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Apis florea

Comb of the *Apis florea*, a rare instance of the bees building their combs on rocks. The bees commonly build on short trees and twigs, sheltered by foliage.

Photo credit: B. Mahadesha

EDITORIAL

Welcome to this monsoon edition of the NNHS newsletter.

This time we travel to the surrounds of the Biligiri Rangan Betta or simply 'betta' or mountain as it is known here. This is the *Melsemai* – the 'upper' territory in the Badaga worldview and covers the northeastern parts of the Nilgiri Biosphere Reserve – the regions of Sathyamangalam and parts of Chamrajnagar. Here Ranga bhaava or 'brother-in-law' Ranga presides over the Soliga people; the epithet, an evocative memory of when the caste god romanced and married a Soliga maiden from these parts. The Soligas or 'the people of the forests', once an actively nomadic people, are now settled down to agriculture, animal husbandry and forest produce collection.

This landscape is home to the BRT Tiger Reserve, 'where tigers coexist'. Sunita Dhairyam discusses the human-wildlife conflict dimension of this coexistence and the ongoing work of the Mariamma Charitable Trust. B Mahadesha offers us insights about the *kaddijenu* or *Apis florea* and shares a brave new initiative of the Soliga community and calls for support for similar community based action.

Rev Mulley recounts the many his-stories about the Soligas and remarks on the many forces of change that he observes amongst them. Our profile of a natural historian of these parts is a testimony to this- one elder's effort to reach out to all the youngsters in her community.

Madhu Ramnath kick starts our new column 'Natural History Notes' with a look at the traits of flowers belonging to the Fabaceae or legumes and their relationship with their pollinators – the evolutionary trade-offs. In another vein, Vandana Krishnamurthy shares a profile of the *Cycas circinalis* trees, another old inhabitant of the Reserve.

Bidurusatta, Nisarga Suddhi and Kaatupoovu all echo the anticipation of the monsoon while the Bee Buzz is full of news from summer activities.

There is a spider on our back cover and none less than a tarantula! Sangeetha caught this beauty on her camera on the steps of the washroom in the residence of our colleague in Pillur region. We requested Dr. Sanjay Molur of Zoo outreach for help with the identification. Sanjay was very quick to id the photograph and this is a new record for this species to this region. Proud to publish this in our newsletter!

So, happy reading and we'll meet you on the other side of the north-easterlies.

Chief Editor



Reducing human-animal conflict

in a landscape that supports the world's largest tiger and elephant populations

- Sunita Dhairyam

Human conflict with wildlife, a well known global conservation problem is rife in this biodiverse area. Realizing the threats posed to large carnivores by humans living in close proximity, I developed the Mariamma Charitable Trust in 2006. Due to this necessary co-existence, large carnivores kill cattle owned by villagers who subsequently poison the kill resulting in death of the carnivore. It was the writer's misfortune to come across the carcasses of two tigers in the Masinagudi-Sigur area, which had been obviously poisoned. No one had even bothered to remove the skins". Villagers in this area are amongst the poorest in rural India and include indigenous tribes. Cattle and small crop farms are their main source of livelihood. This is significantly threatened by cattle kills and crop raiding by larger mammals namely elephants. The government mechanism for compensating for cattle kills is woefully inadequate and slow. It requires multiple visits to the Forest Department office to file a complaint, obtain forest officer to visit and verify the kill (sometimes requiring a veterinarian as well) and then months of waiting and checking to see if the compensation has been sanctioned. The extremely low compensation given, the expenses involved and the time lost in the process make it a largely pointless exercise for local villagers.

Through the Mariamma Trust, I have attempted to address this problem with a binary approach. Gaining the confidence and trust of the local villagers is mandatory. Trying to improve their economic, educational and

health problems is foremost. I have established a medical clinic that includes a voluntary physician who visits once a month and treats up to 120 patients a day from the surrounding districts. A local nurse works daily with up to ten patients with minor ailments. All care is supported by the Ammembal Medical Charity which was founded by the late Dr. A.R. Pai in 1999. This provides free medical care for the community and is situated on my property in the Mangala village area. Surgery and cases requiring hospital admission are transferred to the local government hospital for further care, the cost for which is partially subsidized by the Trust. The other focus is education, in the form of primary schooling for the village children. The Trust supports the salary of a local teacher. The children are prepared for higher education at the Regional Government School. The Trust also encourages vocational training by subsidizing its cost. This community work has paved the way for my work with conservation.

My conservation work has focused on compensation for cattle kills by large carnivores namely tigers and leopards. Due to the close proximity of humans and wild life in this area the large cats often kill easily available cattle. There are two problems related to cattle kills by large carnivores; first is the problem of some kills being poisoned resulting in the death of tigers and leopards. As the detection level of dead wildlife is very low even for natural deaths, poisoning cases too would go undetected if they are in the forest and can easily be buried if they are inside the agricultural areas. Second is the problem of disturbance to the kill or removal of the kill

by the villager. This results in the large carnivore not being able to utilize the kill fully and hence being forced to make another kill thus causing more conflict. The big cats end up killing two or even three cattle instead of one when the kill is removed or disturbed. Kills are removed because of the frustration brought about by the poor compensation mechanism and owners sometimes wanting to salvage the skin/meat for sale or just driving the carnivore away out of anger.

The Trust has over the years changed the attitudes of local people towards human-large carnivore conflict in the 14 villages in Karnataka and 8 villages in Tamil Nadu which it covers under its compensation scheme. This change in attitude has occurred because of adequate compensation (Rs.3000/-) paid to the cattle owners in response to a cattle kill. This amount is a very significant amount for the bulk of the kills which are scrub cattle (82%). The remainder of the cattle killed are hybrid cattle that are more expensive. However in these cases the compensation is adequate for the owner to buy a calf or a young animal which would become productive in a year or so. The compensation process is rapid. Once a kill is reported by the villager to my Trust, it is immediately verified by trained staff that goes along with the owner to the site of the kill to check the carcass and verify if it is a large carnivore kill. Ownership is documented and the carcass is photographed. Once this is done the compensation is paid immediately by bank check to ensure complete transparency. If the carcass is poisoned and the case is detected, the owner is easily identified. It

also ensures that the kill is not disturbed or the carnivore is not driven away because the Trust's observer checks the amount of consumption and tries to identify the predator involved (visually if possible). The owner is also made aware that no compensation will be given if the predator is driven away or the carcass is disturbed in any way. The local people are satisfied with this procedure and it prevents poisoning of the carcasses, thus saving a significant number of large carnivores.

left undisturbed, they feed on the entire carcass, thus, potentially reducing the number of cattle killed. Over the last 6 years (2007 – 12), the Mariamma Charitable Trust has compensated 310 cattle kills. This has saved numerous large carnivores and improved the livelihood of many local families. At the same time, it helps local people to overcome the losses inflicted on them therefore, making them more supportive of conservation. In addition, the Mariamma Charitable Trust



My data show that 44% of the kills reported were fresh, with less than 25% of the carcass eaten, 39% were fresh with over 50% of the carcass consumed. In the case of older carcasses which were located later, nearly 70% were completely eaten. This clearly shows that if large carnivores are

also undertakes several other actions which help local communities and encourages their support for conservation.

The Trust's work has been sustained through a 20% donation from all sales made by Temple Tree Designs, a local proprietorship established by myself. I am a wildlife artist living in the Mangala village in the Bandipur District. Temple Tree Designs has a shop in the area offering wildlife souvenirs for sale to tourists visiting the Bandipur Tiger Reserve. (www.templetreedesigns.com and http://www.natureartists.com/sunita_dhairyam.asp). Small contributions have also been made by local benefactors, but these contributions and the handicraft sales through the local souvenir shop have dwindled due to the current economic decline in India, seriously jeopardizing the conservation and the humanitarian work.



