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Prof Mahesh Rangarajan, historian and researcher, receives the TN Khoshoo Memorial Award 2014



The TN Khoshoo Memorial Award recognizes outstanding contribution in the fields of conservation and sustainable development. It is given annually in memory of renowned environmental scientist, the late Dr Triloki Nath Khoshoo. ATREE organizes the award event. Dr TN Khoshoo is remembered with affection by the founders of ATREE; he was a mentor to ATREE; he catalyzed the formation of ATREE and influenced ATREE's orientation as a research organization that would deliver usable solutions to issues of environment and sustainable development.

Prof Mahesh Rangarajan, historian and researcher, and Director, Nehru Memorial Museum and Library, New Delhi, received the 11th TN Khoshoo Memorial Award at Bangalore on 6 November 2014. The list of TN Khoshoo awardees over the years attests to the broad and diverse ways in which academics, practitioners, administrative officials and others are addressing issues of environment and sustainable development. The list serves to affirm why it is necessary to adapt an interdisciplinary approach for addressing issues of such breadth, impacting such a diversity of stakeholders.

Dr Bawa, President, ATREE, says, "*Mahesh Rangarajan has been a thoughtful writer and commentator on major environmental issues*



of our time. He has recently called for new, more holistic approaches to conservation." In this year's awardee, we have someone who has added to our understanding of the environment through an analysis of the history of nature-society interactions. Professor Rangarajan is a prolific writer, who has explored ideas on environment through different lenses—of history, politics and environment—stimulating thought on how the history of humanity's co-existence (and conflict) with forests and wildlife could inform current conservation practice. Prof Rangarajan, on receiving the award, "... *This award is less a recognition of my individual effort as a student of history and much more a recognition of the significance of history and the humanistic disciplines in the search for an environmentally sound future. It has been my privilege to have had exceptional teachers, colleagues, students and citizens who have engaged with these issues. Their work and insight has informed not only research and writing but the development of environmental history in India. It is especially humbling for me to receive an award named after a distinguished scientist like Dr Khoshoo.*"

This year, instead of a memorial lecture, ATREE decided on a more interactive panel discussion, which might provoke thought on current conflicts and conundrums impacting work on environmental issues. The topic was 'Challenges to conservation in the context of a pro-growth development agenda'; the panel: Prof Rangarajan; Praveen Bhargav, Managing Trustee, Wildlife First; and Vidya Athreya, Research Associate, Centre for Wildlife Studies and Wildlife Conservation Society – India chapter, and recipient of the TN Khoshoo Memorial Award in 2012. Shri Jairam Ramesh, Chair, Future Earth Engagement Committee, and Chief Guest for the evening moderated the discussion. The panel concluded that growth, for a country

like India, needs be rapid, inclusive and most of all, sustainable. Ramesh said that growth is not inclusive if it affects livelihoods and livelihood security.

Research

A systematic revision of the land snails of the Western Ghats of India

A couple of days before the close of 2014, the Natural History Museum, London, in partnership with ATREE, University Museum of Zoology, Cambridge, Chulalongkorn University, and partners in Sri Lanka, released a systematic guide to the land snails of the Western Ghats. The guide is a culmination of six years of work, starting 2008, when the partnership was founded. This taxonomic revision of land snails updates *The Fauna of British India* (FBI) series on land molluscs, which was published between 1908 and 1921, and which is still referred to.

Terrestrial snail research is of particular value to ecologists: land snails are one of the most sensitive bio-indicators, responding to changes in environment quality (such as land degradation, fragmentation, hydrology, climate change and ecosystem health) by their presence or absence; increase or decrease in numbers, which is recordable and measureable by the shells they leave behind. Some generalist species spell the state of the environment at landscape level; others, that occupy more specialized niches, can flag changes at very local scales. By the same logic, snail status might also indicate whether conservation strategies are effective. So the fact

that land snails have clocked more recorded extinctions than all other animal groups put together should cause us major misgivings. According to the authors, the speed with which extinctions are taking place rules out natural processes and points at anthropogenic disturbances.

