



KERALA STATE BIODIVERSITY BOARD

EKAA

Environment. Kerala. Awareness. Action

E-Newsletter of the Kerala State Biodiversity Board

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Species Discoveries	Green Reads	Biodiversity News	KSBB News	Gallery
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Onam, the celebration of flowers and our biodiversity:

The Harvest Festival Onam is one of the biggest and the most important in the state of Kerala. People of all communities in Kerala celebrate this festival with great enthusiasm and joy. Onam has been made the National Festival of Kerala in 1961. Every year, Onam is being celebrated around August-September. And flower carpets are still integral to the festival. For each of the 10 days beginning with the first day or athom to the 10th day or Thiruvonam, Malayalis across the world, layout Pookalams in their homes. It was a custom that kids pick local flowers for making pookalams. The flower selection for Onappookkalams surpasses all its contemporary sacraments by not trying to decipher anything from an occult or obscure entity that is presented. Moreover, it has a scientific backup too. More than twenty different varieties of flowers are used in Onam flower-beds throughout the whole ten days.

The first flower to be used in the traditional Pookkalam was that of Mathan (*Cucurbita moschata*) upon the earthen idol of Lord Ganapathi. On the first day, there must be white flowers, insisted as Thumbapoovu (*Leucas aspera*) with tender leaves of Thulasi (*Ocimum sanctum*) at the centre. From the second day onwards, flowers with varying colours are used, but traditionally it should be a medley of yellow, white and red. There are many varieties of Thumbapoovu (*Leucas aspera*), Thulasi (*Ocimum sanctum*), Nanthyarvattom (*Tabernaemontana divaricata*) available in Kerala, but specific varieties are selected by children for creating Pookkalam which may to the

basic taxonomic awareness to these children. These days, most kids are forced to make pookkalams by using flowers from market as most of these of these native flower bearing plants are becoming rare. Here is a brief on some of these species of flowers:

- **Kakkothippoovu or Kakkappoovu** (*Utricularia reticulata*) is used for making the special flower bed on the auspicious day of Kakkappooradam. This plant found a mention even in the Hortus Malabaricus. But it is now seen very rarely only.

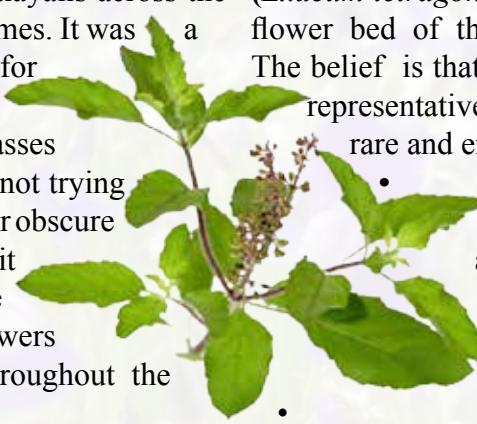
- **Kannanthali or the Bicolor Persian Violet** (*Exacum tetragonum*), is used for making the special flower bed of the auspicious day of Thiruvonam. The belief is that it comes along with Mahabali as a representative of Lord Vishnu. Kannamthali is a rare and endangered medicinal herb.

- **Mukkutti** (*Biophytum sensitivum*), also known as little tree plant, is also a major part of Pookkalam. It is widely used in a traditional medicine to cure variety of diseases but now rarely used in pookkalams

- **Krishna Mudi** (*Clerodendrum paniculatum*): A plant reported to have ethnomedicinal importance is often used as remedy for ailments and disorders such as wounds, typhoid, snakebite, jaundice, giddiness, malaria, anemia and haemorrhoids.

- **Kadali or Malabar Melastome** (*Melastoma malabathricum*) is having antinociceptive, anti-inflammatory, wound healing, antidiarrheal, cytotoxic, and antioxidant activities. It is also seen rare now and restricted to nurseries as ornamental plant.