Photo credit Sunita Dhairyam. Sunita is managing trustee of the Mariamma Charitable Trust. More information on her work can be found at www.natureartists.com and www.templetreedesigns.com



Kaddijenu

(*Apis florea*)

a refuge in the forests of Punanjanu

- B.Mahadesha

The small single comb nests of *Apis florea* or 'Kadjenu' as the Sholiga people call it, is often found in dense, shrub vegetation, in cavities of trees and rocks or under roofs of palm leaves. *Apis florea* are social bees and the workers form a multi-layered protective blanket covering the comb. Sticky plant resins are used on the branch supporting the comb to protect the colony from ants.

Apis florea colonies are found in high numbers in the dry forests of the Punanjanur area. They are found to be nesting on shrubs and low trees and in rare instances on rocks (cover photo). Forest areas in Punanjanur where the bees are found in abundance were identified by the Sholiga honey gatherers as important sites for *Apis florea* conservation.

Harvesting the honey of the Kadjenu is simple as the combs are relatively small and not usually built at high levels on the trees. The honey is highly valued by the people since it is believed to have many medicinal properties. Honey harvest takes place in August until October. This honey is not sold outside but is only used for local consumption. Each comb may have about a 1-3kg of honey stored in them. *Apis florea* bees store their honey in the upper part of the comb while pollen, brood and drone cells are stored below. It is estimated that these bees fly upto a 500m radius and are important pollinators.

Apis florea is naturally distributed across various parts of Asia. In a study that was undertaken by Keystone Foundation it was found that they were present in relatively higher number in the dry forests, in lesser

numbers in tropical wet forests and conspicuous by their absence in the high elevation wet forests. Local people of the Nilgiri Biosphere Reserve list four types of *Apis florea* bees – 'mora kola', 'nai kola', 'vangu kola' and 'kal kola' (Robert Leo pers.comm), more research is needed to classify these variants. In a preliminary molecular work undertaken in 2009 it was also found that the *Apis florea* of the Punanjanur area were more aligned to the western line which extend from Arabia to India rather than to the *Apis florea* of the eastern line of Thailand and Cambodia (Bradbeer et al 2009).

Apis florea is one of the oldest social bees, reflected in its simple nest construction and small colony size. Local lore talks of all bees having originated from these bees and hence the title queen of the bee has been accorded to these bees.

In a recent discussion about the status of Kadjenu the Sholiga people talked at length about the seasonal patterns of these bees. The people have also seen over the years that when the local farmers plant marigold flowers there are less nests of the bees in the forest. The Sholiga people think this may have to do with the use of pesticides and lack of food sources for the bees.

Indeed the forests of Punanjanur are special for the *Apis florea* bees and more observations and studies on these bees in the wild are required. The research needs to take into account the Sholiga people's observations and perceptions since they have been long associated with the 'Kadjenu'.



http://upload.wikimedia.org/wikipedia/commons/1/f2/Apis_florea_distribution_map.svg



Photo credit B.Mahadesha. Mahadesha is an area manager (Punanjanur, Chamrajnagar district, Karnataka) with Keystone Foundation and a recipient of the Joke Waller Fellowship (2012). Contact - mahadesha@gmail.com

Cycas circinalis

An ancient relic in the Nilgiris

Vandana Krishnamurthy

The Nilgiri Hills are not only known for their people, terrain, tea gardens and the Nilgiri Tahr; they are also known for the fascinating plants that bring this region its charm. Rare species like *Baeolepis*, *Frerea*, and *Vanda* are some of the rare plants that dot this landscape.

One of the other intriguing species from the Nilgiri Biosphere Reserve is *Cycas circinalis*. It belongs to the cycads, an extant group of plants from the Jurassic era. They are commonly called as 'living fossils' or 'Dinosaurs of the plant kingdom' because of their lineage dating back to the age of the Dinosaurs. After the ferns and ginkos, cycads and other gymnosperms (plants that lack a seed coat) dominated the Jurassic period. The seeds of these plants were dispersed by the herbivorous dinosaurs that consumed the fleshy outer covering. The gymnosperms were at an advantage as they had a unique system of reproduction through cones making efficient use of the wind as a medium for pollination. Additionally, these plants had different male and female plants that allowed for greater genetic combination than the ferns. By the end of the Jurassic, the gymnosperms were widespread.

This is one of the reasons that these species of serious conservation, on account of their ancestral roots in the Jurassic. However, today, over 62% of all cycads are threatened with extinction. Some of the main threats include collection for landscaping, use in

traditional practices, floriculture and the destruction of cycad habitat. In India, there are 9 species of the genus *Cycas*. These species are found in the Eastern and Western Ghats of Southern India and the forests of North-East India.

Cycas circinalis is a critical species in Nilgiri Biosphere Reserve as, their populations they have been dwindling in the last decade or so. Traditionally, these plants were used by the Kurumbas, Irulas and Katta Nayakans for food, medicine and cultural uses. The seeds and leaves require to be processed to remove the toxic compounds before consumption, a technique that indigenous communities learned through knowledge passed down from their ancestors.

However, unfortunately, recent market-driven pressures have influenced the species to a large extent that wild populations are diminishing. Vendors in main cities trade the adult leaves for floriculture where the leaves are shaved off the tree, trimmed down and made to fit in a bouquet. The whole tree is cut off to harvest the central part of the stem or the pith. The pith is known to have medicinal properties used in the Ayurveda, Siddha and Unani systems. In addition to this, whole plants are uprooted from the wild for landscaping. These varied uses result in bulk harvest of the plants from the wild.

I am interested in these harvest dynamics and its impacts on the survival and ecology of these plants in the wild. In the past four years,

I have been closely documenting the trade, ethnobotany and population dynamics of *Cycas circinalis* and *Cycas indica* in the Western Ghats. My sites are located in Karnataka and Kerala. Some preliminary results show that the different harvest types; seed, leaf and pith have consequent results on the populations. The seed harvested populations in Kerala have a healthier population structure, as opposed to leaf and pith harvested populations. This could be because the harvest of leaves impacts photosynthesis and harvest of pith results in hacking the entire stem; generally more destructive than seed harvest.

Floriculture market surveys have showed a decline in size and quality of leaves. The cultural calendar has an impact on the quantity of leaves harvested. Marriage seasons and popular festivals use these leaves as a decorative article along with other flowers. At these times, almost 3000 leaves are harvested in a single sitting. The medicinal market is a little complex. The market name of *C. circinalis* is vidharikhand. However, the same trade name is used for 5 different plants. Therefore, it is hard to tell which species is found in the markets. Regardless, I have been following the pith supply which has reduced in the past few years.

The Nilgiri Biosphere Reserve and the Western Ghats remain the last strong hold for *C. circinalis* as large scale harvesting threatens the survival of these species. By having a worms-eye view of the specific patterns, I will be able to recommend specific management practices to prevent these species from going extinct.

