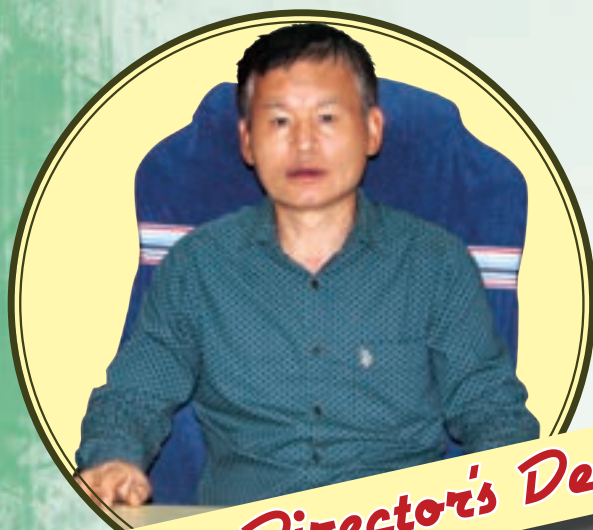


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**ENVIRONMENTAL INFORMATION, AWARENESS,
CAPACITY BUILDING AND LIVELIHOOD PROGRAMME
(EIACP) PROGRAMME CENTRE-RESOURCE PARTNER
ON BIODIVERSITY (FLORA)**



From Director's Desk

EIACP NEWSLETTER

VOLUME : 28(4), 2024

World Wetlands Day is celebrated on 2nd February every year worldwide to commemorate the signing of the Ramsar Convention on Wetlands of International Importance in 1971. In India, it came into force on 1st February 1982, under which wetlands of international importance are declared as Ramsar sites. The theme for World Wetlands Day in 2024 was "Wetlands and Human Wellbeing," emphasizing the critical role wetlands play in improving our lives. This theme highlights how wetlands contribute to flood protection, clean water, biodiversity, and recreational opportunities, all of which are essential for human health and prosperity. India added five more Ramsar sites to its portfolio ahead of this year's World Wetlands Day on February 2, taking its total tally to 80 from the existing 75. Three of these sites, Ankasamudra Bird Conservation Reserve, Aghanashini Estuary and Magadi Kere Conservation Reserve are located in Karnataka whereas two, Karaivetti Bird Sanctuary and Longwood Shola Reserve Forest are in Tamilnadu. This year Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP) Programme Center (PC)-Resource Partner (RP) on Biodiversity (Flora), Botanical Survey of India organized a programme at Sagar Island, South 24-Parganas, West Bengal. The event was conducted by the EIACP PC-RP, BSI in collaboration with Paribesh Unnayan Parishad and Phulbari Sitala High School (H.S), Sagar. Eight different schools of Sagar Island participated in this programme. To increase awareness among the students, a quiz competition, drawing competition, and lecture about the significance of Wetland Day were organised. This issue also contains a report of a three days National Level Workshop on 'Plants/Fungi

Collection, Identification, Nomenclature, and Botanical Illustrations' hosted by the BSI EIACP PC-RP and Central National Herbarium, BSI Howrah in collaboration with Dr. Shyama Prasad Mukherjee University (DSPMU), Ranchi, Jharkhand from December 11-13, 2023. A total sixty-five students and faculty members of various universities and colleges of Jharkhand and Bihar participated in this workshop. Furthermore, "Know Your Botanist" section provides details of one of the renowned and most valued systematic botanist and environmentalist of India, Rev. Fr. Dr. K.M. Mathew. The 'Know Your Plant' section provides us information on *Crotalaria verrucosa* L. -The blue-flowered Rattle-pod of the family Leguminosae. Small information about *Sonneratia apetala* Buch.-Ham. (Sonneratiaceae): A mangrove species for potential juice and medicine in India is provided in this issue. A small dispute among *Rafflesia arnoldii* vs. *Rafflesia arnoldi* of the Rafflesiaceae is discussed here. A small report on 'International Women's Day 2024' is also given in this issue. In addition to regular publication of newsletter, BSI EIACP PC-RP has published booklets, pamphlets, brochures, and an abstract of papers on the flora of the various Indian states and union territories, as well as a bibliography on many subjects pertaining to the floral wealth of our country.

Like earlier issues, I hope this issue will also be well received by readers for its contents. I appreciate the efforts of entire team of BSI EIACP PC-RP on Biodiversity (Flora) in bringing out this informative issue.

