



KERALA STATE BIODIVERSITY BOARD

EKAA

Environment. Kerala. Awareness. Action

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World Rivers Day

*Rivers are the arteries of our blue planet Earth -
Mark Angelo*

World Rivers Day has been celebrated every year on the “Fourth Sunday of September” since 2005, to raise global awareness on the need to support, protect and preserve the rivers around the world. This year it is being celebrated on 26th September. According to the World Rivers Day website, the United Nations had launched the Water for Life Decade in 2005 in a bid raised by river conservationist Mark Angelo, to increase public awareness regarding better care of water resources.

Rivers swollen with pollution, are urging a call for action. As we celebrate World Rivers Day, let us commit ourselves to proactively protect and preserve the Earth's waterways. The theme for 2021 World Rivers Day is “waterways in our communities,” emphasizing the need to conserve and repair urban waterways, which are frequently under stress.

Chairman's Notes

Dr. C. George Thomas
Chairman



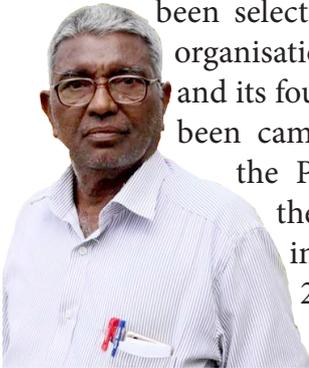
Biodiversity Hotspots

Endemism is the ecological state of a species being unique to a defined geographic location. Such geographical regions, where many of these species are heavily threatened by habitat loss and other human activities are often described as hotspots of biodiversity. The term was introduced by **Norman Myers** in 1988. In simple terms, a biodiversity hotspot is a region with high species richness and a high degree of endemism.

Based on the number of endemic plants and threat to original natural vegetation, the Conservation International has identified 36 regions in the world as biodiversity hotspots. Out of the 36 biodiversity hotspots in the world, sizable chunks of 4 hotspots fall within Indian Territory. Among the 36 hotspots, “Western Ghats and Sri Lanka” is one among the hottest hotspots.

Eminent Personality

N. K. Sukumaran Nair (6 June 1942 – 27 February 2021) was an acclaimed environmental activist and General Secretary of Pampa Samrakshana Samithi (PSS). Born at Poovathur in Pathanamthitta District, he received Jaiji Peter Foundation Gold medal and citation for the State's best environmental activist in the year 2007. He had been engaged in working with save the Pamba River. He was given the Paristhithi Mithra award in February 2018 for the best conservationist, and his organization, PSS has been selected the best environmental organisation in the State. The samiti and its founder general secretary had been campaigning for the cause of the Pampa, its tributaries, and the conservation of wetlands in the region for the past 25 years. Mr. Nair and the PSS were instrumental



in prompting the government to enact the Kerala Protection of River Banks and Regulation of Removal of Sand-Mining Act-2001. Being a former civil engineer attached to the Kerala State Electricity Board, Mr. Nair effectively utilised his field experiences, while conducting surveys in the forest areas of Pathanamthitta, in his nature conservation campaigns. It was his campaign against the flow of filth, including human waste, into the Pampa during the annual pilgrim season at Sabarimala, that had resulted in the setting up of a sewage treatment plant at Pampa on the basis of a High Court order 17 years ago. The government had intervened to regulate sand mining in the Pampa following court intervention on the basis of the Save Pampa campaign of the PPS. Their campaigns also acted as a catalyst in the formulation of the Sabarimala master plan, Kuttanad Package, and rejuvenation of water sources like the Varalchal.

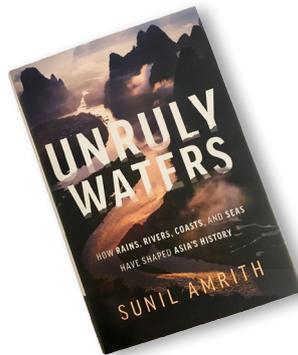
Green Reads

Unruly waters : How rains, rivers, coasts and seas have shaped Asia's history

The history Professor at Harvard University wrote the book covering various disciplines like geology, ecology and politics. Spanning the history of the nineteenth and twentieth century, the book has been divided into nine chapters. The drive to engineer solutions to water problems, whether by digging canals, erecting dams or mining underground, receives sustained and brilliant attention. As Amrith tells the history of these projects, which accelerated after the Second World War, his main thesis emerges: central governments have focussed on gigantic engineering at the expense of local people and environment.