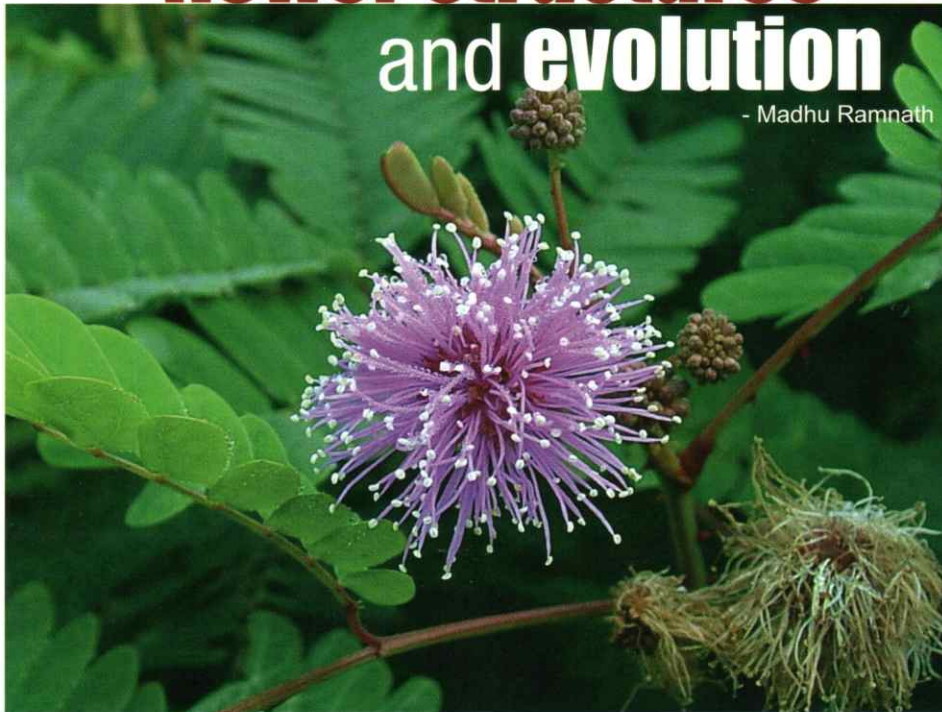
Photos by author. Vandana is doing her Ph.D., at the University of Hawaii.

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Stray thoughts on flower structures and evolution

- Madhu Ramnath



When we consider the three sub-families of the Legumes it is possible to discern “stages” in the evolution of the flower structure. The mimosas (Mimosaceae) have flowers in small globose heads, the pollen exposed to the wind and to insects; the caesalpinias (Caesalpinaceae) have 5-petaled flowers that are somewhat zygomorphic (symmetric in one plane) with the pollen-laden anthers partly accessible to insects but quite protected from the wind. Moving along the same direction, we have the Papilionaceae with butterfly-shaped flowers that are strongly zygomorphic, the shape clearly including or eliminating any potential pollinator.

What one notices when observing the three flower structures mentioned above is the fact that the accessibility of pollen from the three types of flowers is not equal. The pollen from the flowers of mimosas is easily available, for wind to scatter or for any insect that cares to sit upon them, regardless of whether the pollen will find a suitable destination. Among the caesalpinias we have an intermediate situation with the anthers partially protected from the wind, and not all insects fitting into the perianth. And in the butterfly-shaped flowers of the Papilionaceae the wind plays no role in pollen transfers and entry to the pollen is restricted to insects that fit the size of the perianth. In essence, mimosas seem to invest much energy in pollen, to ensure reproduction and survival; the papilions

invest the least energy, their success depending on specific hosts who drop in and consequently will move on to a similar flower of another plant.

The trade-off between investment in pollen (and energy) and the specificity of the pollinator is of interest. Among orchids the flowers are clear examples in exclusivity; species of flowers are linked to species of insects. The pollinators are particular species, as in vanilla, and other insects may not be able to fulfill the process of pollination. Such relations between plants and their pollinators are crucial in our landscape as losing one means losing the other, something that has been happening unknown to us over the course of time. And among wind and water-pollinated flowers there needs to be a large quantity of pollen as much is wasted (from

the plants reproductive point of view). Though in the broad sense all pollination in the wild may be a matter of chance one can notice that the narrowing down of possibilities and failures are different within the sub-families that we are dealing with. Across the various plant families and flower structures we may be able to see the same trend in the trade-off between investment in pollen and exclusivity of the pollinator.

What does such a trade-off mean?

Considering the question from the mimosa view-point, it seems like wastage is an intrinsic factor in the pollination. The net is cast, so to speak, assuming that only a fraction of the visitors to the flower will play a role in the eventual reproduction. The range of pollinators is wide and to keep this going much energy goes into making pollen. On the other hand, as among the orchids, when the pollen itself is very limited – two blobs – and located



under the hood it is only the particular host that can help in pollination. The host needs to be of the correct size, come by at the appropriate season and time, and move on to the next host. Is this not a matter akin to putting all ones eggs into the same basket?

I think it is. But somewhere there is an added message: Put all your eggs in one basket but don't you dare drop it.

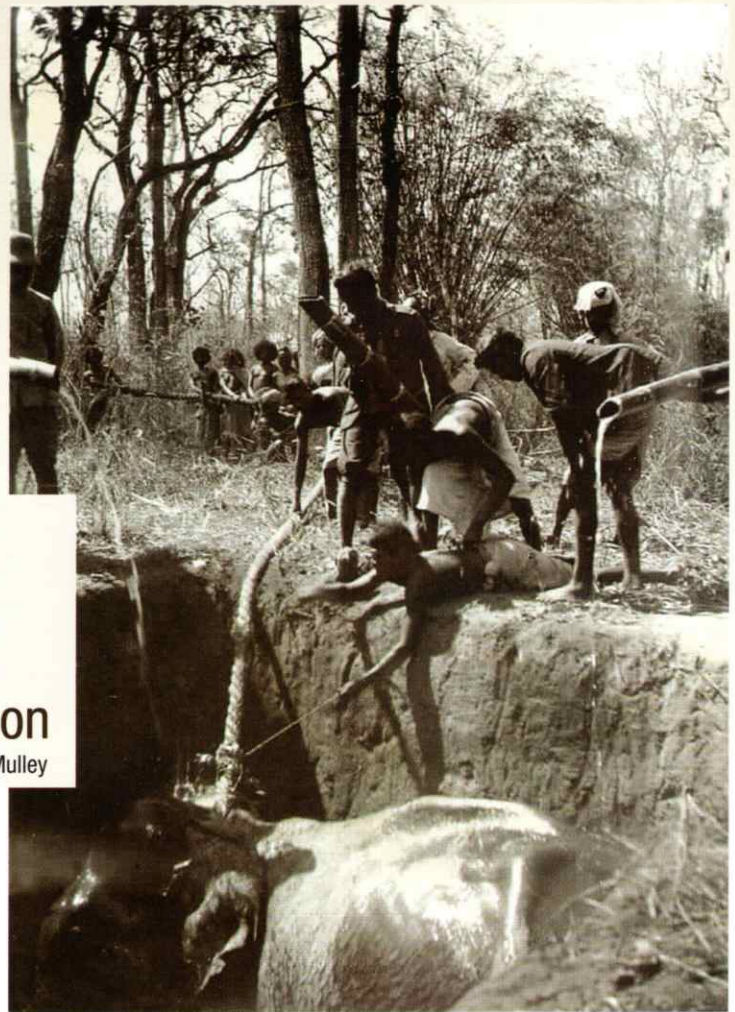
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Soligas

a community in transition

Rev. Phillip K. Mulley



Sholigas in English are *Solegas* who derive their name from the forest tracts they have been dwelling for the past several centuries. The original habitat of these people extended from Heggededevanakottai (H.D.Kote) in the west to the Poonachi hills east of Kollegala. The arc of these forest tracts, once upon a time also included the territory west of Sigur River. The Bargur hill ranges in the present day Erode district also formed part of the Sholiga territories.

The earliest serious attempt to identify and study these people was made by J. Shortt, a medical officer of the East India Company in the 1860's. He used to live at Kotagiri and when he retired to Yercaud in the Shevaroy hills, the interest generated in these people dwindled. No less a person than W.H.R.Rivers (of Toda fame) in 1903 did some preliminary investigation into the physical anthropology aspects of these people but the subject was never pursued. Later observations on them, except for a

documentation by S.G. Morab and published by the Anthropological Survey of India (1977) may be noted. But this study was confined only to the Biligirirangan hills (B.R.Hills).

