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## Everyone should take part in Biodiversity conservation- Oommen Chandy



**Oommen Chandy**  
Chief Minister of Kerala

Kerala State Biodiversity Board organized an Environment Awareness Rally in connection with the World Environment Day, on June 5, 2012. The rally was flagged off by Oommen Chandy, Hon'le Chief Minister of Kerala. "Each individual should play their part in conserving nature and biodiversity" Chief Minister said. Students, researchers and nature lovers participated in the rally. Former Chairman of Biodiversity Board Dr. R.V. Varma and Member Secretary Dr. K.P. Laladhas lead the rally.

Rally conveyed the message of conservation and sustainability. Avoiding the use of vehicles for walkable distance and making use of bicycles and public transport could reduce atmospheric pollution. Planting trees, using solar energy, reducing the use of plastics, conserving fresh water resources, avoiding chemical pesticides and being part of biodiversity conservation activities were the tips communicated by the rally.



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## Western Ghats in World Heritage list

The Western Ghats has been inscribed in the World Heritage list.

Western Ghats consists of 39 sites spread over 129037 Sq.Km. Kerala leads with 19 sites inscribed in the heritage list followed by Karnataka with ten, Tamil Nadu six and Maharashtra four. The decision to include these sites was taken by the 21 nation panel of the World Heritage Committee (WHC).

According to UNESCO, the western ghats is home to at least 325 globally threatened species and is one of the world's most important ecologically diverse areas. Mountains, rainforests, rivers and waterfalls are all part of the area, recognized as a global biodiversity hotspot. Western Ghats was inscribed under

criteria 9 and 10 of the Operational Guidelines of the World Heritage Convention.

Designated as one of the 8 hottest hotspots in the world, the Ghats, also known as the Sahyadri range, are home to over 5,000 species of flowering plants, 139 mammal species, 508 bird species and 220 amphibian species. There could be many more species here that are still unknown to us. The Western Ghats are home to a number of flagship mammals including the endangered endemic Lion-tailed Macaque, Asian elephant and the Tiger.

The mountain range, which is older than the Himalayas influence the weather, culture and economy of India.



**XI Conference of Parties**  
CONVENTION ON BIOLOGICAL DIVERSITY  
HYDERABAD INDIA 2012





Dr. K.P. Laladhas,  
Member Secretary, KSBBS  
Chief Editor

## Policies should promote Eco-Friendly Development

It is a matter of pride to India, especially to Kerala that Western Ghats has been declared as the World Heritage Site and that out of the 39 serial sites 19 are in Kerala which is juxtapositioning the significance of both cultural and natural diversities of Kerala. The Western Ghat is home to many endemic species of flowering plants, fishes, amphibians, reptiles, birds, mammals and invertebrates and is a significant centre of evolution of biological diversity. Some of the species are present in specialized and restricted niches due to landmass separation and biological isolation to form a rich, endemic population. The major paradox is that it is home to rich biodiversity, at the same time harbour areas having high human population.

Ministry of Environment and Forest has constituted an expert committee for assessing the ecological and environmental problems of the Western Ghats, taking into account the increasing pressure of population, encroachments, industrial development, river valley projects, mining, influence of plantation crops and monoculture on forests, infrastructure projects, soil erosion, landslides, habitat fragmentation and biodiversity decline.

Prof. Madhav Gadgil headed the Western Ghat Ecology Expert Panel (WGEEP) and has submitted the report to MoEF on August 31, 2011. The Committee reported a comprehensive conservation strategy to Western Ghats, which included demarcation of Ecologically Sensitive Areas in Western Ghats and has recommended, measures for preservation, conservation and rejuvenation of these sensitive zones, sectoral guidelines for ESA's and modalities for the establishment of Western Ghat Ecology Authority. The report has generated much enthusiasm and also adverse reactions from people from all walks of life. There were representations from the respective State governments and public to reconsider the zonation in places where thickly populated areas are having ESZ-1 status.

The Government of India has further announced a nine member High Level Working Group (HLWG) chaired by Dr.K. Kasthuri Rangan, Member, Planning Commission to have a reappraisal of these issues. The Committee will be examining the WGEEP report in a holistic and multidisciplinary fashion considering the comments received from the respective State Governments/ Central Ministries/ Stakeholders in a balanced way. The concept of conservation of biodiversity and wellbeing of people, sustainable development and environmental integrity of the region, climate change and constitutional implication of Centre – State relations are the main dimension's to look in to.

