



Kerala State
Biodiversity Board

GREEN LIFE

September 2013
Volume 2, Issue 3
Quarterly Newsletter

INSIDE THIS ISSUE

Editorial	2
From Chairman's Desk	3
KSBB Events	4
Red List	5
Green Finger	6
New Face	7
Green Tales	8



Chairman-KSBB

Dr. Oommen V. Oommen

Chief Editor

Dr. K.P. Laladhas, Member
Secretary, KSBB

Editor

G.S. Unnikrishnan Nair

Asst Editors

Dr. Preetha N
Dr. Baijulal B
Sandhya Rani S.K
Vijayasree A.S

Layout & Design

Vinod A.G

Kuttanad recognised as Globally Important Agriculture Site

The Assistant Director General, FAO and Regional Representative, Asia-Pacific Region Dr. Hirayuki Konuma handed over the plaque commending Kuttanad Below Sea Level Farming System in Kerala as Globally Important Agricultural Heritage



System (GIAHS) to the President, Pranab Mukherjee, during the Silver Jubilee celebrations of M.S. Swaminathan Research Foundation (MSSRF), in Chennai on August 07, 2013.

President Pranab Mukherjee further handed over the Plaque of Recognition to Oommen Chandy, Chief Minister of Kerala. The Governor of Tamil Nadu, Dr. K. Rosaiah and the Chairman of the M.S. Swaminathan Research Foundation, Prof. M.S. Swaminathan attended the function. On the occasion, Chief Minister said that the State Government has sanctioned funds for establishing an International Research and Training Institute for Below-Sea-Level Farming. The institute would have a Sustainable Agriculture Research Centre at Mancombu and a Sustainable Fisheries Centre at Kumarakom - he said.

Kuttanad is the second farming system after Koraput (Odisha) to be accorded heritage status by the FAO in India. Kuttanad is a delta region of about 900 sq. km situated in the west coast of Kerala. The area is a larger mosaic of fragmented landscape patches and varied ecosystems such as coastal backwaters, rivers, vast stretches of paddy fields, marshes, ponds, garden lands, edges, corridors and remarkably networked water ways. The Kuttanad Below Sea-level Farming System is unique, as it is the only system in India that practices rice cultivation below sea level. The major land use structure of KBSFS is the vast stretches of rice fields in about 50,000 ha of mostly reclaimed delta swamps. Farmers of Kuttanad have developed and mastered the spectacular technique of below sea level cultivation over 150 years ago on lands that were 2.5-3 metres below the sea level. They made this system unique as it contributes remarkably well to the conservation of biodiversity and ecosystem services including several livelihood services for local communities.

Unlike the Netherlands (the only other place where below sea-level farming is practiced), where concrete bunds are constructed to keep away the saline seawater, the Kuttanad farmers developed 'bio-bunds' constructed from coir, banana waste, bamboo, clay and other locally available material.

The Kuttanad GIAHS serves as a model for developing farming techniques to checkmate the adverse impact of sea level rise - Prof. M.S. Swaminathan

Nature's fury - A wake up call



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

Heavy rainfall wreaked havoc all over the country during the past two months. It is high time that we take this as a wake up call and do a serious introspection of the man made factors responsible for the loss of life and property.

On the evening of June 16 and on June 17, "The Himalayan Tsunami" swept across Uttarakhand and killed several hundred persons; thousands went missing and about 100,000 pilgrims were trapped. Heavy precipitation swelled rivers, both in the upstream as well as downstream areas. In addition a huge quantity of water was released from melting

of ice and a glacier causing breaching of dammed lakes in the upper reaches of the valley. The National Institute of Disaster Management (NIDM), in its first reports on the Uttarakhand floods, has blamed "climatic conditions combined with haphazard human intervention" in the hills for the disaster.

In a similar incident heavy downpour lashed the high ranges of Idukki and adjoining districts of Kerala leading to a chain of landslides across the district leaving behind a devastating path of tragedy.

