barcoding and phylogenetic tree building, the manual covers a broad spectrum of topics, each presented with clarity and precision.

The manual begins with an introduction to molecular approaches in plant systematics, followed by in-depth guidance on setting up a molecular lab, a crucial first step for researchers entering the field. It provides detailed instructions on organizing the lab, including optimal space layout, essential equipment, and safety considerations. The manual emphasizes the importance of choosing appropriate chemicals, glassware, and software, which can often be overwhelming for newcomers. Practical advice on workflow efficiency ensures that the lab functions smoothly and safely.

Key chapters cover essential molecular techniques, such as DNA extraction, PCR amplification, product purification, and agarose gel electrophoresis. Step-by-step protocols for DNA isolation are included, with flexibility for various methods, including CTAB, commercial kits, and herbarium specimen extraction. Each protocol is accompanied by troubleshooting tips to help researchers overcome common challenges. The PCR section provides clear guidance on working with master mixes and primer design, while the gel electrophoresis chapter aids in interpreting results and resolving issues like smearing or weak bands.

Sanger sequencing, a widely used technique in plant molecular systematics, is thoroughly covered, including sample preparation, sequencing, and sequence editing. The manual explains how to use software like Finch TV for sequence analysis, offering practical tips on editing, trimming, and assembling contigs for phylogenetic studies. Chapters dedicated to phylogenetic analysis guide readers through sequence alignment, tree construction, and the use of software like MEGA XI for generating phylogenetic trees. It also discusses the CIPRES Science Gateway for web-based phylogenetic analysis, making these tools accessible to those without specialized computing resources.

In addition, the book addresses powerful techniques like DNA barcoding, which is vital for species identification and biodiversity studies. The DNA barcoding section covers sampling, barcode gap identification, and barcode validation, while also highlighting

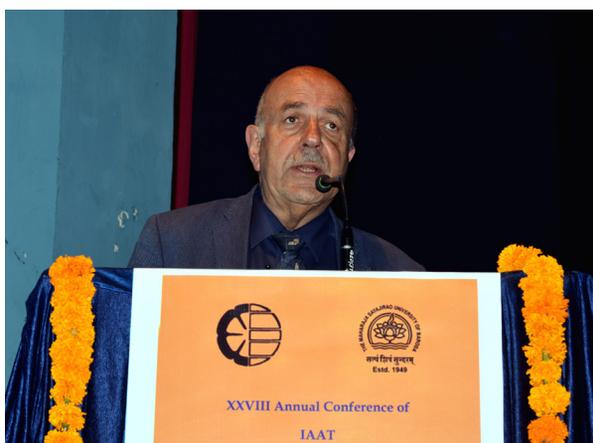
potential limitations of this technique. Further, the manual delves into molecular clock dating and NGS, explaining how to estimate divergence times between species using BEAST software and how to utilize Illumina sequencing for large-scale genomic studies.

The manual's strength lies in its accessibility, breaking down complex concepts into manageable steps. Rich with illustrations, tables, and appendices, it offers a practical, user-friendly approach to plant molecular systematics. While the images are in black and white, they are still highly functional, ensuring that the content remains clear and easily comprehensible.

Overall, "Plant Molecular Systematics: A Laboratory Manual" is a vital resource for anyone involved in plant molecular systematics. It provides detailed protocols, troubleshooting advice, and practical guidance on a range of techniques, making it an essential reference for both students and professionals. Whether setting up a new lab, troubleshooting common issues, or exploring cutting-edge sequencing methods, this manual is an invaluable tool for anyone looking to deepen their knowledge and skills in molecular systematics..

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In memory of Dr. Pieter Baas



Dr. Pieter Baas (28th April 1944–29th April 2024) was a distinguished Plant Anatomist and an Emeritus Professor of Plant Systematics at Leiden University, The Netherlands and served as a director of Rijksherabrium of the Leiden University between 1991 to 1999. He was a cherished member of the International Association of Wood Anatomists (IAWA). He passed away a day after his 80th birthday, on April 29, 2024 in Leiden, the Netherlands. Dr. Baas left an indelible mark in the field of plant anatomy, inspiring colleagues and students alike with his expertise, dedication, and genuine passion for scientific exploration. Dr. Baas was a Professor Emeritus of Systematic and Ecological Plant Anatomy at Naturalis Biodiversity Center and Leiden University.

