



IndiaWilds® Newsletter

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Green Tax:

The National Green Tribunal headed by Justice Swatanter Kumar has ordered that an Environmental Compensation Charge be slapped on all trucks entering Delhi.

With amounts ranging from 500 to 1000 rupees, it is expected that the truck owners would immediately take other routes and avoid entering into Delhi if their destination is elsewhere. Delhi, which is reeling under the smoke spewed by these trucks, will have a bit better air quality than before.

On the surface this Environmental Compensation Charge, euphemistically referred to as “Green Tax”, appears to be good because most of the trucks that enter into Delhi are supposed to use the bypass, as their destination is else where. Normally truck drivers take routes where the toll charges are less. So these trucks ply on the roads of Delhi and create traffic jams, mostly in the night.

During the daytime there is lot of pollution due to the vehicular emissions. In the night the traffic is reduced and hence the city should be able to breathe well. However, due to the truck traffic in the night, the level of pollution doesn't come down at all. So people living in Delhi breathe polluted air throughout the day and night, non-stop, every day and night in the year.



Heavy traffic at night



This higher toll on the trucks mandated by the SC also implicitly means that the polluter has to pay for the pollution caused. This is in line with the Polluter pays principle. So philosophically it is good.

The question that arises is, does it solve the core problem?

The higher toll to be paid will result in the trucks using the bypass to avoid Delhi. However, they continue to spew venom into the air throughout their journey. So though Delhi may get some respite from some of them, other villages, towns and cities on their way will continue to suffer from the noxious fumes emitted by these trucks. One may argue that some State Governments may also slap a similar higher toll on trucks entering into their states or key cities, not because of doing good or making the polluter pay but to just seize an opportunity to make money.

So when all the major cities and/or State Governments start slapping higher toll charges on the trucks, the trucks will feel the pinch. So what will they do? The first reaction is that they will ofcourse pass on the costs to their clients who in turn will charge higher for transporting goods and that is likely to have a cascading effect on the prices.

However, given the competition, some transporters are likely to move on and invest in new-age vehicles with higher capacity as the environmental compensation charge is now Rs. 700 for two axle vehicles, Rs. 1000 for three axle vehicles and the lowest slab of Rs. 500 is for four axle and higher vehicles. So transporters will be forced to invest in four axle and higher vehicles which carry more tonnage, are more efficient and cause less pollution than the previous generation and lower tonnage vehicles.

As such in India, overloading is a massive problem. Trucks are routinely overloaded beyond their carrying capacity as the transporters try to make more money. Due to overloading, there



Overloaded Trucks

Courtesy - Online media

is much more pollution from the vehicles and the roads also breakdown soon.

I have been criss-crossing the country side in my Tata Safari documenting our amazing bio-diversity. In my recent drive in the key industrial route from Delhi to Mumbai, too often even in the empty roads I had to suddenly apply the brakes to lower the speeds as the roads have been damaged due to overloaded. The contractors suggest that they maintain the roads but the overloading exceeds the specs and hence damages the roads.

The vehicular emissions are also related to the improper quality of fuel available in this country. When a country could send a spacecraft “Mangalyaan” to Mars at the fraction of the cost incurred by other developed countries, it is indeed a mystery as to why India doesn't have good quality fuel compared to them. Surely technology is not a bottleneck for the low quality fuel. Government has to be serious as the primary fuel companies are Government owned and it has to ensure sufficient investments in Indian Oil, Bharat Petroleum etc so that we get as good automotive fuel as is available in developed countries.

The quality of fuel available in India is also poor as there is rampant adulteration by mixing it with kerosene which is subsidised by the Government for poor people. Since not many people use Kerosene these days due to the proliferation of gas and electric stoves/heaters, the Government has to ensure that subsidy on kerosene is removed and Kerosene is not diverted for adulteration. Till date the mechanism to prevent adulteration of automotive fuel has failed. The Government has to completely stop this to ensure good fuel quality and less pollution.

In an increasingly concrete world devoid of trees, there is nothing to absorb the atmospheric pollution. The effect of trees in absorbing carbon dioxide through their stomata and giving back oxygen is well known. However, the role of trees in absorbing gaseous pollutants through stomata and interception of particulate matter on plant surfaces is not realised by planners as well as environmental activists.

Trees and forests in United States removed 17.4 million tonnes of air pollution in 2010 with human health effects valued at 6.8 billion US dollars. This pollution is equivalent to an average air quality improvement of less than one percent. (Nowak, David J.; Hirabayashi, Satoshi; Bodine, Allison; Greenfield, Eric. 2014. Tree and forest effects on air quality and human health in the United States. *Environmental Pollution*. 193: 119-129)

Most of the air pollution removal was in rural areas due to the presence of higher amount of trees and forest cover. If our urban planners, Highway authority take this into cognisance and plant more trees then some of our air pollution can be arrested at source.