Extreme weather, drought, floods and related disasters are becoming more common each year. Last year Kerala reeled under the impact of droughts and this year it is floods. Human activities such as mining, construction, transportation, building dams, canals, and roads,

unscientific agriculture, over-exploitation of natural resources, human encroachment and land modifications are leading to environmental havoc. Many areas of the Western Ghats in the state are under cultivation by cash crops replacing natural forests and grasslands. All these factors alters soils, reducing soil moisture retention and infiltration leading to soil erosion, landslide and floods. Biodiversity helps in building up resilience in the ecosystem and losing biodiversity can affect the ability of nature to bounce back. It is time to take note of these warning signals. Sustainable development, consumption and greater sensitivity to biodiversity conservation should be integrated into all sectors of government and society and the degraded forests should be reclaimed by natural growth.

Protect, manage and regenerate Western Ghats - Dr.Kasturirangan

The 10-member High Level Working Group (HLWG) headed by Dr.K. Kasturirangan presented report on Western Ghats to Ministry of Environment and Forests during April 2013. MoEF constituted the High Level Working Group to examine the large number of public responses received to the recommendations of the Gadgil report and to suggest an all-round and holistic approach for sustainable and equitable development of Western Ghats.

The HLWG report draws upon the basic framework suggested by WGEEP to use remote sensing technologies to demarcate the ecologically sensitive areas of the Western Ghats but with two key differences. First, it used satellite data, down to 24 m resolution with village as unit, as against 9 km used by WGEEP. Second, it distinguishes landscape of the region as Natural Landscape (40%) and Cultural landscape (60%: Human dominated land use, Agriculture and plantations, etc). HLWG have identified 37% of natural landscape having very high biological richness, low fragmentation, low population density and containing Protected Areas (PAs), World Heritage Sites (WHSs) and Tiger and Elephant corridors as Ecologically Sensitive Area (ESA). HLWG recommends a



Dr.K. Kasturirangan

prohibitory and regulatory regime in ESA for those activities with maximum interventionist and destructive impact on the ecosystem with complete ban on mining, quarrying and sand mining. All projects will require prior-informed consent and no objection from the Gram Sabha of the village. To promote sustainable agriculture, HLWG recommends a focused programme to incentivize farmers in the Western Ghats to move towards organic cultivation and to build a unique 'brand' for such premium products in the world market. HLWG recommends setting up "Decision Support and Monitoring Centre for Western Ghats" by MoEF and hosted by one State with joint management of all Six States of the

Western Ghats region. Payments for Ecosystem Services accruing from ESA and non-ESA regions within the Western Ghats is another idea mooted by HLWG. The Western Ghats Sustainable Development Fund, as proposed will be used to promote programmes specifically designed to implement an effective ESA regime and incentivize green growth in the region. The Working Group makes several recommendations to "incentivize green growth in the Western Ghats" including managing forests and improving their productivity to ensure inclusive growth and economic benefits for local communities, integrating forest accounts into state and national economic assessments, initiating an ecosystem service fund, promoting sustainable agriculture and encouraging ecotourism for local benefits.

As Dr. Kasturirangan puts it- "It is imperative that we protect, manage and regenerate the lands now remaining in the Western Ghats as biologically rich, diverse natural landscapes. We have reached a threshold from which we cannot slip further. This has to be the objective of future planning and regulation in this recognized centre of biodiversity in our country".

People's Biodiversity register - An innovative approach for Biodiversity education



Dr. Oommen V. Oommen
Chairman-KSBB

The Convention on Biological Diversity's Communication, Education and Public Awareness (CEPA) programme helps Governments and educators to create tools to raise public awareness and to integrate biodiversity into education systems worldwide.

Strengthening formal and informal education on Biodiversity has been identified as one of the thrust areas during CoP11. It is widely recognized that loss of biodiversity is the problem; conservation biology is an attempt of science to discover solutions and environmental education is the means of getting solutions implemented. MoEF has implemented several flagship

programmes like National Green Corps which supports universalizing of environmental education.