- **Shankupushpam** (*Clitoria Ternatea*) - Commonly known as 'Butterfly pea', a traditional Ayurvedic medicine. It has been used for centuries as a memory booster, nootropic, antistress, anxiolytic, antidepressant, anticonvulsant, tranquilizing and



sedative agent. According to recent reports, the tea made from this flower is being consumed by many people to increase immunity and to reduce blood pressure.



Around 20 different flowers including those listed above, are collected from the neighbourhood and used for making the Pookkalam. Most of them also have enormous medicinal properties. Unfortunately, these plants are slowly neglected and started disappearing from our neighbourhoods which is a loss to our biodiversity too. It is high time to promote such valuable flowers for spreading joy and happiness during the occasion of Onam.

Kerala State Biodiversity Awards 2019-2020

Biodiversity Awards have been awarded annually by Kerala State Biodiversity Board to individuals and organizations for their meticulous work in the field of Biodiversity conservation. Biodiversity Awards 2019-20 were announced on 30th January 2020 in following 13 categories; (1) Best Biodiversity – Environment Conservator ; (2) Best local breed Conservator - Plants or Genetic Diversity Conservator- Plants; (3) Best local breed Conservator – Animals or Genetic Diversity Conservator- Animals; 4) Best Biodiversity Researcher (Taxonomy) Plants/micro organism/ fungi/ Animals, (5) Best citizen scientist/ local knowledge conservator, (6) Best Media Person - Print (Malayalam), (7) Best Electronic Media – Malayalam, (8) Best Biodiversity Management Committees, (9) Best Biodiversity Conservation -School, (10) Best Biodiversity Conservation - College, (11) Best Biodiversity Conservation Institution (Govt.), (12) Best Biodiversity Conservation - NGO, (13) Best Biodiversity Conservation Institution (Private). The list of winners is given below:

Biodiversity Awards

Category	Award	Address	Amount
Individual prizes			
Category 1 Best biodiversity/ environment conservator	First prize equally sharing	Mr. V. Muhammed Koya Edayadipoyil house, Arrambram, Padanilam, Calicut	50,000
		Mr. Praseedkumar Thayyil house, ulthanbathery, Wayanad	
Category 2 Best Custodian of Traditional Varieties (Plants)	First prize equally sharing	Mr. P.J. Thomas Purayidathil house, Thiruvambady , Calicut	50,000
		Mr. E.R Vinod Edavana House, Kottanalloor, Thrissur	
Category 3 Best local breed Conservator – Animals or Genetic Diversity Conservator - Animals	First prize equally sharing	Mr. S. Pradeep Kumar Valiyaparambil, Kurichithanam, Kottayam	50,000
		Mr. V. S. Vishnu Velathara House, Vechoor, Vaikkom, Kottayam	
Category 4 Best Biodiversity Researcher (Taxonomy) Plants/ micro organism/ fungi/ Animals	Plants Category	First Prize	25,000
	Animal Category	First Prize	
Category 5 Best citizen scientist/ local knowledge conservator	Plants Category	First prize equally sharing	25,000
		Mr. Ravikumar Kani Jaya bhavan, Njaraneeli, Palode, Trivandrum	
Category 6 Best Media Person - Print (Malayalam)		First Prize	25,000
Category 7 Best Electronic Media – Malayalam		First Prize	25,000
Institutional awards			
Category 8 Best Biodiversity Management Committee		First prize equally sharing	1,00,000
		Peelicode Grama Panchayath, Kasargod	
	Second prize	Kurumathoor Grama Panchayath, Kannur	50,000
	Third prize	Vellinezhi Grama Panchayath, Palakkad	25,000
			Kinaanor- Karinthalam Grama Panchayath, Kasargod

Category 9 Best Biodiversity Conservation – School	First prize equally sharing	St. Mary's G.H.S, Kanjirappilly, Kottayam	25,000
		G.V.H.S, Karuvarakund, Malappuram	
Category 10 Best Biodiversity Conservation – College	First prize equally sharing	College of Applied Science (IHRD), Chelakkara	25,000
		Payyannur College, Kannur	
Category 11 Best Biodiversity Conservation Institution (Govt.)	First Prize	Coastal Police Station, Neendakara, Kollam	25,000
Category 12 Best Biodiversity Conservation - NGO	First Prize	Green Habitat Society, Pavaratty, Trichur	25,000
Category 13 Best Biodiversity institution (Private)	First Prize	Apollo Tyres Limited, Perambra, Trichur	25,000

