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#### Indian Gaur (Bos gaurus)

The Indian Gaur is the largest extant bovine, native to South Asia and Southeast Asia. The species is listed as vulnerable on the IUCN Red List since 1986.

Cover photo: Abhishek K R

### EDITORIAL

Welcome to the Monsoon edition of the NNHS newsletter. With the return of the biggest group of summer visitors (tourists), and the rains over the past months has brought a welcome flush to the landscape in the Nilgiris. Water seems to be abundantly available and hopefully plenty enough for the wildlife also. This issue focuses on Interactions between humans and nature, and a wide gamut of associated factors and role players, as well as some of the more charismatic species from around the Nilgiri Biosphere Reserve (NBR).

Human-wildlife interactions have become a hot topic of concern and discussion in a lot of areas around the NBR. With the recent increase in frequency of Sloth Bear sightings, there is a shift in perspective towards wildlife. While previously most threats to humans were in the form of crop damage, or their livestock being depredated, now the concern has become bodily harm and death. It is understandable when direct threats to life are made, but perhaps looking at these threats in isolation is not the best way ahead. This issue provides scope for discussion on various other imaginations and modes of engaging with nature. Also, presented in this issue are descriptions and natural history of Helichrysum, a very fascinating species from NBR, very popular with tourists as 'everlasting flowers'. We also present a description and distribution of the beautiful and elusive Golden Tree Snake. An arboreal species, not very commonly sighted, yet one of the most charismatic reptilian species found in this landscape. District Forest Officer Mr S Badrasamy (Nilgiris South Division) shares his thoughts on the successful ecotourism enterprises operating around the Nilgris, and the benefits it has on the community and the environment.

'Raju Master' is our featured Natural Historian for this issue. A prominent environmentalist and activist in Nilgiris, he contributed extensively to the setting up of the Longwood Shola Reserve Forest, and spread awareness about the importance of forests and their contributions to human settlements.

The Bee Buzz and NNHS diary are replete with a series of activities and workshops conducted over the last few months, and fresh updates from the happenings at the conservation centres. We hope you enjoy this issue, and if you have ideas towards making more happy environments, do get in touch.

#### ABHISHEK K R



### Gaur Trails and Tales - Abhishek K R & Gali Prudhvi

There was a time, when the sight of Gaur might have sent people rushing back into their houses in Kotagiri; but currently, this is not the scenario. Interactions between humans and wildlife are commonplace in the Nilgiri Biosphere Reserve, often in the form of close encounters with each other. While some of these interactions might be considered in a 'negative' light, there are many incidents which are mutually beneficial. It is quite unfortunate that public perception of interactions with wildlife gets largely fixated on these negative interactions.

In Kotagiri, Gaur are a regular part of everyone's lives. Visiting at odd hours, entering your compound, feasting on your flowers, fruits and herbs, and even restricting access sometimes, yet they are not being trapped or relocated or hunted down. Although the public do voice their concerns regarding safety and the damage to infrastructure caused, they are still understanding and considerate. Commendable though this attitude might be, there is still serious contention over natural resources, and with rapidly changing land use patterns, conflict seems inevitable, unless perceptions can be altered.

As part of a study conducted on the interactions between gaur and humans in Kotagiri, supported by the Rufford Small Grants and Wildlife Trust of India, we tracked several routes which were popularly being used by gaur. We observed them particularly frequenting paths that took them to a water source. This particular resource might be the source of contention not just between gaur and humans, but also between wildlife and humans. In the Nilgiris especially, valleys are situated ideally for commercial agricultural cultivations, also making them hot spots for conflict situations between wildlife and humans.

Through our interactions with individuals who work or reside in areas populated by gaur, we found that largely co-existence was rather an understood and accepted matter. Tea pickers especially, were observed going about picking tea a few metres away from a herd of gaur, without frightening the gaur, or being chased away by them, and were especially considerate when there were young calves accompanying the herd. The residents had gotten so accustomed to them that they would even be able to provide general times when gaur are around. It is not just an illustration of how far a positive perspective towards coexistence can go, but also of how they had managed to adapt to living with them.

Of course, the story would be incomplete without mentioning the negative interactions as well. An intern working with us on the project spent a considerable



amount of time observing gaur and their interactions with humans. The following is his description of incidents he was witness to:

"There are two incidents in particular that come to my mind when I think about the time spent observing them(Gaur). One evening, I noticed that a herd of 26 gaur with 2 bulls in tow were moving along the hill about 200 metres below Groves Hill Road. Around 1630 hrs on that day they were below the road near the steps which lead to the town in the valley. These steps are used frequently in the morning and evening by commuters moving to and returning from town.

As the gaur moved along the steps, they first encountered an old man who without hindering them or threatening them, continued on his way up, pausing to let them clear the path and waiting for them to move. There was also a lady waiting at the top of the stairs waiting for her daughter, while her daughter was at the foot of the stairs with Gaur scattered along the stairs. Generally one would not perceive this situation to be dangerous as all one would have to do is wait for the herd to move on or take an alternative route. Instead, the mother goes towards the Gaur, chasing and shooing them away for a good distance to clear the stairs. She does all this with a frown on her face and when I spoke to her she said she was angry with me for not helping her out. On the contrary, I was constantly telling her daughter to stay back just for a little while and to wait for the herd to cross. Instead they appear rather cross and leave.

About 15 minutes later the herd are



crossing the steps again, and then enters a gentleman from an estate which is a little away from the steps. He was hesitant to let the herd to cross the steps as they would eventually end up in his compound and destroy everything(atleast, according to him)! So what does one do to stop a herd of 26 Gaur in their tracks? He uses a slingshot and starts hurling stones at them! Fortunately, at the same moment it starts raining and all the gaur except the oldest have turned back. The old man is very happy and the older bull was looking at me as if to say "What do we do now? Do we charge at him? So, I guess there's no alternative but to turn back for now and



move again."

We have always thought that maybe there's truth in the fact that the gaur are a nuisance around Kotagiri. But, after days like this one tends to understand the real problem—naïve people. Reflecting on the incident, there was no need for the bull which weighs close to a ton to turn back, rather he could have charged the person and gone about his day as usual but, but they did not. Expecting wild animals not to retaliate when threatened, need not always come true, and hopefully will not happen anytime soon."

These instances give us an insight into the different kind of interactions that are possible and currently occurring as well. While, at least extremely violent and provocative measures are not being used to deter gaur from our surroundings, it would be unfair to give all the credit to humans. The gaur too have played an important role by adapting. From our personal experiences, we found that gaur not being very aggressive had a large role to play. Perhaps, the gaur around Kotagiri have been 'humanised', growing accustomed to human presence throughout their home range. Now the question just remains as to when we humans will be 'gaur-ised'?