The guide presents 337 taxa, including 16 taxa that may occur in this region since they are widespread in the rest of the peninsula. Taxonomy is an evolving science, with new science providing new criteria and guidelines to systematics: this guide presents the nomenclature and taxonomy of snails within a modern systematic framework. The colour images and specimen data of type material for all the Western Ghats taxa, alongside distributional data from the original literature and comprehensive geo-referenced index of localities for the taxa considered is of immense value to researchers and students.

Neelavara Ananthram Aravind, Fellow at ATREE, has been working on land molluscs since 2000.

Bird survey in the Eastern Ghats

We lack basic information about the biodiversity of the Eastern Ghats. The Western Ghats are well known to all, but the Eastern Ghats hardly so. It shows how constricted the focus of much of our ecological research and conservation work is. The Eastern Ghats are the hill ranges stretching north to south across Odisha, Telangana, Andhra Pradesh, Tamil Nadu and Karnataka, for nearly the same length as the Western Ghats. They are intercepted by numerous rivers and streams, including the vast Godavari and Krishna and Mahanadi. Known as a region with anti-establishment views, despite the reduction in conflicts,

most happenings in this region often go unnoticed. It is a place for many indigenous communities of the region; it is where plantations for timber and coffee stand; it is where hunting or poaching is obvious; it is where the state's compensatory afforestation programmes take place; it is where colossal dams are being created across most rivers which flow across them and where mining conflicts keep arising. It is also where a diversity of wildlife survives despite several pressures, including landscape fragmentation.

Published data on the birds of Eastern Ghats has been very sparse, with the only large spatial studies on birds having been conducted in the 1970s and 80s by researchers from Bombay Natural History Society (BNHS). Other available information is cursory or restricted to a very small part of the region. Recently, ATREE started gathering baseline information on biodiversity of the northern Eastern Ghats based on several surveys and visits. Articles about ATREE's visits (*Eastern Ghats' Tragedy* in Sanctuary Asia December 2013) to this area got us noticed by other organizations. Consequently, a coordinated week-long bird survey was initiated in December, with support from the Indian Bird Conservation Network (IBCN), BNHS, and Samata. We decided to cover as much of the region's habitats in this limited time with six separate teams composed of experienced birders, young ecologists and local volunteers interested in reaching out for the cause.

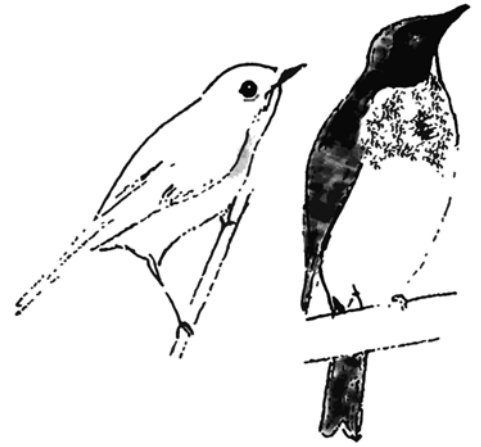
There were limitations on our movement owing to security concerns, and lack of road connectivity. As the teams moved across different forest and habitat types, the reports expanded with notes not just on abundance, presence or absence of birds but also on their calls, behavior and habitat related details. We travelled

through areas such as the dense moist deciduous patches and coffee plantations in Papikonda National Park, the dry deciduous foothills around Chinturu and Rekhapalli, crossed the Godavari to look at the forest on its south bank and the riparian routes along the streams adjoining Sileru river. We used the point count method for this survey in which a transect containing multiple points, each separated by at least 200 meters, was used to collect information about bird diversity in the area. In four days, the three teams of six surveyors walked more than 32 trails. Local support and experience of earlier visits to the areas was crucial in this survey as it made planning and managing logistics easier. The survey also brought together people passionate about working in this challenging landscape.