(Dr. Ashika A. Mao)

Director

Botanical Survey of India, Kolkata

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J. Jayanthi



Crotalaria verrucosa L. (Leguminosae)

The blue-flowered Rattle-pod

Vernacular names: Blue-flowered Rattlepod; Warty Crotalaria, Warty Rattlebox (English); *Banshana*, *Jhunjhunja* (Hindi); *Jhanjhana*, *Bansan* (Bengali), *Ghagri* (Marathi); *Kilukilukki*, *Kilukiluppa* (Malayalam); *Salangai Chedi*, *Kilukiluppai* (Tamil); *Ghelegherinta* (Telegu).

Etymology: Crotalaria: 'Crotalum' (Latin), 'Krotalon' (Greek) = castanet or a rattle or a bell; verrucosa: 'Verrucosus' (Latin) = warts.

General morphology: A branched woody herb or under shrub reaches up to 3 m. Stems 3–4, angled or rounded, pubescent and with white dots. Leaves simple, alternate, ovate to ovate-elliptic or ovate-rhomboid, 2–16 × 1.5–7 cm, cuneate-acute or obtuse, apex acute, obtuse or rounded, and apiculate or mucronate at apex; petioles 1–5 mm long; stipules foliaceous, 0.4–1.2 cm. Inflorescence terminal or lateral racemes, 10–20-flowered. Flowers c. 2 × 2 cm; pedicels 3–7 mm long; bracts awl-shaped; bracteoles 2, linear or filiform. Calyx tubular-campanulate, 5-toothed, c. 4 mm long. Corolla blue or bluish white, with dark blue streaks. Stamens 10 (9+1), shorter anthers ovoid, 0.5 mm, longer ones oblong, 3 mm. Ovary c. 2 cm long; style 1, terete, hairy; stigma pubescent. Pods oblong or ellipsoid, 3.5–4.5 × 1–1.5 cm, pubescent; seeds 10–15 in number, small, c. 3 mm.

Flowering & Fruiting: It usually flowers between August to October and fruiting continues up to January.

Distribution and Ecology: The plant is distributed in tropical and subtropical regions of Asia, Australasia and Central America. It is found in almost all states of India, except Telangana, Chhattisgarh, Uttarakhand and Jharkhand, Puducherry, Jammu & Kashmir. In West Bengal, it is reported from Birbhum, Bankura, Darjeeling, Howrah, Murshidabad, and North 24-Parganas. *C. verrucosa* grows along the roadside in bushes and scrub jungles, in river-side marshy ground, and in sparse evergreen and deciduous forests at up to 1300 m AMSL.

Medicinal Uses: Leaf juice of *C. verrucosa* is efficacious in diminishing salivations and tender leaves are used topically in case of scabies and impetigo (Chopra & al., 2009). Leaf is also used to cure cold and cough, biliousness, dyspepsia, fever, throat and mouth diseases, external injuries and wounds (Kirtikar & Basu, 1999), pyorrhoea, diabetes, rheumatism, skin allergies, tetanus, diarrhoea, jaundice, cardiac abnormalities, dysentery, and leprosy (Kumar & al., 2014). Root is good for treatment of fever and stomach ache (<https://tropical.theferns.info/viewtropical.php?id=Crotalaria+verrucosa>).

Phytochemistry & Pharmacology: A spectrum of phytochemical groups such as alkaloids, phytosterols, phenolics, flavonoids, tannins and many more have been identified from different parts of this plant. Phytochemical screening detected some pyrrolizidine alkaloids like, crotalaburine, crotaverine,

anacrotine, O-acetylcrotaverine in seeds (Suri & al., 1976); terpenoids such as taraxerol, stigma-sterol, beta-sitosterol; tannins like (+)-catechin hydrate and (–)-epicatechin, flavonoid apigenin-o-glycoside, and some phenolics. This plant exhibits many bioactivities like antidiabetic, anti-inflammatory, anti-aging, anticancer, etc. (Kumar & al., 2014; Ahmed & al., 2018, Billah & al., 2020; Sana & al., 2020). Phytochemical and pharmacological attributes illustrate the rationale for using this herb traditionally in curing a wide range of diseases.

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Crotalaria verrucosa: a. Habit; b. A portion of inflorescence

Rafflesia arnoldii vs. Rafflesia arnoldi (Rafflesiaceae)

We are all aware of the holoparasitic plant species which bears the largest flower of the world. Though attractive, the flower is known by the name 'Corpse flower' because it emits a strong unpleasant odour of decaying flesh. The species is native to the rain forests of Sumatra and Borneo.