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### Occurrence of Golden tree snake in the Nilgiris

Chrysopelea ornata ornata (Shaw 1802) -Samson Arokianathan and team\*



Fig 1. Golden tree snake Chrysopelea ornata ornata (Shaw 1802) (photo courtesy: A. Samson)

Golden Tree Snake Chrysopelea ornata ornata is a Colubrid snake found in South and Southeast Asia. There are three recognized subspecies Chrysopelea ornata ornata (Shaw, 1802) - living in southwest India and Chrysopelea ornata ornatissima (Werner, 1925) - in north and east India, Nepal, Bangladesh and Southeast Asia. These two sub species are mainly seen in the Indian region while the third sub species is endemic endemic to Sri Lanka Chrysopelea ornata sinhaleya (Deraniyagala, 1945). C. ornata is diurnal and arboreal. These snakes are excellent climbers, being able to move across even the smallest of branches and even straight up trees with few branches by using the edges of rough bark. This is presumably done to cover distances faster, to escape predators, to catch prey, or to move around in forests. Flying snakes usually parachute from tree to tree, but sometimes launch themselves from trees onto the ground.

They are mildly venomous, but the venom is not considered to be dangerous to humans. (Daniel, 2002). It has typically

adapted well to human habitats. In southern parts of Thailand, they are reported to hide in the thatch of roofing material inside bungalows to prey on geckos and mice during the diurnal times while it will eat small arboreal prey, such as lizards, bats and small rodents, it might also feed on bird eggs and insects. Also it is reported to eat snakes occasionally but avoid frogs, though frogs are also reported being eaten (Whitaker. 2004). The snake stalks the prey and seizes it by the neck, which is crushed in its strong jaws. The snakes grow up to 1750 mm length (1.75m) (Das, 2002). In India, the golden tree snake is distributed in the foot hills of Himalayas to Uttar Pradesh, north eastern India and southern Gujarat and south to the Western Ghats and Andaman Islands (Das. 2002; Whitaker and Captain 2008; Daniels, 2002).





Map 1. Localities of the golden tree snake Chrysopelea ornata ornata recorded in Nilgiris

#### Observations

Four individuals of the Golden Tree Snake were recorded from different places in the Nilgiris (forest as well as human habitation) in the year of 2013. Two individuals (I and II) were recorded in the lower plateau of the Nilgiris elevation ranging from 900 to 1000m asl, while the other two (III and IV) individuals were observed in the upper Nilgiris the elevation ranging from 2200 to 2400 m asl (See map). Two sub-adult and two adult specimens were recorded. The past records of this snake species were from Mudumalai Tiger Reserve, a road kill reported in the year of 1998 by Baskaran and Boominathan (2010) and a live species was found in the same region by Kannan (2006). These two records were in the lower plateau elevation ranging from 900 to 1000m asl (Map 1). There was no higher elevation record in the Nilgiris so far(Kannan,2006 and Baskaran and Boominathan, 2010). The present observation show that this snake's species distributional ranges are now ranging from higher elevation to lower elevation in the Nilgiris.



#### The morphometric details of Golden tree snake in Nilgiris

Particulars	Lower Plateau		Upper Plateau	
	Ι	II	III	IV
Elevation	980asl	956asl	2258asl	2320asl
Neck -vent	440 mm	785 mm	150mm	380mm
Snout-vent length	460 mm	805 mm	138mm	400mm
Tail length	190 mm	220 mm	65mm	170mm
Total length	650 mm	1025 mm	208mm	570mm



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### Natural Historians of the NBR – Kairbetta Joghee Raju



More popularly known as Raju Master across the Nilgris and beyond, Kairbetta Joghee Raju is an eco- warrior whose most well-known contribution has been that he has spearheaded a civil society movement to protect nearly 300 acres of a shola forest in the middle of a rapidly expanding Kotagiri town. The Shola is today home to a wide variety of flora – over 100 species of trees, shrubs, climbers and orchids, 52 varieties of birds including the Orange minivet, the Nilgiri wood pigeon, and many mammals.

The Long Wood Shola is the drinking water source for more than 20 habitations downstream. Nearly overrun by the surrounding habitations, the Shola might well have been lost if it were not for the efforts of the Longwood Shola Watchdog Committee, a civil society initiative that evolved along with the cooperation of the Forest Department almost 17 years ago. Raju Master along Mr Michel Danino and Mr Michael Ezekiel, all local residents came together to form the committee. Since then, Raju Master as member of the Committee has been working towards creating an awareness and sensitivity regarding the environment with members of the public and with school children specifically. Schools from across the Nilgiris and upto Chennai have visited the Long Wood Shola, which Raju Master considers an educational institution in its own right. He remembers fondly Mr 'Osai' Kalidasan and Mr Yoganandan, a President's award winner as among the thousands with whom he has interacted through this institution.

Talking on what he considers to have been the most significant achievements, he says that the work in Long Wood Shola has shown that shola forests can regenerate if human interference is removed, and makes cooperation with the Forest Department truly successful, is the involvement of the public.



An educator at the Long Wood Shola Eco Awareness Centre, Raju Master continues to urge many of us to 'listen to the Shola'. He can be contacted at jogbeeraju1951@gmail.com



### **Community-based Eco tourism for Conservation**

In this issue, we carry an interview with Mr S Badrasamy, District Forest Officer of the Nilgiris South Division(additional charge of the Nilgiris North Division at the time of going to print). The Nilgiris South Division has successfully demonstrated community based ecotourism in 3 sites in the Division. In this interview, the DFO talks about the underlying premises on eco tourism and reflects on the sustainability of the enterprise as a conservation measure. Reported by Archana Sivaramakrishnan it may be due to waste paper, wrappers, plastic covers etc. It may also be due to human biological waste which is disposed of without discretion. This pollution is harmful even to other tourists who visit the area but it is dangerous in much greater degree to the animals in the area. When a chips packet is disposed off in a forest area, the salt in the packet attracts many wild animals who are fond of salt. The animals coming to taste the salt, eat

In recent times, Eco tourism has gained currency and is being implemented in several places. Tourism as an entertainment avenue and an enterprise is well known. We may think of it as sightseeing in a place of some natural beauty like forests in Mudumalai or waterfalls like Jog Falls, Hogenakal, Kutraallam or in a site of human heritage site like the Taj Mahal. The prefix Eco or Ecological to 'tourism', signifying an emphasis on the natural environment, is a comparatively new avenue.