To address the pertinent issues relevant to Kerala, Kerala State Biodiversity Board compiled the WGEEP report as "Understanding Report of the Western Ghat Ecology Expert Panel – Kerala Perspective" for an effective discussion at grass root level. KSBBS feel that 81 Sq.Km. grid has to be reconstituted for Kerala and an LSG level demarcation is more effective with People's participation. The criteria put forward by WGEEP was used as the tool by KSEB to demarcate WG at LSG level at the same time considering population density. The presence of endemic plants, number of IUCN Red listed mammalian species, unique percent of ever green ecosystem, percentage of area covered by relatively undisturbed forest, forest cover, elevation, slope and riparian vegetation are also considered for the Grama Panchayat level demarcation. By considering all the above, KSBBS wish to express it clearly that the policies should promote environment friendly and socially inclusive development without compromising or harming our valuable biodiversity.

## Dr. Oommen V. Oommen becomes Chairman, Kerala State Biodiversity Board

Dr.Oommen V. Oommen has taken charge as Chairman of Kerala State Biodiversity Board. He succeeds Dr.R.V.Varma.

An Emeritus Scientist of CSIR, Government of India; Prof. Oommen has 35 years of teaching and research experience. He got his master's and Ph.D. Degrees from BHU, Varanasi. He was the Head of the Department of Zoology, Dean, Faculty of Science and member of Senate, University of Kerala and an Adjunct Professor, Central University of Kerala, Kasaragod. Prof.Oommen's research contributions are in the fields of Biodiversity, Taxonomy, Comparative Endocrinology, Developmental Biology and Animal Physiology. He has research collaboration with scientists in India and abroad.

He is the author of more than 135 research publications and several reviews and chapters in peer reviewed national and international journals which earned him the Fellowship of the National Academy of Sciences (FNASc) and Kerala Academy of Sciences (FAS). More than two dozen researchers took doctorate degree with Dr.Oommen as mentor. Recognizing his contributions to the field of amphibian (caecilian) diversity and biology, scientists of the Natural History Museum, London honoured him by naming a new species after him. He serves as the President of the Kerala Academy of Sciences which is involved in taking Science to society. He was a visiting professor in University of Texas, M.D. Anderson Cancer Centre and a Commonwealth Academic Staff Fellow.

Prof.Oommen is currently Hon. Scientist of Venom Informatics Centre in the Department of Computational Biology & Bioinformatics, University of Kerala, which is involved in transnational research intended for human welfare without compromising on environmental protection.





Dr. Oommen V. Oommen  
Chairman-KSBB

Diversity is universal and it applies to the gigantic stars to the microscopic bacteria to the genes. The philosophy of planet earth is multispecies and not monospecies.

When it comes to biodiversity, it is the myriad forms of life made up of almost the same basic ingredients but with different designs engraved deep inside the DNA folding. On the outer side the species diversity or the animals and plants we see around may look simple and smooth but the underlying mechanisms and the interconnections among the species and thus the total system are much more complex and can only be measured, comprehended and handled safely with the aid of science. Yes, we may not need science to enjoy or to enthral at the beauty of life but we do need the science if we are doing anything more than just enjoying from a safe distance. Today we are lucky to have the Western Ghats declared as one of the World Heritage Sites – the pristine forests offering ultimate sources of joy, inspiration, prosperity and purity for us and the generations to come. In fact we do not know for sure how many species are there in the Western Ghats or its part falling in the boundaries of Kerala. We need to document the diversity and devise methods to ensure their long survival. It is high time we need to bring in more

## Biodiversity- Important resource for Biomedical Research

conservation science to protect our resources. In Kerala, even the village paths are species rich and vibrant. We need to have a holistic approach. So let us steer towards this goal of guarding the species of plants and animals not just in the forests but also the anthropogenic habitats. Scientists say that there are about 8 million species on earth. And not even one is unwanted, atleast until it is naturally extinct. And we are just one of these 8 million species. We need to remember that, atleast for our own survival.