I find most of our highways are aping the American highway landscape as it looks barren due to the cutting of the trees for highway construction. In the barren land with the highway in the middle, I find there is increase in body roll while driving my Tata Safari at around 120/130 kmph. This is especially severe while cornering at those speeds. Planting trees on both sides of the roads for a few meter patch like a corridor would help in cutting down the wind and would increase the safety of vehicles. The resulting lower wind resistance should also be beneficial in terms of fuel efficiency.

At the moment the contractors maintaining highways only plant flowering species in middle divider space. Though these flowering plants can act as hedges and cut the high beams of vehicles coming from other sides of the road at night, during daytime it attracts butterflies and most of these hit the vehicles and die. In a barren landscape, these flowering plants are the only source of attraction for them. If sufficient native trees and plant species are planted on both sides of the road creating a thick corridor like tree barrier, then it would alleviate this problem. The shade provided by the trees can also help reducing the ambient temperature resulting in use of low air-conditioning in vehicles and thus increasing the fuel efficiency. The NHAI (National Highway Authority of India) needs to specify in its tender conditions that contractors need to plant native tree species. This will help in creating favourable micro-ecosystems for herpeto-fauna, smaller mammals as well as bird species.

The NHAI (National Highway Authority of India) which is fighting a bitter battle to not spend money in creating overpasses for wildlife on NH7 has no love for wildlife. Atleast, if it would understand that tree plantation would be of help in improving the drivability in the roads and reduce accidents, then some progress may happen. I hope this Environmental Compensation Charge leads us to an era where air pollution due to automobiles is examined in a holistic manner and suitable action taken so that it plays its role in containing climate change.

A Primer on Noise Pollution:

By Dr. Rashmi Rekha Patra

It is high time to make a Noise about Noise.

The ubiquity of noise and its generally obvious nuisance effect have caused many people to be apprehensive about its adverse effects on public health. High intensity sound which is undesirable is called noise. Not only it is annoying but also it produces emotional and behavioural changes in man.

Now-a-days the ambient noise level of the environment has risen both with increasing population density and with increasing use of machinery as a substitute for human and animal muscle-power. The increased noise level is felt in most of the occupational settings.

Since noise is an undesirable factor in our living environment, it is a subject of interest from the stand point of public health. There is normally some loss in productivity in high noise fields. The productivity loss in Germany due to noise was estimated to be 0.2% of GDP (Gross Domestic Product) (Wicke, 1986) which amounted to \$2.084 billion US dollars. This represents an economic loss for the society in general, and for the industry and citizen in particular. Therefore, infact, noise results in total loss and should warrant more attention than it gets today.

Heavy industries such as iron and steel production, fabrication and mining etc display high levels of sound; so do refineries and chemical plants, though in the latter instances relatively few people are exposed to high levels of noise.

Automobile plants especially with forging and stamping sections, saw-mills, furniture factories, textile mills and the like often employ large numbers of workers in buildings with high noise levels throughout. Hearing impairment of such employees is usually noticed.

Necessity compels many people to accept at least to tolerate noisy conditions both at work place and at home. Urban areas in general, are more noisy than suburban or rural, and industrialised areas more than residential. In a residence noise comes from noise generating equipment, such as air-conditioners, fans, household appliances and is present for a long time due to increasing use of such equipment. However, one of the prime reasons for noisy residences is due to the Television and music players playing at a loud volume and the increasing use of mobile phones at higher volumes which are held closer to the ear.

Apart the human induced noise ie Anthropophony, noise is generated due to Geophony which is non biological sounds due



F1 cars emit high noise

to nature like wind, thunder etc and also due to Biophony ie sounds made by non-human species like animals, birds, insects etc.

Among the loudest noise generated due to Geophony can be from thunder and at times from volcanic eruptions. Similarly the loudest sounds from the Anthropophony can be due to a Jack hammer operat-

ing, Jet aircrafts taking off etc.

Noise is measured in the unit of decibel dB (named after Alexander Graham Bell, the inventor of telephone). One decibel is equivalent to the faintest sound that can be heard by the human ear. Sound consists of repeated alternate compressions and expansions of air. The pitch of the sound is determined by the number of vibrations per second (ie. the frequency), and the intensity of the sound (related to its loudness) is determined by the amplitude of the vibrations. Sound reaches the ear usually through pressure waves in air; a remarkable structure converts this energy to electrical signals which are transmitted to the brain through the auditory nerves. Barring injury or disease, the human ear carries out its work throughout the life. It can detect vibratory motion so small as to approach the magnitude of the molecular motion of the air. Coupled with the nerves and brain, it can detect frequency differences of sound sources; can also analyse and correlate such signals.