Tourism is an enterprise. Many people gain benefit from it either directly or indirectly - hotel owners, caterers, vehicle drivers, guides. When an activity is run as an enterprise, there is the risk of exploitation of the area. In the case of Eco tourism, the risk is one of pollution in the area –



the plastic cover as well and the plastic remains in the animals's stomach without being digested. If it is a small piece, then it comes out with the dung else if there is a lot of plastic then it gets tangled, becomes a ball and blocks the gastro intestinal tracts and causes problems for the animal.

When we as human have stomach upsets, we go to the doctor, animals do not have this facility. They are forced to endure the pain and finally die due to health complications. We should also be aware that when human waste enter water streams and rivers, then the germs in this is spread to all the wildlife drinking the water as also to other human communities further downstream. We all know that forests are the source of water – so if the water at the source here in The Nilgiris gets polluted, then the impacts of this may reach as far away as Thanjavur!

So the idea of ecological tourism is one that is aware of these impacts of tourism on forests and wildlife and is mindful about reducing these impacts. In ecological tourism, it is important to have a specific number of tourists and vehicles. As the number of vehicles increase in an area, then a pure, un-polluted place like a forest gets polluted.

One of the factors is factor to remember is to have hospitality arrangements that have as small an impact on the environment as possible. It is possible to think of 5-star arrangements; however, this kind of service will require a large number of personnel and a large amount of energy. Together, they will contribute to the pollution of a place that is visited due to its unpolluted nature. So, we have to think of buildings that are as aligned to the natural environment as possible.

So tourism that in its various facets is mindful of the environment, cause less harm to the environment and is as minimally polluting to the environment and is respectful of the wildlife in the region is what is called eco tourism.

We understand that in today's times, it is not possible to run any protection initiative, or a management practice or a development programme without the involvement of the people. The participation of the community in the area when elicited fully, causes a change in the attitude of the people towards Nature. Upto this date, these people would have been people who would have been causing harm to the environment- collecting firewood, or grazing goats or maybe even hunting animals. When we give the responsibility of running the ecotourism programme to such people, then their attitude towards wildlife undergoes a change and an alternative livelihood is created and income is generated. This causes communities to realize that their livelihoods are linked to the health of the natural environment and incentivizes them to protect the environment in all its elements - the forest, the water and the animals. When this happens, then an ecotourism initiative is successful.

### Experience of Eco tourism in Nilgiris South Division

In the Nilgiris South Division, the Tamil Nadu Biodiversity Conservation and



Greening Project (TBGP) supports ecotourism in two places- in Cairn Hill and in Avalanche. Apart from these two project supported locations, we run ecotourism in 3 other places – at the shooting spot at 9th mile, at Oosi malai and in Pykara. In the North Division, the TBGP supports ecotourism centered at Longwood Shola. So in all there are ecotourism programs being run in 6 places in The Nilgiris district.

In all these places, the community managing the eco-tourism is either indigenous people or people belonging to marginalized communities. In Longwood, 9<sup>th</sup> mile, Cairn Hill and Avalanche, the communities running the ecotourism are indigenous people.

#### How has the performance been so far?

It is difficult to say when exactly or who exactly started this but it was started on an experimental basis and is going very well today. The revenue accrued to each of the ecotourism committees is in many lakhs. We have been administering this money for development activities in the community. For instance we pay the transport costs of children in these communities who commute to study in Ooty. Similarly, we have been bearing the cost of notebooks, school bags, uniforms, shoes. All the committees have joined together to form a football team - we support the team in jerseys, shoes and support their travel to participate in tournaments.

We also distribute sweets, crackers, blankets and sweaters. We also extend loans for various livelihood activities – like petty shops, agriculture, also for medical expenses and house construction. People have also been repaying these loans. In addition, in Avalanche, we also operate vehicles through Self Help Groups (SHGs). In Avalanche , the project has provided two vehicles and the SHGs have invested in two jeeps, the returns from which go back to the SHG.

Through the 9<sup>th</sup> mile Eco Development Committee, we have supported some expenses of a temple festival, have helped build houses and a ticket counter in the shape of a Toda hut. We have also helped dig a borewell and water supply pipes and community hall repaired and refurbished. Some of these expenses were reimbursed by the government. We also invested in a 4 wheeler – apickup from the committee and used it to restore degraded grass patches. We have created a footpath and are establishing a garden of grassland species.

At Pykara falls, we have created an interpretation centre, made a footpath and put in hand rails. HADP has helped with the latter and also with two battery operated cars. All the eco-development Committees have been given uniforms and they themselves manage the waste that gets accumulated around there.

In conclusion, eco-tourism generates a lot of jobs for the local community - in ticket sales, as guides, drivers etc. So across the six eco-tourism sites, we have found employment for 35 people. So we have seen that ecotourism if run prudently can be a successful alternative livelihood for forest dependent communities. Also

the impact on the environment can be minimized because the use of the natural environment is for aesthetic purposes and not for any purpose that involves removal of biomass from the forest.

For more details see www.ootyavalanche.com

Photo courtesy – www.ootyavalanche.com and 9<sup>th</sup> mile Eco-development Committee





## Helichrysum: The everlasting gold

- Meenakshi Venkataraman





Its summer in the Nilgiris, and every corner of the tourist traps has a lady or two selling bunches of golden yellow flowers, with papery bracts, popularly called "everlasting flowers" or "paper daisies" or 'vaadamall' in Tamil. These are Helichrysum bracteatum, commonly found in small uncultivated slopes of Nilgiris. The genus Helichrysum belongs to the sunflower family (Asteraceae). In Greek, Helichrysum literally means to turn gold. There are over 600 species of Helichrysum worldwide, though most species are prevalently found in Africa.

