



Lets write and share

For some time now several of us working in Kalakad Mundanthurai Tiger Reserve (KMTR) have been toying with the idea of getting some meaningful documentation from the enormous amount of work that is stacked away in notebooks, dairies, disks and what not. With more people working in KMTR, the volume of data that is coming out has now spiraled exponentially. Much of this of course, would never be published in those big journals but there could be many interesting

observations and anecdotes that need to be written up. This newsletter is expected to serve that purpose. All this also means a greater diversity of research and conservation issues addressed in the region than what was done earlier. We hope this would also diffuse the clout of “long term monitoring” that became so synonymous with KMTR research! The other equally important reason to bring out this newsletter is to make people put pen to paper and write anything that excites

them and keeps their interest in field research alive. Writing also brings new ideas and what better place than KMTR to do it. Even Somerset Maugham is supposed to have spent sometime here to write one of his famous books!

As we go along, I wish contribution would keep flowing in and many more would come and work in this landscape.

T. Ganesh



Mainstreaming the role of pollinators to big game managers and researchers

Pollination studies in India have been limited to the work of a handful of researchers and remains to be mainstreamed as a vital discipline. The curriculum on pollination is also mostly confined to classroom teaching, without access to field work and contemporary methods. There is evidently a critical need for well-trained professionals to work on pollinator related issues in India. Forests in the Western Ghats are an arena of interesting

plant-pollinator interactions. ATREE’s studies in Kalakad–Mundanthurai Tiger Reserve have revealed a suite of interesting plant-animal interactions in our forests. Most pollinators move between the forest areas and agricultural landscapes. Therefore, parks such as KMTR could serve as sinks for pollinators when crops are harvested from the surrounding landscape. These linkages and benefits of the protected area to the community are

hardly appreciated. ATREE organised a half day interaction meeting with Tamil Nadu Forest Department highlighting the importance of pollination and pollinators services rendered by KMTR. This was followed by a week-long workshop for researchers in Mundanthurai, which comprised field work, lab techniques and lecture series.

Soubadra Devy

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A sanctuary for *Cycas circinalis*

As city dwellers, we only know *Cycas* as a slow growing ornamental plant but local communities have traditionally used all parts of this plant. *Cycas circinalis* L., is an endemic cycad of South India widely distributed in both the Eastern and Western Ghats and is common compared to the other cycad species. Locally called as *Salappanai*, it can be easily confused with wild date trees. Over exploitation for its young leaves, glossy green matured compound leaves, starch rich young stems and seeds has led to a decline in numbers in its native habitat. As of now there is no information available on the nature of harvest and ecological impacts on the species. KMTR is one place where this species is not extensively harvested and therefore gives us a unique opportunity to study its basic ecological requirements in a less disturbed environment that could serve as a bench mark for comparison with other more disturbed sites. In the last few months, we did an extensive survey in KMTR as part of a bio-resource assessment



project and that found the species occurs in several sites. However, it was abundant only in the northern parts of the reserve. As we walked around in the forest, we also saw clumps of seeds scattered on the ground and soon realized that these were from the feeding roosts of fruit bats. The Kanis (tribals) also told us about how bats take the fleshy fruits away from the plant and eat it.

V. Ganesan

Tiger almost

Of late there has been some increasing evidence of the elusive KMTR tiger in the higher altitudes. The first was a fresh gaur kill that was noticed by Vivek and Chetan near Upper Kodayar dam. The next was fresh tracks of a young male tiger in the Neterikal region when Chetan and TG trekked up. Apart from these, pug marks were also seen on trails inside the evergreen forest. There have also been some sightings in the Kodayar area but these need confirmation. A few years back Patrick David who was working with us then, reported seeing a tiger on his line transect but behind him! All these have been in the evergreen forest. Has the tiger adapted to persist in the dense and wet evergreen forests?