A perfect human ear can hear sounds from between the range of 20Hz to 20kHz. However most of the people over a period

of time lose out on the ability to hear higher frequencies due to increased exposure to noise in our day to day life and/or in our work places.

Studies show that noise above 70dB creates stress in an average human and it reaches annoying proportions at 80dB. A 120 dB noise level is quite painful to the ears and if it persists for some-time then it can lead to hearing disorders. Permanent damage occurs at levels exceeding 140dB. In urban areas the noise levels exceed 90dB over long stretches of time. Average traffic noise is in excess of 80dB, with peaks of over 110 dB from loud horns.

At noise level of 75 to 80 dB, there is first constriction of peripheral blood vessels with a consequent increase in blood flow to the brain, a change in breathing rate, changes in muscle tension and gastrointestinal motility and sometimes glandular reactions detectable in blood and urine.

At a slightly higher level, and especially for intermittent or impulsive noise, another non-auditory response appears – the startle effect – which results in pulse rate and blood pressure change, release of stored glucose from liver into the blood stream (to meet the energy demand) and increase in the production of adrenalin. At noise levels above 125 dB, the electroencephalographic records show distorted brain waves and there is often interference with vision.



Courtesy - Dr.Rashmi Rekha Patra

Temporary threshold shift (TTS) or temporary hearing loss occurs when a person hears a sudden severe noise such as explosions or other high-intensity sound. The hearing mechanism comes back to normal after a brief period, provided the noise was not loud enough to cause permanent damage, such as immediate deafness by rupturing the ossicles. Any damage of the cochlea or the auditory nerve is irreparable.

There is some evidence to suggest that the TTS induced by initial exposure to noise is of the same order of magnitude as the permanent loss – ie. “noise-induced permanent threshold shift” (NIPTS) – that is experienced by the same person after five to ten years of continuous occupational exposure to the same noise.

Robert Alex Baron (1964) for the first time pointed out that noise has damaging physiological and psychological effects on human beings. A research team of the University of Chicago revealed that excessive noise produced due to aircraft landing or taking off caused tiredness, irritability, insomnia and nausea among the crew members of the aircraft carriers. In some extreme cases, changes in electroencephalogram brain wave patterns were found along with blurred vision.

Apart from physical effects, noise has also some psychological effects of which irritation and annoyance are most common. It is an established fact that high noise levels bring about heart disorders. However, human response to noise displays a systematic qualitative pattern, but quantitative responses vary from one individual to another because of age, health, temperament and the like; and with the same individual, they vary from time to time because of change in health, fatigue and other such factors. Variation is greatest at low to moderately high sound levels; at high levels, discomfort is felt by almost everyone.

As with other environmental hazards, further studies are needed to characterise quality and quantity of community noise exposure, particularly as it relates to hearing loss and many other deleterious effects of noise on the exposed community. Where there is a community consensus that these noises are a public nuisance, there are grounds to seek its abatement.

Conservation News

First dolphin community reserve to come up in Bengal

Kolkata, 9th Oct 2015

The State Wildlife Board has decided to have the country's first community reserve for the Dolphins to protect the endangered Gangetic river dolphins.

The number of dolphin is estimated to be less than 2,000 in the country.



Irravady Dolphins in Sunderbans

Courtesy : Mrudul Godbole

State Chief Wildlife Warden Azam Zaidi told "A committee is being formed to examine in what way the community reserve would be set up in the Hooghly river between Malda and Sunderbans. We'll take all stakeholders together in this initiative. It is expected that it would be ready within a year's time.

The stretch of the river is not within a forest or a sanctuary so it is very important to involve all stakeholders for protecting dolphins. We want to spread awareness, control noise pollution and have cleaner water for conserving dolphins,".

The stretch of Hooghly in West Bengal, is roughly 500 km long and it passes through Kolkata before merging with the Bay of Bengal in the Sunderbans.

A census would also be conducted to estimate the population of dolphins by the Forest Department.

This is a positive step towards conservation of this National aquatic animal of India.

Conservation News

New species of rock-dwelling lizard discovered

Oct 1, 2015, 12.42 PM IST

A new species of rock-dwelling lizard at Kanker district of Chhattisgarh.

The new species has been named *Hemidactylus yajurvedi* (Kanker Rock Gecko). The large-sized lizard having a snout-vent length (SVL) of up to 98mm is the 27th *Hemidactylus* species known in India.



Rock-dwelling lizard a record image.

