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Rhododendron arboreum

Rhododendron flowers in the Nilgiris from January to May. Commonly known as the Bille, this tree is found only in the Southern Western Ghats in the high altitude sholas.

Cover photo: K. Chandra Sekar

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EDITORIAL

Pigs, Springs & Rhododendron: Looking through the Natural History of Nilgiris

The last issue of the year (December 2014) of the NNHS journal is a fitting tribute to the Natural History of these mountains. It contains well researched articles from experienced field anthropologists, ecologists. Pigs or wild boars – a common yet intelligent adaptor of changing ecology and landscapes; springs - the invisible crucial ground water connector to culture and social ecology, place these two in the Nilgiris setting and you have an interesting story.

Article on Rhododendron and Documenting Nilgiris Natural History are masterpieces in pictures and words. The shot of the two bears between tea bushes and the billi folklore are truly tributes to these mountains and its people.

As an Executive Member of NNHS, I take this opportunity to forage into the future, looking closely at the process by which we have grown and spawned.

Though only 5 years since our birth, NNHS has filled a yawning gap in the outreach, conservation education for all kinds of stakeholders – the village youth, the student in Ooty, the concerned citizen, the auto driver, the common man, the researcher and seeker. It still needs to do lot more. I remember the day we inaugurated the Be Museum in October 2006, we talked about a "Bee School", about a place where citizens converge, plan, innovate and partner with business, academia and government. NNHS was born out of that need to leave our Kotagiri slopes and reach out to the tourists and people who travel this region. Journal, walks, treks, workshops, talks have all helped – it needs more and more regularly to make this aggregate - a tipping point. One good thing that started this month is Fire Side Chats – we talked about making Ooty sustainable – mostly it veered on urban waste management – but there were serious hand full of people, putting all their minds and creativity into work and not being a victim of cynicism and failed attempts. As we start a new year – our fires need to be lighted and ignited to make things happen, deftly, quietly an seamlessly. Wishing you all a very happy new year 2015 and thank you for your all your support.

Pratim Roy

PHOTO FEATURE

PLANTS OF THE NILGIRIS UPPER AREA

- Jeevith Kumar

Hypericum mysurense Heyne ex Wight & Arn

Family : Hypericaceae
Local name : *Avaramkola*
Distribution : Tropical Asia
Habit : Shrub
Habitat : Margins of evergreen and Shola forests

Elaeocarpus variabilis Zmarzty

Family : Elaeocarpaceae
Local name : *Bikki, Kattukarai*
Distribution : Endemic to Western Ghats
Habit : Tree
Habitat : Shola forests

Mahonia leschenaultii Wall. Ex Wight & Arn.

Family : Berberidaceae
Local name : *Mullukadambu*
Distribution : Endemic to Southern Western Ghats
Habit : Small tree
Habitat : Shola forests

Pedicularis zeylanica Benth

Family : Scrophulariaceae
Local name : - - -
Distribution : Peninsular India and Sri lanka
Habit : Herb
Habitat : Grasslands

Elaeagnaceae kologa Schult

Family : Elaegnaceae
Local name : Kurangu pazham, Kolangai
Distribution : Indo-Malesia and China
Habit : Climber
Habitat : Shola forests

Strobilanthes foliosus (Wight) Anders., J.

Family : Acanthaceae
Local name : Kallukurinjii
Distribution : Peninsular India
Habit : Shrub
Habitat : Evergreen

Rhodomyrtus tomentosa (Sol. ex Ait.) Hassk.

Family : Myrtaceae
Local name : *Thavattukoya, Thavit-tupzlam*
Distribution : Indo-Malesia and China
Habit : Small Tree
Habitat : Shola forests and grasslands

Swertia corymbosa (Griseb.) Wight ex Clarke

Family : Gentianaceae
Local name : *Avalpoovu*
Distribution : Peninsular India
Habit : Herb
Habitat : Grasslands

Rosa leschenaultiana Red.& Thory ex Wight & Arn.

Family : Rosaceae
Local name : *Katturose*
Distribution : Endemic to Southern Western Ghats
Habit : Climber
Habitat : Shola forests and Grasslands

Osbeckia brachystemon Naud.

Family : Melastomataceae
Local name : ---
Distribution : Endemic to Southern Western Ghats
Habit : Shrub
Habitat : Shola border

Memecylon randerianum SM & MR Almeida

Family : Melastomataceae
Local name : *Malamthetti, Kanjavu*
Distribution : Endemic to Southern Western Ghats
Habit : Shrub
Habitat : Evergreen and Shola

Photinia integrifolia Lindl. var. sublanceolata

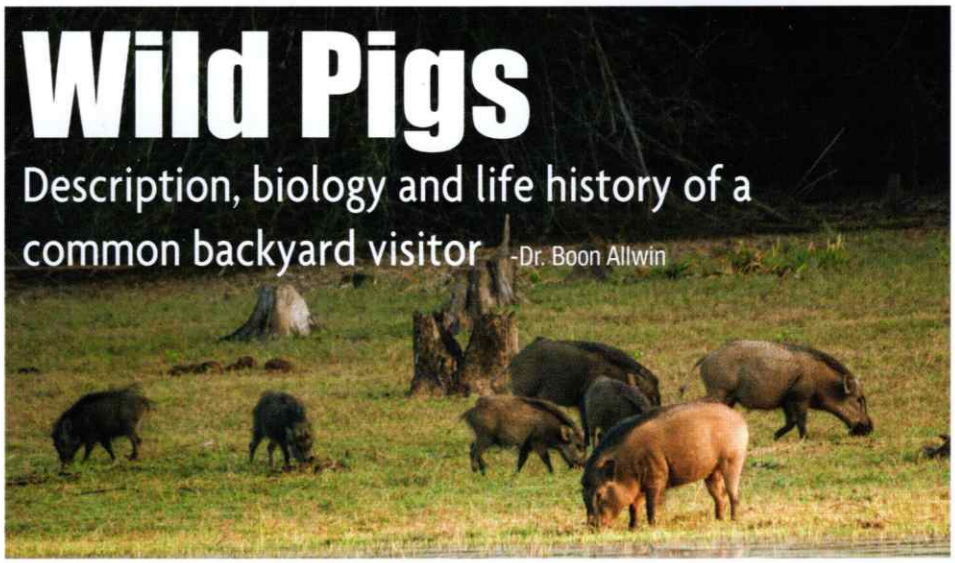
Family : Rosaceae
Local name : *Kodabikki*
Distribution : India and Sri Lanka
Habit : Tree
Habitat : Shola forests

Jeevith Kumar is with the Institute of Tree Breeding and Forest Genetics, Coimbatore and can be contacted at: jeevithbotany@gmail.com

Wild Pigs

Description, biology and life history of a common backyard visitor

-Dr. Boon Allwin



Description: Wild pigs, also known as Wild Boars (*Sus scrofa*) belong to the family Suidae and belong to the order Artiodactyla. Indian wild pigs live in grass or scanty bush jungle and in forests, being distributed throughout the whole of India, Burma, Bangladesh and the Malay Peninsula. They are very prolific and breed throughout the year. They are omnivores, living on crops, roots, tubers, insects, snakes, offals and carrion. They feed in the early morning and late in the evening and are nocturnal. There seems to be little threat to their population status as a result of which they are classified as 'Least Concern' in the IUCN red lists.

Wild pigs display great intelligence and show courage. Their sense of smell is acute where the visual and acoustic abilities are moderate. Very distinctive in its sparser coat distributed with grey, rusty brown and white hairs and its fuller crest or mane of black bristles reaching from the nape, down the back. Young ones are browner with black or white stripes. Older males have bigger head and massive shoulders; characteristic tushes are well developed they curve outwards and project from the mouth. On an average, males weigh around 100-120 kgs and females weigh around 80-90 kgs, but of course their weight varies according to the habitat. A very important anatomical feature, in wild pigs is the presence of *Os rostri,* a vicerotrophic bone in their snouts that helps them dig the soil aiding in uprooting, an evolutionary adaptation for sustenance.