Round the Agasthyamalai in fourteen days

We as part of the BCRLIP team conducted a trip that lasted 14 days and went round the Agasthyamalai biosphere situated in the states of Tamil Nadu and Kerala. It was a wonderful experience that helped me understand the socio-ecological heterogeneity of the region. Having traveled across this landscape with a botanical point of view, I realized that the world outside the forest acts as a major driver in shaping the forest ecosystem.

On par with its heterogeneity, the landscape also supports a highly heterogeneous forest dependent groups that range from landless laborers, tribals, forest fringe communities on one hand rich estate owners and several govt

projects on the other. Fuel wood extraction and grazing is leading to severe degradation of forests along the eastern slopes. There are issues of uncontrolled pilgrimage inside the forest, one estimate for the Adi amavasai festival that lasts for 3 days inside the Mundanthurai reserve was 8 lakh people. Similarly, uncontrolled tourist influx to the numerous waterfalls along the eastern boundary of KMTR has enormous adverse impacts on the ecosystem. Also, there are wildlife-human conflicts, lack of capacity among the implementing agencies, impacts of development projects, lack of awareness and sensitivity among the people, social issues and unemployment.

How can we ensure that the Agasthyamalai landscape remains a part of our future? It's a big challenge, with more questions than answers! Identifying a key suite of drivers from a huge multitude will help us workout a win-win situation. But then we also need to monitor these drivers both biological and social and also need to revisit others at suitable intervals. For all these to happen one would need Government departments and the two states to enter into a dialogue. This requires proactive management and capacity building from the grassroots level.

R. Ganesan

Corridors - It is just not for the four legged furry creatures

The landscape of Kalakad-Mundanthurai Tiger Reserve (KMTR) is truly unique in many ways compared to rest of the Western Ghats. In KMTR, amidst the vast areas of tea fields, considerably large areas of untouched pristine forests are retained as wind shelters. These patches remain impervious mainly due to the harsh inhospitable terrain. On the other hand, areas relatively accessible have been altered completely and have left behind remnants in the form of fragments and corridors. Vegetation along the streams including the Reed bamboo (*Ochlandra spp.*) brakes in the tea

fields acts as corridors for Niligiri Langur, and small mammals such as civets to cross from one forest patch to other. Otherwise isolated forest patches are used by under storey birds such as Black and Orange Flycatcher and other forest edge species. Similarly, though not natural, presence of narrow stretches of *Eucalyptus* trees also act as corridors for the movement of birds and the Malabar Giant Squirrels. What was startling to me was to see the Plain Puffin butterflies, fly in large numbers along the *Ochlandra* strip to get into forest fragments. Also, under storey butterflies

such as Red Disc Bush Brown, are seen to move along the edges of the corridors. Globally, though the usage of corridors is still being debated, conservation biologists have been emphasizing the importance of conserving corridors only keeping in mind the large animals. Knowing insects rule the animal kingdom, they have been completely ignored as they do not seem to be as fascinating as the four legged creatures.

Savitha Swamy

Behaviour and movement of the Nilgiri Langur in the Upper Kodayar Range, KMTR

Nilgiri Langur (*Trachypithecus johnii*) is an endangered species endemic to the Western Ghats. It is a handsome monkey with a coal black coat all over except for the head which with its light golden hue provides a stark contrast.

Like other primates they also live in groups (average size ranges from 4-12 individuals) which are led by a dominant male. The langurs are selective folivores and mainly forage on leaves, twigs, flowers and fruits. Bonding among the members of the troops are generally male-male and female-female. A behavioural interactions study was done on these monkeys in two distinctly different habitats in the Kodayar range of KMTR to see how tolerant



they are to habitat modifications. During the study, it was found that the langurs in less disturbed habitats were found to be more dynamic, lived in smaller troops with larger home-range and were more selective feeders. Their counterparts in disturbed habitats moved less, lived in relatively larger troops with smaller home-range and were less selective in feeding. More analysis is in progress.