Biological diversity is fundamental to our life. Not only does it secure our material needs, it also provides valuable services that humans require from their environment, such as food, clothing, clean drinking water, and most importantly, medical care. Research on wildlife anatomy, physiology and basic biochemistry can lead to important developments in drug discovery. Species of interest to medical science include bears (for insights into osteoporosis, cardio-vascular disorders, renal diseases and diabetes), sharks (osmoregulation and immunology), cetaceans (respiration and treatments for divers suffering from decompression sickness) etc. Biodiversity loss can also have greater impact on community traditions and livelihoods centered on traditional medicinal practices that utilizes wild animals and plants, particularly for indigenous and local communities.

Millions of people in the world still depend on traditional medicine for their primary health care. According to WHO report, 80% of populations of some Asian and African countries still depend on traditional medicine practices to maintain their health, as well as to prevent, diagnose, improve or treat physical and mental illness. Biodiversity provides important resources for traditional and modern medicine. Modern drugs derived from wild species include pain killers (e.g. Zinconitide from Cone snail toxin), cardiac drugs (e.g. Lanoxin from *Digitalis* plants), anti-cancerous drugs (e.g. Taxol from *Taxus* trees and Hycamtin from *Camptotheca* plants), anti-hypertensive drugs (e.g. Captopril from Brazilian snake *Bothrops jararaca*) etc. Of these direct and indirect animal and plant resources, venoms can play a prime role in drug discovery efforts as they constitute a vast and essentially untapped resource of novel pharmacologically active molecules. The evolutionary process has refined the biological diversity and the potency of the venoms so that they now essentially constitute vast libraries of pharmacologically active, receptor-targeted molecules that are preoptimized for the medicinal chemist.

Thus preserving species and conserving biodiversity is highly important to the progress and development of biomedical research.

## Eleventh meeting of the Conference of the Parties

India began preparations for the eleventh meeting of the Conference of the Parties (CoP 11) to the Convention on Biological Diversity (CBD) scheduled to be held in Hyderabad from 1<sup>st</sup> to 19<sup>th</sup> October 2012. The Conference of the Parties is the governing body of the Convention on Biological Diversity, and advances implementation of the Convention through the decisions it takes at its periodic meetings.

The Hyderabad meeting is noteworthy, as it is widely expected

that two new protocols to the Convention will have entered into force: the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization, and the Nagoya - Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety. Currently, the Nagoya Protocol has 24 signatories and the Nagoya - Kuala Lumpur Supplementary Protocol has 23.

CoP logo has been developed by National Institute of Design, Ahmadabad for Ministry of Environment & Forests, Government of India. This logo symbolizes the cycle of life with a tiger, a dolphin, a bird and a women with grains depicting linkage of biodiversity with livelihoods. On top is the slogan in Sanskrit (Prakruti Rakshati Rakshita) with English translation 'Nature Protects if she is protected'.







ജര്മോ റേ ഹരിയാലീ |  
വര്മോ റേ ഛുരായലീ ||



Kerala State  
Biodiversity Board

## KSBB EVENTS

- KSBB conducted a discussion meeting on Western Ghats Ecology Expert Panel report. Meeting was held at Chief Minister's conference hall. Hon. Chief Minister Oommen Chandy, Hon. Ministers-Aryadan Mohammed, Adoor Prakash, and K.P.Mohanan, Principal Secretaries and Heads of Departments attended. KSBB Chairman Prof.Oommen.V.Oommen presented "Western Ghats Ecology Expert Panel report-A Kerala perspective". The English and Malayalam versions of the report are available in the official website of KSBB.
- Biodiversity Management Committees have been constituted in all the Pachayaths of Kerala. A directory of BMC members of all the Panchayaths prepared by KSBB was released by Chief Minister Oommen Chandy, on 9 November 2011.
- Idamalakkudi is the only tribal Panchayath located in Idukki district in Kerala. Species like *Coscinium fenestratum* (Maramanjal) are facing the threat of habitat loss here. A team of 20 experts lead by KSBB Member secretary Dr.K.P.Laladhas carried out study of the Panchayath for preparing People's Biodiversity Register. Based on the Biodiversity Register, KSBB will do necessary interventions for preventing biodiversity loss of Idamalakkudi and provide sustainable livelihood for the tribes.
- Environmental awareness programme for journalists was convened by KSBB in Alapuzha, Kottayam and Pathanamthitta Districts.
- Kerala State Biodiversity Board is establishing 'Biodiversity Clubs' in Educational Institutions. Biodiversity Conservation programmes will be conducted by these Biodiversity Clubs in University, College and Higher Secondary School Campuses. These biodiversity clubs will carry out programmes for conservation of local biodiversity in association with Biodiversity Management Committees (BMCs). In addition, these clubs will establish 'Shanthisthal', a man-made forest ecosystem in the campus, where at least 10-20 cents would be made available for making a forest grove with RET (Rare, Endangered and Threatened) species.