Biology and behaviour: Wild pigs are capable of migrating considerable distances, but tend to stay within home ranges. Watering points are the focus of activity, particularly during higher temperatures of the day. Wild pigs have only few sweat glands; in order to thermo-regulate they wallow in water or mud to cool off. Shade is a preferred habitat.

Female and juvenile pigs usually live in small family groups known as "sounders" with a home range of 2–22 km^2. Adult males are typically solitary, with a home range of 8–50 km^2. Range size and sounders vary with season, habitat, food availability and disturbance. They have efficiently adapted to live with human inhabitations overcoming repeated disturbances. They are generally nocturnal but also crepuscular spending the daylight hours in shade.

Pigs are omnivorous, eating plants and animals. They are extremely opportunistic feeders, exploiting any temporarily abundant food. They prefer green feed and will eat grains, potatoes, beet roots, carrots and other crops, fruit and vegetables. They root extensively for tubers, worms and soil invertebrates. Small animals are preyed upon. Carrion (dead and rotting flesh) is also consumed. Sometimes they prey on small animals too. Especially the predominant grass *kikuyu* (*Pennisetum clandestinum*) is uprooted for the presence of a bulb that these animals crave for.

Wild pigs relatively have high energy and protein requirements, particularly during attainment of sexual maturity, pregnancy and lactation. During pregnancy their nutritional requirements are often not satisfied and they migrate to other parts of their home range. This migration is also a part of their nesting behaviour before farrowing. This varying seasonal need for either more food, or high-energy or protein-rich food, is often the reason for their impact on agricultural crops ending up in conflict.

Life history: The reproductive traits of wild pigs are extraordinary showing high prolificacy. Breeding occurs all year. Adult females have a 21–day oestrus cycle, with a gestation period of about 111-114 days, producing a litter of 4–10 piglets, depending on the sow's age, weight and nutritional balance.

Sows make nests with the available vegetation just before farrowing (act of giving birth in pigs). Nests are usually 3 m long by 1.5 m wide with a closed enclosure. Piglets normally spend a minimum period of their early life inside the nest, which varies with factors like water availability, feed and predation. The next fertile mating usually occurs after 2–3 months of farrowing, allowing sows to produce two litters per year if seasonal conditions prevail with a litter size of 6-14 piglets. Weaning occurs after 2–3 months. Sexual maturity is reached when sows weigh about 25 kgs, usually around six months of age.

Mortality of juveniles is high if the mother's dietary protein intake is low (up to 80% mortality in dry seasons). Adult mortality does not vary as much with seasonal conditions, but few animals live more than five years. The sow's milk is deficient in iron, so piglets obtain their sources from the soil which is a mineral sink; however those piglets that don't derive this mineral die due to a condition called "Piglet Anaemia" or "Thumps".

Agriculturists in the Nilgiris and other parts of India have to protect their crops especially keeping night vigils to guard against raids by wild pigs. This has lead to a growing intolerance towards these animals. The ecological role that the wild pigs play as scavengers and prey for other predators cannot be overlooked. Angry wild pigs are known to cause more damage than larger animals and charge when they sense danger. This is another feature that makes them less appreciated especially when they are found routinely in towns and people's yards. Their adaptability, wide distribution and prolific reproduction make them a resilient species and we need to come up with innovative methods to manage this species.

Dr. Boon Allwin is a wildlife veterinarian who is doing his Ph.D., and can be contacted at boonallwin@gmail.com

Only one chance to flower

-Manju Vasudevan

There are plants on our living planet that flower once in their lifetime and then die. Scientists call such species monocarpic or semelparous. Compared to annuals or perennials, these plants have only one chance to reproduce; they are committed to a reproductive event at a specific time regardless of the environmental conditions. A long-lived gregariously flowering monocarpic plant is even more committed to this single event because all of its kin will flower and die at the same time. Bamboo is a long-lived monocarpic plant.

The stigma touched by a bee induces the backward curvature of the stigma away from the path of the pollinator. Long arrows show the path of bee entry and exit; arrowheads point to the receptive surface of the stigma.

Every 3-12 years, depending on which species of Strobilanthes we are talking about, a blue carpet of spectacular bloom envelopes grasslands of montane grasslands of the Western Ghats. Two months ago, some parts of Nilgiris and Eravikulam witnessed this visual treat. The bees in the region come swarming for the nectar and pollen feast offered by the species. It is a fascinating story – that of flower evolution in Strobilantheskunthianus. In indigenous and vernacular tongue, the species has been endearingly referred to as Kurinji.

Like all monocarpic plants, Kurinji must sacrifice several generations of progeny in terms of the seeds it produces. Therefore when it does bloom, it must necessarily be a zero-failure investment. It must ensure that there are no loop holes in its reproductive effort. It cannot afford to lose any resources - every pollen and every drop of nectar is precious. Every bee must be lured. Every ovule must become a seed. Demanding, you must think, for a pretty and delicate plant up in the tough grasslands!

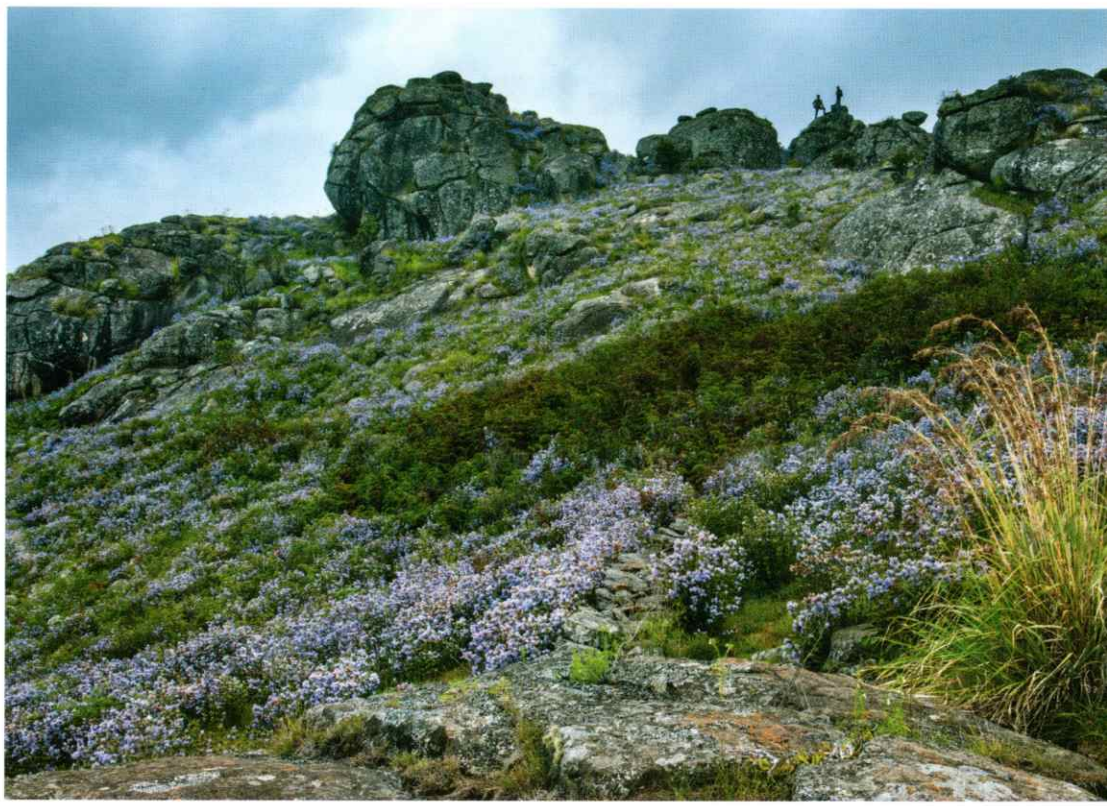
If one examines the floral traits, the pollination biology and the breeding system in the species, there are adaptations to attaining maximum success at each level: firstly, gregarious flowering - a mechanism to attract pollinators in large numbers. Each opening flower of Kurinji also remains fresh for 2 days with a fully receptive stigma and sufficient nectar and pollen reward for the bees.