Biodiversity education, will succeed only when it is taught and learned in the real-life context, focused on behavior change in such a way that future generation will appreciate nature's diversity and act for its conservation at local level. Kerala State Biodiversity Board with the support from National Biodiversity Authority is implementing an innovative approach to Biodiversity education "Panchayat as a class room and PBR as a reference book" in the schools of the State from the next academic year. The Peoples Biodiversity Register prepared at LSG level will be used as a handbook for identifying locale specific biodiversity stressing the importance of local diversity of species and understanding the changes that occur. The students

will be involved in collecting and documenting information on biodiversity in their panchayat through group projects covering documentation of locally relevant biodiversity such as diversity of agricultural crops, medicinal plants etc. The data will be incorporated in Biodiversity information database as part of computer science project in an "Across the curriculum strategy". The educational materials being developed will enable students to understand the importance of local natural resources, develop values and scientific skills such as inventorying and monitoring of bio-resources. In the long run it will enable in better management and conservation of their surrounding natural resources and in creating a generation not only aware of problems, but of making them skilled and willing participants of biodiversity conservation.

International Biodiversity day celebrated

The International Day for Biological Diversity was celebrated throughout the state on 22nd May 2013 with the focal theme "Water and Biodiversity". The State level celebration was held at Kanakakkunnu Palace, Thiruvananthapuram.

Chief Minister of Kerala, Oommen Chandy inaugurated the celebration and presented the "Biodiversity awards". The Chief Minister released the books - "Jaivakrishi- Oru Prayogika Padom" written by C.Narendranath and "Butterflies of Kerala" written by Suresh Elamon. Dr. K.P. Laladhas, Member Secretary, KSBB welcomed the gathering. Dr. Oommen V. Oommen, Chairman, KSBB, introduced the activities of KSBB.

The day was celebrated in all districts of Kerala with seminars and various competitions for students.



Chief Minister inaugurating International Biodiversity Day Celebration

Think, Eat, Save... World Environment day - 5 June 2013

The theme for this year's World Environment Day is "Think.Eat.Save". While the planet is struggling to provide us with enough resources to sustain its 7 billion people (growing to 9 billion by 2050), Food and Agriculture Organization (FAO) estimates that a third of global food production is either wasted or lost. Every year 1.3 billion tons of food is wasted worldwide. This is equivalent to the same amount produced in the whole of sub-Saharan Africa. At the same time, one in every seven people in the world go to bed hungry and more than 20,000 children under the age of 5 die daily from hunger. This year's World Environment Day campaign appeal to everyone for taking action from home and collective efforts to reduce food waste, save money, minimize the environmental impact of food production and force food production processes to become more efficient.



Annam na nindhyath, Annam na pari chaksheeta, Annam bahu kurveeta
(Do not abuse food, Do not discard food, Grow food in abundance) - TAITTIRIYA UPANISHAD

KSBB EVENTS



◆ Environmental summit was organised by Kerala State Biodiversity Board at Kodungallur on May 4 and 5 as part of the Aksharam

educational programme of Kodungallur constituency. Renowned Malayalam poet and Environmentalist, Sugatha Kumari inaugurated the summit and T.N.Prathapan, MLA presided over the function. "Bhoomiyude Pachakkudakal" brochure published by KSBB was released by Sugatha Kumari.

◆ Dr. Balakrishna Pisupati, Chairman, NBA visited the Malabar Botanical Garden, on 08/05/2013 in connection with review of the project proposal to upgrade the garden, submitted to the Ministry of Environment and Forests.

◆ Dr. K.P. Laladhas, Member Secretary, KSBB attended 24th meeting of National Expert committee of Access and Benefit sharing organized by NBA on 11/05/2013 at Chennai.