Category 1 - Best biodiversity/environment conservator: This award has been equally distributed between two distinguished individuals



(1) **Mr. V. Muhammed Koya:** A resident of Kozhikode district he had developed a natural forest of 4 acre area having several rare and endangered species. Numerous micro and macro organisms are being conserved effectively in this forest ecosystem. Mr.Koya is well versed on every aspect of these plants like common name, scientific name and medicinal and he eventually converted this ecosystem to a knowledge centre for students as well as local people.



(2) **Mr. Praseedkumar:** He is a resident of Wayanad district and a great conservator of numerous indigenous species in their natural environment. He is also a well known custodian farmer having around 125 rice varieties who is always willing to share his knowledge and seeds to fellow farmers.

Category 2 –Best Custodian of Traditional Varieties (Plants)

This award has been equally distributed to two distinguished individuals

(1) **Mr. P.J. Thomas:** : He is conserving various plants and their genetic varieties in his 3 acre land in Kozhi-



kode district. This area has rare plants including 20 varieties of bamboos, 30 varieties of banana, 30 varieties of ginger, medicinal garden, herbal garden, Star forest etc.



(2) **Mr. E.R. Vinod:** A resident of Thrissur district he is well known for conserving numerous rare and endangered tuber crops. He also has a collection of 13 native mango varieties, around 45 Yam varieties, 30 Colocasia varieties, and rare and endangered medicinal plants.

Category 3- Best Custodian of Traditional Farm Animal breeds (Animal)

This award had been equally distributed to two equally deserving individuals



(1) **Mr. S. Pradeep Kumar :** A resident of Kottayam district, he conserves various native animal breeds such as cows (Vechur, Kasargod Kullam), Poultry (Black type Chicken, Thallaseri Chicken, Palakkad Pulli Chicken, Theni Chicken, Kuttanadan Duck, Chara-Chemballi ducks etc), and Malabari goat.

(2) **Mr. V S Vishnu:**
Hailing from Vechoor in Kottayam District, he



conserves a total of 12 Vechoor variety cattle including 2 bulls. He is also conserving local rice, native goats and poultry in his farm

species, 117 orchid varieties and numerous wild fruit plants, wild tubers, wild spices, and wild rice varieties.

Category 6-Best Media Person - Print (Malayalam)



Mrs. Jisha Elizabeth : She won the award for the article “Ecosystem loss of Vizhinjam Coast and conservation of coral reefs” published in Madhyamam news paper and many other reputed reports related to biodiversity.

Category 4- Best Biodiversity Researcher (Taxonomy) Plants/micro organism/ fungi/ Animals



(1) **Dr. K M Prabhukumar, Senior Scientist, CMPR, Arya Vaidhya Shala, Kottakkal** has been recognized by this award by considering his contributions to the field of plant taxonomy. He described 21 new taxa to science from India, reported 21 new records for Asia, India, Western Ghats and various states, rediscovered 10 taxa including extinct species from Western Ghats. He is the author of 104 research publications (1 Book, 70 papers, 28 abstracts, 2 articles).). He also received 2 National and 2 International Awards and member of associations related to taxonomy. He is also a reviewer of many international journals.

Category 7- Best Electronic Media – Malayalam



Mr. V S Krishna Raj: He won the award for his report, ‘Impact of flood in soil and Human, loss of biodiversity’ telecast in News-18 Channel

Category 8–Best Biodiversity Management Committee (BMC)

First prize was equally shared between Peelicode (Kasargod) and Kurumathoor (Kannur) Grama Panchayaths.