Second, the stigma surface of a Kurinji flower is not only extended, it also maximises the chance of pollen deposit and minimises interference with exiting pollen using this very smart 'touch and trigger' strategy, otherwise known as 'sensitive stigma' among plant ecologists. In fresh flowers the receptive surface faces the entry path of the visiting bee, for pollen to be deposited easily. As an immediate response to the bee's touch the stigma curves backwards, moving the receptive surface away from the path of the exiting bee. This way, the bee, on its way out, does not brush away any pollen from the same flower, which could then lead to autogamy and lesser fitness. Least interference in pollen transfer!

Thirdly, Kurinji can also not afford to lose any flowers to an unexpected limitation of pollinators (Did it know there is going to be climate change and pollinator crisis?!). So what evolution has done is that the species is programmed to be self-compatible, implying that pollen from a plant can sire an ovule upon landing on the stigma of the same individual. Of course this is only a guarantee mechanism for it is seldom that it needs to self-pollinate itself.

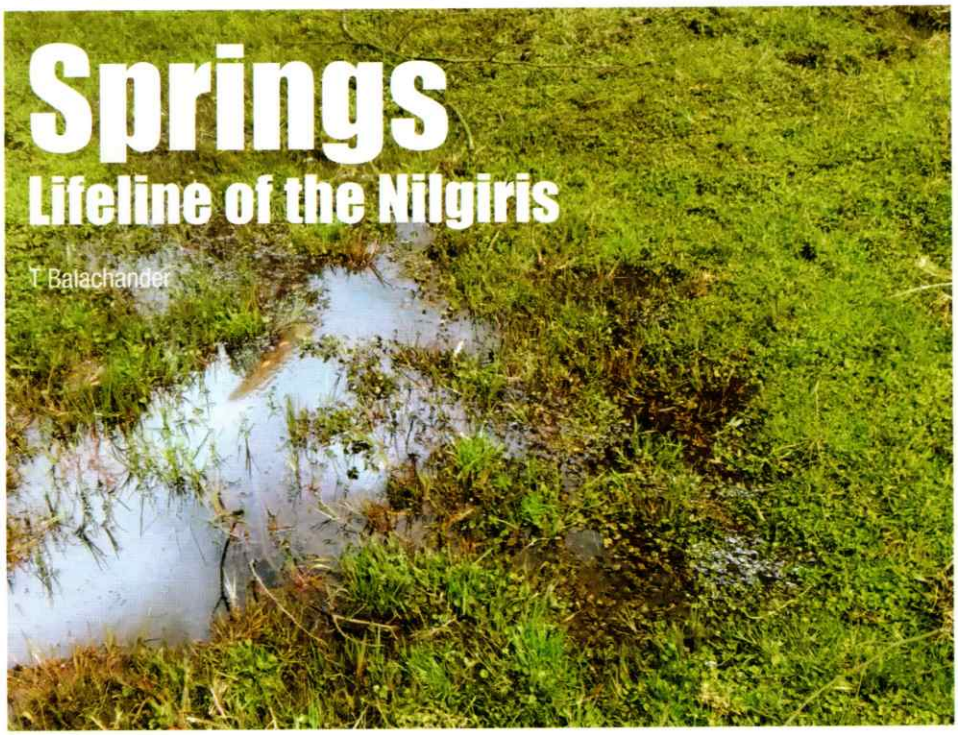
With all its strategies the species sure achieves 100% fruit set, an absolute rare feat for a tropical plant, combating a range of uncertainties! Sometimes it is not environmental factors that place demands on species. A plant's life cycle itself can be challenging for survival. How the rare bloomerKurinji achieves reproductive assurance and fitness is a story that inspires awe and ought to be heard and re-told by everyone who loves plants.

ManjuVasudevan is part of the Conservation Team at Keystone Foundation and is currently on a Fulbright-Nehru Postdoctoral Fellowship at the University of California Santa Barbara. She can be contacted at manju@keystone-foundation.org



Springs
Lifeline of the Nilgiris

T Balachander



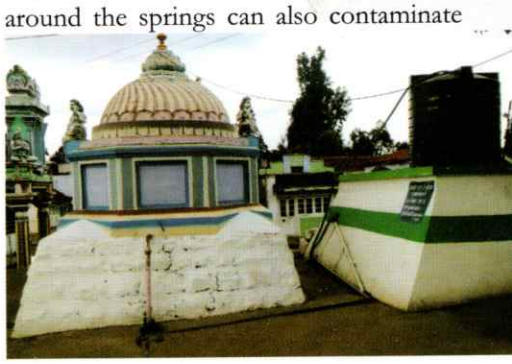
Local water resources are critical to sustain life in any region, and more so in hilly areas where the topography makes it challenging to transport water over long distances. In the Nilgiris, the occurrence of springs has had a major impact on the water resource distribution in the region. While beautiful waterfalls and fast flowing streams catch the eye during the monsoon season, the sustenance of the local inhabitants depends on the mostly invisible springs. Often the spring discharge is seen only in the form of a stream. However there is ample evidence in the Nilgiris that springs were appreciated as important sources of water, both by the state, through the construction of spring boxes, and through cultural practices such as '*Halla paruva*' of the Badaga community.

So, what are these springs? Springs are holes from where water flows out. These could be holes in the ground or cracks in rocks. The water flow from a spring depends on rainfall. While most of the rainwater is lost as surface run-off, a part of it percolates underground and gets stored in the fine pores and cracks of the rocks. The greater the volume of rainwater getting recharged underground, the more will be the outflow from the springs in the non-rainy period. Dense vegetative cover, be they trees, shrubs or grasses, trenches and pits help increase the volume of water that infiltrates underground. It also helps in filtering the water and improving the water quality.

Depression springs occur due to a sudden change in slope such that the water table cuts the surface. The recharge area of such springs is typically just above the spring. The wetlands in the Nilgiris, which are important ecosystems in themselves and are an important source of water, arise out of springs of this type. Fracture springs, as the name suggests, occur along fractures in the water bearing rock. Recharge area of such springs will be along the fractures above the springs. Contact springs emerge at the contact of two different rock types, with the rocks below being impermeable and those above being permeable. Determining the recharge areas of the fracture and contact springs is not as straight forward as that for the depression springs. Depending on the geology and the slope, the recharge area of a spring may be in another watershed entirely. Hence the concept of a springshed is not identical to that of a watershed.

Hubbathalai spring box

People have observed that over the years the discharge from many of the springs has reduced. A lack of appreciation of the technicalities of the functioning of a spring and the absence of any concerted efforts to identify and protect the springsheds is a possible reason for this. At present there is no estimate or inventory of springs in the country. Global phenomena such as climate change also have a role to play, through the increasing uncertainties in rainfall. Deforestation, landslides and developmental activities such as construction of houses, roads etc. disturb the catchment area of the springs and can result in reduced infiltration into the groundwater. Increased abstraction of groundwater through open wells and bore wells in and around wetlands may also reduce the ground water available for discharge through springs. Improper disposal of sewage and other waste in and around the springs can also contaminate the groundwater thereby reducing the effectiveness of the springs.



It is therefore important for all the stakeholders including communities, civil society and government agencies to appreciate the working of springs in the Nilgiris and plan for their conservation. Inspiration can be drawn from the traditional practices of communities in the Nilgiris which include marking of spring sites as sacred to enforce systems of use, celebrating festivals around springs to reinforce their importance in daily life etc. Recently the Sikkim Government has taken up springshed protection as a major initiative named '*Dhara Vikas*', which is a good example for the Nilgiris as well.

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Henriksen Greaves-

Documenting natural history through the lens

Henriksen Greaves has lived most of his life in the Nilgiris. A Badaga, growing up in a hatti in Kotagiri taluk, he grew interested in local flora, more as a means of using native plants to cover up his scrapes and bruises. The rambling with cousins and friends on the slopes around the village introduced him to berries and fruits or in his words, "I have not left one berry untouched in the Kotagiri slopes."