Flag off - Idamalakkudi PBR preparation team.



WGEEP Report Discussion meeting chaired by Hon. Chief Minister of Kerala, Oommen Chandy

- Annual meeting of SBBs was convened by NBA on 27.01.2012 at Chennai. Smt. Jayanthi Natarajan, Hon. Minister for MoEF inaugurated the meeting. Dr. K. Kashturi Rangan delivered the keynote address.
- Workshop on PBR was convened by NBA on 22 and 23/12/2011 at Bangalore. Chairman and Member Secretary of KSBB attended the above NBA events.
- The sacred grove of Siva Vishnu temple at Kalassamala, near Kunnankulam in Thrissur will be designated as the first biodiversity heritage site of Kerala by Kerala state Biodiversity Board. The 3.5 acre grove has 110 numbers of *Syzygium travancoricum* (Kulavetti or Vathamkollli), a tree growing in fresh water swamps. It is a critically endangered species placed in the Red list. The National Biodiversity Authority and KSBB will give financial support to the temple for protecting the sacred grove.
- One day workshop to restore vernacular names for all the freshwater fishes of Kerala - 'Meenu Oru Peru' was organized by the Kerala State Biodiversity Board (KSBB) together with Department of Aquatic Biology and Fisheries, University of Kerala. The workshop was inaugurated by Dr. B. Madhusoodana Kurup, Vice-Chancellor, Kerala University of Fisheries and Ocean Sciences. Former Chairman of KSBB Dr. R.V. Varma and Member Secretary Dr.K.P.Laladhas participated in the workshop. The common Malayalam names for 209 freshwater fishes were collected through an interactive session. Some fishes without common names were also given apt names based on the discussion with experts.
- KSBB carried out Heronry conservation in Kottayam and Alappuzha Districts in association with Kottayam Nature Society, an NGO. The stake holders were identified. Incentives were distributed to them by Hon. Minister for Tourism A.P. Anilkumar at a function held at Government High School Ayaparambu, Harippad on 12 August 2011. Sri. Ramesh Chennithala, MLA presided over the function.
- KSBB organized one day workshop on medicinal plants at Hotel Chaithram, Thiruvananthapuram on 20 December



## RED LIST

### The Malabar spiny dormouse *Platacanthomys lasiurus* (Blyth)

## Mutteli or Mulleli

The Malabar spiny dormouse (*Platacanthomys lasiurus*) is one of the endemic mammals of the Western Ghats described by Blyth in 1859 based on the specimen obtained by Dr. Baker from Mundikayam, Alippi (Alapuzha). Its present distribution records are from Shimoga (Karnataka) to the southern tip of the Western Ghats. The species is the country's sole representative of the family Muscardinidae, which is a group of rodents showing Palaeartic affinities. The body is covered with soft flat spines except the head, throat limbs and hind portion of the abdomen. The tail is less hirsute on

basal third and the hairs become gradually longer on the hinder part.

In Kerala, it is called Mutteli or Mulleli. The species is found in



Photo: Sree Hari

*The Malabar spiny dormouse*

tropical moist deciduous and tropical evergreen forests. It feeds on pepper, jack fruit, etc. Due to the habit of feeding on pepper, it also called as pepper rat. Loss of habitat and poaching pose serious threats to the survival of the species. Establishment of plantations, habitat alterations including clear felling, removal of many large trees, climbers and under-storey vegetation account for the disappearance of the Malabar spiny dormouse from the plantations. Apart from this, trapping by local people for its purported medicinal value poses a possible threat to this species.