The bird survey has helped set a baseline to be built upon in future. We noticed some overlapping distribution patterns. A diverse community of more than 150 species was found from preliminary summaries. Some species, whose distributions are disjunct from the moist forest of the Western Ghats and the North-Eastern areas, were found (for example Jerdon's Baza and Brook's Flycatcher). The near-threatened Malabar Pied Hornbills were found in more than a couple of places and in a large flock, while common birds like the ubiquitous black kite were not sighted.

Looking at the results of the survey, and after observing the conditions in the Eastern Ghats, it is clear that anthropogenic activities are bringing a rapid change in the landscape. Clear-felling of forests for agriculture and plantations has already altered habitats available for forest dwelling birds, and now the ongoing and potential submergence of large areas due to the numerous dams being constructed is adding to it. Rampant

hunting of birds and animals seems to be stimulated by market demand as well as by existing local consumption. Shifting cultivation is being converted into settled agriculture through the developments of the past decade. All this has been making unceasing impacts on the ecology of the land, not just the avifauna. Hopefully, with plans for continuing surveys and more in-depth research in the Eastern Ghats, we will gather enough information for a better future of this diverse landscape.



Line drawing of a flycatcher with what seems to be the hybrid plumage of a Tickell's/Brook's Flycatcher by Ovee Thorat.

Read coverage in *Times of India*. 8 December 2014: Intensive bird survey to map Eastern Ghats.

Outreach

Conservation strategy across countries for the Critically Endangered White-bellied Heron

Bombay Natural History Society and ATREE hosted a workshop in Guwahati in order to create a meeting opportunity for experts, government and non-government representatives from different countries. The objective was to develop a cohesive trans-boundary conservation strategy for the White-bellied Heron (WBH), *Ardea insignis*, also called Imperial Heron, of which there are only 250 adults left. Although this heron has a range across Bhutan, India, Myanmar and possibly China, it occurs only patchily and at very low densities.

A summary of outcomes of this meet:

- Each range country underscored the need for more scientific research in order to develop a basic understanding of the biology, habits and distribution of the White-bellied Heron, which could then provide a solid basis for its conservation. This was agreed upon as a major objective.



- Participants agreed that a further goal should be ensuring that riverine ecosystems are maintained in good ecological health in the interests of both the heron and the many rural communities, which share land and water with the heron.
- Finally, that each range country ensure the highest level of legal, enforceable protection for the species. This could be in tandem with efforts to sensitize society regarding the significance of the bird as a flagship species for the conservation of healthy river systems.

range country governments and their partners.

The workshop was held over three days, from 2-4 December, in Guwahati, Assam. The forty one participants included field experts, and governmental and non-governmental representatives from the range countries.

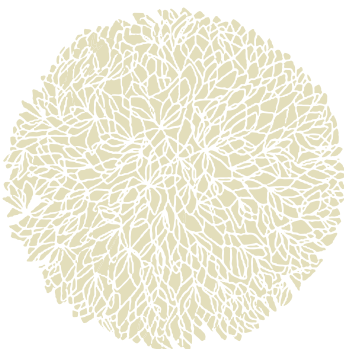
See press on this meet: Experts push for protection of herons. *The Telegraph*. 11 December 2014.

Niraj Kakti, Guwahati and Sarala Khaling, Gangtok

Feedback from participants was that it was a productive workshop, with excellent information exchange about this most challenging species. The group laid out overarching as well as range-state objectives for the next 12 months, which they would review at next meet. The group felt it would be useful to establish a formal structure to facilitate collaboration on the species' conservation among the range countries. Over the coming months, the conservation strategy will be compiled and refined, so that it may be adopted and implemented by all

Species depletion and responsible fishing at Vembanad: community protest and action for better governance

Vembanad lake has high deposits of white clam, which are fossils of black clam (*Villorita cyprinoides*). Only the White Clam Co-operative Societies have the authority to mine the fossil deposits, and that too, only manually. For this, the White Clam Co-operative