The way tribes like Sholigas have been categorised, classified and documented leave much to be desired. As a modest definition, the Sholigas can be said to belong to a technological complex

(Ratnagar 2010) with recognised patterns of delineating and delimiting their culture. However what is of considerable interest is that, in this process, they also seem to share an ethnicity with their neighbouring Uralis. While the Uralis claim that they belong to a "seven kula" entity, the Sholigas hereditarily acknowledge five kulas among themselves and which in recent times have expanded to six. The ancestor of Sholigas is said to be Karaiyya or Karreraya who is their supreme deity in the honey gathering pursuits. What is more significant is that this deity in the form of Karrodaya is also venerated by the Badagas and they have a shrine for him at the Banagudi of Jakkannare near Kotagiri (Francis, 1908). He is also the Toda patron deity of honey harvesting viz. Korattaihh (Chhabra, 2007).

The Sholiga clans have their own deities and they form part of a pantheon which is a special feature of the Sholiga religion. In addition to the clan deities they recognise territorial, commune, hereditary and also Hindu deities. The Sholigas like the Badagas and Kurumbas and interestingly enough Savaras of Orissa of old times have held a belief in two souls-big soul and little soul. The religious ceremonies of Sholigas relating to trance, sorcery, rain making and rain halting have largely disappeared. Not



many are aware that the Sholigas were also experts employed since Haider Ali's times in the elephant capturing expeditions.

The way in which Sholiga groups (preferably 'bands') of earlier times, dispersed from one habitation to another was determined by the dreams they had. If the dreams presaged heaps of manure or hearing of roar of elephants they indicated the ideal site. If heaps of ragi harvest, water or fire were seen in dreams such sites were rejected. The shifting of sites for cultivation was usually resorted to after every four year cycle. They also never returned to any of their old sites. Yet, the ties they strongly maintained within their different bands and as reflected in their spatial occupation of the land called **Podhu** was legendary. The collection of minor forest produce thus spread over large tracts of rich forests have greatly augmented their livelihood strategies.

The livelihood strategies of Sholigas started undergoing radical changes especially in the B.R. Hills from the early part of the 19th century. These hill tracts were awarded as a 'jagir' to Purnaiah Iyengar, the erstwhile Dewan of Tippu Sultan in the year 1807 by the British. A completely manipulated cultural scape and landscape came to center around an already existent temple on the hill

top. The good old Dewan and his Vaishnavite scions were also responsible for the change of the name of the place. The white sheet of rock (Biligiri) which was the landmark of the hills was converted to be that of God Ranga and a Sholiga woman Gujjari was made his spouse. This process of re-mythologisation invariably resulted in the intensive commercialisation of the forest resources of the Sholiga domain (S.SakethRajan, 1983).

The Sholigas of Bargur hills in Erode district became subjected to a class of ultra conservative Lingayats (least known elsewhere) since about the 15th century, when the neighbouring Madewara hills became the nodal point of the Lingayat religious cult. This history is yet to be fully investigated. However the interaction found among these two groups presents a dismal picture. The patronage extended by the Lingayats over the Sholigas and the peonage subscribed to by the Sholigas is no better than a bonded labour system and atleast until the 1990's this grim situation prevailed. But the overall Lingayat hegemony continues to be detrimental in this Sholiga backwoods. Historically speaking it would be of interest to note that at one point of time the Kotas and Irulas of the Nilgiris also displayed a similar kind of

attitude towards the Sholigas.

Sustainable livelihood strategies for the Sholigas have been initiated by several organisations in modern times. These take into account the valuable knowledge which the people have about their environment and ecology. Matters relating to the management of Tiger Reserves and Protected Areas in relation to Sholiga habitations might open up new avenues of co-operation in these ventures. Apart from this there are issues like health status of the people as a whole. It has been found that the indigenous Sholiga medical system has made negligible contribution to the treatment of both general and chronic diseases affecting the people (Ghosh et al 2007). If their traditional system has not responded to the modern changes in their lifestyle, what should be our concern is to be seriously evaluated. An entirely new perspective seems to be wanting in offering a comprehensive development package to traditional societies. This would have far reaching impact in dealing with the socio economic profile of the indigenous populations.

*Photo credit Rev. Phillip K. Mulley
Contact - philipk.mulley@gmail.com*



Madamma

- as told to B. Mahadesha

Madamma is an honorary life time member of the NNHS and was awarded the membership in recognition of her commitment to conservation and transfer of traditional knowledge to the younger generation.

This is the story of Madamma, a Sholiga lady, who lives in Punanjanur. Madamma helps out at the Keystone Foundation resource center and is part of the conservation education and outreach program of the center. As an elder of the village and a healer, Madamma is keen to share her knowledge with Sholiga children and women so that their traditions are carried forward. Madamma takes the children of the village on regular walks through the forest where she explains to them the uses of various medicinal plants and their names. She enjoys her work and looks forward most to the outings with the children.

Madamma was born in Punanjanur village close to Chikkanyyana Giri kobu. Her mother Kumbamma and father Poojari Madegowda migrated to Hasanur area when she was five years old. Poojari Madegowda was the officiating priest at a temple dedicated to the goddess Hosamari amman. While at Hasanur the family worked as agricultural labourers on the lands of the Okkaliga community people who were the dominant land owners of the region. She remembers working on the lands alongside her parents.

Food patterns in those years were very different from what it is now. The main food was 'murukuina asittu' which was made into a form of ganji by boiling it in water. There were many foods that were eaten from the forest tubers like noore, belare, eechalu. When in the forest they would also collect lichen and honey for sale to the local muslim traders. Lichen would fetch upto 50 paise per kg and honey was mostly kept just for home consumption, there wasn't a big demand for the honey then.

Life in Hasanur for Madamma was special since she spent a lot of time with her grandmother Sidamma, who told her a lot of stories and was keen to share all that she knew about the forests and the medicinal

plants. Madamma was a very curious child and kept up long conversations with her grandmother in the nights to find out about different cures and healing plants. This memory stayed with her for the rest of her life.

Madamma remembers when she was 25 years old, how many people in the village and surrounding died because of small pox and chicken pox. Her family fled from the area fearing the disease and returned to Punanjanur to settle in a village called Biddappana dhoddi. Here they had to earn their livelihood by cutting bamboo for sale. There were no vehicles allowed into those areas and she remembers how they carried the bamboo on their heads to Nagavalli village 20kms away. It was a tough life, returning home only late at night. But by this time Madamma had also become locally known for her healing skills and was often called upon by her neighbours to treat the sick. She started to give medicines and also became more confident about her skills as a healer. Her medicines were very effective especially for treating young children.

One of her most interesting memories was of the time when she was engaged in bamboo cutting

how she encountered a mother elephant with her little calf. The mother was very angry and charged Madamma and lifted her with her trunk and flung her to the side. Madamma escaped unhurt and only shaken.

Madamma loves the forest very much and wanders even by herself in search of its riches. She is very keen that what knowledge she has must not be lost after she has gone and wants to spend more time with the children of her community.





பிதரு சத்த

வெள்ளைக்கோம்பே ஊர் சிறுவர்களால் உருவாக்கப்பட்ட இயற்கை மாத இகழ்



அறியவகை தாவரம்

இந்த மாதம் கீஸ்டோன் அலுவலகத்தில் அறியவகை தாவரமான வாண்டா(செகுட்டு ஓலை) எனப்படும் தாவரத்தை பார்த்தோம் இவைகள் மரங்களில் ஓட்டி உயிர் வாழ்கின்றது. இது காற்றில் உள்ள ஈரப்பதத்தினை கொண்டு உயிர் வாழ்கிறது. இது மருந்தாகவும் பயன்படுகிறது. மற்றும் தைலுல் பார்த்தோம் அதில் தைலம் எடுத்து மருந்தாக பயன்படுகிறது. என்பதை தெரிந்து கொண்டோம்.