## Registration for "Malnad Gidda"

Breed Registration Committee of NBAGR approved registration of nine new breeds of livestock species. National Bureau of Animal Genetic Resources, Karnal (NBAGR) is the nodal agency for the registration of newly identified germplasm of the livestock and poultry of the country. For the first time, indigenous pig and donkey breeds has been registered by NBAGR.

These new breeds were identified through wide-ranging survey by NBAGR, other ICAR institutes, state universities, state departments and NGOs in their respective breeding tracts in the country. Inclusive of these newly registered breeds, total number of indigenous breeds in the country has risen to be 144, which include 37 cattle, 13 buffalo, 23 goat, 39 sheep, 6 horses &

ponies, 8 camels, 2 pigs, one donkey and 15 chicken.

Newly identified breeds are custom-made for the local climate and thrive better in adverse environmental conditions and food shortage. They include Malnad Gidda of Karnataka, Kalahandi Buffalo used for milk and draught purpose in Kalahandi and Rayagada districts of Odisha, Kosali, a small sized, draft purpose cattle breed of Chhattisgarh, Pulikulam cattle, maintained as large migratory herds in Madurai and nearby region of Tamilnadu, Konkan Kanyal, a meat type goat breed adapted to high rainfall and hot and humid climate of Konkan region of Maharashtra, Berari goat, reared mainly for meat purpose in Vidarbha region of Maharashtra, Ghongroo pig, reared for pork and

manure purpose in Darjeeling and nearby Terai area of West Bengal, Niang Megha, a pig breed from Garo, Khasi and Jaintia hills of Meghalaya reared for pork and bristle purpose and Spiti donkey found in Lahaul and Spiti region of Himachal Pradesh. Malnad Gidda cow is 81 to 88 centimetres tall and 88 to 90 centimetres in length. This breed is indigenous to the Western Ghats in Karnataka.



*Malnad Gidda*

2011. The workshop evolved strategies to assess over exploitation of wild stock of medicinal plants. Dr. Laladhas, Member Secretary, Kerala State Biodiversity Board welcomed the gathering and Dr. R.V. Varma, former Chairman, introduced the topic.

- KSBB conducted two regional trainings for the personnel engaged in PBR preparation at Trivandrum

and Kozhikode during December 2011.

- A study on the level of pesticides in the fishes found in rivers of Kerala was commissioned by Kerala state Biodiversity Board. The fish specimens were sent to SACON (Salim Ali Centre for Ornithology and Natural History) for the pesticide analysis. The fish survey has been completed.
- A tree planting campaign was organised by KSBB in Karunapuram panchayath of Idukki District during August last week. 20,000 tree saplings were planted by NSS Volunteers.
- Meeting of the 18th expert committee on access and benefit sharing for processing the applications received by NBA was held on 25-02-2012 at Chennai.



# Guardian of Native Breeds

GREEN FINGER



India has a rich tradition of indigenous cattle breeds, which have been an integral part of Indian farming, providing additional income to the farmers and manure for the crops. Indigenous cattle breeds also have good adaptability and better resistance to diseases. But many of these breeds are fast disappearing. Chandran Mash, a retired TTI principal has taken up conservation of indigenous breeds as his life mission.

In his homestead spread over 9 acres at Vemballoor, Thrissur, 73 year

old Chandran Mash keeps 11 breeds of indigenous cattle. These include dwarf breeds like Vechur, Kasaragod Dwarf, Malnad Gidda and Vadakara Dwarf. He got a Vechur cow from Kerala Agricultural University ten years back. This cow gave birth to 8 calves. These were grown in his farm and multiplied further. Chandran Mash gave some of the calves to conservation-minded persons. High Range Dwarf cattle was collected from tribal's of Chimmini Forest.

Chandran Mash travels to

various places in the country to locate and buy indigenous breeds. Gir cattle of Gujarat, Murrah Buffalos of Haryana, Kankayam and Manappara cattle breeds of Tamilnadu and Ghariar of Orissa are all part of his prized collection. Canadian pigmy Goat and Kathiavari horse also attract the attention of farm visitors. Poultry breeds like Naked Neck, Kadaknath and Asil Fighter Chicken are part of Chandran Mash's backyard poultry.

"Indigenous cattle breeds require less care and feed. Feed- milk conversion rate is also higher. I give only green grass and locally available feed. I believe that the milk, urine and cow dung of these cattle have better quality. They enrich the soil. I consume purified cow urine as it has medicinal values. I keep regular contact with like-minded people in the country and exchange breeds with them. It is our duty to conserve these breeds and pass on them to the next generation."- Chandran Mash says.