Societies have a protocol to follow: they must first submit a mine plan to the Department of Mining and Geology, which, in turn, has to get permission from the Indian Bureau of Mines. In the white clam mine plan, it has been clearly stated that only manual mining can be permitted in Vembanad and its surrounding wetlands. Over the past few months, however, miners have taken to illegal mechanized white clam dredging. The Lake Protection Forums (LPFs, which ATREE had helped found in 2006; registered in 2009) have protested strongly against this. The mechanized dredging by the illegal miners has resulted in large scale disturbance of black clam deposits as well as of other fishery resources. It is expected that due to mining, the water quality will deteriorate, with low pH (acidic) and high TDS, which will eventually harm fishery resources in the lake.

Since the authorities did not respond, the a Vembanad Kayal Samrekshana Samithy (Federation of Lake Protection Forums) organized a collective protest against the illegal mining. More than 120 clam collectors and fisher-folk gathered. The protest was flagged off by environmental activist, C. R. Neelakandan, and was presided over by K. N. Babu, Aryad block Panchayat member, with K. M. Poovu, Secretary, Somyukta Vembanad Kayal Samrekshana Samithy and Dr. Thomas Issac, MLA, Government of Kerala, lending their presence. After this, a series of protests were organized by LPFs around Vembanad Lake, which caught the attention of the authorities.

Pearl spot, *karimeen*, or *Etroplus suratensis*, is an important indigenous fish. Given its dwindling numbers, the Forest Department, led by ACF Srikumar, brought out a fish ranching project to

increase *karimeen* numbers. This was accomplished with the support of the government's Kuttanad Package, and through the participation of fishing communities. ATREE and Vembanad Kayal Samrekshana Samithy were the implementation partners. So far, a total of 30,000 *karimeen* juveniles have been ranched in Vembanadat Aryad, Shanmugham, Saryithodu, Varanam and Kannankara. The *karimeen* juveniles were provided by Matsyafed. The fishing community expressed satisfaction that the programme was participatory and supported indigenous fish species, instead of the market-driven tilapia and rohu, which are exotic to the Vembanad ecosystem.



Read in press: An initiative to rescue a threatened fish species. *The Hindu*. 7 December 2014. Forest Dept launches project to boost 'Karimeen' population in Vembanad. *The New Indian Express*. 7 December 2014.

Vembanad Lake is going through drastic ecological changes. Fish extraction is unsustainable. The Thannermukkom Barrage, which should be open long and often enough to allow egress and entry of sea water but is not, upsets the unique wetland ecology. Pollution from agriculture discharge, settlements and nearby towns and from houseboats causes further harm to this ecosystem. The fishery resource in Vembanad has come down drastically in the past few decades, from 150 species to 60 species, according to the fish count report by ATREE.

LPFs organized *vallachangalla* (chain of country boats) from Thannermukkom to Vechoor, demanding timely operation of the barrage. The closure of barrage has disturbed the reproduction cycle of black clam as well as giant freshwater prawns. The shutting of the barrage (lobbied for by the farming sector), obstructs migration of not only prawns but also other fishery resources, especially the marine fishes. ATREE has reported that 86% of species missing since the 1980s are marine migrants.

Ashish Mathew George, Vembanad CERC

New

Learning session on the Madhav Gadgil and Kasturirangan reports

ATREE held an internal learning session on the two Western Ghats reports—the Madhav Gadgil report and the Kasturirangan report. The session had the advantage of understanding the reports and the responses to them, in light of what has transpired since on political, community and academic fronts. Sharad Lele, Nitin Rai, Jagdish Krishnaswamy and Siddharth Krishnan oriented staff, faculty and students on key features, zoning definitions, regulatory frameworks and role of local communities, as covered by both reports. The session was organized by CEPF Regional Implementation Team, Western Ghats region coordinator, Bhaskar Acharya.