Courtesy : Online media

The team which made the discovery included Aaron Bauer, department of biology, Villanova University, USA; Aparna Lajmi, Centre for Ecological Sciences, Indian Institute of Science (IISc), Bangalore; Ishan Agarwal, National Centre for Biological Sciences (NCBS), Tata Institute of Fundamental Research, Bangalore; and Varad B Giri, Bombay Natural History Society, Mumbai.

The team of scientists was headed by B H Channakeshava Murthy of the Western Ghats Regional Centre, Zoological Survey of India (ZSI), Kozhikode.

He said "The team, while investigating the collections at the Zoological Survey of India (ZSI), Kolkata, came across lizard specimens labelled as *Hemidactylus giganteus*, collected from Kanker district of then Madhya Pradesh (now Chhattisgarh) state way back in 1979. However, a detailed examination raised doubts that the ZSI specimens could be of an undescribed lizard species and that they were wrongly assigned to this species due to their large size and superficial similarity in colouration.

The team visited areas around Kanker to establish the distinctiveness of the new species and collected additional specimens and tissue samples. Morphological and molecular examination revealed a distinct new species. The species has been spotted at five localities in Chhattisgarh in habitats mainly consisting of a mixture of dry deciduous forest and scrub vegetation."

The new species has been named in honour of Hanumanth Narasimhachar Yajurvedi, professor, department of studies and research in Zoology at Manasagangotri, University of Mysore, for his contribution to the field of reproductive biology of reptiles and mammals.

Conservation News

Coral site found in Arabian Sea off Konkan coast

Oct 3, 2015, 10.37 PM IST

A coral site has been found mid-sea off the Konkan coast by the scientists of the National Institute of Oceanography (NIO).

The coral site is located in Arabian Sea, some 100-110km off the coastal districts of Ratnagiri and Sindhudurg of Maharashtra. The place is known as Angria Bank, named after famous Maratha Admiral Kanhoji Anger, who is known to have fought a battle there.

The expedition was initiated to study the biodiversity of the area by the forest department of Maharashtra. Funded by the United Nations Development Fund (UNDP), it was executed by the scientists of NIO in Goa at a cost of Rs 1.5 crore.

"For years we had an inkling that there could corals there. It was only after a project was commissioned by the Maharashtra government that we went under the sea to explore the place," Baban Ingole, chief scientist of Biological Oceanography department of NIO.

On undertaking an expedition, first in January last year, they found a 800sqkm island submerged under the sea, some 100 miles off Vijaydurg fort in Ratnagiri district in Maharashtra.

Of this, only the tip of the island is visible during the low tide.

It was the first expedition where NIO's (RV) Sindhu Sadhna was used.

During the expedition they found some 200 species of flora and fauna. There are 54 species of corals and four of them are soft corals on Angria Bank with different type of fish.

"The peculiarity of Angria Bank corals is that it is in the middle of the sea. Unlike other corals which are either coastal in nature like the Gulf of Mannar or the Andaman and Nicobar corals which are island corals, the Angria Bank is in the middle of the sea.

"It must have been an island some 10,000 years ago, which is now submerged under water. So, while the area around Angria Bank has a depth of 1000 meters, Angria Bank's tip is just 24 feet deep.

"Since it was a hill or a small mountain it was an ideal place for the corals to grow with abundant sunlight and the elevation," Ingole said.

He added that since it is away from the coast, it also saves the corals from pollution emanating from the coast.

The NIO scientists now plan to embark upon another expedition.

"We will undertake another expedition as soon as we get funds," said NIO director SWA Naqvi said.

NIO scientists said the next phase could be funded by the ministry of environment and forest.

NIO is one of 37 constituent laboratories of the Council of Scientific and Industrial Research (CSIR).

Conservation Imagery :

CORBETT: In search of elusive Tiger : Feb 1973 (Blast from the Past)

By Saktipada Panigrahi

We went to famous Corbett N.P in Feb,1973. We met Chief Conservator of Forests in his Lucknow HQ. He immediately approved 3 nights reservation in Dhikala F.R.H. He said you have to board the train that day itself otherwise 3 days(Rs.30 per day) booking was not possible, all other days were booked by foreign tourists. He also talked to Shri Negi, Deputy/Asst. Conservator based in Ramnagar to take care of us.

In those days live baits were tied up in the afternoon every alternate day near to a dense grassland (tiger habitat) which could be combed next morning if the Tiger has made the kill in the night. We got only one chance but the powerful tiger was successful in tearing the rope and dragging the buffalo to some hide and after combing thrice no trace could be found. 'He has gone up the hills', experts said.

In the afternoon we used to hire a trained elephant and roamed at our will.