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Rajkamal Goswami

Canopy News

Canopy Team Gets Bigger

Prof. Shivanna, Dr. Uma shaanker and Dr. Priyadarsanan visited the evergreen forests during the last 6 months. All of them attempted to ascend the canopy using the single rope technique and were almost successful! There were also a bunch of young and budding pollination biologists who also attempted to reach the canopies. The canopy club is finally growing!

Canopy Meg Coming

Dr. Margaret Lowman or 'canopy meg' as she is fondly known as, is planning a visit to the reserve in early March. Dr. Lowman is a world renowned canopy biologist who has been a constant supporter of the work in KMTR for nearly a decade now. This is going to be her first visit to the Agasthyamalai mountains. Her son has already visited the place as an intern. We welcome her and hope the visit is both fruitful and enjoyable.

Village commons and backyards to meet the biomass requirements: An experiment with Panchayat Raj and Women Collectives

Forest fringe communities along the eastern slopes of Agasthyamalai are inseparably linked with forest based resources for over centuries. It is realized that dependency on these forests for a long period of time has affected the resource base and the forest would need some time to recover. To buy time the best approach considered was to 'fence' the forest leaving no sustainable alternatives that could support the poor among the fringe communities. ATREE is attempting an alternative resource base from non-forested landscapes. One such move was to facilitate the fringe community to use village common land to raise a Community Multipurpose Biomass

Farm (CMBF). This is expected to provide fuel, fodder, food and health requirements. Recently, we initiated a dialogue with the Sub-Collector and local Panchayat President, of Pappankulam village to start the CMBF in community land. Common land of 6 acres has been identified and ATREE will lead the communities to start planting multipurpose seedlings which would produce bio mass.

ATREE has targeted the women collectives to practice home gardening as it can take care of health needs and to some extent help income generation following the principle of "Unspent money is worth saved". The women who were once collecting fuelwood have started

growing vegetables and ten women have demonstrated their entrepreneurial skills by selling their produce in the neighborhood. Once there are enough vegetables, ATREE is planning to link these women collectives to the growing market for organically grown vegetables in the nearby town.

Joseph Antony

Bi-lingual field guide test run

A multi-taxa bi-lingual field guide is being developed for KMTR. The aim is to bring out a user-friendly guide for non-biologists. Since this is the first time a guide exclusively meant for amateurs is being brought out in India, we are trying various methods to exclude technical terms without removing essential information.

To see if the layout and other details were user-friendly, we tested a few sample pages on wetland birds. On the 6th of January, 16 children from Michael school in Singampatti, who

are also a part of the Green Brigade were introduced to wetland birds by Madivanan in the field station. The next day, they were taken to the Kondakulam Bird Sanctuary about 25 km from Tirunelveli. A number of wetland birds including the Pelican, Spoonbills, Egrets and Painted Storks were sighted. The enthusiastic students took a keen interest in identifying the birds using the field guide. They were also asked to write up about the birds using the information in the guide. After a brief lunch break at Cheranmahadevi we headed to the Tirupadaimarathur Temple to look for more

birds and bats. But apart from a single painted stork, we were unable to see any other birds.

This exercise gave us useful inputs to further improve the guide.

Jahnvi Pai



Cullenia exarillata: A keystone species for birds?

The role of *Cullenia exarillata* as a keystone species for the arboreal mammalian community has been well documented. The brownish-yellow tubular flowers in dense clusters around the terminal branches also attract many species of birds. During the course of my study, 14 species of insectivores birds were recorded foraging within its inflorescence. Various search tactics such as gleaning and sallying were employed to capture arthropods. The dense floral clusters are a veritable haven for insects. Preliminary sampling of insects has revealed that at least 14 families of insects are found in the canopy. The bark characteristics of the *Cullenia* harbour many species of epiphytes and lichens too which provide bark-gleaning insectivores rich pickings.