◆ Kerala State Biodiversity Board, in association with Forest Department and Indian Railways organised the exhibition of photos on the flora and fauna of Kerala at Thiruvananthapuram Central Railway Station, Platform.No.1. This was jointly inaugurated by Rajesh Agarwal, Divisional Manager, Railways



Union Minister Dr.Sashi Tharoor inaugurating the restored pond at Pattom

and Dr. Oommen V. Oommen, Chairman, KSBB on 22nd May 2013. The Exhibition continued till World Environment Day on 5th June. Dr. B.S. Corrie, PCCF, Social Forestry, Pukazendi, DCCF, Dr.Oommen V. Oommen and Dr. K.P. Laladhas planted saplings at Railway Station premises.



Inauguration of Biodiversity Expo at Thiruvananthapuram Railway Station

◆ An expert level meeting on monsoon fishery (Ootha) and invasive and threatened fresh water fishes of Kerala was conducted on 31st May 2013 at the Conference Hall, Govt Guest House, Thiruvananthapuram. Dr. Oommen V. Oommen, Chairman, KSBB gave a brief introduction on Ootha and the recommendations of the research report submitted to the Govt. of Kerala. Suggestions put forward in the research report on Monsoon fishery and a compiled database of information from various sources on Invasive and Threatened fresh water fishes of Kerala prepared by KSBB was presented for review in the meeting.

◆ A meeting of BMC members of 3 panchayats of Koipuram, Pandanad and Mannar was organized as part of KSBB Pampa conservation project on 07/06/2013. A training programme for project fellows for conducting survey and implementation of the modules for rejuvenation of Pampa River was conducted. Work has been initiated in Koipuram Panchayat. A ward level Pampa conservation committee is being formulated and actions are being taken to create awareness among the local people.

◆ An expert level meeting on Invasive Alien and Threatened species (Flora and Fauna) of Kerala was conducted on 13th June 2013 at the Conference Hall, Govt. Guest House, Thiruvananthapuram. Dr. Oommen V. Oommen presented an overview of the Invasive alien species and Threatened species of Kerala. During the discussion Dr. K. P. Laladhas pointed out that the updating of Notification of Threatened species of Plants and Animals under section 38 of The Biological Diversity Act 2002 is necessary. The experts included scientists from various institutions of Kerala. A compiled database on Invasive species and Rare, Endangered and Threatened (RET) flora and fauna of Kerala prepared by KSBB was presented for review in the meeting.

◆ Thiricharivu' a rural exhibition, was organized by KSBB in association with United Library at Revenue Towers, Nedumangad from 13th to 16th June 2013.

◆ Dr. K.P. Laladhas attended 25th meeting of National Expert committee of Access and Benefit sharing organized by NBA at Chennai on 14/06/2013

◆ Dr. Balakrishna Pisupati, Chairman, NBA visited the naturally formed ecosystem - Oxbow lake, at Vynthala near Mala, Thrissur on 27/06/2013. The site is proposed to be developed as a Biodiversity Heritage site.

◆ A meeting was organized by KSBB on 20/7/2013 at Kollam Dist. Panchayat office for BMC members of Sasthamkotta, Mynagapally and West Kallada to address the environmental problems faced by Sasthamkotta lake .

◆ Dr. Oommen V. Oommen attended the first stakeholder consultation



Dr.Balakrishna Pisupati, Chairman,NBA meeting media persons during his visit to Oxbow lake at Thrissur

**Nasikabatrachus
sahyadrensis****RED
LIST****Indian purple frog**

Nasikabatrachus sahyadrensis (purple frog, Indian purple frog, pignose frog) is a frog species belonging to the family Sooglossidae. This species is endemic to the Western Ghats in India, and is known from only two localities in the Cardamom Hills in Kerala; Kattapana and near Idukki town. Its recorded altitudinal range is 850-1,000m above sea level.

This species is listed as endangered because its extent of occurrence is less than 5,000 km². All individuals are in fewer than five locations, and

there is continuing decline in the extent and quality of its habitat in the Cardamom Hills. It has been found in disturbed secondary forest contiguous with montane evergreen forest, but presumably occurs in



undisturbed forest as well. For most of the year it is a fossorial species, living at 1.3-3.7m below ground. It comes to the surface for a few weeks a year to breed in temporary and permanent ponds and ditches by larval development. It often breeds in ponds close to streams.