After the Second World War, India and China built thousands of large dams to help make their nations self-sufficient. Dams promised year-round irrigation, flood prevention, river navigation and hydroelectricity. Their environmental and social impacts became fully apparent only later: indigenous tribal communities displaced, forests lost, fertile silt blocked. Amrith laments "a willful

blindness to the consequences of repeated attempts to conquer nature. Today, the inability of states to think beyond their borders imperils lives and denudes the political imagination." Unruly Waters doesn't suggest that water management is a bad thing. It has played a key role in helping millions of Chinese rise out of poverty and since independence has helped to end famine in India and turn the country into an agricultural exporter. Rather the book's central argument is against gigantism. Though the book cites many examples of bad water management, it also highlights the long history of scientists, journalists and activists sharing knowledge and working together transnationally.



Author : Sunil Amrith
 Publisher : Allen Lane

Language : English
 Pages : 416
 Date of Publication : 27.12.2018
 Rate : Rs.499
 Source : Amazon

Species Discoveries

New plant species named after Kerala's Political leaders

Three new species of tropical flowering plants have been identified from Thiruvananthapuram and Idukki districts of Kerala by a team of researchers from University of Kerala, Thiruvananthapuram, Government Victoria College, Palakkad, & Regional Cancer Centre, Thiruvananthapuram. The succulent balsam species, discovered from Thiruvananthapuram's Kallar forest area has been named *Impatiens achudanandanii* in honour of the political leader VS Achuthanandan for his efforts in the conservation of Western Ghats. The plant grows 15–20 cm tall, has whitish-creamy flowers with yellow spots, and is found at high-lands above 1200 m.

The *I. shailajae*, found along the streams of Sangili evergreen forest in Thiruvananthapuram, grows 10-15 cm tall and has white-purplish flowers. "*I. shailajae* is eponymous to Mrs. K.K. Shailaja, former Health Minister of Kerala, honouring her efforts to tackle various epidemic and pandemic situations in the state of Kerala through scientific temper" says the team.

I. dani collected from Idukki, Munnar stands 10-20 cm tall bearing white flowers with a yellow blotch on the throat. It was named in honor of Dr. Mathew Dan, senior scientist at the Jawaharlal Nehru Tropical Botanic Garden and Research Institute,



Thiruvananthapuram. He is an expert in the field of systematics and conservation of angiosperms in the Western Ghats.

The three plants belong to the Balsaminaceae family which has over 1,000 species and are found in Africa, Madagascar, India, and Sri Lanka. There are 210 taxa in India and over 106 species are endemic to the Western Ghats. Studies have shown that 80 percent of them are endangered. The paper was published in Phytokeys.

(<https://phytokeys.pensoft.net/article/66748/>),
(<https://www.biotaxa.org/Phytotaxa/article/view/phytotaxa.480.2.8>)

New species of skittering frog discovered from surroundings of Thattekkad bird sanctuary

A team of researchers from the Zoological Survey of India (ZSI), Mount Carmel College (MCC), Bengaluru, and National Institute of Science Education and Research (NISER), Bhubaneswar, identified a new species of skittering frog from the surroundings of the Thattekkad bird sanctuary. The new species is named as *Euphlyctis kerala* in honour of the remarkable biodiversity of the State, which is also known for many endemic species of frogs. The research findings of the study are published in the International Journal Zootaxa published from New Zealand. Members of the genus *Euphlyctis* (skittering frogs) have their distribution range



from Arabian Peninsula, Pakistan, India, Nepal, Sri Lanka, Myanmar, and Thailand.

RKI Projects

1. Conservation of Agrobiodiversity -

a) Field level activities - Alappuzha

From September 14th to 17th, field visits had been arranged in various parts of the district to select custodian farmers for organising farm schools for the project. A panel of subject experts Dr. CS Shaju, Dr. CK Peethambaran, Assistant programme coordinator Dr. Suresh TA and District coordinator Chandraprakash along with Assistant project coordinator Reshma Suresh were in the team. Out of the 24 farmers shortlisted, 20 were selected to run the farm school considering representation from all sections of the community including SC/ST community, Women and physically handicapped people.

A land area of 5 acres including 13 numbers of small and large sacred groves are well maintained by **Deepak**, who was one of the selected farmers. His plot is located in Thuravoor panchayat at Pattanakkadu block. The common tree species found in the sacred grooves are *Artocarpus hirsutus* (Anjili), *Rosewood* (Eetty), *Mesua ferrea* (Nagachampakam), *Vateria indica* (Vellakundirikkam), *Hopea parviflora* (Thambagam), Mango trees, *Alstonia scholaris* (Ezhilampala), *Mimusops elanji* (Elanji) and *Neolamarckia cadamba* (Kadambu). The farming methods of **Syam Roy**, in Edathua panchayat belonging to Champakkulam block,