According to the Art. 60.8(b) of ICN (Turland & al., 2018), if a personal name ends with a consonant (but not in *-er*), substantival epithets are formed by adding *-i-* (stem augmentation) plus the genitive inflection appropriate to the gender and number of the person(s) honoured (e.g. *lecard-ii* for Lecard (male), *wilson-iae* for Wilson (female), *verlot-iorum* for the Verlot brothers, *braun-iarum* for the Braun sisters, *mason-iorum* for Mason, father and daughter).

Hence, in almost all the publications including in Flora Malesiana (Meijer 1997) the scientific name given in the protologue, *Rafflesia arnoldi* R.Br. (Account Rafflesia 7, tt. 15-22. Apr. 1821), has been corrected to *Rafflesia arnoldii*. Earlier, a latter publication (Trans. Linn. Soc. London 13(1): 207. 23 May-21 Jun 1821) was considered by some as the protologue overlooking the earlier publication but in this publication too the name was *Rafflesia arnoldi* R.Br. This corrected spelling of the specific epithet has even been followed in Wikipedia. We contacted IPNI sometimes in the end of 2022 when the spelling in the website of IPNI showed to be *Rafflesia arnoldi* R.Br. but soon changed to *Rafflesia arnoldii* R.Br. after receiving feedback from our end. Then we approached Rafaël Herman Anna Govaerts requesting for a similar change in POWO but he replied that *Rafflesia arnoldi* R.Br. as given in POWO is correct and is in accordance to Rec. 60C.1 (Turland & al., 2018). Later IPNI again changed to *Rafflesia arnoldi* R.Br. with Nomenclatural remarks: 'Eponymy: Joseph Arnold. published as 'arnoldi' which is not correctable, as there is a well-established latinized form, Arnoldus'. We contacted N.J. Turland in this aspect because Recommendations are not mandatory to be followed and so can anyone freely use both *Rafflesia arnoldi* and *Rafflesia arnoldii*. How this can be possible? He replied: the epithet was spelled 'arnoldi' in the protologue which is in accordance to our present Rec. 60C.1. The last sentence of Art. 60.8 clearly states "However, epithets formed in accordance to Rec. 60C.1 are not correctable (see also Art. 60.9)." Therefore, the epithet cannot be corrected to 'arnoldii'.

The spelling of the specific epithet is yet to be corrected in World Flora Online and Tropicos. We hope that the spelling appears correctly everywhere in future.

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Rafflesia arnoldi R.Br.

[Sofian Rafflesia (https://commons.wikimedia.org/wiki/File:Rafflesia_arnoldii_Bengkulu_01.jpg), <https://creativecommons.org/licenses/by-sa/4.0/legalcode>]

Report on World Wetland Day 2024

Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP) Programme Centre (PC)-Resource Partner (RP) on Biodiversity (Flora), Botanical Survey of India celebrated 'World Wetland Day 2024' among the students of eight different schools of Sagar Island, South 24-Parganas, West Bengal on 2nd February 2024 at Phulbari Sitala High School (H.S) in association with Paribesh Unnayan Parishad, Sagar. The theme of this year was 'Wetlands and human well-being'. The theme focuses on the interconnectedness among wetlands and different parts of human prosperity, including physical, mental and environmental wellbeing. The programme was inaugurated by Mr. Bholanath Das, Head Master, Phulbari Sitala High School (H.S) and Dr. Amalesh Mishra, Ex-Scientist, ZSI & Secretary, Paribesh Unnayan Parishad, Sagar in presence of Dr. J.S. Jalal, Scientist 'E', BSI & Coordinator, BSI EIACP PC-RP. After the inauguration Dr. Jalal briefing about the importance of wetland and how we can conserve them. Dr. Animesh Maji, Ex-Research Associate, BSI delivered a lecture on Importance and conservation of wetland and its

sustainable use. After that a Quiz competition was also organised in which selected students of Phulbari Sitala High School (H.S.), Compani Char Maheshwari High School, Rudranagar Devendra Vidyapith, Radha Krishnapur High School, Khansaheb Abad High School, Bamankhali MPP High School, Kachuberia Mukti Support School and Krishna Suchitra Memorial Study Centre participated. Mementoes were given to the winners of Quiz competition and Mission LIFE Caps & batches were distributed among the students and teachers. A total 85 students and 10 teachers from eight different schools of Sagar areas, 24-Parganas (S) participated in this programme.