The species was described from specimens collected in the Idukki district of Kerala by S.D. Biju of Delhi University and Franky Bossuyt from the Free University of Brussels in 2003. The main threat is forest loss due to expanding plantations.

Science Express -Biodiversity Special Visits Kerala

Science Express -Biodiversity Special halted at various Railway stations in Kerala during August 2013. The express was visited by general public, teachers and students in large numbers.

Science Express is an innovative mobile exhibition mounted on a specially designed 16 coach AC train, travelling across India since October 2007. With over 1 Crore visitors at its 315 halts since its launch in October 2007, Science Express is now the largest, longest and most visited mobile science exhibition in India. After the successful tour across India in four phases, this iconic train is running since 2012 as 'Science Express - Biodiversity Special (SEBS)' - a unique collaborative initiative of Department of Science & Technology and Ministry of Environment & Forests, Govt. of India. The SEBS 2013 edition is scheduled to travel to 62 locations in the country during its journey from 9 April to 28 October 2013.



The current decade (2011-2020) has been declared as the United Nations Decade on Biodiversity and United Nations Decade for Deserts and Fight against Desertification. The 'Science Express - Biodiversity Special', therefore, primarily addresses the theme 'biodiversity'. The state-of-the-art exhibition aboard SEBS aims to create wide-spread awareness on the unique biodiversity of India, Climate Change, Water, Energy Conservation and related issues among various sections of the society, especially students.

meeting on India's Fifth National report and developing national targets on biodiversity, for updating National Biodiversity Action plan on 30th July 2013 at New Delhi. In connection with this, a Road Map for achievement of Aichi Biodiversity Targets was prepared by KSBB.

◆ Dr. Oommen V. Oommen and Dr. K.P. Laladhas attended the one day consultation meeting organized by NBA at Pune on August 1st, 2013. The meeting aimed to discuss issues related to implementation of Biodiversity Act and funding sources for PBR preparation and BMC.

◆ KSBB organized a workshop on "Crowd Sourcing of *in situ* Data for Remote sensing and Modeling of Environment" on 7th August 2013 at Hotel SP Grand Days, Thiruvananthapuram, sponsored by DoECC in collaboration with Department of Computational Biology and Bioinformatics (DCBB), University of Kerala and University of Alabama. The workshop was envisaged to introduce the use of smart phones for environmental research and development and to explore viability, opportunities and technological and scientific requirements of Crowd Sourcing for ecological research in Western Ghat Region. The one day workshop included presentations by Dr. Oommen V. Oommen, Dr. Udayasankar S. Nair, Expert on Climate change, Dept. of Atmospheric Science, University of Alabama, USA, Dr. Suresh Raju, Vikram Sarabhai Space Centre and Dr. T.K. Sabu, St. Joseph College, Calicut.

◆ The inauguration of the Ambalapara ecosystem restoration programme was conducted on 11/08/2013. The ceremony was attended by Benny Behanan, MLA, Tony Chammani, Mayor, Cochin Corporation, District Collector P.I. Shaik Pareeth, Dr. Oommen V. Oommen, Chairman, KSBB, Dr. K.P. Laladhas, Member Secretary, KSBB and Dr. Dominic, Project Co-ordinator.

◆ Union Minister of State for Human Resource Development Dr. Sashi Tharoor inaugurated the pond at Pattom rennovated under Urban Biodiversity programme of KSBB on 15/08/2013. K.Muralidharan, MLA, Mayor, Adv. K. Chandrika and Dr. Oommen V. Oommen, Chairman, KSBB attended the function.

◆ Dr. K.P. Laladhas attended 26th meeting of National Expert committee of Access and Benefit sharing organized by NBA at Chennai on 21/08/2013.