His mother, an avid gardener with a penchant for perennials spurred his interest in gardening. After a brief stint in the plains for higher studies, he returned to the Nilgiris, this time towards the Kundahs, where he has resided in Rockland working for UNITEA for over twenty years. His love for gardening was showcased with a prize winning garden for five years in a row. He has a collection of over 100 varieties of hibiscus and roses in his garden at Rockland.

Intrigued by the workings of film developing in his uncle's studio in Kotagiri when he was seven, Henriksen continued his passion for photography through his youth using any camera from box cameras, to hotshot cameras that he could afford. He started shooting people initially. He then progressed in the 1990s to a Nikon analog body with 18-200 lens. His first digital SLR camera was presented to him in early 2000. Practice, experimentation and patience makes a great teacher, and the Nilgiris provided the palette to hone his craft.

A chance comment at work about how the world did not know much of the beauty and diversity of the Nilgiris led to his portal of Photos of Flora and Fauna of the Nilgiris on Facebook in mid-2011. Four years on, there are over 32,000 members and a brilliant documentation of native plants, flowers, avian fauna, and fauna of the Nilgiris. Subsequently, pages on the Tribes of Nilgiris, Orchids of Nilgiris were also started by him. He admits to learning more about the flora and fauna of the Nilgiris, widening his horizons as a naturalist after seeing the

photos that were contributed on the pages with the identification. His interest in birds and knowledge of the migratory patterns of the birds, all arose from photography and contributions on the page. Today, he is an avid birder. A born naturalist, he is more interested in habit, habitat and behaviour of plants and animals rather than taxonomy. An arts graduate, his first love has been plants and he knows a fair bit of plant identification through his gardening mentor.

Humble about not knowing the identification of several species, he doesn't hesitate asking people for help, as he sees this as a process for learning. A keen eye for behaviour changes, he sees the faunal landscape changing with urbanisation, effects of global warming and mainly land

use patterns. The death of birds eating worms in a carrot patch from excessive use of pesticides, the tussle between Bonnet macaques and villagers, with the macaques exhibiting aggressive behaviour, to the increased bear populations at higher elevations of the Nilgiris, the late appearances of migratory birds, all interest him. To this end he feels, his photographs and the portal offer an insight into this beautiful region.

A son of the soil born and brought up in these hills, his tribute to this region would be documentation of the diversity of this region. In an effort to introduce tourists to the beauty and fragility of this region, he plans to hold a photography salon of the photos of the contributors of the Facebook portal, in the summer of 2015. His idea of giving back would be introducing a sense of awe, excitement and a verve for natural history to the general public thereby improving and protecting the pristine beauty of this mountainous district from the trials of urbanisation and changes in land use patterns.

G. B. Henriksen can be contacted at gbhenrik@gmail.com. All Photos by G.B. Henriksen.

Reflections on the Billi

(*Rhododendron arboreumvar nilagiricum*)

Rev. Philip K. Muley

Though Rhododendron is said to be a diverse and complicated genus, for our purposes we shall make a distinction only between two species of them. A taller kind is found in the Sino-Himalayan Mountains and the generally shorter ones flourish especially in the Nilgiris, in the ranges of the Western Ghats. These scarlet blooms of these trees, ubiquitous on extensive grasslands have been revered for their immemorial beauty. More important is the way the Badagas looked at these trees as they traditionally perceived them to be the sentinels of the grasslands and held them to be sacred. They found it difficult to understand the -tradition of the Todas when the latter cut these trees to make doors for their sacred dairy huts; in addition to which, the Toda children used to play with rhododendron leaves and the adults also made imitation buffalo horns from the branches for recreational purposes (Chhabra, 2012).

Since ancient time two kinds of flowers of this tree are known in Nilgiri lore – Dr. R. Baikie, who was the Superintending Medical Officer of the Nilgiri, for the first time (1833) refers to both fine red and white flowers of this species. Dr. William Noble, a Nilgiri expert also quotes an 1879 source for the occurrence of white blooms of this flower. Most interestingly, the Badagas have traditionally ascribed masculinity to the red variety and femininity to the white variety

In the Nilgiri botanical vocabulary, rhododendron is called '*billi*' in Badaga and '*billein*' Kurumba. The late Professor Emeneau, the notable authority on Dravidian as well as Nilgiri linguistics, makes it clear that there are no non-Nilgiri etyma for these forms (1997). Dr. R.K. Haldorai (2014), a Badaga linguist and former government etymologist, traces the name of the tree to '*billimbu*' (firefly) and suggests that the flashing appearance of the flowers, probably gave the name to the tree (or vice versa). Emeneau has also maintained that the reconstruction of the correct Toda equivalent of billifrom the presently available data"must be unsolved for the moment". The way the Todas have tried to derive its name and identify the species since Rivers' time (1906) down to Ladefoged and Bhaskara Rao of the University of California Phonetics Laboratory, in recent times have caused this etymological puzzle.

In early times, the red billi flowers made into wreaths were tied to the neck of buffaloes as they were driven into the pasturage of the Badaga sacred dairies. Of late, these flowers are used by some Badagas at the puberty-rite ceremony and still others offer it at the

Photo: T.N.A. Perumal

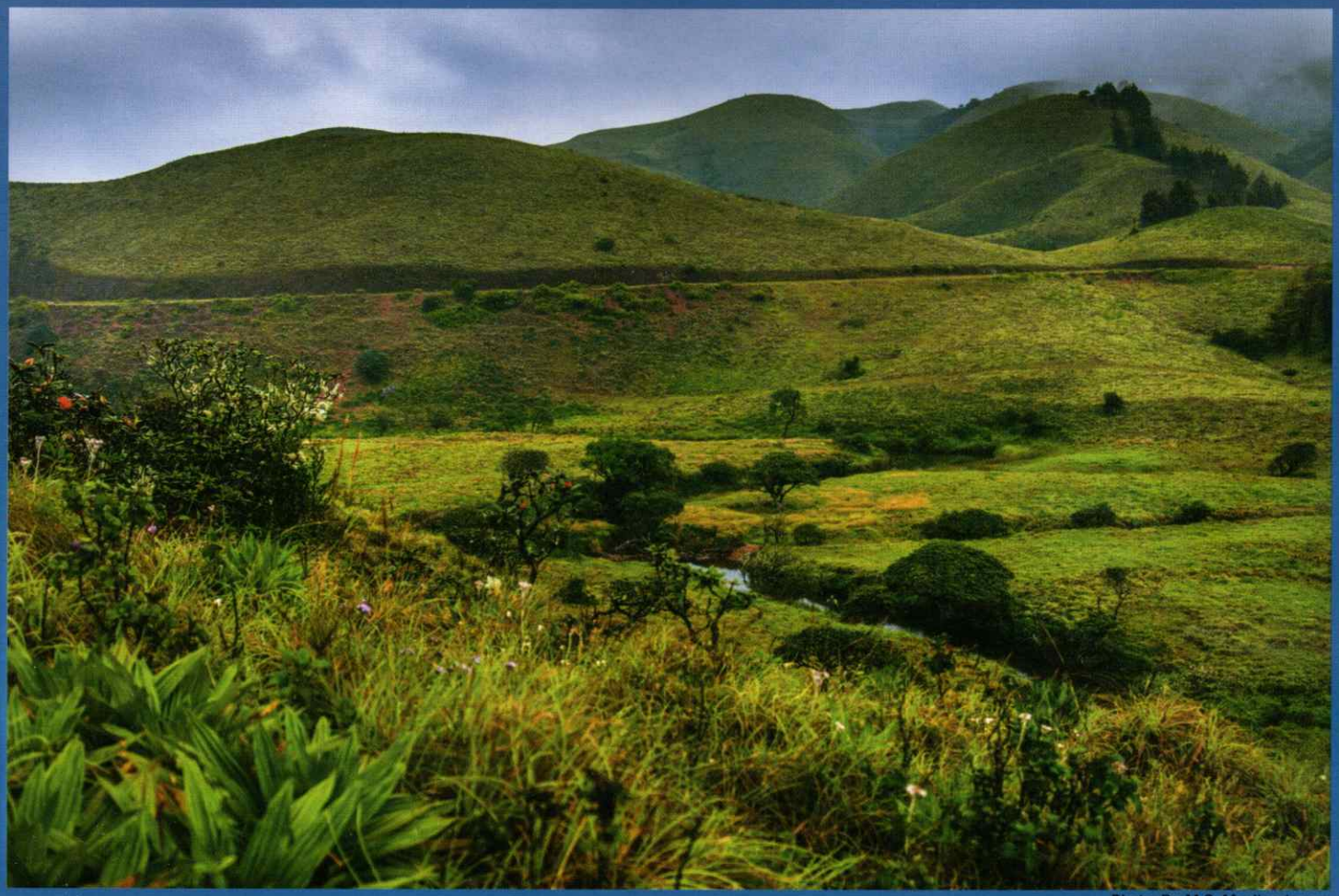

Photo: Dr. M.S. Mayilvazhanan

fire-walking festivals. But this custom has no ritual sanction. So also exists the practice among segments of Lingayats using these flowers at the time of Shivarathri Puja.