Reshma Suresh,
Assistant Program Coordinator, Alappuzha



are entirely different from others. Despite his physical challenges, his dedication and interest in aquaculture helped him to make a living out of it. He is selling ornamental fishes, ducks and chicken. He along with full fledged support from family, is currently focussing upon commercial cultivation of Carp, Anabas and Tilapia. **Kannuveli Suresh Kumar** belonging to Sanathanapuram in Alappuzha municipality, is a good farmer and a retired botany lab assistant from Alappuzha SD college. Bittergourd, brinjal, ginger, papaya, snake gourd and different varieties of banana and fruits are grown commercially in his land. Vizhalari, Somaleta, Murikoodi, Kodithumpa, Neelayamari are some among the medicinal plants in his large conserved collection. **Santhosh Thekkesseril** in the Ambalappuzha block is the person who should be mentioned from the district as the guardian of the Kuttanadan buffalo.

b) Field level activities -

Malappuram

One of the major activities during the month was the identification of custodian farmers in the district as part of the RKI-Agro Diversity Conservation project. The project envisages recognition and support to actual custodians of our traditional varieties of seeds. With the ample cooperation of Krishi Bhavans, KVKs and Agriculture Technology Management Agency (ATMA) in the district, custodian farmers were identified from among a total of 250 farmers. While collecting details on them, it is noticed that the numbers of traditional farmers are declining in the district and



Hydresskutty
District coordinator, Malappuram

the youngsters are not interested in such kind of agricultural practices which seems non-profitable. Malappuram is blessed in having a number of its own traditional varieties of crops with Geographical Indication viz., Tirur Vettala, Edayur Mulaku, Arimbra Payar, Karinjappadi Watermelon, Thirunavaya Lotus and Kodur Kumbalam. We were able to identify some true custodians such as **Chandran Master**, who cultivates traditional rice varieties like Chitteni, Chettadi, Rakthashali, Navara, Vellari, and Thavala Kannan. **Chemmalasseri**

Sasidharan, a notable custodian of 7 varieties of Chendumalli flower, sun flower, Ney cheera and rice varieties like Jeerakasala, Gandhakasala, Rakthashali etc. He has also developed his own variety of rice known as 'Gopika'. Similarly, **Kodur Musthafa**, a physically disabled farmer cultivates medicinal plants in an acre of land. **Ponmala Khadeeja**, a

custodian of vegetable varieties, **George** and his family, who are successfully running a model cow farm, **Karinjappadi Saifulla** who is cultivating a wide range of banana varieties, rice and medicinal plants in 30 acres, are some of other notable farmers in the district.



2. Pampa River Rejuvenation project

The project is being implemented through selected BMCs of the 14 local bodies/ *Grama Panchayats* in Pathanamthitta namely: *Ranni, Ranni Angadi, Ranni Pazhavangadi, Ranni Perunad, Vadasserikkara, Vechoochira, Naranamoozhi, Kozhencherry, Cherukol, Ayiroor, Mallapuzhasseri, Thottapuzhasseri, Aranmula and Koyippuram*. The project is envisaged to be a model biodiversity project being implemented through the local bodies, the first of its kind in the State which can be replicated in other 43 rivers of Kerala. The approved project components include Riverine biodiversity rejuvenation, Enhancement of native fish species of Pampa river, revival of tributaries of Pampa river, establishment of biodiversity gardens, Riverine Interpretation centre, development of nurseries, livelihood training for local people etc. The project will enhance the riverine biodiversity

by planting and maintaining around 2,50,000 plant species around Pampa river. This project is being implemented with the support of local bodies, fisheries department, social forestry, R&D institutes, MNREGS scheme and BMCs.

For the enhancement of indigenous inland fish diversity in Pampa, native species of 50,000 numbers belonging to Climbing perch (*Anabas testudineus*), Green chromide (*Etroplus suratensis*) and Catfish (*Heteropneustes fossilis*) were released to selected sites of Pampa in a function were released inaugurated by Fisheries Minister Saji Cheriyan in the presence of Presidents and Members of BMCs. The fingerlings were procured from the Fisheries Department and Agency for Development of Aquaculture (ADAK). The fish fingerlings were released in Elanthoor Block Panchayat and Koyippuram Block part of Pampa river by Adv. Pramod Narayan, Hon'ble MLA of Ranni.



3. Conference on Bioresources and commercial utilization - trends, supply chain and sustainability (27.09.21 - 30.09.21)

Kerala State Biodiversity Board, as part of Rebuild Kerala Initiative Project of Government of Kerala, is on an ambitious mission to document Kerala's bioresources through a project "Database of tradable/ commercially potential bio-resources and Economic Valuation". As part of the project, a 4 days conference on Bio – resources and Commercial Utilization-Prospects, Supply chain and Sustainability was held from 27.09.2021 to 30. 09.2021.