In his land, Chandran Mash grows many medicinal trees, plants and a sacred grove is also maintained. Zero Budget farming is practiced for Coconut and intercrops. Cow dung and urine alone are applied on the basins without disturbing the soil. Chandran Mash believes that his activities will inspire others to conserve indigenous breeds and adapt natural farming.

KSBB EVENTS

## Green Awards Distributed



The distribution of the prestigious Green Awards instituted by KSBB was held at Museum hall, Trivandrum on May-22, the International Day for Biodiversity. The meeting was presided over by Sri.

K.Muraleedharan MLA, and inaugurated by Hon. Home Minister Thiruvanchoor Radhakrishnan.

The Green Awards were distributed by Thiruvanchoor Radhakrishnan. The Green Individual award was shared by Shyam P.S, Alappuzha and Shyam Kumar M, Palakkad. Tropical Institute of Ecological

Sciences, Kottayam bagged the Green Institution Award. The Green School Award was shared by Jawahar Navodaya Vidhyalaya, Wayanad and SVG HSS, Pathanamthitta. Nehru Arts and Science College, Kanhangad

and Christ College, Irinjalakkuda shared the Green College award. R.Samban, Chief Reporter, Deshabhimani was given the award for Green Media Person (Malayalam). Green Electronic Media Person award (Malayalam) was shared by Sreekala M.S and T.R.Ratheesh, India Vision, Kochi.

Dr.K.P.Laladhas, Member Secretary, KSBB welcomed the dignitaries and Dr.R.V.Varma, former Chairman, delivered the introductory speech. The programme included talks by eminent scientists. The documentary film on Mangroves produced by KSBB was also screened. Simultaneous with this KSBB organized awareness programmes in the nine coastal districts of Kerala. The programmes were funded by NBA.



## Wayanad Rice Varieties Under Threat

Traditional rice varieties of Wayanad are vanishing.



Anachoodan, Achatti, Chenachundan, Chena Puncha, Chara, Cheera Nellu, and Channa are some of the traditional varieties that have disappeared from the farm lands of the district. The People's Biodiversity Register (PBR) of 20 panchayaths of the district was evaluated by the Kerala State Biodiversity Board. Evaluation revealed that 168 rice varieties, including 78 traditional ones, were cultivated in the district, of which 55 varieties are cultivated no more.

Realizing the threat faced by the rice varieties, Board is planning *in situ* and *ex situ* conservation of these varieties. The Board is also exploring the possibility of setting up a seed bank of traditional rice varieties of Kerala.

## New caecilian discovered from Western Ghats

A new caecilian (Limbless Amphibian) species was discovered from Kerala in the southern region of the Western Ghats. The discovery has been published in the international animal taxonomy journal *Zootaxa* (Kotharambath et al, 2012).

The new species, *Gegeneophis primus*, belong to the Indotyphlidae family and resembles at first sight earthworms in color, size and shape, and is blind, living a completely subterranean life alongside earthworms in moist soil along the often shrub-covered banks of a stream under dense canopy cover inside a cardamom/coffee estate. Commonly called Malabar Cardamom Geg, this species is currently known only from the type locality. It is the third Indotyphlid caecilian species described from Kerala.

The team of Scientists who discovered the species include

Dr.K.Ramachandran of Kerala University, Dr.Oommen.V.Oommen, Chairman, KSBB along with Dr.David.J.Grover and Dr. Mark Wilkinson of The Natural History Museum, London.

The new species was collected during two consecutive monsoons from within a hilly, largely terraced cardamom/coffee estate contiguous with evergreen forests. Specimens were dug out from moist soil along the often shrub-covered banks of a stream under dense canopy cover. This locality is part of Sugandhagiri Cardamom Estate. The region receives around 3,000 mm of annual rainfall. The population of *G.*

*primus* at the type locality is likely to be not under immediate threat as long as the current habitat is maintained. The wider distribution, natural history and habitat preferences/tolerances of this species are yet to be determined.