Urbashi Pradhan, PhD batch was resource person for the festival on Darjeeling mandarin oranges and large cardamom, and farmers' training organized by Krishak Kalyan Sangathan. Kalimpong, Darjeeling. 27 Nov-1 Oct.

Bhaskar Acharya, CEPF-ATREE Western Ghats Programme Coordinator, attended an informal gathering, 'People for Western Ghats' (P4WG) at Wildernest, Chorla Ghat, Goa, in late

October 2014, to take stock of the effort to Save the Western Ghats and re-think strategies in the light of the Gadgil and Kasturirangan reports. See more on <http://westernghatscalling.blogspot.in/2014/12/p4wgswgm-reincranated.html>

People

Venkata Raghava Pavankumar has joined as Senior Research Fellow, DBT – Mystrica project, Bangalore; Mohammed Idris, as Research Associate, Tata Social Welfare Trust project, Bangalore. Geethika E. and Srirama R. join the USAID, Western Ghats team as Lab Assistant and Programme Associate, respectively, with Soumya K. V. and Manasi Anand as project student interns. Anu Radhakrishna is on the Vembanad Bioblitz project at Allepuzah as Field Officer. Bala Lourdu Mary J., HR Consultant based in Bangalore; Meena Devi, Data Entry Operator, IDRC, Coimbatore.

Publications

Book chapters

Swamy, S. and S. Devy. 2014. Reshaping neighborhood parks for biodiversity and people: a case of unsung socio-ecological systems in Bangalore, India. In: *Social-ecological systems in*

transition, *Global Environmental Studies* (eds. Sakai, S. and C. Umetsu). Japan: Springer.

Thomas, B. K. 2014. Monetary and multidimensional poverty in Kerala: a review of recent evidence. In: *Kerala economy and its emerging issues* (eds. Kurian, V. M. and R. John). Pp. 238-51. Kottayam: SPCS.

Peer-reviewed articles

Kumara, H. N., O. Thorat, K. Santhosh, R. Sasi and H. P. Ashwin. 2014. Small carnivores of Biligiri Rangaswamy Temple Tiger Reserve. *Journal of Threatened Taxa* 6(12): 6534-6543.

Maurya, N. 2014. Science, society and risk in the Anthropocene. *Economic and Political Weekly*. 49(41).

Sasidharan, T. O., N. Sapna Bai, O. K. Remadevi, M. Balachander, P. D. Rajan. 2014. Effects of different adjuvants on the growth and sporulation of the entomopathogenic fungus, *Metarhizium anisopliae* (Metsch.). *Indian Forester* 140(1): 93-97.

Unnikrishnan, H. and H. Nagendra. 2014. Unruly commons: contestations around Sampangi Lake in Bangalore. Nehru Memorial Museum and Library Occasional Paper. *Perspectives in Indian development*. New series 39.

Popular articles

Goswami, R. How clean are our forests? *Down to Earth*. 4 December 2014. Also, Cleanliness beyond cities, celebrities and tokenisms. *Shillong Times*. 26 November 2014.

Pradhan, U. Sikkim's ecological fragments. *Himal*. December 2014.

Invited

Bejoy K Thomas presented on 'Thinking about urban resilience: water stress and wastewater reuse in Bangalore'. Organized by Public Affairs Centre, Bangalore. At Colloquium on Urban Resilience, Bangalore. 30 September 2014

Poorna Balaji. Seventh South-South conference on 'Inequality, democracy and development under neoliberalism and beyond'. Organized by International Development Economic Associates (IDEAs), Council for the Development of Social Science Research in Africa (CODESRIA) and the Latin American Council of Social Sciences (CLACSO). Bangkok, Thailand. 3-8 November 2014.

ATREE in the news

Press

Weather station to water treatment, seminar discusses solutions to Bangalore's problems. *Citizen Matters*, Bangalore. 30 September 2014.

Social media as an enabler, a scientist's resource for gathering information. This article talks about some of the work ATREE is doing, using social media to good effect: Power of the crowd. *Reader's Digest*. December 2014.



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