Dr. Baas embarked on his academic path at Leiden University in 1962, where he pursued studies in biology. From 1968 to 1969, he worked under Professor C.R. Metcalfe for his doctoral degree at the Jodrell Laboratory of the Royal Botanic Gardens, Kew. In 1975, he earned his Ph.D. in wood anatomy from Leiden University with a

Ph.D. dissertation entitled *Comparative anatomy of Ilex, Nemopanthus, Sphenostemon, Phelline, and Oncotheca*. He was appointed as a Professor of Plant Systematics at Leiden University in 1987 and became the Director of the Rijksherbarium in 1991. Starting in 1993, he dedicated six years to preserving the herbarium and wood collection. In 1999, he was given the responsibility as a director of the National Herbarium of the Netherlands, formed by merging the herbaria of Leiden, Utrecht, and Wageningen universities. Dr. Baas retired in 2005 but continued his work on wood anatomical projects until a week before his passing.

As the editor of the IAWA Journal, he was instrumental in promoting scientific communication and collaboration among researchers globally. He served as the Executive Secretary of IAWA from 1976 to 1981. Alongside Emma van Nieuwkoop, he was catalyst in the publication of the IAWA Bulletin from 1970 to 1979 and later became the editor-in-chief of the IAWA Journal, which succeeded the Bulletin, holding the position from 1980 to 2019. As an active member, he contributed extensively to the association's publications and conferences, fostering collaboration and innovation within the global community of wood scientists. His significant contributions to plant anatomy, forestry, wood science, and wood anatomy earned him widespread recognition from the international community. In 2000, he was inducted into the Royal Netherlands Academy of Arts and Sciences. Additionally, he was elected as a fellow of the International Academy of Wood Science and was a corresponding member of the Botanical Society of America. Dr. Baas received

the Linnaean Medal of the Linnaean Society of London in 2023 and was honored as a Knight in the Order of the Netherlands Lion in 2005. He was also awarded as an honorary Fellow of Indian Association for Angiosperm Taxonomy.

Beyond his professional achievements, he was a rare gem whose warmth, humility, and kindness made him not only a remarkable scientist but also a beloved mentor and friend. He had an extraordinary gift for making complex ideas accessible, and his patience knew no bounds when guiding young researchers through their academic journeys. At the 2018's XXVIII IAAT Conference held at The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, Pieter's approachable demeanor and magnetic presence left an unforgettable impression on everyone he met, from eager students to seasoned scientists. Like a beacon in a storm, he offered wisdom and

encouragement to those seeking direction. His infectious enthusiasm came to life during the cultural night, where he wholeheartedly joined the traditional Garba dance. Though unfamiliar with the intricate steps, he danced with unbridled joy, reminding everyone that life, much like science, is best approached with curiosity, passion, and an open heart. In every interaction, Pieter embodied the timeless truth: "A teacher's influence knows no bounds; it ripples through eternity, shaping countless lives along the way." His legacy extends beyond his academic contributions. He will be remembered for his dedication to his family, his passion for music and photography, and his tireless efforts to promote science as a means to understand and protect the natural world.

Raole V.M. & K.S. Rajput

The Maharaja Sayajirao University of Baroda,
Vadodara

Report on the XXXIV Annual Conference of Indian Association for Angiosperm Taxonomy (IAAT) and International Seminar on “Botanical Symphony - Perspectives and Current Challenges in Angiosperm Systematics [BSPCCAS 2024]”

The XXXIV Annual Conference of the Indian Association for Angiosperm Taxonomy (IAAT) and the International Seminar on “Botanical Symphony - Perspectives and Current Challenges in Angiosperm Systematics [BSPCCAS 2024]” was organized by the Department of Life Science and Bioinformatics, Assam University, Silchar from 23rd to 25th November, 2024.

The inaugural ceremony was presided over by Prof. Rajive Mohan Pant, Vice Chancellor, Assam University. Dr. M. Sanjappa, former Director, Botanical Survey of India, was the Chief Guest. The event featured several notable dignitaries, including Prof. A.K. Pandey (Pro-Chancellor, Mansarovar Global University, Bhopal), Prof. Manabendra Dutta Choudhury (Vice Chancellor, Rabindranath Tagore University, Hojai), Dr. Usha Yadav (President, IAAT), Sr. Prof. Santhosh Nampy (Secretary, IAAT), Dr. S.S. Dash (Scientist-F, Botanical Survey of India), Prof. Supriyo Chakraborty

(Dean (i/c), School of Life Sciences, Assam University), Prof. Anirudha Giri (Head and Chairperson, Department of Life Science and Bioinformatics, Assam University) and Dr. Debjyoti Bhattacharyya (Organizing Secretary of the Conference). The program began with the National Song, followed by ceremonial activities, including lighting of the lamp and planting a *Ficus benjamina* sapling.