வனவிலங்கு பற்றிய தகவல்கள்

1, இந்தமாதம் பில்லூர் பகுதியில் ஈசல் பூச்சிகள் அதிகமாக காணப்பட்டது. இதுவரை இம்மாதிரி நிகழ்வுகள் நடந்ததில்லை. இதுவே அறிதாக உள்ளது. 2. பில்லூர் பகுதிக்கு உட்பட்ட நீராடி கிராமத்தில் மலைப்பாம்பு புகுந்து கோழி குஞ்சுகளை பிடிக்க முயன்றது ஆனால் ஊர் பொதுமக்கள் அனைவரும் சேர்ந்து அப்பாம்பை பிடித்து காட்டு பகுதியில் விட்டனர்.



கண்ணால் பார்த்தது காதால் கேட்டது

இந்த மாதம் பில்லூர் அணையின் நீர் மட்டம் குறைந்துள்ளதால் நிறைய சிற்பி வகைகள் (அச்சேட்டை) மற்றும் நண்டு வகைகள் நிரைய காணப்படுகின்றன மற்றும் அவற்றின் இருள பெயர்கள் பற்றியும் அவற்றின் நன்மைகள் பற்றியும் திருமதி நஞ்சம்மாள் அவர்கள் எங்களுக்கு கற்றுத்தந்தார்.



கற்றதும் அறிந்ததும்:

இந்த மாதம் பில்லூர் கீஸ்டோன் அலுவலகத்தில் திரு சந்திரன் நெல்லி மரத்தூர் அவர்கள் எங்களுக்கு சிலவற்றை கற்றுக் கொடுத்தார். அவற்றுள் சில:

1, பறவைகள் பற்றிய தகவல்களை கற்றுத்தந்தார். 2, ஈந்தமரங்களின் பாதுகாப்பை பற்றி கற்று தந்தார். 3, மூலிகை மருந்து செடிகள் பற்றி கற்று தந்தார். 4, இந்த மாதத்தில் காட்டில் தேன் கசப்பு தன்மை உடையதாக காணப்படும் ஏனென்றால் வேப்பம்பூ, இட்டிபூ, பொருஞ்சூ, தனுக்குபூ ஆகியவற்றிலிருந்து தேன் சேகரிப்பதனால் தேன் கசப்பு தன்மை உடையதாக காணப்படுகிறது. 5, மேற்கு தொடர்ச்சி மலைகள் பற்றியும் மற்றும் அதன் மாநிலங்கள் பற்றி தெரிந்து கொண்டோம்.



தெரிந்து கொள்ளுங்கள் இவரை

பள்ளி விடுமுறை நாட்களில் மற்றும் சனி ஞாயிறு கிழமைகளில் நீராடி கிராமத்தில் திருமதி, நஞ்சம்மாள் அவர்கள் எங்களை காட்டிற்கு அழைத்துச் செல்கின்றார். அவர் எங்களுக்கு காடு சம்பந்தமான நிறைய தகவல்களையும் மேலும் காட்டின் நன்மைகளையும், காடுகளை பாதுகாப்பதினால் அதன் மூலம் மழை பெறுகின்றோம் மற்றும் மனிதர்கள் உயிர் வாழவும் காடுகள் முக்கியமானது என்பதை எங்களுக்கு விளக்கினார்.

காட்டுதீ

இந்த மாதம் பில்லூர் பகுதிக்கு உட்பட்ட கடமன்கோம்பை பகுதியில் காட்டுதீ ஏற்பட்டது இதனால் காட்டில் உள்ள அறியவகை தாவரங்களும் விலங்குகளும் மற்றும் பறவைகளும் பாதிக்கப்பட்டது.



இம்மாதம் காட்டில் கிடைக்கும் பொருட்கள்

- | | |
|----------------|-----------------|
| 1, கசப்பு தேன் | 7, ஊன்கள் பழம், |
| 2, முன்னை டாகு | 8, கடுக்காய், |
| 3, சிங்கை டாகு | 9, பூச்சக்காய் |
| 4, காக்கை டாகு | 10, முள்கீரை |
| 5, தும்பே பழம் | 11, மாம்பழம் |
| 6, சீமறு புல் | 12, தோன்டை டாகு |



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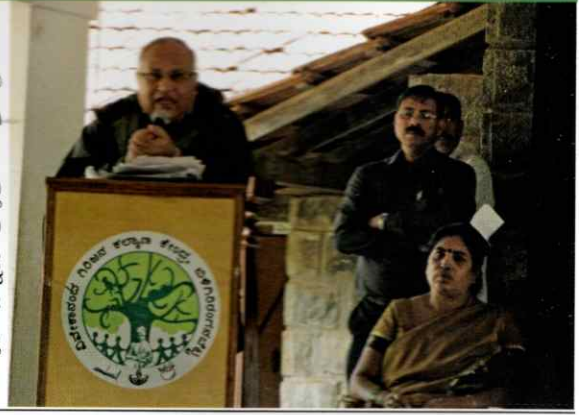
ನಿಸರ್ಗ ಸುದ್ದಿ

ಪುಣಜನೂರು ಮಕ್ಕಳು ಸಿದ್ಧಪಡಿಸಿದ ಮಾಸಿಕ ಪರಿಸರ ಸುದ್ದಿ

ಮುಖ್ಯ ಸಮಾಚಾರಗಳು :

ಪುಣಜನೂರು ಭಾಗದ ಜನರು ವ್ಯವಸಾಯಗಳನ್ನು ಮುಗಿಸಿ ಕೆಲವು ಜನರು ಕೇರಳಕ್ಕೆ ಬಿದಿರು ಕಡಿಯಲು ಇನ್ನೂ ಕೆಲವು ಜನರು ಕರ್ನಾಟಕದ ಕೊಡಗಿನ ಕಾಫಿ ತೋಟಗಳಿಗೆ ಕೆಲಸಗಳಿಗಾಗಿ ವಲಸೆ ಹೋಗಿದ್ದಾರೆ.

30/01/2013ರಂದು ಬಿಳಿಗಿರಿರಂಗನ ಬೆಟ್ಟದ ವಿವೇಕಾನಂದ ಗಿರಿಜನ ಕಲ್ಯಾಣ ಕೇಂದ್ರದಲ್ಲಿ ಪೊಲೀಸ್ ಇಲಾಖೆಯ ವತಿಯಿಂದ ಏರ್ಪಡಿಸಿದ್ದ ಕಾನೂನು ಅರಿವು ಶಿಬಿರದಲ್ಲಿ ಸುಮಾರು 200 ಜನಕ್ಕೂ ಹೆಚ್ಚು ಸೋಲಿಗ ಜನರು ಭಾಗವಹಿಸಿದ್ದರು ಮುಖ್ಯವಾಗಿ ಅರಣ್ಯ ಹಕ್ಕು ಖಾಯ್ತೆ ಮಹತ್ವ ಮತ್ತು ಸೋಲಿಗ ಜನರ ಕುಂದು ಕೊರತೆಗಳನ್ನು ಬಗೆಹರಿಸುವ ಯೋಜನೆಗಳನ್ನು ಹೇಳಿದರು. ಈ ಶಿಬಿರದಲ್ಲಿ ಮಾನವ ಹಕ್ಕು ಜಾರಿ ನಿರ್ದೇಶನಾಲಯ ಬೆಂಗಳೂರು, ಸಸ್ತಂ, ಅಧಿಕಾರಿಗಳು, ಜಿಲ್ಲಾ ಪರಿಶಿಷ್ಟ ವರ್ಗಗಳ ಕಲ್ಯಾಣ ಅಧಿಕಾರಿಗಳು ಭಾಗವಹಿಸಿದ್ದರು



ಉಪಾಯಗಳು

ಕಗ್ಗಲಿಮರ : ಈ ಮರದ ಪಟ್ಟಿ/ಚಿಕ್ಕಿಯನ್ನು ಜೀರಗೆಯನ್ನು ಸೇರಿಸಿ ಚೆನ್ನಾಗಿ ಜಜ್ಜಿ ಪುಡಿಮಾಡಿ ನಂತರ ಸ್ವಚ್ಛವಾದ ಬಿಳಿ ಬಟ್ಟೆಯಲ್ಲಿ ಸೋರಿಸಿ ಅದರಿಂದ ಬಂದ ರಸವನ್ನು ಕುಡಿಯುವುದರಿಂದ ಅಳ್ಳೆ ಸಳುಕು (ಅಳ್ಳೆ ನೋವು) ವಾಸಿಯಾಗುತ್ತದೆ.