A hoary tradition wherein the white billi flower was conspicuously present, was in the First Fire Ceremony of the Badagas which is no more in vogue among them. In later times, a diluted version of this ritual became part of the "*Giri Hatthudu*" or "climbing the peak"observance. This was similar to the Toda ceremony of "lighting God's fire". The main purpose of both the ceremonies was to ensure the fertility of the pastures. The Todas set fire to some loose thatch picked up from their sacred dairy and effected necessary rituals at the foot of the 'stipulated hill' and subsequently the pastures were burnt (Walker 1986).

The Badagas on the other hand, moved up to the peak of their stipulated hill and boiled milk with the white billi flowers. It was accompanied by all necessary rituals; recitation of prayers and making of fire with '*tautte*' (*Rhodomyrtus tomentosa*) sticks. Whichever side the boiled milk spilled onto, the Badagas chose those flanks to be burnt for the following season and the migration of the herds followed suit accordingly. The crucial feature of the Badaga ceremony was the role of the white *billi* flower. The earlier reference to the feminine dimension of the white billi may be noted here. Leaving aside the absence of the above mentioned 'billi-factor' in the Toda lore, I intend to wind up this account with another intriguing note. While there are many variants of Toda tales of creation, I have not yet come across any reference to the Rhododendron in them. In a very rare instance of a Badaga legend quoting Toda origin myth, Rhododendron finds a fascinating place. The Badaga account avers that Tokisy, the pre-eminent Toda deity brought forth Todas and their buffaloes after striking with a forked branch of Rhododendron, in a swamp in the backwoods of Kil-Kotagiri.

Rev. Philip K. Muley blogs at fromamongstthebluehills.blogspot.in and can be contacted at philipkmulley@gmail.com

Photo: Dr. M.S. Mayilvazhanan

பிதரு சத்த

வெள்ளெரிகோம்பே ஊர் சிறுவர்களால் உருவாக்கப்பட்ட இயற்கை மாத இதழ்

கற்றதும் அறிந்ததும் -

அலுங்கு எனும் ஒரு உயிரினம் முன்பு காட்டில் நிறைய காணப்பட்டது. ஆனால் தற்போது இல்லை. மற்றும் இவை இரவில் மட்டும் வெளிவரும் பிராணியாகும். இவை எரும்பு அதிகம் உள்ள இடத்தில் நாக்கினை நீட்டிக் கொண்டு படுத்துக் கொள்ளும் அனைத்து எரும்புகளும் நாக்கில் ஒட்டிக் கொள்ளும். அப்போது நாக்கினை உள்ளிழுத்து உணவினை சாப்பிடுகிறது. இதற்கு பற்கள் கிடையாது மற்றும் ஆபத்து ஏற்படும்போது தன் உடம்பினை உருண்டை போல் மாற்றிவிடும் என்று மருதன் அவர்கள் எங்களுக்கு கற்றுத் தந்தார்.

இந்த மாதம் காட்டில் கிடைப்பவை

1. நூரை கிழங்கு
2. ஜொட்டி கிழங்கு மற்றும் கிழங்கு வகைகள்
3. அடுக்கு தேன், 4. சீங்கை டாகு,
5. முன்னை டாகு, 6. நெல்லிக்காய்
7. சீனிமிளகாய்

தெரிந்து கொள்ளுங்கள் இவரை-

இவர் பெயர் ரங்கசாமி. இவர் பில்லூர் பகுதிக்கு உட்பட்ட கெத்தை காடு என்ற கிராமத்தில் வாழ்ந்து வருகிறார். இவர் அவ்வப்போது, கெத்தைகாடு கிராமத்தில் உள்ள குழந்தைகளுக்கு மூலிகை மருந்து பற்றி சொல்லி தருகிறார். சிறு, சிறு நோய்களுக்கும் மருத்துவம் செய்து வருகிறார்.

பழங்கால கதை

முன் காலத்தில் பில்லூர் பகுதிக்கு உட்பட்ட கிராமங் களில், சாவு, சீர் நடந்தால், இவர்களிடம் தவுள், பொரை, குகல் இருக்காது. எனவே சேலி படுகை எனும் ஊரில் இருந்து இந்த பொருட்களை எடுத்துவந்து சாவு, சீர் செய்து வந்ததாக திரு. மருதன் அவர்கள் எங்களுக்கு விளக்கினார்.

யானைகள் விளையாட்டு -

பில்லூர் பகுதியில் கீஸ்டோன் அலுவலகத்தில் யானைகள் பற்றிய விளையாட்டு விளையாடினோம்.

கொண்டான் தும்பி -

இவற்றை கீழ்பில்லூர் பகுதியில் பார்த்தோம். இவை மிகவும் அழகாக இருந்தது. சிறுவர்கள் இதன் தலைபகுதியில் நூல் கயிர் எடுத்து கட்டி விளையாடு-வார்கள்.

வன விலங்குகள் பற்றிய தகவல்கள் -

1. ஆலம்பழம் பழுக்கும் சமயத்தில் (ஜனவரி, பிப்ரவரி) நிறைய வகையான ஆந்தி, இத்தி, கோலி வகையான பறவை இனங்கள் கெத்தை காடு கிராமத்தை சுற்றியும் காணப்படும்.
2. பாரா எனும் பறக்கும் அனில், மர பொந்துகளில் காணப்படும். இரவில் மட்டும் வெளிவரும் பிராணியாகும்.
3. மலை அணில் மழைக் காலத்தில் மலைகளுக்கு சென்றுவிடும். மழை இல்லாத காலங்களில் நீர் நிலைகள், கரைகளில் காணப்படும்.

ನಿಸರ್ಗ ಸುದ್ದಿ

ಪುಣಜನೂರು ಮಕ್ಕಳು ಸಿದ್ಧಪಡಿಸಿದ ಮಾಸಿಕ ಪರಿಸರ ಸುದ್ದಿ

ಉಪಾಯಗಳು

1) ಕರಿಬೇವಿನ ಸೊಪ್ಪು ಮತ್ತು ಬೆಲ್ಲವನ್ನು ಸೇರಿಸಿ ಅರೆದು ಕುರುನೋವಿಗೆ ಲೇಪನ ಮಾಡುವುದರಿಂದ ವಾಸಿಯಾಗುತ್ತದೆ. ಕುಂಭಮ್ಮ
2) ಈಜೆಮರ: ಇದರ ಪಟ್ಟೆಯನ್ನು ಜೀರಗೆ ಜೊತೆಯಲ್ಲಿ ಸೇರಿಸಿ ವಾಸಿಯಾಗುತ್ತದೆ. ಬೇದಮ್ಮ.
3) ಮೆಟ್ರೋಳಿ ಹಂಬಿನ ಹಾಲನ್ನು ಹುಳು ಕಡ್ಡಿಗಾಯಕ್ಕೆ ಹಚ್ಚುವುದರಿಂದ ವಾಸಿಯಾಗುತ್ತದೆ. ಮಾದಮ್ಮ, ಶ್ರೀನಿವಾಸಪುರ ಕಾಲೋನಿ.
4)ಬೆಜ್ಜದ ಪಟ್ಟೆಯನ್ನು ಜಜ್ಜಿ ಅದರ ರಸವನ್ನು ಕುಡಿಯುವುದರಿಂದ ಹೊಟ್ಟೆನೋವು ವಾಸಿಯಾಗುತ್ತದೆ.