Seeds of Wealth

Wayanad was once a treasure trove of traditional rice varieties. Kurichya Tribesmen of this district have been conserving indigenous rice varieties for generations and cultivating them on the fields organically. Cheruvayal Raman, native of Cheruvayal in Mananthavady is preserving a rare



collection of 35 rice varieties. Rice, Ragi and Cattle are an integral part of the life of Kurichya community. More than 150 rice varieties were cultivated by them, but most of it have vanished from fields. Cheruvayal Raman has been involved in family farming since childhood. Now at 64, farming continues to be a family activity for Raman. All the work, from sowing to harvesting, is being done by his family and they never purchase rice from shops.

“I have dropped out from School at First standard to do agriculture. I used to watch people coming to Wayanad, in search of antique items and antique furniture. I asked them, why they want to collect these things. They said that they are doing this to preserve the old culture. Hearing this, I decided to collect paddy seeds that are disappearing from fields and started cultivating them each year in my five acre land. Now I have thirty five varieties. I give 2kg free paddy seeds to anyone who asks me. I do not take any money, but insist that they give back to me 2kg seeds after the cultivation. Thus I know for sure that they cultivate the seeds I give and a chain is created. I am preserving the culture of Wayanad my own way.”

The seeds preserved by Raman include aromatic rice seeds such as Gandhakasala, Kayama and Jeerakasala, short-term rice varieties such as Thonnuramthondy and Palthondy, medicinal varieties such as Navara and Chennellu and drought-resisting varieties such as Chenthadi and Chenthondi. Green manure and ash are used as manure in the field. Plants like *Ocimum kilimandscharicum* (Karpooora Thulasi) are planted on the field bunds to repel the pests. Chemical fertilizers and pesticides are avoided completely.

As far as the Kurichya tribes are concerned every stage of paddy cultivation is a divine activity. Paddy seeds are an integral part of their rituals also. Occasions such as the sowing of paddy seeds on the field, transplanting and harvest are celebrated with religious fervour.

Cheruvayal Raman uses a traditional method called “Moodaketta” to preserve indigenous rice seeds. The process of “Moodaketta” is done two weeks after harvest. For preparing each Mooda, different varieties of seeds are dried separately for nearly a week in an open place, day and night. Later, the seeds are wrapped in a layer of dry hay or plantain sheaths with bamboo plinths. Each mooda can hold 10 to 60 kg of rice seeds. The seeds preserved in a mooda can be conserved for a longer period without fear of pest attack or moisture loss.

According to Raman, if local paddy varieties fetch a better price, then their cultivation will spread in Wayanad. For the great cause he has undertaken, many honours including State Biodiversity award have been conferred upon Raman. Preserving paddy is not a profitable venture for him. But Raman doesn't bother much about the economics; he considers this as a holy mission.

BirdLife releases “State of World's Birds”

BirdLife International's latest evaluation of the world's birds has revealed that more species than ever are threatened with extinction. A staggering 1,227 species (12%) are now classified as Globally Threatened, but the good news is that when conservation action is put in place, species can be saved. According to Dr. Leon Bennun, BirdLife's Director of Science and Policy, though things continue to get worse in global terms there are some real conservation success stories this year to give us hope and point the way forward.

BirdLife International's annual Red List update, on behalf of the IUCN, now lists 192 species of bird as Critically Endangered, the highest threat category, two more than in the 2008 update. One in eight of the



Nilgiri Laughing Thrush

world's bird species is deemed globally threatened and the fortune of Critically Endangered species are now so perilous that they are at risk of imminent extinction. Some of these species have not been sighted for many years and may already have succumbed. Of the world's threatened species, over 80% have populations that are currently in

decline and there have been some truly catastrophic population collapses recently. Kerala represents 42 globally threatened bird species in the report (Critically Endangered 4, Endangered 6, Vulnerable 14 and Near threatened 19).



It's the little things citizens do.
That's what will make the
difference. My little thing is
planting trees

-Wangari Maathai



133 new species discovered in India

* Zoological Survey of India released "Animal Discoveries 2012". According to the publication, Scientists have discovered 133 new species of fauna in India, including an unnamed flightless bird from the Great Nicobar Islands of Andamans. This shows the extent of biodiversity our country holds within it.