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Report on celebration of 'International Women's Day 2024'

International Women's Day is observed on March 8th annually. This day serves as a global observance to honour the achievements of women in various spheres, including social, economic, cultural, and political domains. EIACP PC-RP on Biodiversity (Flora), Botanical Survey of India in association with Central National Herbarium, BSI celebrated 'International Women's Day 2024' on 8th March, 2024, to acknowledge the achievements, strength and resilience of women serving in this institution. Dr. Pratibha Gupta, Scientist 'F', Central Botanical Laboratory, BSI inaugurated the programme with her speech on how women have come forward in each and every sphere of life, starting from managing home to the recent Chandrayan Mission where women have pushed their limits to reach new heights. On this occasion, eminent conservationist Ms. Ajanta Dey, Joint secretary and Programme Director, Nature Environment and Wildlife Society, Kolkata presented a talk on Gender equality, especially in remote areas of Sundarban, South 24-Parganas, West Bengal, where women work force are exposed to harsh environments that affects their health and also emphasized about the prevailing condition of discrimination in payment. The speech by Dr. Paramita Dasgupta, Assistant Professor, Law & Technology, West Bengal National University of Juridical Sciences, Kolkata,

has put forward insights on Global equality and Bio-piracy, which is a burning issue at present. Priya Singh Kushwaha, Junior Research Fellow, Central National Herbarium, shared a paragraph on her views about women in the field of Taxonomy. The programme ended with a warm vote of thanks delivered by Dr. Debasmita Dutta Pramanik, Scientist 'D', Industrial Section, Indian Museum, BSI, Kolkata. The programme ended with the note that, God resides in a place where there is respect for woman, all actions, no matter how noble remain unfruitful if we fail to recognize value our women. Ms. Dey also visited BSI EIACP PC-RP Centre. Publications of BSI EIACP PC-RP have been gifted to her along with Mission LIFE Jute Bag.

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Report on three days' National Level Workshop on 'Plants/Fungi Collection, Identification, Nomenclature, and Botanical Illustrations'

A three days' National Level Workshop on 'Plants/Fungi Collection, Identification, Nomenclature, and Botanical Illustrations' was organised by the EIACP Programme Centre-Resource Partner on Biodiversity (Flora), Botanical Survey of India and Central National Herbarium, Howrah in collaboration with Dr. Shyama Prasad Mukherjee University (DSPMU), Ranchi, Jharkhand during 11th to 13th December 2023. The programme was inaugurated by lamp lightening and inaugural speech by the Chief Guest, Dr. A.A. Mao, Director, Botanical Survey of India. He addressed about traditional and modern prospects of plant sciences, bio-economy and various career options in Botany beyond academics and research such as, start-ups and entrepreneurship. Prof. Dr. Tapan Kumar Shandilya, Vice Chancellor, DSPMU, highlighted the importance of Plant Taxonomy and Biodiversity for sustainable development and its role in the green economy. Dr. Namita Singh, Registrar, DSPMU, stressed the significance of organizing regular workshops, conferences, and seminars for the benefit of students.

The workshop spearheaded by a team of ten distinguished Scientists and Resource Persons i.e. Dr. J. Jayanthi, Scientist 'F', Hqrs., BSI, Dr. J.S. Jalal, Scientist 'E', Hqrs., BSI & Project Coordinator, BSI EIACP PC-RP, Dr. R.K. Gupta, Scientist 'E' & HoO, CNH, BSI, Dr. Devendra Singh, Scientist 'E' & HoO, AJCBIBG, Howrah, Dr. Gopal Krishna, Scientist 'C', Hqrs., BSI, Dr. Manoj E. Hembrom Scientist 'C', AJCBIBG, BSI, BSI, Mrs. Ruma Bhadra, Senior Preservation Assistant, CNH, BSI, Sri Dineshwar Kumar Shaw, Artist, BSI, Dr. Aniket Ghosh NPDP, BSI and Mr. Nasim Ali, JRF, BSI from the Botanical Survey of India and EIACP PC-RP aimed at advancing knowledge in essential aspects of plant science. With a focus on plant collection, identification, classification, orchid exploration, plant nomenclature, and botanical illustrations, the workshop drew the participation of 65 attendees from various

universities in Jharkhand and Bihar.