ಇವರ ನೆನಪಿದಿಯೇ?

ಕುಳ್ಳಮಾದೇಗೌಡ ವಯಸ್ಸು 65 ಇವರ ತಂದೆ ಮುನಿಯೇಗೌಡ ತಾಯಿ ಮಾರಮ್ಮ ಇವರು ಹುಟ್ಟಿದ್ದು ತಮಿಳುನಾಡಿನ ಗೇರ್ಮಾಳಂ ಗ್ರಾಮದಲ್ಲಿ ನಂತರದ ವರ್ಷದಲ್ಲಿ ಕರ್ನಾಟಕದ ಪುಣಜನೂರು ಭಾಗದ ಬೊಮ್ಮಪ್ಪನ ದೊಡ್ಡಿಯಲ್ಲಿ ವಾಸವಾದರು. ನಂತರ ಮನೇಶ್ವರ ಕಾಲೋನಿಯಲ್ಲಿ ವಾಸವಾದರು. ಮುನೇಶ್ವರ ಕಾಲೋನಿಯಲ್ಲಿ ಸುಮಾರು 40 ವರ್ಷಗಳಿಂದ ವಾಸವಾಗಿರುತ್ತಾರೆ ಇವರ ಮುಖ್ಯ ಕಸುಬು ಮುನೇಶ್ವರ ದೇವಸ್ಥಾನದ ಪೂಜಾರಿಯಾಗಿ ಕಾರ್ಯ ನಿರ್ವಹಿಸಿಕೊಂಡು ಬರುತ್ತಿದ್ದಾರೆ. ಇದಲ್ಲದೆ ಇವರು ನಾಟಿ ಔಷಧಿಯಲ್ಲಿ ನಿಪುಣರಾಗಿದ್ದಾರೆ. ಸುತ್ತ ಮುತ್ತಲಿನ ಗ್ರಾಮಗಳಿಂದ ಜನರು ಬಂದು ತಮ್ಮ ವಿವಿಧ ಕಾಯಿಲೆಗಳಿಗೆ ಮಾದೇಗೌಡರಿಂದ ನಾಟಿ ಔಷಧಿಯನ್ನು ಪಡೆದು ಗುಣಮುಖರಾಗಿರುತ್ತಾರೆ. ಆದುದರಿಂದ ಮಾದೇಗೌಡರು ಸುತ್ತ ಮುತ್ತಲಿನ ಗ್ರಾಮಗಳಿಗೆ ಚಿರಪರಿಚಿತರಾಗಿದ್ದಾರೆ.

ನಿಮಗೆ ಗೊತ್ತಿದೆಯಾ?

ಖಾಲಿ ಬಿಯರ್ ಬಾಟಲಿಗಳಿಗೆ ಚಿಕ್ಕಚಿಕ್ಕ ಕಲ್ಲುಗಳನ್ನು ತುಂಬಿ ಬೇಲಿಯ ಸುತ್ತ ತಂತಿಯಲ್ಲಿ ನೇತಾಕುವುದರಿಂದ ಗಾಳಿಯ ರಬಸಕ್ಕೆ ಶಬ್ದ ಬರುವುದರಿಂದ ಕಾಡು ಪ್ರಾಣಿಗಳ ಹಾವಳಿ ಕಡಿಮೆಯಾಗುತ್ತದೆ.

ಈ ತಿಂಗಳು

ಉಡುಪೆ ಹೂ ಕಾಯಿ,ಜಗಳಗಂಟಿ ಹೂ,ತೊಟ್ಟಿ ಹಣ್ಣು,ಕಕ್ಕೆ ಕಾಯಿ,ಬೆಜ್ಜ ಹೂ,ನಾಯಿ ಬೇಲ ಹೂ,ತಾರಿ ಕಾಯಿ,ಸೊಡಲಿಕಾಯಿ, ಹೂ,ಹೂಲಿ ಹೂ,ಸೀಗೆ ಹೂ,ನೂರೆ ಹೂ ಬಿಟ್ಟಿರುತ್ತದೆ.

ಪ್ರಾಣಿಗಳ ಚಲನವಲನಗಳು :

19–9–2014 ಶ್ರೀನಿವಾಸಪುರ ಕಾಲೋನಿಯ ಕೇತೇಗೌಡರ ಜಮೀನಿಗೆ ಕಾಡಾನೆ ನುಗ್ಗಿ ಬೆಳೆದಿದ್ದ ರಾಗಿಯನ್ನು ತಿಂದು ನಾಶಮಾಡಿದೆ.

21–11–2014 ರಂದು ಹೊಸಪೋಡುವಿನ ಜಡೆಯಪ್ಪನವರ ಜಮೀನಿನಲ್ಲಿ ಬೆಳೆದಿದ್ದ ಜೋಳವನ್ನು ಕಾಡಾನೆ ನುಗ್ಗಿ ನಾಶಮಾಡಿದೆ.

ಮುಖ್ಯ ಸಮಾಚಾರಗಳು

9–8–2014 ರಂದುಅಂತರ ರಾಷ್ಟ್ರೀಯ ಆದಿವಾಸಿ ದಿನಾಚರಣೆಯನ್ನು ಕೇಸ್ಪೋನ್ ಸಂಸ್ಥೆಯು ನೀಲಗಿರಿ ಸುತ್ತಮುತ್ತಿನ ಆದಿವಾಸಿಗಳ ಸಮ್ಮುಖದಲ್ಲಿ ಕೋತ್ತಗಿರಿಯಲ್ಲಿ ಮತ್ತುಜಿಲ್ಲಾ ಸೋಲಿಗ ಅಭಿವೃದ್ಧಿ ಸಂಘವು ವಿಶ್ವಆದಿವಾಸಿ ದಿನಾಚರಣೆಯನು ಚಾಮರಾಜನಗರದಲ್ಲಿ ಆಚರಿಸಲಾಯಿತು.

20–8–2014 ರಂದು ಕೃಷಿ ಇಲಾಖೆಯಿಂದ ರಾಸಾಯನಿಕ 'ಗೊಬ್ಬರ ಮತ್ತು ಬೀನ್ಸ್ ಬಿತ್ತನೆ ಬೀಜಗಳನ್ನು ಪುಣಜನೂರು ಗ್ರಾಮದ ಸೋಲಿಗ ಪಲಾನುಭವಿಗಳಿಗೆ ವಿತರಿಸಲಾಯಿತು.

10–11–2014 ರಂದು ಬೂದಿಪಡಗ ಮತ್ತು ಗೋಡೆಮಡು ದೊಡ್ಡಿಯಲ್ಲಿ ಪುಣಜನೂರುಗ್ರಾಮ ಪಂಚಾಯಿತಿಯ ಅಭಿವೃದ್ಧಿ ಅಧಿಕಾರಿಗಳ ಸಮ್ಮುಖದಲ್ಲಿ ಗ್ರಾಮ ಸಭೆ ನಡೆಯಿತು.

ಮಾಡಿದ್ದು

1–8–2014 ರಂದು ಮತ್ತು 17–8–2014 ರಂದು ಹೊಸಪೋಡು ಮತ್ತು ಶ್ರೀನಿವಾಸಪುರ ಕಾಲೋನಿಯ ಶಾಲಾ ಮಕ್ಕಳನ್ನು ಕಾಡಿಗೆಕರೆದುಕೊಂಡು ಹೋಗಿ ನಾಟಿ ಔಷಧಿಗಳ ಬಗ್ಗೆ ಹಾಗೂ ನೀರಿನಲ್ಲಿ ವಾಸಿಸುವ ಜಲಚರಗಳ ಬಗ್ಗೆ ಮಹದೇಶ ಮತ್ತು ಶಿವಣ್ಣ ನವರು ತಿಳಿಸಿಕೊಟ್ಟರು.