In addition, three species of frugivorous birds also dined on the fleshy tubular calyx of *Cullenia*. Various bird species of the mid-elevation evergreen

forests seem to preferentially forage on this

dominant canopy tree. The mid-elevation forests of the Western Ghats are under immense anthropogenic pressure and what little that's left is within protected areas like KMTR. This further underscores the fact that the rainforest canopy is a unique and threatened habitat which requires our urgent attention!



- Oriental White-eye (*Zosterops palpebrosus*)
- Little Spiderhunter (*Arachnothera longirostra*)
- Small Sunbird (*Nectarinia minima*)
- Plain Flowerpecker (*Dicaeum concolor*)
- Velvet-fronted Nuthatch (*Sitta frontalis*)
- Black-lored Yellow Tit (*Parus xanthogenys*)
- Western Crowned Warbler (*Phylloscopus occipitalis*)
- Large-billed Leaf-warbler (*Phylloscopus magnirostris*)
- Greenish Warbler (*Phylloscopus trochiloides viridanus*)
- Brown-cheeked Fulvetta (*Alcippe poiocephala*)
- Grey-headed Canary-flycatcher (*Culicicapa ceylonensis*)
- Scarlet Minivet (*Pericrocotus flammeus*)
- Pied Flycatcher-shrike (*Hemipus picatus*)
- Common Rosefinch (*Carpodacus erythrinus roseatus*)
- Black Bulbul (*Hypsipetes leucocephalus*)
- White-cheeked Barbet (*Megalaima viridis*)
- Common Hill-myna (*Gracula religiosa*)

R. Vivek

Tea, tigers and oranges

The landscape in Agasthyamalai is dotted with numerous enclaves dominated by human activities even within the protected area of KMTR. Many of them are abandoned or likely to be given away once the lease on the government land expires. How do we restore such landscapes with little intervention? Being specially interested in abandoned tea estates, I trekked with TG, Kotaimuthu, our assistants Chian, Johnson and the forest guards to a remote abandoned tea plantation called Chinna Manjolai. After 6 hours of climb from a mere 90m to over 1100m we reached an abandoned shed perched next to a stream. The place was surrounded by lantana bushes. As we walked through this fairly tall lantana, we saw pathetic looking tea bushes laden with fruits. The tea in most places was fully covered by lantana. The next day, we moved further up to 1400m and into the beautiful mid-elevation forests to check out more plantations. The local guard who went ahead of us got excited on seeing tiger pug marks everywhere near a stream. Since this was tiger census time, it was bonanza of a kind for him to get a tiger pugmark. As for the tea, it was a robust population unlike Chinna Manjolai plantation and had reached the status of a dominant tree. The plantation itself was almost impossible to penetrate. After having tons of oranges from the trees planted

decades back and some plain rice for lunch, we walked back thinking and debating what to do and how to disentangle the complex processes that make species behave differently at different places – a challenging task for restoration.



H.C. Chetan

Snippets from the field

Interaction with the FD

We had an interaction meeting with the Forest Department and other people working in the region at the Field Directors Office in Tirunelveli. Mr. Ramkumar, the Field Director of KMTR welcomed us and we presented ATREE's work to the gathering. Dr. Ravi Chellam was also present and there was interaction on a wide range of topics. It was decided that a bigger meeting should be held, where all people working in the region could present and discuss conservation issues. Dr. Chellam also visited Singampatti Field Station and planted a sapling at the new site along with Prof. Amots Dafni from Israel who was there to conduct the Pollination Workshop.

Campaign to Save the forests in KMTR from Polythene bags and non degradable refuse

During the annual Pongal festival in January, thousands of people throng the waterfalls inside the sanctuary to have a ritual bath, cook and eat. For the last 5 years ATREE, along with the Forest Department in the Ambasanduram range have organized awareness campaigns and collected refuse. Along with our field station staff, the Pasumai Padai (children's group) comprising of school children from Singampatti have actively taken part in this. Over the years people have become more conscious and this Pongal much less garbage was collected from the forest.

Mathivanan



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