Corbett February 1973

Courtesy : Saktipada Panigrahi

One afternoon the Mahut had shown us a tree at a distance and said there was a King Cobra nest there and whether we wished to go closer, to which we replied in the negative. We saw fresh kill (Chital) but could not see the Tiger. Mammals were seen but their numbers were much less compared to sightings in May 1988. Only exception was Hog Deer, which was commonly seen in Feb 1973. I think, their best habitat was inundated under water of Kalagarh lake.

IndiaWilds App for Android Mobile

In India most of the internet penetration is happening through mobile phones. And the existing users who have access to desktops and laptops are becoming much more mobile then they used to be a few years ago. So to raise awareness and reach out to more people we need to adapt ourselves and make IndiaWilds easily accessed through a mobile phone using android OS.

Today, I am pleased to announce that we have created a mobile phone app so that people can access IndiaWilds anytime, anywhere without being tied to a computer. No need to type. One can access at the click of a button.

We have developed this app through Business Compass LLC a company based in Randolph, New Jersey, United States so that we create a good app.

Awareness is the first step before a person can become a champion of wildlife. I hope this will help us in reaching out to more people to raise awareness and make a real impact on the conservation landscape. If you have an android device then please download the app from this link:

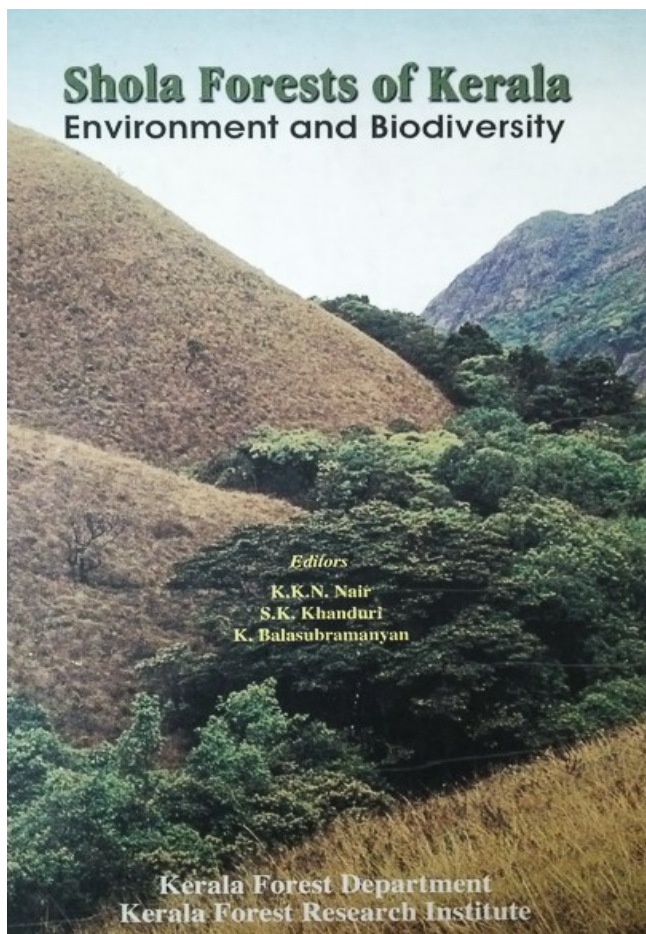
<https://play.google.com/store/apps/details?id=com.businesscompassllc.indiawilds>

Book Review -

Shola Forests of Kerala: Environment and Biodiversity

Edited by K.K.N. Nair, S.K. Khanduri, K. Balasubramanyan

Did you know that one can find Rhododendron trees in the Shola Forests? Did you know that the trees on the outer periphery of the Shola forests are more suited to withstanding fire? One can find many more information from the book "Shola Forests of Kerala: Environment and Biodiversity" which is a compilation of research papers by various researchers.



Though the Shola forests broadly belong to the tropical montane forests found in America, Africa and Asia, these are different and also classified as Southern Wet Temperate Forests. The Shola forests due to their unique process of evolution over several hundreds of thousands of years have a lot of endemic species that are not found anywhere else in the world. This publication by the Kerala Forest Department and Kerala Forest Research Institute despite being published nearly a decade and half ago in 2001, needs to be brought back to the notice of the current generation of researchers, academics, planners, conservationists, wildlife enthusiasts and students.

Apart from the Introduction, this book has chapters bunched under several components like Soil and watercourses, Vegetation and flora, Faunistic Diversity, Conservation and Management. There are a total of 18 chapters out of which two thirds have multiple authors.

Though the chapters being research papers may not be palatable to our planners and laymen, at least they can glance through the conclusions which will give them an idea about the important role played by various components of the Shola forests ecosystem.