After the inaugural session, the technical session was started with an interactive session by Dr. A.A. Mao, Director, BSI with the participants, research scholars, and students of the Department of Botany, DSPMU and also delivered a lecture on 'Plant Diversity in India' and 'Role of Botanical Survey of India'. After that Dr. R.K. Gupta, delivered a lecture on 'Identification of Algae in India'. In the post lunch session Dr. Hembrom and Dr. Aniket Ghosh, led the sessions on the 'Identification of Macrofungi (Mushrooms) including Morphotaxonomy and Molecular Phylogeny' and followed by the practical demonstration. After this lecture, Dr. Devendra Singh and Sk. Nasim Ali provided theory as well as practical lesson on 'Identification of Bryophytes' very lucidly in front of the participants. On both the lectures the students actively interacted with the resource persons during the presentations.

On the second day i.e. on 12th December 2023, Dr. J. Jayanthi, delivered a lecture on basics of plant identification, field characters of some important families and identification of plant with help of regional flora. After this lecture Mrs. Ruma Bhadra shared her expertise on Grass identification and demonstrated the important identification characters of family Poaceae. Dr. J.S. Jalal delivered a lecture on exploration and orchid identification in Jharkhand and Bihar region, focusing on key characteristics of this intricate group and addressing the challenges faced during identification of certain species. After the lunch break Dr. Gopal Krishna explained the fundamentals of plant nomenclature citing different examples and making complicated topics very simplified, clearing every doubts. Day three i.e. 13th December 2023, Dr. Jayanthi, Dr. Gopal and Mrs. Bhadra gave hands-on outdoor training for the collection of plant specimens in the field, followed by their identification, and training on preservation techniques. Sri Dineshwar Kumar Shaw an expert in botanical illustrations



taught to make sketches of plants and plant parts, techniques for capturing best-quality photographs for research purposes. During the three days workshops all the participants were involved sincerely. This programme was great for brainstorming, interactive learning, building relationships and problem solving. Workshops were carried out with immaculate management and patience.

Additionally, Dr. J.S. Jalal handed over more than 45 EIACP PC-RP publications (including Books, Newsletters, Bibliography & Abstracts, Brochures, Pamphlets etc.) to the Botany Department, DSPM University, Ranchi which are going to enrich the information resources of the university and will certainly be a great support to the researchers working in the field of biological sciences.

During the valedictory function, Prof. Dr. Tapan Kumar Shandilya, Hon'ble Vice-Chancellor, Dr. Shyama Prasad Mukherjee University, Dr. Sanjay Srivastava (IFS), PCCF and Head of Forest Force, Jharkhand and Dr. J.S. Jalal, Scientist 'E' & In-Charge BSI EIACP PC-RP shared their commitment to advancing botanical research and disseminating knowledge to a wider audience. Prof. Dr. Shandilya, Dr. Sanjay Srivastava, Dr. J.S. Jalal and faculty members of Dept. of Botany, DSPMU, Ranchi awarded the certificates to the participants. On behalf of

Department, Dr. Shalini Lal, Asst. Professor, Dr. Ekta, Asst. Professor, Dr. Ranjana Sinha, Asst. Professor and Dr. Geetanjali Singh, Asst. Professor of DSPMU, Ranchi, and scholars and students of Dept. of Botany, DSPMU, Ranchi extends hands of collaboration to all to utilise the available facilities for this three-day's workshop. Dr. Geetanjali Singh and Dr. Shalini Lal expressed her sense of gratitude to Dr. J.S. Jalal as well as all the resource persons for their time and incredibly good talk on the various topics and the entire team members of BSI EIACP PC-RP for successfully organising the three days workshop. The workshop was concluded with vote of thanks by Dr. Geetanjali Singh.

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Sonneratia apetala Buch.-Ham. (Sonneratiaceae): A mangrove species for potential juice and medicine in India

Sonneratia apetala Buch.-Ham., native of India, Bangladesh, Myanmar, Sri Lanka, Vietnam grows in abundant in Sundarban Biosphere Reserve, West Bengal. It is commonly known as Fire Fly Mangrove, Mangrove Apple (English); *Keora*, *Tok Keora* (Bengali); *Moti Tavar* (Gujarati); *Chipi*, *Kandal* (Marathi); *Keruan* (Oriya); *Maramamaram* (Tamil); *Pedda Kalinga* (Telugu).