Helichrysum has bracts which are modified leaves surrounding the flowers. These bracts are petal like though stiff and papery. They are arranged in rows and form a protective shield over florets before flowering. Helichrysum are extremely attractive sources of nectar and are regularly visited by insect pollinators. Seeds are usually wind dispersed and require longer days for germination. Between the highly ubiquitous Helichrysum bracteatum to the critically endangered Helichrysum perlanigerum here are brief notes on some of the Helichrysum found in the Nilgiris

Helichrysum bracteatum, an Australian species, a perennial shrub in the Nilgiris reaches about 80 cm in height. It has a green stem, which is not woody with fine hairs. The leaves are lanceolate which can grow up to 10 cm long and have hairs. The flower heads emerge atop the stems usually one per stem, though multiple heads might be present. The flower heads are usually 2-4 cm wide. They have central tubular flowers surrounded by glistening bracts that spread out as a golden yellow border. H. bracteatum is predominantly found with golden yellow bracts. Finding the pink and white variants have become rare. These bracts are papery or dry as they have low water content when compared to the petals. An unusual feature of the cells of these bracts are that they have two layers of cells and are composed mainly of dead cells. The flowers are on a head with large number of individual flowers known as florets. Florets are usually yellow in colour. Usually, the female flowers are found on the outer region of the flower head. The inner flowers on the disc are bisexual. The female flowers have short petals and no stamen or the male part of the flower

producing pollen. Instead they have a pistil or the ovule producing part of the flower which splits to form two stigmas, the part of the flower that receives the pollen. The bisexual flowers in the centre have longer petals and the male part of the flower, the stamens five in number, are fused at the anthers. The pistil arises from the centre. the pistil leads to a single ovary with a single ovule. Now, the ovule is surrounded by specialised hairy bristles called pappus which help in wind dispersal of the fruit which is around 3mm in size.

In the Nilgiris, H. bracteatum were commonly used by the Badagas and Kurumbas for treating cuts and bruises. The leaves were crushed and the resulting sap was directly used on the cuts to reduce bleeding. The flavonoid compounds flavone and aurone in H. bracteatum flowers, the most in the vellow variant, are what are attributed towards their medicinal properties of working towards healing cuts and bruises (Sivakumar et al 1995).

Helichrysum buddleoides is a shrub growing up to a metre tall, which is also slightly whitish in colour. Leaves are lanceolate which are up to 10 cms long. They are greenish white in colour and smooth in appearance. The flower clusters appear as a corymb wherein individual flower stalks appear from different points on the stem to a same height. Flower heads are densely packed and around 5mm in size. The bracts can be yellow or white in colour. The bracts are shiny and smooth. Bisexual flowers are 10-15 in number with 2mm corolla are found in the centre. Female flowers are numerous and are





found on the outer ring with a 3mm sized corolla. The seeds are are rough to touch and are about 3mm long. Flowering and fruiting are between November to March. This herb is found mainly in the shola grasslands. In Malayalam this flower is called "*panjupoovu*". The Badagas, use the leaves of the "*vadamalli*" for bruises and cuts. The occurrence of luteolin along with flavones and aurones supports the medicinal as well as some insecticidal properties of the flowers of this plant.

Helichrysum wightii is a rare endemic herb upto 30 cm high with brown white stout stem covered by wooly hairs. Leaves are lanceolate upto 5 cms long. They are clustered when branches are flowerless but alternate on flowering branches with slightly shorter leaves. The flower heads are in a corymb which means that flower heads arise from different points of the stalk but are at the same height. Small flower heads which are less than 0.5 cms across and are covered in wooly red growth.Dry bracts which surround the flower heads and are usually brown with the female flowers on the outer edges with a corolla less than 2mm. The bisexual flowers are in the centre and have a 2mm corolla.The fruit are tiny and are cylindrical in shape covered in minute bristly hair. Flowering and fruiting is in November.

S. D Biju in Chronicles of Discovery- in Pursuit of Plants writes:

"In 1882, British Botanist and co-worker

of J.D. Hooker, Charles Baron Clarke named this species in The Flora of British India based on Robert Wight's collection from Sispara. The species epithet 'wightii' is in commemoration of Robert Wight.

Later this extremely rare species was located by M.A. Lawson in 1883 in the type locality. It is kept at BSI Herbarium, Coimbatore (MH). In this sheet there is a note in Gamble's own handwriting "He and I were together when we found it there is apparently only one other specimen besides his and mine." The subsequent workers failed to locate this species.

*Helichrysum perlanigerum* is another rare and endangered *Helichrysum*. It is found only in high montane sholas and is considered critically endangered.

*Helichrysum* prefer open grasslands. With the encroachment of grasslands with cultivation and the pressures of urbanisation of open spaces, this species will soon disappear to be found in isolated pockets.

#### Photos: S. Jeevith

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NEWSLETTER of the NNHS

### Snippets from Lost Forest Rev. Philip K. Mulley

"Forests are our kith; and hedges thereof are our kin" is an old Badaga proverb. Undoubtedly this proverb can only have a fossilised relevance these days. A new metaphor "conflict" has made its entry into the contemporary vocabulary in the management and appreciation of wildlife in our midst. There were the days when Irulas tenderly recalled in their tales how the tigers used to "baby-sit" the Irula children while their parents were away foraging. Vagaries of our own eco-history have now brought about a situation where we have to provide sanctuaries for tigers!

W.H.R. Rivers(The Todas, 1906), an authority on Todas of bygone days, supplies an interesting narrative on the history of the origin of this "conflict" to which we have ideologically succumbed. There was a time when the tiger used to watch over the Toda buffaloes during the day and retiring in the night. (not the behavioural grammar of the tigers!) One day the tiger was very hungry and its hunger made it angry. When it brought the herd back, it saw a cat catching a rat. The tiger asked the cat to give it some of the rat's flesh. Pat came the reply from the cat: "there is no fool like you, why don't you eat some of the buffaloes you look after?" Since then, many a dissertation on this subject seem to have seen the light of day!

Leaving aside the above said tale, tigers did pose a threat. Sturdy youngsters used to take turns in providing a protective ring in the distant pasturages trying to ward off tigers attacking the buffalo herds. This exercise (sometimes jointly resorted to by the Badagas and Todas) was a routine in the early days. It was also believed that tigers by their instinct knew whenever such "bounty circuits" existed and stayed away from those sites. In those days, it is said the herders also had excellent knowledge about which kinds of wild foliage had to be burnt to send smoke and smell signals to caution the predators. A pastime boardgame for children with 3 tigers and 15 cows and a more complicated game with 2 tigers and 25 cows were also popular among the Badagas (Paul Hockings and Christiane Raichoor, 1992). So, tigers also did entertain the mundane moods of the humans!

There were also less serious and friendlier fables current in the Nilgiri lore. Bokkapura

in the Sigur plateau (deriving definitively from bokka=wild cat) used to constantly figure in the oral traditions of Irulas, Bettu Kurumbas, Malasa Kurumbas as well as among the Badagas and Todas. This lovely beast was also known as "swamp cat" in native parlance. The Irulas highlighted this cat in their creation myth. It was from a pair of these cats, they claimed that their progenitors emerged. More curious was the belief that they gained their faculty of speech only after eating the fruits of some mythical "nell?" (Emblica myrobalan). How the elephant came to gain the present shape as the aftermath of a fantastic duel between two human sisters is another Irula invention! To cut a long lore short, in the Nilgiri tradition, the upland Kurumbas always reigned over the wild domains with their magical expertise in all kinds of encounters they came across. Notably, the bears always topped their list.