Book Review -



The paper by V. Nandakumar, P. Rajendran and K. Narendra Babu titled “Characterization of soils in the sholas of Idukki and Wayanad Districts has some important findings. It found “soil samples collected from shola forests are less acidic with

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higher base saturation as compared to soils of adjoining grasslands or other vegetation types. A very active recycling of basic cations coupled with a slow and steady rate of mineralisation of organic matter always keep a cation suite dominated by bases”... “the high CEC of these soils retain more nutrient cations and, hence, reduces the loss due to leaching considerably. The shola forest floor with a higher litter accumulation maintains a cooler micro climate and soil temperature, which is most conducive for an active micro flora to proliferate. Plant available nutrients like N, P, K, Ca and Mg are also found to be higher in a shola forest ecosystem compared to the surrounding vegetation”...It also found that “water holding capacity, bulk density, porosity and volume expansion are found to be appreciably higher in surface horizons of many sholas than in soils of other vegetation types”. (page 59) ... “Any attempt, whether natural or deliberate, to reduce the organic matter content of these unique forest patches, will affect, in due course, the water retention capacity of the soil, which will drastically reduce the discharge in the first order streams originating from these valleys. It is advisable to implement appropriate soil conservation measures at frequent intervals in the grasslands in the headland regions of shola forests, including biological measures with minimum disturbance to soil, with a view to block the overland flow”. (page 60) This can be easily understood by our planners and hence will appreciate the need to protect this unique ecosystem.

Book Review -

The Chapter 3 titled “The role of sholas in maintaining watercourse in the high ranges of Kerala” by Thomas P. Thomas and S. Sankar says that the shola forest efficiently conserves soil and water. “The micro climate (of the shola forest) reduces the evapotranspiration demand of shola vegetation permitting extended storage and release from the soil. The soil moisture status during various months of the water year in the shola compared to grassland shows that during the non-monsoon months shola soil holds much more water than the grassland. The absolute amount stored will be much more because the shola soil is spongy in the top layer on the one hand and it is deeper on the other, creating more volume of storage per unit surface area”. (page 89)



The Chapter on Disturbances, Conservation and Management finds that in the 1950s there were hardly 10 households each located near Mannavan Shola and Pullaradi Shola and dependent on these forests for NWFP (Non-Wood Forest Produce), firewood and shifting cultivation. During 1970s and 1980s migration of people to the area along with change in cultivation pattern, use of commercial crops like lemon-grass, large scale firewood collection, cattle grazing etc resulted in degradation of Shola forests.



The last chapter of the book collates findings from a lot of important studies and presents those systematically. The information about the Shola forests from this book will surely help in appreciating the species richness and hence the need to protect such a unique bio-diversity. “Based on a detailed floristic inventory of all lifeforms conducted in Mannavan Shola and Eravikulam National Park, 543 species belonging to 346 genera and 126 families were recorded, of which 463 were angiosperms and 80 pteridophytes. Among the angiosperms, 110 species were found to be endemic while pteridophytes had only four such taxa. The same study also revealed the presence of 128 rare and 26 threatened species of angiosperms and 33 rare and 8 threatened taxa of pteridophytes. In Bramhagiri hills in Wayanad district 91 species of angiosperms belonging to 73 genera and 43 fami-

Book Review -

lies were recorded. A total of 344 species of insects from 73 families and 10 orders were recorded in Mannavan shola and 81 species and 8 orders from Chembra hills in Wayanad district.

The "Shola Forests of Kerala: Environment and Biodiversity" is a hard bound book and has a total of 453 pages with tables, graphs, images and other illustrations. It is priced at Rs. 800/- . Online prices may vary. Considering the wealth of information stored in this book, I feel it should definitely be in your book shelf to serve as a ready reference.

Equipment Discussions -

Leica SL (Typ 601) Mirrorless Digital camera

Leica has launched a new mirrorless Digital Camera called Leica SL. It is a full frame camera and it promises to offer professionals the “New Leica Experience”. Leica has been legendary for its small form factor, rugged, sleek lines in its design and its quality. Many a photojournalist in the past have done their stories with Leica as it helps them merge with the crowd and appear like just another casual tourist.

Its past efforts in the digital arena have not been as successful as its fans would love. Nevertheless the present camera promises a lot.



Salient Features:

Sensor: Full Frame CMOS

Megapixels: 24 MP

Processor: Maestro II processor

ISO: From 50 to 50,000.

Video: Internal DCI 4K ie 4096x2160 pixels at 24fps with V-Log L gamma for preserving the maximum dynamic range. Also it offers UHD ie. 3840x2160 at 24fps as well as 25fps for PAL.

Stills Burst speed: 11fps shooting speed for a burst of 33 frames in DNG or unlimited JPEG shots as it has a 2 GB buffer.