(2) **Mr. Roshnath Ramesh:** He has done many studies related to heronry of cranes in wetlands of urban areas in Kannur and Kasargode. He has done his studies in 18 locations in Kasargode and 35 locations in Kannur district. He did studies related to sparrows and snakes in Kannur. He is the author of the book on the biodiversity richness of Kattampally village and the founder of the NGO “Malabar Awareness and Rescue Centre for Wildlife”.

(1) **Peelicode Grama Panchayath** is conserving around 47 varieties of native mangoes through the model BMC project funded by KSBB. They also have native heritage tree conservation project, native rice project etc. They have also organized native mango fest and developed 8 mango nurseries in schools

(2) **Kurumathoor Grama Panchayath** have successfully implemented the project titled ‘Aranyakam’-planting endangered species in temple places and more than 10000 saplings along 18 kilometers of Kurumathoor river for river rejuvenation programme. They also have Pachathuruthu- ‘Green islets’ made in 5 acre land, salt water resistant sugarcane farming, wetland conservation etc. They also established an Eco-diversity Park as a part of Model BMC project of KSBB and have developed a bamboo nursery in school.

Category 5- Best citizen scientist/local knowledge conservator



Mr. Ravikumar Kani : A tribal medical practitioner recognized by State and Central Awards and with ample knowledge in traditional medicine. He is also conserving numerous rare medicinal plants.



Mr. Salim PM : He identified 8 new species and rediscovered 6 plant species with more than 12 scientific publications. He is a great biodiversity conservator and conserves more than 200 RET plant

Second prize: Vellinezhi Grama Panchayath, Palakkad: They have a special conservation programme for *Cycas circinalis* (Eenth). They also have school student based conservation scheme named ‘Vrukshakudumbam’ for a set of five plants and Bamboo and Pandanus conservation programmes. They have put-up boards for awareness creation regarding flood and also many other conservation programmes like native poultry

conservation, native betel conservation etc.

Third prize: Kinaanor- Karinthalam Grama Panchayath, Kasargod : They have special conservation and documentation programme for sacred groves and till date they have conserved 10 such sacred groves. They have also established haritha club in all the schools of panchayath. They also have native mango conservation programme, water conservation programme through conserving 12 natural Pallom and 100 years old pond and numerous other wetland conservation programmes.

Category 9 – Best Biodiversity Conservation – School

This award was been equally distributed between two schools

(1) **St. Mary’s G.H.S, Kanjirappilly, Kottayam:** They have conducted numerous student based biodiversity activities such as Plant a tree programme, Jack fruit tree planting in students houses, ‘Ayiram Aryaveppu’ (1000 Neem) programme in each students home, planting trees in the name of the houses, global tree planting with the help of friends and relatives abroad, leaf vegetable fest, preparation of biodiversity register by students, developing bio pesticide and marketing through differently abled students, etc. They also successfully conducted numerous other biodiversity conservation activities such as island restoration through seed ball, study, documentation and bamboo planting along chittar river bank, plant a tree programme, established of native biodiversity hotspot in 10 cents of land, biodiversity awareness campaign etc.

(2) **G.V.H.S, Karuvarakund, Malappuram:** They have conducted many biodiversity conservation activities such as development of medicinal plant garden, butterfly garden, fruit plant garden, biodiversity register of plants of the campus, programmes like ‘Vanasree-gurukula education scheme’, (students class under trees), cleaning of two ponds, cultivation of paddy etc.

Category 10 – Best Biodiversity Conservation – College

This award was equally distributed between two colleges

(1) **College of Applied Science (IHRD), Chelakkara, Thrissur:** They have conducted many biodiversity

activities such as medicinal plant garden, butterfly garden, star forest, tree planting inside and outside the campus as well as biodiversity awareness programmes.

(2) **Payyannur College, Kannur:** They have developed by a man made forest ‘Johnsy vanam’, consisting of numerous rare and endangered plant species. In addition to this, they also have herbal plant garden made of 100 species, and a conservatory of native banana and native rice varieties. They had also conducted documentation of biodiversity of Edanadan hills with the support of students.