General Morphology: Evergreen, medium to tall trees, 5–20 m high; stems light brown; branches drooping; stem base surrounded by numerous peg-like pneumatophores; pneumatophores long, slightly curved sword shaped, 1–1.5 m long, developed from the surface spreading underground horizontal roots. Leaves narrowly elliptic to elliptic-lanceolate, 6.5–7.5 × 1.8–2 cm, obtuse at apex, margin entire, attenuate at base, lateral veins 16–19 pairs, opposite decussate, estipulate, petiolate; petioles 0.5–0.7 cm long, base pulvinous, glabrous. Inflorescence axillary, solitary or in terminal, 3-flowered cymes, rarely 5–7-flowered. Flowers ebracteate, 1.2–2.7 × 1.5–3 cm, cream coloured, pedicellate; pedicels 1.8–2 cm long. Calyx persistent, cup-shaped; lobes 4, elliptic, 1.5–2 × 0.8–1 cm, margin entire, acute at apex, greenish-brown, reflexed on fruits. Petals absent. Stamens 4, epipetalous; filaments filiform, 0.18–0.22 cm long, white. Ovary globose; style 2.5–3 cm long, slightly exerted; stigma broad, umbrella-shaped, papillose. Berries subglobose, 2.5–3 × 2–3 cm, fleshv, green, depressed, supported by cup shaped persistent reflexed calyx lobes at the base. Seed 4–7 in each fruit, triangular brown.

Flowering and Fruiting: January–October.

Habitat and Ecology: This species is commonly known as “Jetha” of Sundarban. This species is one of the pioneer species of mangrove succession in eastern part of Indian Sundarbans; but this species is comparatively less dominant in western part of Indian Sundarbans. Common along the inter-tidal zones

towards upstream swamps and in the transition zone between fresh and brackish water.

Nutritive information: Fruits contain carbohydrates, proteins, lipids, ash, K, Na, Ca, Mg, P, S, Fe, Mn, Zn, Cu. Seeds contain polyphenols namely caffeic acid, catechin, epicatechin, ellagic acid, gallic acid, and quercetin. The fruit and seeds could be of great use in preparation of functional foods and dietary supplements (Hossain & al. 2016).

Uses: Wood is used as building material and for making furniture. Leaves are used as fodder especially for the spotted deer. Fruits are edible and used for the preparation of pickles or chutney.

Medicinal properties: Leaves have been used traditionally to treat hepatitis (Bandaranayake, 1995).

References:

Bandaranayake, W.M. 1995. Survey of mangrove plants from Northern Australia for phytochemical constituents and UV-absorbing compounds. *Curr. Topics in Phytochemistry* 14: 69–78.

Hossain, S.J., Iftekhazzaman, M., Haque, M.A., Saha, B., Moniruzzaman, M., Rahman, M.M. & Hossain, H. 2016. Nutrient Compositions, Antioxidant Activity, and Common Phenolics of *Sonneratia apetala* (Buch.-Ham.) Fruit. *Int. J. Food Properties* 19: 1080–1092.

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Sonneratia apetala: a. Habit; b. Flower; c. Fruit; d. Collection of fruits; e. Chutney made of fruits; f. Bottle with fruit juice

Father Dr. K.M. Mathew, S.J.

Rev. Fr. Dr. K.M. Mathew, was one of the renowned and most valued systematic botanist and environmentalist of India. He was the founder of the famous Rapinat Herbarium in southern India which holds a large number of herbarium specimens indispensable for the plant taxonomic research in India.

Koyapillil Mathai Matthew was born on 16th March 1930, in Ramapuram, Kottayam, in the state of Kerala. His parents were Mrs. Teresa and Mr. K.O. Mathai belonging to the Koyapillil family. He completed his school education at St. Augustine's High School, Ramapuram and early college studies at St. Berchmans College, Chegannacherry. He then moved to Tiruchirapalli (Trichy) town in Tamil Nadu to pursue his higher collegiate studies. K.M. Mathew joined the Society of Jesus in 1950 at Shembaganur near Kodaikanal located amidst Palni hills. The Jesuit education also included plant taxonomy for the beginner Jesuits. Matthew assisted Fr. Emile Ugarte in making plant collections at the natural history museum housed within the Sacred Heart College at Shembaganur. During leisure, K.M. Mathew ventured into the Palni hills to identify and collect plant specimens and acquainted with the plant wealth of the Western Ghats. He also got inspiring guidance from several stalwart Jesuit botanists like Frs. Louis Anglade, George Foreau and Alfred Rapinat and also got opportunity to collaborate with botanists at the Royal Botanical Gardens at Kew (London). The Jesuit training extended upto 1957, in which he also completed his graduation in Botany and continued post-graduation.