Argyrops bleekeri Oshima, 1927

Apart from these, scientists have also found 109 species of animals recorded for the first time in India, including 42 species of corals.

* Scientists from the Central Agricultural University and the Zoology Dept. of the Mahatma Gandhi College, Thiruvananthapuram, have discovered a new species of freshwater shrimp from the Karamana River.

The new species has been identified and named as *Macrobrachium snpurii*. The scientists have studied both morphology as well as genetics of the newly described species and found that it is phylogenetically close to *Macrobrachium idella idella* and the molecular characteristics are similar to that of *Macrobrachium rosenbergii*, the giant shrimp species with high aquaculture potential. Besides, the molecular structure and the bar code have been published in the GenBank of the National Centre for Biotechnology Information (NCBI).

The finding, made by P. Madhusoodanan Pillai, registrar of

the Central Agricultural University and V. Unnikrishnan of the Zoology Department of the MG College, has been published in the journal 'Zootaxa' published from New Zealand (Zootaxa 3664 (4): 434-444 :28 May 2013).

* A group of taxonomists have discovered a new species of plant from laterite hills of Kanayi Kanam and Nadukani in Kannur. The species '*Rotala khaleeliana*' was named after naturalist Khaleel Chowwa. The species belongs to family Lythraceae and genus *Rotala*. Researchers said that the world-famous taxonomist J.F. Veldkamp had confirmed their finding and a paper has been published in the International Journal of Advanced Research. *Rotala khaleeliana* usually grows and flowers in wet area formed during rainy season on the laterite hillocks. It dries up and disappears once the rains are over.

Biodiversity Awards distributed

State Biodiversity awards (Green awards) instituted by KSBB for the year 2012 were distributed on May 22nd, 2013 at Kanakakkunnu Palace, Thiruvananthapuram. Eleven persons belonging to various categories received the award from the Chief Minister. Each award included a cash prize of Rs. 50,000, memento and a certificate. The award winners are – G.Devaki Amma, Cheruvayal Raman, Sebastian Vaidyar, M.M.Safeer, K.Narendran and Chandran master (Green Individual), Pampa Parirakshana Samithy (Green Institution), CKNS GHSS Pilicode, Kasargod (Green School), Govt. College Kasargod (Green College), P.K.Jayachandran (Green Journalist), Saj Kurian (Green Electronic Media Person).



Chief Minister Oommen Chandy presenting Biodiversity award

Together we have the power to protect the Ocean

2013 June 8-World Oceans Day

World Ocean Day was celebrated world-wide to celebrate our common treasure-The Ocean. 'Together we have the power to protect the ocean' was the theme of this years World Oceans Day. Ocean makes the Earth habitable for people by providing and regulating the climate, weather, oxygen, food and many other environmental, social and economic benefits. It is the lung of our planet, providing most of the oxygen we breathe.

The ocean is also a major source of

food and medicines and a critical part of the biosphere. The 'blue economy' of the ocean is central to our daily lives at least one in four persons relies on sea food as their primary source of protein. Marine and coastal resources and industries represent more than 5% of global GDP and 90% of the world's trade is carried by shipping. With technological progress, economic activities in coastal zones and deeper waters continue to intensify and diversify. Yet our ocean and its resources are deteriorating and depleting as it faces increasing

pressure from various types of pollution and over-exploitation. Maintaining the quality of life that the ocean has provided to humankind while sustaining the integrity of ocean ecosystems, requires changes in how we view, manage, govern and use ocean resources and coastal areas.

The protection of this global common, calls for collective action. We can each make a difference, by understanding the issues and focusing on sustainable solutions that we can apply to our lives.

Oceans are a resource unlike any other; for they make everything else possible. Their immense biological diversity contributes to the beauty of the world, and we must join forces to preserve it

- Irina Bokova, UNESCO Director-General

Ipomoea mediated silver nanoparticles against bacteria

Nanoparticle synthesis by using plant sources is gaining a great deal of attention due to their potential in biological and pharmaceutical applications. Researchers at Annamalai University succeeded in synthesising silver nano particles using leaf extract of *Ipomoea pes-caprae*. This plant grows wild on ocean shores of India and is distributed worldwide.