So the "conflict management" seemed to have differed from one legend to another. The threat that is seen now-a-days in the movements of gaur was conspicuously absent in earlier times. In Badaga and Kurumba, the animal was affectionately known as "*Doddu*" (or literally, "the big one"). Sometimes the Badagas added a finer classification and called it "*Doddu Eththu*" or "Big Ox" which actually it is and certainly not a 'wild buffalo' as modern times make it out to be. Native opinions abound that because of the sharp decline in the tiger population, the wild gaurs have now started roaming all around. Folk of older times did have a good idea about the tiger corridors where now there are no signs of them. Ceremonial killing of the tigers in the past did have a role in the ritual hierarchy of the Badaga cycle of ceremonies. Subject to correction, the tigers which now inhabit the sanctuaries of lower elevation are considered to be of different stock than the earlier ones stalking the higher slopes. Being clawed by the hyenas was once a common occurrence and some fascinating anecdotes also coupled the hyenas and sambhars in ancient hunting games.

Past being past, a number of reasons can always be catalogued that pertain to the present day "conflict" in the human wildlife arena. It cannot be denied that we have, by and large managed well to preserve/ conserve the "wild health" of the hills. But human expansion with all the resultant effects has to undergo a stringent examination; it is no small domain to be marginalised. What matters is who are in "conflict" with whom. Are we in "conflict" with wildlife or are they in "conflict" with us? It is a wild query indeed! Do we need coin a new metaphor? Is it going to be confrontation or "carefrontation" between our constituencies?

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Illustration: A hero-stone of Medeival period commemorating the killing of a tiger.Found at Harrur in Kilkotagiri (Breeks, 1873)



### நரு சத்த

வெள்ளெரிகோம்பே ஊர் சிறுவர்களால் உருவாக்கப்பட்ட இயற்கை மாத இதழ்



#### Some medicinal plants:

- 1. The toondachedi is ground and the paste is spread on the forehead to cure headaches. Children blow on the sap to make bubbles.
- 2. The naikadichedi is used to cure dog bites. The plant is made into a paste and the paste is applied on the bite. In three days the swelling and pain will reduce.
- 3. Herigunde fruit is used to solve stomach problems.

#### **Forest products**

- Tamarind
- Silk cotton
- Soapnut
- Seengakeerai
- Honey

#### About the animals:

- 1. The digging of elephant trenches has reduced the occurrence of elephants entering the fields and eating the crop.
- 2. Due to the recent rains, fish called kalpasam have been making their way up forest streams. These fish are long and white and are caught using termites as bait.

#### **Unseasonal rains**

During the first two weeks of May, the region in and around Pillur experienced heavy rainfall. The unseasonal rains and heavy winds created havoc in the villages and in the forest. Many trees fell down and crops were destroyed.

#### Then Poo

When the then poo flowers bloom, it is a sign that the honey season is starting. The tastiest honey is made from the nectar of these flowers.







#### Village elder

Sivamma is the village elder who takes the children into the forest two or three times a month. She has a plot of land on which she farms. Sivaamma decided to rely on traditional medicine after she cured herself of a particularly bad illness that doctors in the hospital could not treat by using plants from the forest. The children go with her into the forest during holidays or on Saturday and Sunday. Foremost among her pupils is S. Sandhyalatha, who studies in tenth standard. The children enjoy going into the forest and Sandhyalatha is keen to put her knowledge to good use in the future.



ಸೂರು ಮಕ್ತಳು ಸಿದಪಡಿಸಿದ ಮಾಸಿಕ ಪರಿಸರ ಸುಂ

#### 1. ಕುತೂಹಲಗಳು :

ಮೇ ತಿಂಗಳಿನಲ್ಲಿ ಎಲ್ಲೆಂದರಲ್ಲಿ ಬಾಗೆ ಹೂ ಜಾಸ್ತಿ ಕಂಡು ಬರುವುದು ಮತ್ತು ಜೇನೊಣಗಳು ಮಕರಂದ ವನ್ನು ಶೇಖರಿಸಲು ಹೆಚ್ಚಾಗಿ ಕಂಡುಬರುವುದು.

ನಿಸರ್ಗ ಸ

#### 2. ಉಪಾಯಗಳು :

- 1. ಎಕ್ಕದ ಹಾಲು -ಕಾಲಿಗೆ ಮುಳ್ಳು ಚುಚ್ಚಿದಾ ಗಅದರ ಹಾಲನ್ನು ಕಾಲಿಗೆ ಹಾಕುವುದು.
- ಕೂಳಿ ಮರ□ಮಕ್ಕಳ ಜ್ವರ 10 ವರ್ಷದ ಮೇಲ್ಪಟ್ಟು ಮಕ್ಕಳಿಗೆ ಜ್ವರಕ್ಕೆ ಇದರ ಚಕ್ಕೆ ಮತ್ತು ಜೀರಿಗೆ ಸೇರಿಸಿ ಕುಡಿಸುವುದು ಮತ್ತು ಮೈಕೈಗೆ ಲೇಪನ ಮಾಡುವುದು.
- ಲಿಂಗದಉಂಡೆ ಸೊಪ್ಪು– ಮೈಕೈ ಸೇದಲಿಗೆ ಅದರ ಸೂಪ್ಪನ್ನು ಬೇಯಿಸಿ ತಿನ್ನುವುದು.



#### ಈ ತಿಂಗಳು

ಬೇಟೆ ಹೂ,ಹೊಂಗೆ ಹೂ, ಮತ್ತೆ ಹೂ,ಸುಂಡ್ರೆ ಹೂ, ಬಾಗೆಹೂ ಹೊನ್ನ ಹೂ ಉರುಗಿಕಾಯಿ ದೊಳ್ಳಿಕಾಯಿ.