ಕಕ್ಕೆ ಮರ : ಕಕ್ಕೆ ಚಿಕ್ಕೆ ಮತ್ತು ಅರಿಸಿನ ಪುಡಿ, ಕಕ್ಕೆ ಎಲೆಯನ್ನು ಇವು ಮೂರನ್ನು ಚೆನ್ನಾಗಿ ಅರೆದು ಚಿಕ್ಕೆ ಮಕ್ಕಳಿಗೆ (3 ರಿಂದ 8 ವರ್ಷ) ಬರುವ ಜ್ವರಕ್ಕೆ ಮೈ ತುಂಬ ಹಚ್ಚುವುದರಿಂದ ಜ್ವರ ವಾಸಿಯಾಗುತ್ತದೆ.

ಕಿರುಬೇವು : ಈ ಮರದ ಎಲೆಯನ್ನು ಅರಿಸಿನ ಪುಡಿಯ ಅರೆದು ನೀರಿನ ಮಿಶ್ರಣದಲ್ಲಿ ಕುದಿಸಿ ಕಡಿಮೆ ಬಿಸಿಯಲ್ಲಿ ಮೈಕ್ಕೆ ಗೆ ಹಚ್ಚುವುದರಿಂದ "ಅಮ್ಮ" ವಾಸಿಯಾಗುತ್ತದೆ - ರಾಜೇಶ್



ಪ್ರಾಣಿಗಳ ಚಲನವಲನಗಳು :

ಫೆಬ್ರವರಿ ತಿಂಗಳಿನಲ್ಲಿ ಬೇಡಗುಳಿ ರಸ್ತೆಯಲ್ಲಿ ಆನೆ, ಕೆನ್ನಾಯಿ, ಕಡವೆ, ಕೇಳಲು ಈ ಪ್ರಾಣಿಗಳು ಕಾಣಿಸಿಕೊಂಡವು ಸಮಯ ಸಾಯಂಕಾಲ 5 ರಿಂದ 6 ಗಂಟೆ.

ಈ ತಿಂಗಳು ಆನೆಗಳ ಹಾವಳಿ ಅಧಿಕವಾಗಿದ್ದು ಮುನೇಶ್ವರ ಕಾಲೋನಿಯ ಮಣಿಗೌಡರ ಜಮೀನಿನಲ್ಲಿ ಕೃಷಿ ಮಾಡಿದ್ದ ಕೋಳಿ ಗೆಣಸು ಗಿಡವನ್ನು ನಾಶಮಾಡಿದೆ.



ಮಾಡಿದ್ದು :

11/02/2013 ರಂದು ಬೇಡಗುಳಿಯಲ್ಲಿ ಕಿರು ಅರಣ್ಯ ಉತ್ಪನ್ನಗಳ ನಕ್ಷೆಯನ್ನು ಬಿಡಿಸಲಾಯಿತು.

13,14/02/2013 ರಂದು ಗದ್ದೆಸಾಲು ಶಾಲೆಯಲ್ಲಿ ಪರಿಸರ ಸಂರಕ್ಷಣೆ ಬಗ್ಗೆ ತರಗತಿ ನಡೆಸಲಾಯಿತು.

ಶ್ರೀನಿವಾಸಪುರ ಕಲೋನಿ ಮತ್ತು ಹೊಸಪೋಡು ಗ್ರಾಮ ಹಿರಿಯರು ಗ್ರಾಮದ ಶಾಲಾ ಮಕ್ಕಳನ್ನು ಕಾಡಿಗೆ ಕರೆದುಕೊಂಡು ಹೋಗಿ ಪರಿಸರದ ಬಗ್ಗೆ ಮತ್ತು ಔಷಧ ಸಸ್ಯಗಳ ಬಗ್ಗೆ ಮಾಹಿತಿ ನೀಡಲಾಯಿತು.

14/01/2013 ರಂದು ಹೊಸಪೋಡು ಗ್ರಾಮದ ಅರಣ್ಯ ಸಂರಕ್ಷಣಾ ಸಮಿತಿಯ(ಸಂಪಿಗೆ ಮೌಲ್ಯ ಸೇರ್ಪಡೆ ಕೇಂದ್ರ)ದ ಸಭೆ ನಡೆಸಲಾಯಿತು.



ಕುತೂಹಲಗಳು :

ಪುಣಜನೂರು ಗ್ರಾಮ ಪಂಚಾಯತಿಯಲ್ಲಿ ಪಲಾನುಭವಿಗಳಿಗೆ ಮನೆ ವಿತರಣೆ ಮಾಡಲಾಗಿದೆ. ಬೇಡಗುಳಿ ಮಾರಿಗುಡಿ ಕಾಲೋನಿಯಲ್ಲಿ ಸಿದ್ದೇಗೌಡರವರು ಗುಡಿಸಲು ಒಳಗೆ ಪಾಯವನ್ನು ತೋಡಿಕೊಂಡಿದ್ದಾರೆ.

ಇವರ ನೆನಪು ಇದೆಯೇ ?

ಕೇತೇಗೌಡ

ಇವರು ಹುಟ್ಟಿದ್ದು ಬೇಡಗುಳಿಯ ಹುಲುಗುಡು ಗ್ರಾಮದಲ್ಲಿ ಇವರ ತಂದೆ

ಕುನ್ನುಮಾದೇಗೌಡ ತಾಯಿ ಕೊಳ್ಳದ ಮಾದಿಯಮ್ಮ ಇವರು ಪ್ರಮುಖವಾಗಿ ವ್ಯವಸಾಯ ಮಾಡುತ್ತಿದ್ದರು. ರಾಗಿ, ಭತ್ತ, ಜೋಳ, ನವಣೆ, ಅವರೆ ಸಾಮೆ ಮುಂತಾದ ಬೆಳೆಗಳನ್ನು ಬೆಳೆಯುತ್ತಿದ್ದರು. ಮುಖ್ಯವಾದ ಕೂಲಿ ಎಂದರೆ ಬಿದಿರು ಕಡಿಯುವುದು. ನಂತರ ಬೈಲೂರು, ಉದ್ದಟ್ಟಿ, ಗೇರಾಳ, ಕಾಡಟ್ಟಿ, ಕೆ. ಗುಡಿಯಲ್ಲೂ ವಾಸವಾಗಿದ್ದರು ಇವರ ಹತ್ತು ಕುಟುಂಬದ ಸಂಭಂದಿಕರು ವಲಸೆ ಹೋಗುತ್ತಿದ್ದರು. ಕೊನೆಯದಾಗಿ ಪುಣಜನೂರಿನ ಹೊಸಪೋಡು ಗ್ರಾಮಕ್ಕೆ ಬಂದು ವಾಸವಾದರು 2 ಎಕರೆ ಜಮೀನನ್ನು ಹೊಂದಿದ್ದು ವ್ಯವಸಾಯ ಮಾಡುತ್ತಿದ್ದಾರೆ (ರಾಗಿ, ಜೋಳ, ಅವರೆ, ತೊಗರಿ) ಬೆಳೆಗಳನ್ನು ಬೆಳೆಯುತ್ತಿದ್ದಾರೆ. ಇವರ ಮನೆದೇವರಾದ ಜಡೆರುದ್ರೇಶ್ವರ ಸ್ವಾಮಿಯನ್ನು ಕೇತೇಗೌಡರು ಪೂಜಾರಿಯಾಗಿ ಪೂಜೆ ಮಾಡುತ್ತಿದ್ದಾರೆ.