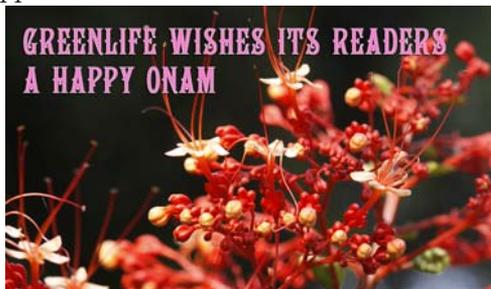


The study was published in Science International, Volume 1, Issue 5, 2013. Worldwide, *Ipomoea pes-caprae* is used as an infusion for urinary or kidney complaints, hypertension, digestive disorders, internal pain, colic, lumbago, dysentery, arthritis, rheumatism and other inflammatory conditions.

Annamalai researchers succeeded in separating silver nano particles from silver nitrate solution using *Ipomoea pes-caprae* extract. The synthesized silver nanoparticles were generally found to be rectangular and irregular in shape with variable size ranging from 2-45 nm. These silver nanoparticles showed potential antibacterial effect against urinary tract infectious microbes - *E. coli*, *P. aeruginosa*, *K. pneumonia*, *Enterobacter sp.* and *S. aureus*.

As compared to other biological systems, the plant system shows rapid and easy biosynthesis of nanoparticles. The synthesis of silver nanoparticles by the extract of *Ipomoea pes-caprae* may therefore, serve as a green simple, cheap and eco-friendly approach.

GREENLIFE WISHES ITS READERS
A HAPPY ONAM



Why trees whisper

Estonian legend

In the early days of earth, not long after the trees were created and humans were forced to leave Paradise to work, a man went out to the forest to cut wood. The first tree he came to was a pine tree. But as soon as the man lifted the axe he heard a voice cry out. "Don't strike me. Can't you see the sticky tears that are already coming out of my body? If you hit me it will bring you bad luck." The man indeed, did not want to see sticky sap coming from the trunk. So he moved on farther into the forest. He came to a spruce tree and again raised his axe. But the spruce tree protested. "Don't cut me down. You will find me of little use for my wood is twisted and knotty." Unhappily, the man went on until he came to an alder tree. Once more he raised his axe to strike but the alder shrieked at him. "Be careful that you don't wound me. Whenever I am cut, blood runs from my heart. It will stain my wood and your axe blood red." The man went no farther but called out to God. "How am I to get wood to make fire and to build shelter? Every tree I meet cries out and pleads that I shouldn't cut it down." God took pity on the man and said: "Return to the forest. I will see that henceforth no tree will talk back or contradict you."



The man did as he was told and this time no tree spoke to him. None protested as he cut down to make shelter and to make a fire. The trees were not happy about this. They dared not complain aloud to God. Instead, they began to whisper softly, each time a person entered their domain in the forests. If you approach a group of trees anywhere, you can still hear them softly whispering to each other. They are gently complaining about their poor treatment at the hands of humans.

Australia's Peacock Spider



One of the most common phobias in the world is *Arachnophobia*, the irrational fear of spiders. But there is one sort of spider out there that is so cute that even arachnophobes may like them.

Most remarkable of all jumping spiders (Family: Salticidae) are those in the Genus, *Maratus*. Although only eight species have been

formally described so far, at least 20 species are known, and all of them are found only in Australia.

The *Maratus* spiders are remarkable because the males of most of these species have colourful iridescent abdominal flaps that they expand during their courtship displays, like peacocks. Females of the species with very large front eyes carefully study the males' brilliant colouring, vibrations and dancing movements to determine whether they are the correct species and to choose the healthiest one to mate with. If he's not doing the right thing, the female might think he's not the right partner. Unsuccessful mating attempts may end when the female makes a meal of her would be paramour. These colourful fans may have other uses as well. Males of at least one species, *M. vespertilio*, also display these colourful flaps during ritualized contests.