After completing his M. Sc. in Botany (1958–60), he pursued his doctoral research under the supervision of Fr. Dr. H. Santapau S.J. He acquired his Ph.D. in botany in 1962 from University of Madras, focusing on the exotic plants of the Palni Hills. In 1962, he proceeded to Kurseong (Darjeeling) for his studies in theology – where he continued his pursuit of botanical exploration in the surrounding Eastern Himalayas and published several peer-reviewed journal articles. After his ordination as a priest in 1967 he pursued his teaching and, then he proceeded to The Royal Botanic Gardens, Kew, U.K. for his post-doctoral research (1971–74). During this time, he was exposed to the major herbaria of U.K. and European centres of Systematic Botany and gained much experience in plant taxonomy. Returning to India in 1974, he joined the Botany department at St. Joseph's College in Tiruchirapalli and pursued his teaching career. He also established the Rapinat Herbarium there in 1974 named in honour of Fr. Alfred Rapinat. Soon after he began to work on a major project to study the Flora of Tamil Nadu. During the period 1976–84, Fr. Matthew and his small team of field experts which included eminent taxonomists viz., Fr. Dr. S. John Britto and Dr. N. Rani explored the flora of the Tamil Nadu Carnatic region. In 1984, Fr. Matthew established the Anglade Institute of Natural History to serve as a field institute of the Rapinat Herbarium and to promote environmental awareness among different groups of people.

Major Contributions

On completion of his assignment at Kew, Fr. Mathew worked on a world monograph of Cornaceae under a ZWO fellowship (Netherland Organization for the Advancement of Pure Research) of the Dutch Government at Leiden. He revised the family Cornaceae for Flora Malesiana at Leiden, Netherlands in 1972.

Fr. Mathew's contribution to the plant systematics in southern India has been immense. His enormous field exploration resulted in more than 60,000 plant collections. This effort resulted in publication of **The Flora of Tamilnadu Carnatic** (1981, 1982, 1983 & 1988) in four volumes which contains 1905 plates and 2939 pages of detailed text. A total of 2020 species was covered in this work.

His other noteworthy contribution is the Excursion Floras aimed at delivery of knowledge of plants to ordinary people. **An Excursion flora of Central Tamil Nadu, India** (1995) is a straight "lab to land" attempt to make to fruits of research reach common people.

Another contribution of Fr. Mathew is an Illustrated Flora entitled the **Flora of the Palni Hills** in three volumes from 1996 to 1999, which contains 1233 plates and 2144 pages of text. A total of 2478 species was covered in this work.

He was the Founder-Director of two complementary natural history establishments, which have been basic to all his contributions. First, the plant diversity research base (The Rapinat Herbarium, RHT) in Tiruchirappalli. Secondly, the environmental base (The Anglade Institute of Natural History, SHC) at Kodaikanal, where he had achieved both a massive environmental awareness generation programme for the wider community, and conservation research.

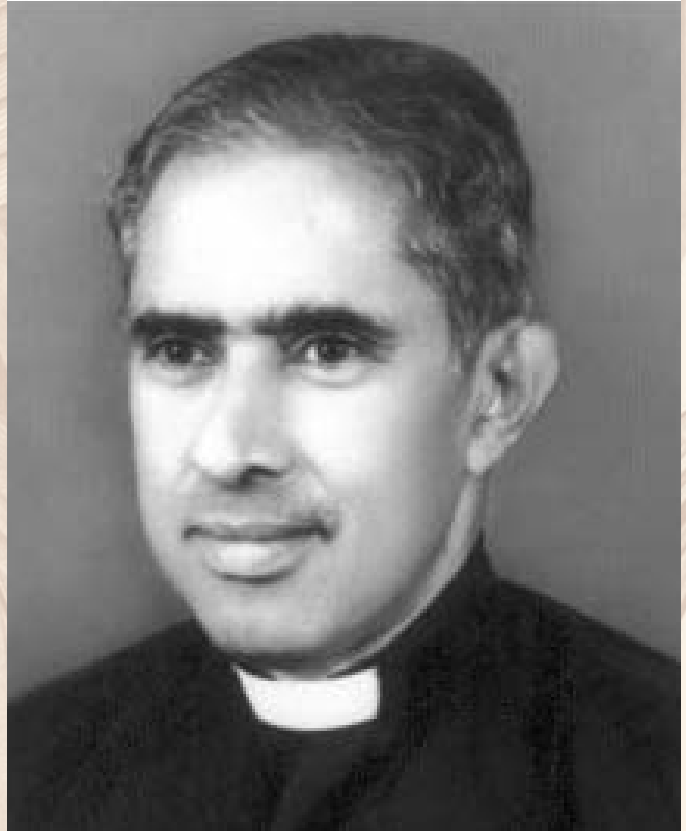


Photo Source: <https://onlinelibrary.wiley.com/doi/pdf/10.1002/tax.534001>

He was also Founder Vice-President of the Palni Hills Conservation Council, and was responsible for the integral conservation management of the Palni hills, part of the Western Ghats of India. He had been a member of IUCN's Species Survival Commission for plants for the Indian subcontinent since 1992.