#### ಮಾಡಿದ್ದು :

- 17/02/2015 ರಂದು ಕೀಸ್ಬೋನ್ ಸಂಪನ್ಮೂಲ ಕೇಂದ್ರದಲ್ಲಿ ಕರ್ನಾಟಕದ ಸಾಮಾನ್ಯ ಹಾವುಗಳ ಬಗ್ಗೆ ವಾಸಗಳ ವಿಷಕಾರಿ ಹಾವುಗಳ ಬಗ್ಗೆ ಚಿತ್ರ ಪಟಗಳ ಮೂಲಕ ತಿಳಿಸಿಕೊಡಸಲಾಯಿತು.
- 2) 13/04/2015ರಂದು ಶ್ರೀನಿವಾಸಮರಕಾಲೋನಿಯ ಮುತ್ತಗಾರೆಯ ಭಾಗಕ್ಕೆ ಹೋಗಿ ಪಕ್ಷಿ ವೀಕ್ಷಣೆಯನ್ನುತೋರಿಸಲಾಯಿತು.
- 3) 7/05/2015, 08/05/2015ರಂದು ಶ್ರೀನಿವಾಸಪುರಕಾಲೋನಿ ಯಕೀಸ್ಟೋನ್ ಸಂಪನ್ಮೂಲ ಕೇಂದ್ರದಲ್ಲಿ ಬೇಸಿಗೆ ಶಿಬಿರ ಏರ್ಪಡಿಸಿದ್ದೆವು. ಪಕ್ಷಿ ವಿಕ್ಷಣೆ ನಾಟಿ ಔಷದಿ ಬಗ್ಗೆ ಶಿವಣ್ಣರವರು ತಿಳಿಸಿಕೊಟ್ಟರು. ಸುವರ್ಣವತಿಡ್ಯಾಮ್, ಬ್ಲೂಮೌಂಟೆನ್ ಸಿನಿಮಾದ ಬಗ್ಗೆ ಅಬಿಶೇಕ್ರವರು ವಿವರಿಸಿ ತಿಳಿಸಿಕೊಟ್ಟರು.

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#### ಪಾಣಿಗಳ ಚಲನವಲನಗಳು:

14/04/2015 ಶ್ರೀನಿವಾಸಪುರಕಾಲೋನಿಯ ಭಾಗದಲ್ಲಿ ಕಿರಿಬಿದಿರು ಹೆಚ್ಚಾಗಿರುವುದ– ರಿಂದ ಕಾಡೆನೆಗಳು ಕಿರಿಬಿದಿರು ತಿನ್ನಲು ಬರುವುದು.

#### ಮುಖ್ಯ ಸಾಮಾಚಾರಗಳು:

16/03/2015 ಪೂಣಜನೂರುಗ್ರಾಮದಲ್ಲಿ ಮಾರಮ್ಮನವರಕೊಂಡೋತ್ಸವ ನಡೆಯಿತ್ತು ಜಾಗರಕುಣಿತಆಕರ್ಷಣೆಯಾಗಿತ್ತು. ಸುತ್ತಮುತ್ತಲ ಗ್ರಾಮಗಳಿಂದ ಭಕ್ತಾದಿಗಳು ಆಗಮಿಸಿದ್ದರು.

06/04/2015ರಂದು ಶ್ರೀನಿವಾಸಮರಕಾಲೋನಿ ಯಕುಂಬೇಗೌಡಜಡೇಗೌಡರು ಮುತ್ತಗರೆಯಲ್ಲಿಆಡು ಮೇಯಿಸುವಾಗ ಚಿರತೆ ದಾಳಿ ಮಾಡಿ 4 ಆಡುಗಳನ್ನು ತಿಂದಿತು.

20/04/2015ರಂದು ಬೇಡಗುಳಿ ಗ್ರಾಮದಲ್ಲಿ ಬಸವೇಶ್ವರಜಾತ್ರೆ ನಡೆಯಿತ್ತು.ಸುತ್ತಮುತ್ತಲ ಗ್ರಾಮಗಳಿಂದ ಭಕ್ತಾದಿಗಳು ಆಗಮಿಸಿದ್ದರು.

11/05/2015ರಂದು ಬೂದಿಪಡಗಗ್ರಾಮದಲ್ಲಿ ಜಡೇಸ್ವಾಮಿಕೊಂಡೋತ್ಸವ ನಡೆಯಿತ್ತು. ಸುತ್ತಮುತ್ತಲ ಗ್ರಾಮಗಳಿಂದ ಭಕ್ತಾದಿಗಳು ಆಗಮಿಸಿದ್ದರು.

#### ನಿಮಗೆ ಗೊತ್ತಿದೆಯಾ?:

ಮೇ ತಿಂಗಳಿನಲ್ಲಿ ರೆಸ್ತೆಯ ಇಕ್ಕಲಗಳಲ್ಲಿ ಚಿಟ್ಟೆಗಳು ಜಾಸ್ತಿ ಓಡಾಡುವುದುಕಂಡುಬರುವುದು.

#### ನಾವು ನೋಡಿದ್ದು ಕೇಳಿದು:

13/04/2015ರಂದು ಪಕ್ಷಿ ವಿಕ್ಷಣೆಗೆಂದು ಹೋಗಿದ್ದಾ ಗಕೊಟ್ಟಿ ಹಕ್ಕಿಗಳು ಎಲೆಹುಳವನ್ನು ತಿನ್ನಲು ಜಾಸ್ತಿ ಪಕ್ಷಿಗಳು ಕಂಡುಬಂದಿತು.







#### ಇವರ ನೆಪ್ಪುಇದೆಯಾ?:

ಮೇಸೀ ನಂಜೇಗೌಡ, 80 ಮೊದಲುಜೇಗಟೆ ವರ್ಷ :ಈ ವಾಸವಾಗಿದ್ದರು. ಪೋಡುವಿನಲ್ಲಿ ಇವರು ಸಾವಯವ ವ್ಯವಸಾಯ ಮಾಡುತ್ತಿದ್ದರು ರಾಗಿ, ಅವರೆ, ತೊಗರಿ,ಬಾಳೆ ಬೆಳೆಗಳನ್ನು ಬೆಳೆಯುತ್ತಿದ್ದರು. ಇವರು ಇಲಾಖೆ ಕಾಡಿನ ಅರಣ್ಯ ಕೆಲಸದಲ್ಲಿ ಮೇಸೀಯಾಗಿ ಕೆಲಸ ಮಾಡಿದ್ದಾರೆ ಕವಾಗ ಸುಮಾರು 40 ವರ್ಷದಿಂದ ಶ್ರೀನಿವಾಸಪುರಕಾಲೋನಿಯಲಿ ನೆಲೆಸಿರುತ್ತಾರೆ. ಇವರಿಗೆ 1 ಗಂಡು ಮತ್ತು 1 ಹೆಣ್ಣು ಮಕ್ಕಳಿದ್ದಾರೆ.