ಈ ತಿಂಗಳು

ಉರಿಗಿಲು ಹೂ, ಕಕ್ಕೆ ಹೂ, ತೊಟ್ಟಿ ಹೂ, ಮುತ್ತಗ ಹೂ, ಬೂರದ ಹೂ, ಗೊಬ್ಬರದ ಹೂ, ಬೇಲದ ಕಾಯಿ, ಹುಣಸೆ ಹಣ್ಣು, ನೆಲ್ಲಿಕಾಯಿ, ತಾರಿಕಾಯಿ, ಎಲಚಿ ಹಣ್ಣು, ಎಬ್ಬೇವು ಕಾಯಿ, ಅಸರೆ ಹಣ್ಣು ಮುಂತಾದವುಗಳು ಕಂಡು ಬರುತ್ತದೆ.

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കാട്ടുപുവ്

നിലമ്പൂരിലെ കുട്ടികൾ തയ്യാറാക്കിയ പരിസ്ഥിതി മാസിക

നാട്ടുവിശേഷം

മണ്ണാളി കോളനിയിലെ മുപ്പൻ അപ്പൻകാപ്പ് കോളനിയിലെ മുപ്പനായ കൃഷ്ണൻ കുട്ടിയെ സന്ദർശിച്ചു. ഫെബ്രുവരി, മാർച്ച് മാസങ്ങളിൽ ഐ. റ്റി. ഡി. പി യുടെ ഭക്ഷ്യ സഹായ പദ്ധതിയുടെ ഭാഗമായി പണിയ അറനാടൻ കോളനികളിൽ അരിയും പയറും വിതരണം ചെയ്തു. ഏപ്രിൽ, മെയ് മാസങ്ങളിൽ കടുത്ത വേനൽ അനുഭവപ്പെട്ടു. ചെറുപ്പുഴ, കരിമ്പുഴ, അപ്പൻകാപ്പ്, നെടുങ്കയം, മുണ്ടക്കടവ്, പാട്ടകരിമ്പ് കോളനികളിൽ ജലക്ഷാമം അനുഭവപ്പെട്ടു. കരുളായി വനത്തിൽ കാട്ടു തീ ഉണ്ടായില്ല. നെടുങ്കയം കോളനിയിൽ എസ്.എസ്.എൽ.സി, പാസ്സായ മൂന്നു കുട്ടികൾക്ക് ആദിവാസി മഹാസഭയുടെ കീഴിൽ പ്രോത്സാഹന സമ്മാനങ്ങൾ നൽകി. 22/05/2013 ന് പട്ടിക വർഗ്ഗ വികസന മന്ത്രി ശ്രീ. കുമാരി പി.കെ. ജയലക്ഷ്മി മുണ്ടക്കടവ് കോളനി, മാഞ്ചീരി കോളനി എന്നിവ സന്ദർശിച്ചു. അന്നേ ദിനത്തിൽ മാഞ്ചീരി കോളനിയിലെ വിനോദിന് പ്ലസ് ടു പാസ്സായതിന് നെടുങ്കയത്ത് വെച്ച് മാഞ്ചീരി വനസംരക്ഷണ സമിതിയുടെ ഉപഹാരം മന്ത്രി നൽകി.



കാട്ടുവിശേഷം

കുന്ദലപാറ, തണ്ടൻകല്ല്, ചെമ്പ്ര കോളനികളിൽ ഫെബ്രുവരി മാർച്ച് മാസങ്ങളിൽ കൊല്ലക്ക, കണ്ണി മാങ്ങ എന്നിവ ശേഖരിച്ചു. ഈ മാസങ്ങളിൽ തോട്ട പയർ ശേഖരണം ഒരു പ്രധാന വരുമാന മാർഗ്ഗമാണ്. ഏപ്രിൽ മാസം ആരംഭിച്ച തേൻശേഖരണം അപ്പൻകാപ്പ്, മാഞ്ചീരി, പാട്ടകരിമ്പ് കോളനികളിൽ ഇപ്പോഴും തുടരുന്നു. പുഴകൾ വറ്റിയതിനാൽ മീൻശേഖരണം കോളനി നിവാസികൾ നടത്തുന്നു.

ഇവർ ഇങ്ങനെ?

നെടുങ്കയം മാലതി ചാത്തൻ എന്ന സ്ത്രീ സ്വന്തമായി അടുക്കള കൃഷിതോട്ടം നടത്തുന്നു. ഏകദേശം 60 വയസ്സ് പ്രായമുള്ള ഇവർ കീ സ്റ്റോണിന്റെ പ്രോത്സാഹനത്തോടെയാണ് കൃഷി ആരംഭിച്ചത്. പച്ചക്കറി, വാഴ തുടങ്ങിയവയും, കാട്ടു കിഴങ്ങുകളായ നൂറ, കവല, ശതാവരി എന്നിവ നട്ടു വളർത്തുകയും അയൽക്കാർക്ക് വിത്തുകൾ നൽകി വരികയും ചെയ്യുന്നു.



തുന്ത്രങ്ങൾ

1) കുന്നിക്കുരുവിന്റെ ഇല ചതച്ച് ഉളുക്ക് ഉള്ള ഭാഗങ്ങളിൽ എണ്ണ തേച്ചതിന് ശേഷം ഒട്ടിച്ച് വെച്ചാൽ വേദന മാറും



പ്രകൃതിയിൽ

ഈത്ത് വിളവെടുപ്പ് സംഘത്തിലെ ഏഴു പേർ യോഗം കൂടാൻ തീരുമാനിച്ചു.

അറിഞ്ഞോ?

- 1) നെടുങ്കയം ബദൽ സ്കൂളിലെ 15 വിദ്യാർത്ഥികളും അധ്യാപകനായ വിജയനും ഉറട്ടി തേനീച്ച മ്യൂസിയത്തിലേക്ക് പഠനയാത്ര നടത്തി.
- 2) നിലമ്പൂർ പി. വി. ടി. ജി പദ്ധതിയിൽ ഉൾപ്പെടുത്തി ചോലനായ്ക്ക അളകളിൽ ബെഡ്ഷീറ്റ്, പോളിത്തീൻ ഷീറ്റ്, സൗര വിളക്കുകൾ തുടങ്ങിയവ വിതരണം നടത്തി.
- 3) പോത്ത്കല്ല് ഗവ. ആശുപത്രിയുടെ നേതൃത്വത്തിൽ കുട്ടികൾക്കും ഗർഭിണികൾക്കും മരുന്ന് വിതരണവും നടന്നു. നിലമ്പൂർ മേഖലയിലെ എല്ലാ ആദിവാസി ഉറുകളിലേയും 5 വയസ്സിന് താഴെയുള്ള കുട്ടികൾക്ക് ജനുവരി, ഫെബ്രുവരി മാസങ്ങളിൽ പോളിയോ തുള്ളിമരുന്ന് നൽകി.