The prime objective is to bring together industries, scientists, and research scholars to share their experiences and vision on all aspects of commercial utilization of bioresources, recent innovations, trends, future potential as well as practical challenges encountered and solutions adopted for the sustainable utilization of bioresources in Kerala. Seven

thematic areas have been identified and each of the areas had invited talk followed by panel discussion and presentation of

Focal Themes

1. Forest Produces - Collection, marketing, trade and economic valuation studies in Kerala
2. Agricultural products- Production, Commerce, Consumption and Trade in Kerala
3. Aquatic fauna and flora in Kerala - Collection, marketing, trade and economic valuation studies in Kerala



papers. The entire conference was held in an online platform. The proceedings of the Conference with selected papers will be published by KSBB. Case studies/ Best practises/ Bio-Trade/ Market analysis/ Trade statistics etc

The Conference was inaugurated by Dr.V.Venu IAS, Additional Chief Secretary, Planning, and Higher Education & Environment, Govt. of Kerala. Dr. V.B Mathur IFS, Chairman, National Biodiversity Authority delivered the keynote address. Sri. Justin Mohan IFS, Secretary, NBA delivered an invited talk on Biodiversity Act – A vehicle for rural development. This was followed by technical sessions based on each Focal Themes in which a total of 39 invited talks on relevant topics and 20 presentations by research scholars were delivered.

BMC meetings

Asramam Biodiversity Heritage Site-Butterfly Garden Project

In connection with the establishment of Butterfly Park inside Asramam Biodiversity Heritage Site in Kollam, a BMC meeting was convened on 29.09.2021. The meeting, chaired by Kollam Municipal Corporation Mayor Prasanna Earnest, was attended by Deputy Mayor, Secretary, Convenor and members of BMC along with representatives from KSBB, District Coordinator KSBB and Technical Scientific Group (TSG) members. The details of the Butterfly garden project and Miyawaki model forest project being implemented at Heritage centre were discussed by the board representative, Dr. Pradeep C. G. and BMC approved the project. The Mayor offered full fledged support for the

successful implementation of the project. After the meeting, the Mayor along with other officials visited the site and gave instructions for implementation of the project.



Valakam panchayath (Ernakulam)

On 25/09/21, a biodiversity monitoring committee (BMC) meeting was conducted at Valakam grama panchayath. The Meeting discussed plans for efficient utilisation of Access and Benefit Sharing (ABS) fund released by Kerala State Biodiversity Board. An amount of Rs.4.83 has been envisaged for performing biodiversity conservation measures. The BMC identified an area of 50 cents in the locality for the purpose. The fund has been earmarked for developing a fruit and medicinal plant

garden at Kunnakal government UP school. Besides, eradication measures for invasive weed species in the local area also will be covered. KSB



district co-ordinator Sreeja KS explained about the scheme and the need for conserving biodiversity. Five BMC members and panchayat members attended the meeting.

Kalliyoor panchayath (Thiruvananthapuram)

Kalliyoor BMC conducted a meeting on 22/09/2021 at Panchayath conference hall to discuss the progress of the model BMC project. Detailed discussion on the restarting of the Kottillam restoration component and the fruit tree conservatory on the banks of the Vellayani lake were carried out.

The BMC has decided to accomplish electronic PBR assignment as early as possible and assigned a technical assistant for the said work. KSB district coordinator, Dr. Akhila, reminded the BMC about the requirement of time bound completion of the project components. The BMC president Mr. K.K. Chandukrishna presided over the meeting.

Edavetty panchayath (Idukki)

A meeting of the Biodiversity Management Committee was held on September 30th at the Panchayat office. The meeting discussed the biodiversity park to be constructed in Idavetti panchayat with the funds sanctioned by the Kerala State Biodiversity Board. It was decided to prepare a household biodiversity register focusing on the backyard of Jaimon, a BMC

member of Idavetti and one of the best farmers in the panchayat. The meeting decided to conduct a detailed study of the birds in the 30-acre Idavetti Vanam and to inaugurate it on November 1. All BMC members, including the president and secretary, attended the meeting. The meeting was also attended by members of the team responsible for the construction of the bird park and representatives of birders Thodupuzha (bird watchers).

Biodiversity News

Ente Thai



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my saplings

A new App “Ente Thai” has been developed by KSB to monitor the growth of plants being planted as part of various projects in our State. “Ente Thai” is developed for monitoring plant growth with real time data and also to provide system control for its effective management. This app is an integrated version of GIS and android application designed for collecting information on planted sapling by taking its periodical growth status, picture and location using mobile devices with server side components for uploading data and a web based interface for managing and analyzing data. The access of the mobile app is restricted by the administrators through Mobile OTP verification. This mobile app will provide a quick survey of plant distribution and health status with reasonable time and efforts.



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2. Agriculture Production Commissioner
3. Principal Secretary , Fisheries Department
4. Principal Secretary, Forest & Wildlife Department
5. Executive Vice President, KSCSTE

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9. Dr. K.T Chandramohan

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