Until additional data are generated, the team of scientists proposes that the conservation status of this species should be Data Deficient (DD) under IUCN Red List criteria. The discovery of *G. primus* highlights that the knowledge of composition of the caecilian faunas of all regions of Western Ghats remains incomplete and in need of further study.



Researchers from the School of Environmental Science of Mahatma Gandhi University in Kottayam have discovered a new plant species belonging to the 'Commelinaceae' flora family of the 'Murdannia' genus. The researchers have named the new plant with golden flower, 'Murdannia

*Satheeshiana*'. The plant had little golden flowers and had similar traits as other plants of the 'Commelinaceae' family which have yellow, golden and blue blossoms.

A new plant species named *Eriocaulon* has been identified in the laterite hillocks in Madayipara the

foothills of Western Ghats by Prakashkumar.R, M.M.Swapna, K.P Rajesh and C.N. Manju. The plant is characterized by hairy female flowers and absence of stem and root stock.

Scientists from the Zoological Survey of India (ZSI) have observed Great Nicobar Crake, possibly a new bird species, on the Great Nicobar Island.

He is richest who is content with the least,  
for content is the wealth of nature.

-Socrates



## Vampire Flying Frog

The mountain jungles of Vietnam are home to a new breed of "vampire"- a "flying" tree frog dubbed *Rhacophorus vampyrus*. First found in 2008, the two-inch-long amphibian is known to live only in southern Vietnamese cloud forests, where it uses webbed fingers and toes to glide from tree to tree. Tadpoles normally have mouthparts similar to beaks. Instead, vampire tree frog tadpoles have a pair of hard black hooks sticking out from the undersides of their mouths—the first time such fangs have been seen in frog tadpoles.

The scientists do not yet know what purpose the fangs serve. However, frogs that raise tadpoles in tree-trunk water holes often feed their young by laying unfertilized eggs as meals. The fangs could help the feeding.



## Turmeric, a key component for Alzheimer's medicine

Turmeric is emerging as a promising basis for an inexpensive treatment for Alzheimer's disease (AD), a new study of the American Chemical Society has found.

Curcumin, a spice compound extracted from the turmeric is being looked at as a promising and less expensive alternative to the common medications of AD. Curcumin is a powerful antioxidant. Other organic compounds in turmeric have been found to offer anti-fungal and antibiotic value. The study report details



scientific evidence about curcumin's potential and the hurdles that

chemists must overcome to craft it into a drug. For instance, only tiny amounts of powdered curcumin taken orally get into the blood, let alone the brain.

Turmeric is often used to cure common skin problems, arthritis and is also said to protect liver and heart from damages. Turmeric is also being studied as a natural remedy for ulcerative colitis and similar ailments, as it has anti-inflammatory characteristics. A number of studies are also pursuing turmeric as part of a natural cure for various cancers.

## God's gift- The Bread fruit

### A legend from Hawaii

Once the great god Ku came to the island of Hawaii. When he walked into a village, they did not recognize Ku. Ku lived among the people as a planter. He alone did the work of twenty.

Ku married a village woman. Years passed and the day came when there was a terrible famine. All of the people in the village became wretched and hopeless. Ku and his wife saw that their own children were starving. Ku told his wife that he could help, but he must leave them and go far away. With sorrow, she agreed. The family watched as Ku stood tall and erect, his feet planted firmly on the land. Gradually, he began to sink down into the ground. Soon, all that remained was the top of Ku's head and tears of his wife made the soil around it wet. Next day early morning, they noticed a slight shifting of the soil where Ku was buried. A tiny green shoot suddenly sprouted from the spot where Ku's head had been. The family watched with wonder as the plant grew swiftly up and up, branching out as though reaching for the stars. Thousands of shining green leaves unfurled, and soon this magnificent tree was covered with hundreds of nutritious breadfruits.

Ku's wife then heard her husband's voice inside her head- "Wife...my body is the trunk of this tree, and my arms are the branches.



My hands are the leaves and my head is the fruit. The heart inside each fruit holds the memory of my words. Roast the fruit well, remove the skin, and then you and our children shall eat... Carefully dig up the new shoots around my trunk and share them with our family and friends."

And so she did. The people planted the sprouts all around their village. These grew just as fast as the first tree had grown, up and up, filling the sky with glistening leaves and plump, ripe fruit. Everyone had bread fruit to eat and hunger was wiped out from the village.