പക്ഷികൾ

- ഇരട്ടതലച്ചി - എല്ലാദിവസവും
- ആനറാഞ്ചി - 4 ദിവസം
- മണ്ണാത്തിപ്പുള്ളി - 5 ദിവസം
- വാലുകുലുക്കി - 20 ദിവസം
- കൊക്ക് - 10 തവണ
- നീർകാക്ക - 12 തവണ

പേരിനുപിന്നിൽ

ഉച്ചക്കുളം- കരുളായി റെയ്ഞ്ചിൽ ഉച്ചക്കുളം എന്ന സ്ഥലത്ത് ഒരു ആദിവാസി കോളനിയുണ്ട്. നെടുങ്കയം കോളനി, മുണ്ടക്കടവ് കോളനി, ഉച്ചക്കുളം കോളനി, ഈ മൂന്ന് കോളനി പ്രദേശങ്ങളുടെ നടു മധ്യത്തിലായി ഒരു കുളം ഉള്ളത് കൊണ്ടാണ് ഈ പേർ വന്നത്.

വിരുന്ന്കാർ

- ആന - 4 തവണ
- കൊമ്പൻ - 2 തവണ
- പിടി - 4 തവണ
- കാട്ടിൽ വെച്ച് കണ്ടത് - 2 തവണ



N. Sunil Kumar is the Village Coordinator at Keystone Resource Centre, Nilambur



A talk on ecology, management, conservation and welfare of the Asian Elephant

A talk on ecology, management, conservation and welfare of the Asian Elephant was organized at the Bee Museum on the 19th of December. The speaker Dr Surendra Varma an expert on welfare of the Asian elephant used a slide show to illustrate the issues faced by these magnificent mammals both in captivity as well as in the wild. While most studies on elephant conservation use a more quantitative approach, Dr Varma takes on a more qualitative MO. He states that just numbers cannot be an indicator of how the species is doing in the wild and a more thorough research has to be done on physiological and psychological health of the elephants if we are to assess how future generations will fare.

Dr Varma held the attention of his audience with his easygoing manner and passion in creating awareness about the plight of these animals. The talk was followed by questions from the audience, which was a good mix of college students and interested individuals.



Shades of clay

A clay-modeling workshop was held at the Bee Museum on the 9th of February. Around twelve participants learnt the basics of clay modeling using terracotta clay. They then let their creativity run wild and made some beautifully textured mugs and small plates.

Gaur in my garden

A documentary film titled Gaur in my garden was screened at the Bee Museum on the 14th of February. This documentary film, directed by Rita Banerji follows the Indian Gaur; a large ungulate whose loss of habitat has caused an increase in human-gaur interactions and has subsequently led to rise in the number of conflicts. The event had a turnout of about twenty people.

Tribes of Brazil

A talk on the indigenous people of Brazil took place at the Bee museum on the 27th of February. The speaker Sarah Dee Shenker, Survival International spoke about the uncontacted tribes in Brazil with a special emphasis on the Awá Indians who are suffering greatly due to loss of habitat.



which was covered, making management of food waste a simple, easy and maintenance free process. The session covered the economics of putting up such plants and concluded with a Q and A session.

SCHOOL VISITS

Camfort International school, Coimbatore

Eighteen students from the Camfort International School visited the Bee Museum on the 16th of February as part of their educational field trip. The children learnt about the Nilgiri Biosphere Reserve

Garbage to Garden

A presentation on the techniques of biogas production using food waste took place at the Bee museum on the 15th of May. The session was conducted by Ms. Archana Jayaraman, a representative of the South Asia Youth Environment Network (SAYEN), which focused on the different options and commercial models available today to produce biogas out of food waste and how that can be used for domestic as well as power generation purposes. Ms. Jayaraman showed her compilation of case studies from around Tamil Nadu where such plants are operational. She also shared her insights into setting up of community scale projects vis a vis small scale plants. Also, composting using terracotta pots was an interesting aspect,

through a presentation by Sumin George of the Keystone Foundation followed by the screening of the movie 'A fragile treasure.' Following lunch they took a short nature walk around Mary's hill road during which they recorded their observations. They returned to the Bee Museum for a tour and Kurumba painting workshop.

Isha Home School, Coimbatore

Twenty-five students from Isha Home School visited the Bee Museum on the 20th of February. The children were taken on a tour of the museum followed by a screening of the movie- Honey Hunters of the Blue Mountains. The visit ended with a Kurumba painting workshop where the kids created some incredible pieces of Kurumba inspired art.

World Water Day'2013

To mark the 20th annual World water day, the NNHS organized a talk on the water situation in Coonoor at the Coonoor Club on the 22nd of March. The speaker, T.Balachander from Keystone Foundation presented the model of the river flowing through Coonoor town and its catchment area to illustrate the condition of the water resources. The outputs of the model enable us to look at the bigger picture with respect to the water resources in the region, the major issues and what can be done by various stakeholders to improve the situation.



the importance of the floral, faunal and unique agro biodiversity of the campus and the ecosystem services and livelihood opportunities that it provided.

Nilgiri traditional food festival

A traditional food fair was organized by the NNHS at McIver Villa, Coonoor. The focus of the fair was millets, a grain that was once so popular in the Nilgiris that it occupied over 10,000 acres of cultivated land before the advent of the green revolution. This grain now covers less than 1000 acres. A display of several native millets, beans and seeds along with some traditional kitchen utensils highlighted the importance of the fast disappearing jewels. The pinnacle of the event was however the food that consisted of several dishes that prepared with traditional local ingredients. The event had a good turnout of about 40 people.

Rangaswamy peak trek

24 enthusiastic trekkers started the trail from Kil Kotagiri to Rangaswamy peak on a crisp morning on the 4th of May. The trail started off through some verdant evergreen forests that were slowly replaced by tea gardens and later elephant grasses and ferns that were interspersed by Nelli (Indian gooseberry) trees. A greater part of the trail was through stone paved paths that were laid out for easy access to the peak for the thousands of pilgrims that visit every year. Rangaswamy peak is one of the most sacred peaks in the Nilgiris. Legend has it that Lord Rangaswamy who lived in Karamadai left his home after getting into an altercation with his wife and came to live alone on this peak. A temple dedicated to Lord Ranga is located here. The peak offers a 360-degree panoramic view of some of the most beautiful landscapes in the region

Government Tribal Residential (GTR) School, Mavanalla visit

32 children from the GTR School, Mavanalla visited Kotagiri as part of their educational excursion. The group visited the Longwood interpretation center and conservatory where Mr. Rangaswamy a local naturalist took them on a guided tour that aimed at sensitizing the children towards the environment. This was followed by a trip to Kodanad viewpoint and a visit to the keystone campus where they watched the nature documentary Gaur in my Garden followed by a lively discussion on the same.



Biodiversity Heritage Sites (BHS)

Dr. S. Subramanya, entomologist and ornithologist -University of Agricultural Sciences, Bengaluru, gave a talk on BHS on the 2nd of February at the Keystone campus in Kotagiri. These BHS's are areas that hold significant biological diversity outside of protected areas. The act provides provision for each of the State Biodiversity Boards to identify and declare BHS in each State under section 37 of the Biodiversity Act 2002. The BHS's are particularly important because they can be a tool for in- situ conservation and empowers the local bodies to manage them after declaration. So far, only 4 BHS's have been declared: all in Karnataka. Two sites from Kerala and one site from Andhra Pradesh are being considered for the same. The talk focused particularly on one of the BHS's in Karnataka: The University of Agricultural Sciences, GKVK Campus, Bengaluru, one of the first university campuses to be declared as a BHS in India. In addition to the process that went-in to get the 1380 acre campus declared as a BHS, The talk also delved upon the significance of the GKVK campus for the city of Bengaluru, it in being the last remaining green patch left in the metropolitan. Dr. Subramanya also highlighted



The newsletter of the Nilgiri Natural History Society (NNHS) aims to cover the many dimensions of natural history - conservation issues, 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 print 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 (250 words)

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

Authors should provide complete information including an email address and phone numbers. Articles need 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 separately with adequate labelling and numbering in context to the articles sent. Pictures in manuscript also need to be sent in separately in TIFF, JPEG or PNG format with resolution not less than 250 dpi

Reference style:

Papers in Journals and other periodicals

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

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

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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.