നിലമ്പൂരിലെ കുട്ടികൾ തയ്യാറാക്കിയ പരിസ്ഥിതി മാസിക



കാട്ടുപൂവ്

#### കാട്ടുവിശേഷം

2015 ഫെബ്രുവരി, മാർച്ച്, ഏപ്രിൽ മാസങ്ങളിലായി മിക്കവാറും എല്ലാ കോളനികളിലും തേൻ ശേഖരണം ആരംഭിച്ചു. കഴിഞ്ഞ കൊല്ലത്തെ അപേഷിച്ച് ഇത്തവണ ചില ഇടങ്ങളിൽ തേൻ കൂടു തൽ ലഭിച്ചിട്ടുണ്ടെന്നറിയുന്നു. വി എസ് എസ് കിലോയ്ക്ക് 220 രൂപയ്ക്കാണ് ശേഖരിച്ചു വരുന്നത്. സ്വകാര്യവ്യക്തികൾ തേനിന് 270 രൂപയാണ് കിലോയ്ക്ക് നൽകിവരുന്നത്. വള്ളിക്കെട്ടു കോള നിയിലേയും ഭൂമിക്കുത്ത് കോളനിയിലെയും വനവിഭവശേഖരണം നടത്തണ്ടുവരെല്ലാം ഓരിലയും മൂവിലയും ശേഖരിച്ചുവരുന്നു നടുംകയം കോളനിയില് കഴിഞ്ഞ കുറെ മാസങ്ങളിലായിനി രവധി തവണ ആനകളിറങ്ങി ഇവിടുത്തെ ജനങ്ങളിലെല്ലാം ഭയം ഉണ്ടാക്കിയിട്ടുണ്ട്. ജനുവരി ഫെബ്രുവരി മാസങ്ങളിൽ പുഴയിലെ വെള്ളമെല്ലാം വ ഉരെ കുറഞ്ഞുപോയിരുന്നു. അപ്രതീക്ഷിതമാ യി ലഭിച്ച വേനൽ മഴ കരിമ്പുഴ ഇത്തവണ വറ്റാതിരിക്കുന്നതിന് കാരണമായിട്ടുണ്ട്.



### തന്ത്രങ്ങൾ

മുരിങ്ങ – മൂത്രത്തിൽ പഴുപ്പിനും മൂത്രക്കല്ലിനെതിരായും മുരിങ്ങ വേരിന്റെ തൊലി ഒരു സിദ്ധൗഷ ധമായി ഉപയോഗിച്ചുവരുുണ്ട് മു രിങ്ങവേരിന്റെ തൊലി കഷായം വെച്ചു കുടിക്കുക

തുളസി – മഞ്ഞപ്പിത്തം, മലേ റിയ, വയറുകടി എന്നീ അസുഖ ങ്ങളുടെ ശമനത്തിനായി തുളസി ഉപയോഗിച്ചുവരുന്നുണ്ട്. ദിവ സവും രാവിലെയും ണ്ടെവെകീട്ടും ഓരോ ടേബിൾ സ്പൺ വീതം തുളസി നീർ കഴിച്ചാൽ മേൽപ്പറഞ്ഞ അസു ഖങ്ങൾക്കു ശമനമുാണ്ട കുന്ന താണ്.

#### പക്ഷികൾ

ഇരട്ടത്തലച്ചി – എല്ലാദിവസവും മൈന – എല്ലാദിവസവും മുളംതത്ത – 20 ദിവസം കൊക്ക് – എല്ലാദിവസവും എര – എല്ലാദിവസവും പൂത്താംകീരി – എല്ലാദിവസ വും ഉപ്പൻ – 10 ദിവസം മരംകൊത്തി – എലാദിവസവും

മരംകൊത്തി – എല്ലാദിവസവും

#### നാട്ടുവിശേഷം

വാണിയംപുഴ, നെടുംകയം, ഇരുട്ടുക്കുത്തി, തരിപ്പപ്പൊട്ടി, കു മ്പളപ്പാറ തുടങ്ങിയ കോളനികളില് കീസ്റ്റോൺ ഫൗഷേന്റെ സഹായത്തോടെ കുരുമുളക് തൈ വിതരണ പരിപാടിനടന്നു. ഊരിലുള്ളവർക്കായി കൃഷി പ്രോൽസാഹനം നല്കുകയാണീ പരിപാടിയിലൂടെ ലക്ഷ്യം വെയ്ക്കുന്നത്. ഡെപ്യൂട്ടി റെയ്ഞ്ചർ സുഗതൻ സാറാണ് വാണിയംപുഴയിൽ തൈ വിതരണ പരിപ ാടി ഉൽഘാടനം ചെയ്തത്. നെടുംകയം കോളനിയില് കരുളായി ഗ്രാമപഞ്ചായത്തിന്റെയും പ്രാഥമിക ആരോഗ്യകേന്ദ്രത്തിന്റെയും നേതൃത്വത്തിലായി സൗജന്യ മെഡിക്കൽ ക്യാമ്പ് സംഘടിപ്പിക്ക പ്പെട്ടു. കുരങ്ങുപനിയ്ക്കെതിരായുള്ള ജാഗ്രതാ സന്ദേശവും വാ ക്സിനേഷനും മാഞ്ചീരിയിലുള്ള ചോലനായ്ക്കർക്കായി നൽകി. മുക്കടവ്, ഉച്ചക്കുളം എന്നീ കോളനികളിലെ കാട്ടുനായ്ക സമുദാ യാംഗങ്ങൾ



അവഞ്ഞോ...

- 1. നെടുംകയം ബദൽ സ്കൂളിലെ വിദ്യാര്ത്ഥികളുടെ പരിസ്ഥിതി വിദ്യാഭ്യാസത്തിന്റെ ഭാഗമായി വിവിധയിനം പക്ഷികളെക്കുറി ച്ചുമുള്ള ക്ലാസ്സു നടന്നു. പരിസ്ഥിതി വിദ്യാഭ്യാസത്തിന്റെ ഭാഗ മായി വിവിധയിനം പക്ഷികളെക്കുറിച്ചുള്ള വിവരങ്ങളെല്ലാം നാലാംക്ലാസ്സിലെ വിദ്യാർത്ഥികൾ ശേഖരിച്ചുവരുന്നുണ്ട്.
- നെടുംകയം കോളനിയിൽ നിന്നും എസ് എസ് എൽസി പരീ ക്ഷയെഴുതിയ എല്ലാവരും വിജയിച്ചു. നാലു പേരാണ് ഇത്ത വണ പരീക്ഷയെഴുതിയിരുന്നത്.
- 3 പ്രാക്തനഗോത്രങ്ങളായ കാട്ടുനായ്ക്ക ചോലനായ്ക്ക വി ദ്യാർത്ഥികൾ മാത്രം പഠിക്കുന്ന ഇന്ദിരാഗാന്ധി മെമ്മോറിയൽ മോഡൽ റെസിഡൻഷ്യൽ സ്കൂളിലെ എസ് എസ് എൽ സി പരീക്ഷയെഴുതിയ എല്ലാവരും വിജയിച്ചു. ഇരുപത്തിരണ്ട് പേരാ ണ് ഇത്തവണ പരീക്ഷയെഴുതിയിരുന്നത്.