19–8–2014 ರಂದು ಕೋಳಿಪಾಳ್ಯದ ಸರ್ಕಾರಿ ಪ್ರೌಢಶಾಲೆಯಲ್ಲಿ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ತರಗತಿಯನ್ನು ನಡೆಸಲಾಯಿತು. ನೀರಿನ ಉಪಯೋಗ, ಬಳಕೆ, ನೀರಿನ ಸಂರಕ್ಷಣೆ ಹಾಗೂ ನೀರಿನ ಪ್ರಾಥಮಿಕ ಪರೀಕ್ಷೆಯನ್ನು ಬಿ,ಮಹದೇಶ್ ರವರು ತಿಳಿಸಿದರು.

17–11–2014 ರಂದು ಶ್ರೀನಿವಾಸಪುರ ಕಾಲೋನಿಯಲ್ಲಿ ಅರಣ್ಯ ಹಕ್ಕು ಸಮಿತಿಯ ಗ್ರಾಮಸಭೆ ನಡೆಸಲಾಯಿತು. ಗ್ರಾಮದ ಜನರು ಬಂದು ಭಾಗವಹಿಸಿದ್ದರು. ಪ್ರಮುಖವಾಗಿ ಸಮುದಾಯವೇ ಅರಣ್ಯ ಸಮೀಕ್ಷೆ ಮಾಡಿಅರಣ್ಯದ ಬದಲಾವಣೆಗಳನ್ನು ಕಂಡು ಹಿಡಿದು ಮುಂದಿನ ಸಂರಕ್ಷಣೆಯ ಯೋಜನೆಗಳನ್ನು ರೂಪಿಸುವ ಕೆಲಸವು ಪ್ರಾರಂಭವಾಗಿ ಒಂದು ವರ್ಷವಾಗಿದ್ದು ಇದರ ಪಲಿತಾಂಶಗಳನ್ನು ಜನರಿಗೆ ವಿವರಿಸಲಾಯಿತು.

5–12–2014 ರಂದು ಪುಣಜನೂರು ವಿಭಾಗದ ಎರಡು ಅರಣ್ಯ ಪ್ರದೇಶಗಳಲ್ಲಿ ಕಡ್ಡಿಜೇನಿನ ಸಮೀಕ್ಷೆಯನ್ನು ನಡೆಸಲಾಗಿದೆ.

ಮುಂದಿನ ತಿಂಗಳು :

ಗ್ರಾಮದ ಹಿರಿಯರು ಮಕ್ಕಳಿಗೆ ಕಾಡಿನ ನಾಟಿ ಔಷಧಿಗಳ ಬಗ್ಗೆ ತಿಳಿಸಿಕೊಡುವುದು –2

ಶಾಲೆಗಳಲ್ಲಿ ಸಂರಕ್ಷಣೆ ತರಗತಿಗಳನ್ನು ನಡೆಸುವುದು – 2

ಅರಣ್ಯ ಹಕ್ಕು ಸಮಿತಿ ಸಭೆ ನಡೆಸುವುದು.

ಪಾಲಿನೇಶನ್ ಬಗ್ಗೆ ಮಾಹಿತಿ ಸಂಗ್ರಹಿಸುವುದು.

കാട്ടുപൂവ്

നിലമ്പൂരിലെ കുട്ടികൾ തയ്യാറാക്കിയ പരിസ്ഥിതി മാസിക

നാട്ടുവിശേഷം

വാണിയംപുഴ, നെടുംകയം, ഇരുട്ടുക്കുത്തി തുടങ്ങിയ കോളനികളിൽ ശതദിന ഭക്ഷണവിതരണ പരിപാടി നടന്നു. ഊരിലുള്ളവർക്കായി ഉച്ചഭക്ഷണം നൽകുകയാണീ പരിപാടിയിലൂടെ ലക്ഷ്യം വെയ്ക്കുന്നത്. നെടുംകയം കോളനിയിൽ കരുളായി ഗ്രാമപഞ്ചായത്ത് ആയുർവേദ ആശുപത്രിയുടെ നേതൃത്വത്തിലായി സൗജന്യ മെഡിക്കൽ ക്യാമ്പ് സംഘടിപ്പിക്കപ്പെട്ടു. നെടുംകയം കോളനിയിലെ മാലതി, ഉഷ, രാജേഷ് എന്നിവർക്ക് ഫോറസ്റ്റ് വാച്ചറുകളായി സ്ഥിര നിയമനം ലഭിച്ചു.

കാട്ടുവിശേഷം

2014 ജൂലൈ, ആഗസ്റ്റ്, സെപ്റ്റംബർ മാസങ്ങളിലായി നല്ല മഴ പെയ്തുപോയി. കഴിഞ്ഞ കൊല്ലത്തിനേക്കാളും മികച്ച മഴയാണ് ഇത്തവണ ലഭിച്ചിട്ടുണ്ട്. ഒക്ടോബറിലും നവംബറിലും നെടുംകയത്തു നിന്നും നെല്ലിയ്ക്ക ശേഖരിക്കുന്നതിനായി അഞ്ചോ ആറോ പേരടങ്ങുന്ന സംഘം കാട്ടിലേക്ക് പോയിരുന്നു. നൂറിലധികം കിലോ നെല്ലിക്ക ശേഖരിച്ചു വില്പന നടത്തുകയും ചെയ്തിട്ടുണ്ട്. വള്ളിക്കെട്ടു കോളനിയിലേയും ഭൂമിക്കുത്ത് കോളനിയിലെയും വനവിഭവശേഖരണം നടത്തുന്നവരെല്ലാം ഓരിലയും മുവിലയും ശേഖരിച്ചുവരുന്നുണ്ട്. നെടുംകയം കോളനിയിൽ കഴിഞ്ഞ മൂന്നുമാസങ്ങളിലായി നിരവധി തവണ ആനകളിറങ്ങി ഇവിടുത്തെ ജനങ്ങളിലെല്ലാം ഭയം ഉാക്കിയിട്ടുണ്ട്. മാഞ്ചീരിയിലേയ്ക്കു പോയിക്കൊണ്ടിരുന്ന ഒരു ജീപ്പിനെ ആന അക്രമിച്ചതും കുറച്ചുമാസം മുമ്പായിരുന്നു. മഴക്കാലത്ത് കോളനിയിലുള്ള ചെറുപ്പക്കാരും കുട്ടികളുമെല്ലാം പുഴയിലെ ഏറ്റുമീനെ പിടിക്കുന്നതിന് മത്സരിക്കുകയായിരുന്നു.

സസ്യതന്ത്രം

കല്ലുരുക്കി – മൂത്രതടസ്സത്തിനും മൂത്രക്കല്ലിനെതിരായും കല്ലുരുക്കി ഒരു സിദ്ധൗഷധമായി ഉപയോഗിച്ചുവരുന്നുണ്ട്. ഈ ചെടി സമൂലം ഇടിച്ചുപിഴിഞ്ഞിട്ട് ഗോളാകൃതിയിലാക്കി വിഴുങ്ങുകയാണ് സാധാരണ പതിവ്.

കീഴാർനെല്ലി – മഞ്ഞപ്പിത്തത്തിനെതിരായാണ് സാധാരണയായി കീഴാർനെല്ലി ഉപയോഗിച്ചുവരുന്നുത്. കീഴാർനെല്ലിയും കല്ലുരുക്കിയും പണ്ടിവിടെ യഥേഷ്ടമായി കണ്ടുവന്നിരുന്നു. ഇപ്പോഴതു അത്ര സാധാരണമല്ല.