Category 11 – Best Biodiversity Conservation Institution (Govt.)

Coastal Police Station, Neendakara, Kollam: In spite of their busy work schedule, the police personal of this station made outstanding contribution towards biodiversity conservation, as a role model to other line departments. They are effectively conserving the heronry in their area and mangroves. They have also developed medicinal plant garden and star garden. In addition to these, they have successfully planted and maintaining the endemic *Calophyllum* species (Cherupunna) along the coastal belts of Neendakara.

Category 12 – Best Biodiversity Conservation – NGO

Green Habitat Society, Pavaratty, Trichur:

They have been conserving Scheduled -1 category Sea turtles for the last 26 long years. They have developed an artificial hatchery for turtle eggs and providing awareness towards its conservation. In addition, they are also conserving mangroves and Sparrows in the area and developed a nursery for mangrove saplings.

Category 13 – Best Biodiversity institution (Private)

Apollo Tyres Limited, Perambra, Trichur: This private company achieved significant biodiversity conservation activities which includes the development of three butterfly gardens, conservatory of native plants, fruit gardens, pond conservation, bamboo planting, tree plantation by retired officers etc in their factory. They have also funded project for mangrove conservation in Kannur reflecting their commitment towards environment and biodiversity.

Biodiversity Law, Policy and Governance

Conservation of biodiversity is a fundamental concern for securing sustainable future. This volume argues that despite various domestic and international policies and legal frameworks on biodiversity conservation, be it forest, wildlife, marine, coastal, etc. their implementation suffers from many deficiencies. It explores the factors that hinder effective implementation of these policies and frameworks. It also analyses existing laws, both international and domestic, to identify inherent problems in the existing legal system. The book maintains that careful adherence to established procedures and protocols, public awareness, filling the lacuna in legal framework, and a strong political will are *sine qua non* for effective conservation of biodiversity and sustainable development. The book defends the protection of traditional knowledge and participation of



indigenous communities along with reinforcements of intellectual property in this regard. It also comments the role played by the Indian judiciary, especially the Supreme Court of India and India's National Green Tribunal for the preservation and enhancement of natural resources by applying the established as also evolving principles of environmental law.

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Species Discoveries

A new species of *Madhuca* was identified from Kollam, Kerala.

A new species from the family Sapotaceae, *Madhuca balakrishnanii* was identified from a home premise in Thodiyoor Panchayath of Kollam district, Kerala. The tree was protected by a family for the past century considering its rarity. The species was named after late Balakrishna Pillai who preserved it in his compound. This is an evergreen tree growing to a height of 8M with fluted, slightly fissured bark. It closely resembles *M. diplostemon* and *M. insignis* but differs in having long stipules, hairy inner petals, short corolla tubes and styles, and ovoid fruits. The identified population of *Madhuca balakrishnanii* consists of just three mature trees and several seedlings of various ages within one sq km area. The researchers from JNTBGRI who discovered the species suggested that the species can be classified as 'critically endangered' under the IUCN Red List criteria. (<https://doi.org/10.11646/phytotaxa.510.1.8>)



Report of *Bradinopyga konkanensis* Joshi & Sawant, 2020 (Insecta: Odonata) from Kerala, India

A new dragonfly species, *Bradinopyga konkanensis* Joshi & Sawant 2020 (Insecta: Odonata), had been reported from Kerala, 450 km away from its nearest record. The observation adds credence to the opinion of the authors of the species that it could be found in lateritic coastal habitats in Goa and Karnataka. A survey of similar habitats in the coastal region of Kerala could also yield additional records

(DOI:<https://doi.org/10.11609/jott.6484.13.8.19173-19176>)



Inadequacy of the Biodiversity Act:

There are various environmental Acts in force in Kerala such as the Wildlife Protection Act 1972, Kerala Forest Act 1961, etc. for effective protection of the forests and the biodiversity. Armed with the above Acts, the officials of the forest department could effectively carry out the protection of forests and biodiversity as the provisos of the Acts are sufficiently potent. These Acts were promulgated for the protection of the resources within the forest areas only. Whereas, the Biological Diversity Act was promulgated by the Indian Parliament in 2002 with a view to protect the Biodiversity of the entire length and breadth of the country.