Prof. Anirudha Giri welcomed the delegates and the participants, and Dr. Debjyoti Bhattacharyya, briefed about the conference. Dr. Usha Yadav highlighted the importance of taxonomy in biological science, while Prof. Santhosh Nampy explained the objectives and functioning of the Indian Association for Angiosperm Taxonomy. Prof. S.R. Yadav (crossed 70 this year) and Dr. Debabrata Maity (Organizing Secretary, 33rd Annual Conference of IAAT) were honored. The book of abstracts was released by the dignitaries. Dr. M. Sanjappa commended Assam University for hosting the Conference in Northeast India and stressed the need for training taxonomists to protect species. The conference was officially declared open by Prof. Rajive Mohan Pant.

The first technical session featured a keynote lecture by Dr. Sanjappa, focusing on the importance of morpho-taxonomy in biodiversity and sustainable use. Prof. A.P. Das delivered ‘Prof. Y.D. Tiagi Medal Award Lecture’, while Prof. Santhosh Nampy delivered ‘Prof. V.V. Sivarajan Gold Medal Award Lecture’. Prof. S.R. Yadav delivered ‘Prof. Kameswara Rao Endowment Lecture’.





The conference included oral and poster presentations in six major themes: Floristics, Plant Diversity and Conservation; Nomenclature, Revision and Monograph; Biosystematics, Applied Taxonomy and Phylogeny; Ethnobotany, Indigenous Knowledge System (IKS) and Bioprospectation; Medicinal Plants and Drug Discovery, and Digitization and Database. Every technical session began with one or two invited lectures, followed by oral presentations by the participants. Over 300 delegates participated, with around 140 research papers presented. International experts, such as Prof. Deepthi Yakandawala (University of Peradeniya, Sri Lanka), Dr. Kanchi N. Gandhi (Harvard University Herbaria, Cambridge, USA), and Prof. Petr Smýkal (Palacky University, Olomouc, Czech Republic), contributed to the discussions.

During the event, a panel discussion on the status of taxonomy in India was held, followed by valedictory session, which included the distribution of awards to the following outstanding presenters. The Executive Committee (EC) of IAAT met on 23.11.2024, and the General Body (GB) met on 24.11.2024. The conference also witnessed a vibrant cultural program performed by the students.

Ten awards, namely K.S. Manilal Award, Rolla S. Rao Award, T.R. Sahu Award, Fr. Antony Mukkath-K.S. Manilal Award, Prof. M. Sabu Award, S.R. Yadav Award, S.M. Almeida & M.R. Almeida Award, A.K. Pandey Award, Santhosh Nampy Award, and A.K. Pradeep Award are given at the annual conference for the best paper/ poster by the IAAT. Following is the list of awards and awardees of this year's conference:



1. K.S. Manilal Award for best paper in Floristics (New Species/New Reports): V. Drisya (University of Calicut)

2. R.S. Rao Award for best paper in Biodiversity Conservation: Harishma K.H. (University of Calicut)

3. T.R.Sahu Award for best paper in Medicinal Plant Systematics: Aswathi Ganga (University of Calicut)

4. S.R. Yadav Award for best poster presentation: Meera Rami (The Maharaja Sayajirao University of Baroda)

5. Fr. Antony Mukkath–K.S. Manilal Award for best paper in Modern Techniques in Plant Taxonomy: Oshin Sharma (Savitribai Phule Pune University)

6. Prof. M. Sabu Award for best paper in Angiosperm Taxonomy (for Teachers and Scientists): Shinoj K. (Sree Kerala Varma College, Thrissur)

7. S.M. Almeida & M.R. Almeida Award for Plant Nomenclature: Abhishek T. Bhat (CSIR-National Botanical Research Institute, Lucknow)

8. Prof. A.K. Pandey Award for Revisionary Studies: Anna Ancy Antony A. (St. Albert's College (Autonomous), Ernakulam)

9. Prof. Santhosh Nampy IAAT Young Scientist Award: Jagdish Vishnu Dalavi (Botanical Survey of India, Western Regional Centre, Pune)

10. Dr. A.K. Pradeep Young Researcher Award: Ashutosh Sharma (The University of Trans-Disciplinary Health Sciences & Technology, Bengaluru)

In addition to these, Arup Kumar Halder, Sibashish Kityania, Sudipa Das, and others received awards in the general oral presentations category. For the general poster presentations, awards went to Barnali Das, Priyakshi Nath, and others. The event concluded with a vote of thanks by Dr. Shubhadeep Roychoudhury.

The conference was funded by Assam University, Botanical Survey of India, Rabindranath Tagore University, Anusandhan National Research Foundation, Department of Biotechnology, Indian National Science Academy, and sponsored by Rosekandy Tea Estate, Silchar. The success of the event was widely acknowledged by participants and organizers alike.

Dr. Debjyoti Bhattacharya

Organizing Secretary

34th Annual Conference of IAAT &

International Seminar BSPCCAS-2024

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