His massive publications include more than 12 volumes and 175 research papers. He had completed 21 major research projects funded by reputed international and national agencies related to Peninsular floristics and Environmental Education. He described four new species, one subspecies, and proposed quite a few new combinations.

Awards, Achievements & Honours:

During his teaching career, as lecturer in botany at St. Joseph's College, Tiruchirappalli, between 1969 and 1989, he was honoured with the Best Teacher Award by the Tamil Nadu State Government in 1989.

Fr. K. M. Mathew was posthumously awarded the Indira Gandhi Paryavaran Puraskar Award by the Government of India, in recognition of his "outstanding and consistent merit" in environmental preservation.

Strobilanthes mathewiana R.W. Scotland has been published in his honour.

Dr. Fr. K. M. Mathew passed on 16th April, 2004 in Tiruchirappalli, Tamil Nadu leaving behind a strong inimitable plant taxonomic research base in India. He had a clear vision, commitment and his contribution serves as a solid and firm foundation for the plant taxonomy in India. He was among the few devoted taxonomists, the 20th century witnessed. His legendary work will always inspire and give direction to the younger generation to pursue their career in plant taxonomy and conservation.

J. Jayanthi

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a. Inauguration of the newly renovated BSI EIACP PC-RP Centre by Dr. A.A. Mao, Director, Botanical Survey of India; b. Release of Pamphlets of BSI EIACP PC-RP; c. Director, BSI interacting with students at EIACP PC-RP Centre.

EIACP PC-RP on Biodiversity (Flora)

Established : April, 1994
Contact Person : Dr. Jeewan Singh Jalal
Address : Scientist 'E', Hqrs., BSI & In-Charge
 EIACP PC-RP on Biodiversity (Flora)
 Botanical Survey of India
 Central National Herbarium
 P.O. Botanic Garden, Howrah 711103

Subject Area : Floral Diversity
Phone : (033) 26680667
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Website : <http://www.bsienvis.nic.in>

Activities of the Centre: The Botanical Survey of India having involved in exploration activity has been collecting diverse data pertaining to floral diversity and its EIACP PC-RP on Biodiversity (Flora) proposes to disseminate this information by building databases on various scientific themes such as status of plant diversity in Indian States and Union Territories, Biodiversity Hotspots, distribution of endemic and threatened plants, CITES, interesting plants, carnivorous plants, invasive alien species, wetlands, mangroves and traditional/ethnobotanical knowledge. It is also engaged in publication of state-wise bibliography including abstracts of papers pertaining to plants of India and also selected publications that have relevance both in documentation and conservation.

LIST OF PUBLICATION BROUGHT OUT SO FAR

Books:

1. Mangroves, Associates and Salt Marshes of the Godavari and Krishna Delta, Andhra Pradesh – India
2. Diversity of Coastal Plant Communities in India (Priced publication) [value: Rs 804.00]
3. Red List of Threatened Vascular Plant Species in India
4. A Pictorial Guide to some of the Indian Plants included in CITES and Negative List of Exports
5. Phytodiversity of Chilika Lake
6. Macrofungi of Acharya Jagadish Chandra Bose Indian Botanic Garden: A Pictorial Guide
7. A Handbook on Bryophytes with special reference to type Specimens of Liverworts and Hornworts in Indian Herbaria
8. The Wild Orchids of Goa
9. The Genus *Calanthe* R.Br. (Orchidaceae) in India
10. Bibliography and Abstracts of Papers on Flora of different States and Union Territories [West Bengal I & II, North East India-I, Andaman & Nicobar Islands, Maharashtra, Kerala, Tamil Nadu, Karnataka, Goa, Andhra Pradesh (including Telangana), Odisha, Bihar & Jharkhand, Madhya Pradesh & Chhattisgarh, Himachal Pradesh, Uttar Pradesh & Uttarakhand, Rajasthan, Gujarat and Punjab & Haryana]

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