The Biological Diversity Act was promulgated with the above intention which is very imperative as far as our very existence on the earth is concerned. Unfortunately, the Act is defectively and inadequately toothed to achieve the objectives envisaged in the Act. To cite an example, there is an express proviso in the Act to convene Biodiversity Management Committee meetings once in every three months by the local bodies, which are only very rarely complied with. The BMC is the grass-root level entity enshrined in the Act to protect biodiversity. But, there is no proviso in the Act to compel the BMCs to comply with the provisos of the Act. The only alternative is to make punitive provisos in the Act entailing erring officials accountable for the lapses. Despite the persistent coercion by the Kerala State Biodiversity Board team in the districts, the provisos in the Act are rarely complied with.

To cite another example, it is the responsibility of the BMCs (1034 BMCs in Kerala- 941 Grama Panchayats, 87 Municipalities, and 6 Corporations) to prepare People's Biodiversity Registers. Due to the failure on the part of the local bodies to prepare PBRs despite

lapse of several years of the formation of BMCs, one Sri Chandra Bhal Singh filed a case before the Principal Bench of National Greens Tribunal, New Delhi against the Union of India and others and after due hearings, the NGT on 09.08.2019 ordered to comply 100% constitution of BMCs and PBRs by 31.01.2020 failing which coercive measures may have to be considered against erring officers" the NGT further ordered that, "the States shall be accountable for defaults and required to deposit a sum of Rs.10 lakhs per month from 01.02.2020 with the CPCB to be utilized for the restoration of the environment. The States shall be at liberty to recover the said amount from the persons committing the default". Attitudes of the BMCs took a U-turn after receipt of the above order of the NGT. Until then the inactive BMCs were electrified and started their actions at lightning speed. The district KSBB team's request which had been brushed off by the BMCs previously started frantically calling them for guidance and training for the preparation of PBRs. The KSBB district teams conducted Fore Noon and After Noon training sessions as pleaded by the various BMCs so as to abide by the time limit prescribed by the NGT. The above order of the NGT with a punitive string attached was imperative for the BMCs to invigorate and to act swiftly. Thus, PBRs of all the 1034 BMCs in the State were prepared well within the time limit fixed by the NGT.

Whereas in the case of the Right to Information Act 2005 the penal provisos are very dominant and potent and hence an application by an individual for information from an office is disposed of within the time limit prescribed in the Act. The Act is so powerful that, when an application is received in an office, even down from the peons to the head of the office works.

Shri. Babu Bonaventure A.M,
District coordinator, Palakkad

Biodiversity News

26 July: International Day for the Conservation of the Mangrove Ecosystem

The International Day for the Conservation of the Mangrove Ecosystem, adopted by the General Conference of UNESCO in 2015 and celebrated each year on 26 July, aims to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem" and to promote solutions for their sustainable management, conservation and uses.

29 July: International Tiger Day

International Tiger Day - also known as Global Tiger Day - is observed each year on 29 July to raise awareness about tigers, which are an endangered species



BMC Meeting @ Arakkulum GP, Idukki



BMC meeting @ Ayiroor GP



BMC meeting @ Malayinkeezhu, Tvpm



BMC meeting @ Pallichal, Tvpm



BMC meeting @ Ranni Angadi GP



BMC meeting @ Ranni Pazhavangadi



BMC meeting @ Vadaserikara GP



BMC meeting @ Cherukol GP



BMC meeting @ Kozhenchery GP



BMC meeting @ Perunad GP



BMC meeting at mararikulam, Alappuzha



Model BMC meeting @ Alappad Gp, Kollam



Site visit for Butterfly garden @ Ashramam BHS

Dr. C. George Thomas

Chairperson

Smt. Roney.R.Pillai

Member Secretary

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