ഇവരിങ്ങനെ

രാമകൃഷ്ണൻ ഇരുട്ടുക്കുത്തി ഇരുട്ടുക്കുത്തിയിലെ വികസനപരിപാടിയെന്നാലത് രാമകൃഷ്ണനാണ്. കഴിഞ്ഞ കുറെ കാലങ്ങളിലായി കോളനിയിലെ എല്ലാ ഇടപെടലുകളിലും രാമകൃഷ്ണന്റെ സാന്നിദ്ധ്യം ഉാകാറു്. കഴിഞ്ഞ കുറെ കൊല്ലങ്ങളായി കോളനിയിലെ എല്ലാ ഇടപെടലുകളിലും രാമകൃഷ്ണന്റെ സാന്നിദ്ധ്യം ഉണ്ടാകാറുണ്ട്. കൃഷി, ആദിവാസി ക്ഷേമം, വനസംരക്ഷണം എന്നു വേണ്ട ഇരുട്ടുക്കുത്തികോളനിയുമായി ബന്ധപ്പെട്ട എല്ലാ കാര്യങ്ങളിലും ഈ പ്രവൃത്തികളുമായി ബന്ധപ്പെട്ടവരെല്ലാം തന്നെ രാമകൃഷ്ണനെ ആയിരിക്കും ബന്ധപ്പെടുക. വാണിയംപുഴ

ആദിവാസി വനസംരക്ഷണ സമിത
യുടെ പ്രസിഡന്റായി നിരവധി ത
ഇദ്ദേഹം പ്രവർത്തിച്ചിട്ടുണ്ട്. ഒന്നില
ധികം തവണ വാണിയംപുഴ, തരിപ്
പ്പൊട്ടി, ഇരുട്ടുക്കുത്തി, കുമ്പളപ്പാറ
എന്നീ ഊരുകളുടെ ഐ ടി ഡി പ
പ്രൊമോട്ടറായിരുന്നു ഇദ്ദേഹം.

അറിഞ്ഞോ

1. നെടുംകയം ബദല് സ്കൂളിലെ പഠിതാക്കളോരുത്തര്ക്കുമായി കരുളായി ഗ്രാമപഞ്ചായത്തിന്റെ വകയായി ഓരോ സൗരവിളക്കുവീതം നല്കപ്പെട്ടു. ആദ്യം പതിനഞ്ച് പേര്ക്കു മാത്രം നല്കിയ പഞ്ചായത്ത് പിന്നീട് എല്ലാവര്ക്കുമായി നല്കുകയായിരുന്നു.
2. നെടുംകയം ബദല് സ്കൂളിലെ വിദ്യാര്ത്ഥികളുടെ പരിസ്ഥിതി വിദ്യാഭ്യാസത്തിന്റെ ഭാഗമായി ചതുപ്പുനിലങ്ങളെക്കുറിച്ചും വിവിധയിനം തേനീച്ചകളെക്കുറിച്ചുമുള്ള ക്ളാസ്സുകളും നടന്നു. പരിസ്ഥിതി വിദ്യാഭ്യാസത്തിന്റെ ഭാഗമായി വിവിധയിനം പക്ഷികളെക്കുറിച്ചുള്ള വിവരങ്ങളെല്ലാം ശേഖരിച്ചുവരുന്നുണ്ട്.

വിരുന്നുകാർ

ആന	– 15
കൊമ്പനാന	– 10
കാട്ടില് വെച്ച് കണ്ടത്	– 6

പക്ഷികൾ

ഇരട്ടത്തലച്ചി	– എല്ലാദിവസവും
മൈന	– എല്ലാദിവസവും
മുളംതത്ത	– 20 ദിവസം
കൊക്ക്	– എല്ലാദിവസവും
എരണ്ട	– എല്ലാദിവസവും

Diary of Nilgiri Natural History Society

Visits by schools:

Visits by school children to the Bee Museum are a regular activity. About 203 students had visited from the Lawrence School, Perkside School and the CSI CMM School.

Conservation Education:

The NNHS conducts conservation education sessions at the Doddabetta and Mavanalla Government Residential Schools. Ten sessions were held at these schools disseminating the 'where the kurinjiblooms'module on the biodiversity of the Nilgiri Biosphere Reserve.

Visitors to the Bee Museum:

The foot fall at the Bee Museum during the last six months was about 556.

Trails:

A trail was organised during the month of June to 6th Mile near Udhagamandalam. The landscape has undulating grasslands with exotic plantations of Acacia and interspersed shola forests. The 6th Mile is a birding spot for high elevation species.

Talks:

Diversity of wild plants of Nilgiris District:

A talk on the wild plants of the Nilgiris was given by Mr. Jeevith, a research fellow at the Institute of Forest Genetics and Tree Breeding Institute, Coimbatore. The talk was held at the Bee Museumon 25thOctober.

Future of Wildlife in the Nilgiris:

A talk on the wildlife of Nilgiris was given by Mr K. Mohan Raj, a consultant with the World Wide Fund for Nature – India on 7thNovember . The talk focused on the biology of Asian Elephants and the issues in the Nilgiri Biosphere Reserve. The talk was attended by school children and other members of the Society.

Quiz on the Nilgiri Biosphere Reserve:

The Society announced a series of quiz events for schools and the topic were water, forest produce and pollination with reference to the Nilgiri Biosphere Reserve. The first two events were hosted by St.Thresa's High School, Ooty on 5th Decemberand Braeside School on 10th December

Fireside Talks:

The first of the fireside talk series was held at the Bee Museum on the 18th December 2014. The topic of discussion was Sustainable Planning for Ooty-Prospects and problems on the road ahead. The event witnessed the participation of over 25 people. The Project Director of the Hill Area Development Programme, Mr.Srinivasa Reddy, IFS was the chief guest for the talk and the session was moderated by Mr.Pratim Roy, Director-Keystone Foundation.

The newsletter of the Nilgiri Natural History Society (NNHS) aims to cover the many dimensions of natural history - conservation issues, lay observation, cultural representations and traditional knowledge. The newsletter will carry communications about research in Keystone Foundation in the areas of conservation, environmental governance, culture, livelihoods and enterprise. In keeping with the pan Nilgiri Biosphere Reserve (NBR) nature of the Society, space will be allocated for reporting of events/views from elsewhere within the country and from outside the country. Additionally a section will be devoted to research summaries by students who work in the region of the NBR. Guest editors will be invited for special editions. News items gleaned from printed sources about the NBR will be featured. Separate sections will carry information on NNHS and Bee Museum activities. The species focus will feature species of special conservation status, endemic to the Western Ghats and present in the NBR.

SUBMISSION OF ARTICLE

The NNHS newsletter articles are reviewed by the Chief Editors and a member of the editorial board. Articles are invited for the following section: i. Natural History News from India (400 words); ii. Natural History News from the World (400 words); iii. Research Initiatives in the NBR - student contributions (400 words); iv. Species focus (250words).

Articles should be submitted by email to:
anita@keystone-foundation.org or
archana@keystone-foundation.org

Authors should provide complete information including an email address and phone numbers. Articles needs to be submitted in standard word processor formats only. Rich text content and other forms are not accepted. Figures and texts need to be sent in seperately with adequate labelling and numbering in context to the articles sent. Pictures in the manuscript also need to sent in seperately in TIFF, JPEG or PNG formats with resolution not less than 250 dpi.

Reference style:

Papers in Journals and other periodicals

Hanely, T.A. and Hanley, K.A. 1982. Food resources partitioning by sympatric ungulates on Great Basin rangeland. Journal of Range Management 35: 152-158.

Papers in Edited Books, Symposia Proceedings, etc

Cole, D.W. and Rapp, M. 1981. Elemental cycling in forest ecosystems. pp. 341-409. In: D.E. Reichle (ed.) Dynamic Properties of Forest Ecosystems. Cambridge University Press, Cambridge.

Books

Lieth, H. and Whittaker, R.H. (eds.). 1976. Primary Productivity of the Biosphere. Springer-Verlag, Berlin.

Reports, Dissertations, etc

Sollins, P.,Reichle, D.E. and Olson,J.S. 1973. Organic Matter Budget and Model for a Southern Appalachian Liriodendron Forest. Oak Ridge National Laboratory, Oak Ridge, U.S.A.