Auto Focus: Leica claims that its contrast based AF system is the fastest among full frame cameras. It also has a Touch AF setting so that you can tap on a point and the camera with focus on it.

Recording Media: Two SD card slots.

Stills recording: It records still images at 14 bits DNG or as 8 bit JPEG files.

Equipment Discussions -

Video Sampling: The internal video is recorded at only 4:2:0 with 8 bits. However, it can be recorded externally through a Full HDMI at 4:2:2 10 bits. I would have loved it if it could internally record at 4:2:2 10bits.

Full HD (1920x1080) can be recorded at upto 120fps.

Video Assist tools: This camera features focus peaking, exposure simulation, clipping/zebras, grid overlays, aspect ratios, and safe area as is expected in a professional video camera.

Audio: The Leica SL comes with built in stereo microphone and 3.5mm microphone input as well as headphone jack. Manual as well as auto gain control is available.

LED: 2.95" LED has touchscreen and it has 1.04 million dots. The screen has anti-fingerprint and anti-scratch coatings along with a wide viewing angle of 170°.

EVF: Leica SL comes with a 0.66" EyeRes 4.4MP electronic view finder with 60fps refresh rate and 0.8x magnification.

The Leica SL (Typ 601) camera has built-in Wi-Fi connectivity for remote control and image capture using the Leica SL App and a GPS unit for geo-tagging your photographs.

Flash: The Leica SL has TTL TTL-capable hot shoe and an X-sync terminal. It has a maximum flash sync speed of 1/250 second.

Sensor dust clean: Ultrasonic dust cleaning further ensures image quality remains at its peak by removing small particles without the need for deep cleaning.

Mount: The Leica SL has a Leica L bayonet mount which was first seen in the Leica T camera. The L mount can accept a variety of adapters.

Construction: Leica says that this camera is made of two solid blocks of aluminium and is weather sealed. It is made in Germany. It weighs 847 gms.

Price: \$7450 USD for the camera body

Buy: You can buy this camera at B&H <http://www.bhphotovideo.com/c/produ...990/KBID/13252>

Equipment Discussions -

Sigma's new Wide Angle Low Light Lens

Sigma has announced addition to its Art series of Lenses in the form of 20mm f1.4 DG HSM lens. The Sigma Art series is highly popular among photographers and filmmakers due to its quality and affordability.



The **Sigma 20mm f1.4 DG HSM Art** lens comprises 15 elements in 11 groups. It has two “F” Low Dispersion (FLD) elements, five Special Low Dispersion elements and two aspherical elements to contain chromatic and spherical aberrations to a minimum. This lens also has a Super Multi-Layer coating to reduce ghosting, flare and surface reflections and would be good for against the light scenarios.

The 20mm lens is meant for 35mm full frame format and comes in different mounts. When paired with a full frame camera like a Canon 5DIII, 5DS or 1DC etc, one can shoot landscape, Architecture, interiors of buildings etc. And people can also use it at its widest aperture of f1.4 for extreme low light and creative filming and still photographic applications.

This lens has a HSM designation indicating the presence of a Hyper Sonic Motor which helps in fast and silent autofocus-ing. This lens also allows full-time manual focus override so that when one fine-tune the focus by rotating the focus ring. The closest focusing distance is 10.9 inch.

The lens has a nine-blade diaphragm and it gives a nice rounded bokeh. The lens comes with a fixed petal shaped lens hood for reducing lens flare.

The Sigma 20mm f1.4 DG HSM Art lens construction is good. Its lens barrel is made of Thermally Stable Composite material which doesn't expand or contract in high or low temperatures. The lens mount is made of brass so that it is durable and provides mounting accuracy.

The aperture range is from f1.4 to f16.

The lens is 3.57 inches wide and 5.11 inches long.

The weight of the lens is 950gms.

Availability: The Sigma 20mm f1.4 DG HSM Art lens will be available in mid of December.

Price: \$899 usd.

Buy: You can buy this lens at B&H <http://www.bhphotovideo.com/c/buy/Si...DFF/d10-v1-t12>

Natural History -

COUNTRY NOTEBOOK: M.Krishnan: 'Swimming Macaques'

The Sunday Statesman: 13-September-2015 (shared by Shri. Saktipada Panigrahi)

BONNET MONKEYS

" THERE was a small and delightfully shady grove flanking the temple-side pond and the BONNET MONKEYS were in the tree tops.. I have been told that at noon, when the heat was at its fiercest, the monkeys would jump, one by one from the boughs overhanging the pond into cool water to ease the burning in their coats; and although it was well past noon, although I have waited there from 9 O'clock in the morning, they seemed content with adequate leaf shade.