#### ഇവരിങ്ങനെ

വില്ലി വാണിയംപുഴ വാണിയംപുഴ കോളനിയിൽ താമസിച്ചുവരുന്ന വില്ലിയേട്ടൻ കോളനിയിലെ ഒരു മുതിർന്ന അംഗമാണ്. കോളനിയിൽ വെച്ചു നടക്കുന്ന സമുദായത്തിന്റെ എല്ലാ ചടങ്ങുകളിലും വില്ലിയേട്ടന്റെ സാ ന്നിദ്ധ്യമുണ്ടാകാറു ണ്ട്. മൂപ്പന്റെ അസാന്നിദ്ധത്തിൽ വില്ലിയേട്ടൻ അത്തരം ചടങ്ങുകൾക്ക് നേതൃത ചം നൽകിവരുന്നു. മാത്രമല്ല വില്ലിയേട്ടൻ നല്ലൊരു കർഷകന ും കൂടിയാണ്. സ്വന്തമായുള്ള 25 സെന്റ് സ്ഥലത്ത് വിവിധയിനം പച്ചക്കറികൾ ഇദ്ദേഹം വിളയിച്ചു വരുന്നുണ്ട്.

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#### Visits by schools

Visits to the Bee Museum are a regular activity. We had children from the Isha School visit the Bee Museum for activities that included Kurumba painting and a visit to wetlands.

#### **Conservation Education**

Conservation education sessions were conducted at the Government Tribal Residential Schools at Doddabetta and Mavanalla.

#### **Trails**:

In January, a trail was organized to the Shola grasslands of Glenmorgan area. The region is shola grasslands interspersed with shola vegetation. The participants were introduced to the flora and fauna of this unique landscape. Led by NNHS member and shola pollination specialist and botanist, Jeevith, the trail was very well received.

As a special request the trail was organized for thirty school children of Blue Mountain school to the same area in February.

In April, another Shola trail was organized to Saravanamalai, the fourth highest peak in the Nilgiris, near Coonoor. Led by Shiny Rehel, botanist at Keystone Foundation, this was an interesting trail for birding and understanding flora. A list of trees identified on this trail was also added to the India Biodiversity Portal's Neighborhood Trees Campaign.

#### Talks

In April, Dr. Vandana of ArtyPlantz, Bangalore, gave a talk on the creation of small garden spaces and the importance of trees and plants in our lives. The talk was also attended by the gardeners from the Rose Garden and the Botanical Gardens Ooty who were enthusiastic participants in the discussion that followed on the role of gardens in people's lives.

#### **Events**

The inauguration of the Bee Garden at the Bee Museum was flagged off on April 11th 2015 with an event titled "Tea with Bees" which introduced visitors to Bee friendly plants that can be easily grown in our gardens using recycled containers. The importance of bees in our lives and the importance of having the plants to sustain populations were also emphasized. The event was well attended by members, visitors as well as the gardeners from the Ooty Horticultural department. Children from the Blue Mountain School, Ooty also participated.

#### Workshops: Wildlife Photography Workshop

A wildlife photography workshop with the doyen of wildlife photography, Mr. TNA Perumal was held on 25<sup>th</sup> April 2015 in

Kotagiri at the Keystone campus. Amateur wildlife photographers along with student photographers from The Lawrence School Lovedale, were in for a treat with a lecture and a session on macro photography with the master. He gave a master class on photo composition and tips on the perfect shot. He talked about the amount of time early photographers spent in waiting for the shot and how the time spent was enhanced by their understanding of the behaviour of their subject. The constraints of technology made early photographers great naturalists and the conversion of good hunters to great photographers using the same skill sets. The lecture was invaluable in natural history observations and understanding animal behavior. TNA Perumal reminded us of the need to excel in our pursuits and to always have curiosity about our subject. He reminded us of the ethics of nature photography and the need to adhere to them. He emphasized on building an empathy with the subject.

### Stakeholder Workshop on Human wildlife interactions at Wayanad and Periyakulam

An open forum, where farmers, representatives of local administration, residents and representatives from the Forest Department, shared and discussed issues key to handling human wildlife conflict in the region. All stakeholders present had a chance to share





their grievances as well as ideas on how conflict could be avoided. It was a good start to a dialogue between the stakeholders of the Wayanad,Periyakulam and Kotagiri region in February, March and May 2015. Some of the major outcomes of these workshops include an increased understanding and working between farmers and Forest Department, stronger mitigation measures and better collaboration between government offices and local groups.

### Fireside Talks: Sustainable planning for Ooty : Part 2 & 3

Members of civil society in Ooty and Coonoor, along with representatives from the municipal sanitation inspectors and taxi association, auto association and guide association came together in two discussions in January and February to devise a action plan towards effective garbage management. The consensus was there was a dearth of saniation workers as well as funds to manage garbage collection. Civil society could be employed in managing small areas of wards and thereby helping in education of garbage disposal. This would alleviate some of the pressure on the municipality.

#### **Painting Competition**

A painting competition was organized on 11<sup>th</sup> February 2015 to celebrate World Wetlands Day. Over 80 children from Hebron School, Sivasailam School, Chamraj Estate and The Lawrence school, Lovedale participated in two age groups. The paintings were exhibited at the Bee Museum.







#### 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.

192-198.
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.



### Nilgiri marten (Martes gwatkinsii)

T. Aradukuttan



Photo : N. A. Nazeer

DISTRIBUTION: Endemic to the Western Ghats of India.

**HABIT AND HABITAT:** The Nilgiri marten is similar to the yellow-throated marten, but is larger and essentially different in the structure of the skull – it has a prominent frontal concavity. It is unmistakable in the field as it is dark above with a bright throat ranging in colour from yellow to orange. which is the deep brown from head to rump, the forequarters being almost reddish.

Very little is known about the Nilgiri marten. It is diurnal, and though arboreal, descends to the ground occasionally. It is reported to prey on birds, small mammals and insects such as cicadas. The species is categorised as Vulnerable in the IUCN Red List of Threatened Species.

References: https://en.wikipedia.org/wiki/Nilgiri\_marten



Photo : T. Aradukuttan