The previous day, too, they had shown no liking for the water while I waited hours in the grove, so I had come armed with inducement this time. The monkeys were hidden in the foliage but I knew they were watching me. I threw a ripe banana well away from me on to the sun-baked steps of the pond and at once there was a flurry of movement in the foliage overhead. A dozen grey forms came slithering expertly down the tree trunks. The big dog-monkey snarled menacingly at the rest to keep them away from the dainty; he snarled warningly at me as well, then strolled casually down the steps, picked up the fruit, peeled it and bolted the firm flesh, beating a swift and undignified retreat as soon as he had crammed the fruit into his cheek-pouches.



Bonnet Macaques

Courtesy : Shyamala Kumar

The monkeys did not go up the trees but stayed on the ground, some 15 yards from me and hidden by the boles of intervening trees. I took out another ripe banana from the cloth bag and displayed it to the eager, furtive eyes peeping from behind the tree trunks; and then I threw it far out into the water. They continued to peep at me but made no move. I took out my third and last banana, displayed it again, and chucked it into the water quite close to the waiting monkeys. They stayed on

behind cover and ignored the bait.

It occurred to me that these monkeys were less intelligent than their position high up in the 'The Tree of Evolution', in the books on zoology, would seem to indicate. Then the Little Boy who has attached himself to me pointed out they could not be tempted to get into the water with bananas because the fruit sank instantly to deep bottom -- apparently, even creatures right on the summit of the diagrammatic tree are capable of that from habitual intelligence!

I took out a handful of groundnut (so aptly named "monkey-nut") and threw it into the water -- no easy feat, since I had to throw the light nuts through a strong wind blowing directly towards me. But I did succeed in getting the groundnut right into the middle of the pond. Instantly, the monkeys rushed down the steps but halted on the lowermost step and sat there, waiting for the breeze to blow the floating nuts within reach. The big dog-monkey again dominated the party, but not very effectively since the nuts floated in a wide semicircle and the rest had time to grab what they could while he was busy reaching out for the nuts floating towards him.

Well, this raised a problem. I wanted to see monkeys in the water, to watch them swim, and they were content to wait at the water's brink and grab the nuts as they floated towards the steps. So, being superior in my Evolutionary Status and Intelligence, I decided to suspend the operations till the breeze dies down. Much to the disgust of my companion (whose zest for groundnut was second to no monkey's) I rolled up the bag securely and, using it as a pillow, indulged in a siesta.

When I was awake from my nap, the monkeys were still very much there, sitting in a close circle around me. This time when I got a handful of groundnut into the middle of the pond, they did not get blown back towards me, for there was hardly any breeze -- the nuts spread slowly in a circle towards the edges of the pond, and the monkeys distributed themselves on the steps all around. Then the Despotic Overlord got tired of waiting for the slow-moving nuts and plunged into the water, striking out powerfully in a dogpaddle -- the rest took to the water at once, even the very small ones. Thereafter every time I threw the nuts into the water, they rushed unhesitatingly in -- apparently, once they were thoroughly wet they didn't much mind the water.



She-Monkey **Courtesy : Prasad Dingankar**

I noticed two interesting things before my bag of groundnuts gave out. One, when a small monkey swam too close to where the overlord was fishing for nuts, the big monkey grabbed the intruder by the head and held him under the water -- since monkeys swim with only their heads above water, it is easy to drown them in this manner. Normally a powerful dog-monkey punishing a too-cheeky junior grabs and bites the offender, but apparently this overlord was well aware that in the water another technique was more effective. The unfortunate little monkey came up almost suffocated and quite purple in the face, and I expected him to swim ashore for a rest -- but after coughing and spluttering for a moment, he just reached out for the nuts (which the disturbance has spread thick around him), popping them one by one into his distended cheek-pouch with frantic speed.

The other thing I noticed, concerned a large She-Monkey with an infant clinging to her abdomen. She was almost as intolerant of neighbours as the overlord just moved further away. She rushed into the water with no regard whatever for her baby; every time the little one was first drowned and then came spluttering up one flank to ride on the mother's back, Jockey fashion -- no, John Gilpin fashion lying flat on the back of its mount and clasping hard with four limbs. Neither mother

nor child seemed to benefit by experience, so that after this had happened thrice, I tempted the mother to one side on the steps of the tank and gave her, her share of nuts one by one, passing each nut into her extended hand.

None of the other monkeys came up to me to be fed in the same way, not even the overlord. Many explanations for this occur to me and for many other things I noticed about the inter-group relationship of these macaques, but I would like to study their social life much longer before I commit myself to any statement."

- M. Krishnan

This was first published on 21 August 1960 in The Sunday Statesman

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