# **ARAVIND NEELAVAR ANANTHRAM, PHD, FLS**

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#### **EDUCATION**

Mangalore University, Mangalore 2003-2006

PhD: Applied Zoology

**Title**: Ecology of land snails of the Western Ghats

Supervisor: Dr. Rajashekjar K. Patil

Mangalore University, Mangalore 1996-1998

**MSc**: BioSciences

Poorna Prajna College, Udupi, Mangalore University, 1993-1996

BSC: Botany, Zoology and Chemistry

## **RESEARCH INTERESTS**

My research interests are broad and I use tools such as molecular, ecological, phylogenetics and ENM to address both basic and applied research questions. The following are broad thematic areas of research I am currently engaged with

- Biogeography and phylogeography of amphibians and non-marine molluscs: I aim at
  understanding the pattern in distribution of non-marine molluscs and amphibians of
  India. I am also involved in trying to address historical biogeographic patterns in nonmarine molluscs and amphibians using molecular tools.
- **2. Freshwater biology and systematics:** My ongoing research in freshwater biology and systematics involves taxonomic studies of non-marine molluscs and amphibians,

- identifying regions of high species richness that deserve conservation and reviewing freshwater related policies both regionally as well as nationally
- 3. **Biodiversity documentation and digitization:** My laboratory is involved in the documenting and digitization of biodiversity, particularly freshwater taxa (non-marine molluscs, amphibians, fishes, aquatic birds). This data is crowd-sourced from social and internet-based media. I use this versatile crowd-sourced "big-data" for analyzing patterns and processes in nature with respect to the taxa listed above.
- **4. Application of species distribution models in conservation planning:** I use a variety of tools and approach such as data mining, Ecological Niche Modeling (ENM), and GIS to identify regions that merit high priority conservation in terrestrial and aquatic ecosystems.
- **5.** Climate change and species distribution: Ecological Niche Modeling (ENM) is used extensively in my lab to assess species responses to climate change. The taxa used for these assessments are non-marine molluscs, frogs and invasive species.

#### PROFESSIONAL EXPERIENCE

Fellow (Associate Professor) Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore	Sept 2016 – Till date
<b>Fellow (Assistant Professor)</b> Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore	Jan 2012 – Aug 2016
Fellow and Coordinator Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore	Aug 2009 – Dec 2011
Post-Doctoral Fellow Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore	Jan 2007 - Jul 2009
Senior Research Associate Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore	Apr 2001 - Dec 2006

#### **PUBLICATIONS**

### a) Journal papers (with impact factor)

- 1. Khuroo, A.A., M. Hamid, Bipin Charles; R. Ahmad; C. Singh and N.A. Aravind. 2018. Impact of climate change on the distribution range and niche dynamics of Himalayan birch, a typical treeline species in Himalayas. *Biodiversity and Conservation* doi.org/10.1007/s10531-018-1641-8.
- 2. Aravind N.A. and B. Páll-Gergely. 2018. *Dicharax* (?) *bawai* n. sp from southern India (Gastropoda: Cyclophoroidea: Alycaeidae). *Archiv für Molluskenkunde*, 147: 55-62.
- Vineeth Kumar K., U.K. Radhakrishna, R.D. Godwin, Anwesha Saha, K.P. Rajashekhar, and
   N.A. Aravind. 2018. Microhyla kodiyali sp. nov., A New Species of Microhyla Tschudi, 1838
   (Amphibia: Anura: Microhylidae) from West Coast of India. Zootaxa, 4420: 151-179.
- **4.** Ravikanth, G., M.R. Jagadish, R. Vasudeva, R. Uma Shaanker and **N.A. Aravind. 2018.** Recovery of critically endangered plant species in India: Need for a comprehensive approach. *Current Science*, 114: 504-511.
- Joshi, M., B. Charles, G. Ravikanth and N.A. Aravind. 2017. Assigning conservation value and identifying hotspots of endemic rattan diversity in the Western Ghats, India. *Journal* of *Plant Diversity*, 39: 263-272.
- **6.** Subba, B., **N.A. Aravind** and G. Ravikanth. **2017**. Amphibians of the Sikkim Himalaya, India: an annotated checklist. *CheckList* 13: 2033.
- Seshadri, K.S., H. Priti, G. Ravikanth, M.K. Vidisha, K.K. Vineeth, S. Ramit, R.R. Sarma, N.A. Aravind and K.V. Gururaja. 2016. Re-description and range extension of *Microhyla sholigari* Dutta and Ray, 2000 (Amphibia: Anura: Microhylidae) from South West India. Zootaxa, 4208: 547–560.
- **8. Aravind N.A.,** R.R. Sarma and N.A. Madhyastha. **2016**. Conservation of *Cremnoconchus*, an iconic freshwater mollusc genus of the Western Ghats, India. *Current Science*, 111: 1097-1113.

- Sen, S., R. Srirama, A. Gode, G. Ravikanth and N.A. Aravind. 2016. Ecological niche modelling of Wild Pepper (*Piper nigrum* L.) in the Western Ghats, India. *Journal of Plant Research*, 129: 1033–1040.
- 10. Sen, S., K.N. Shivaprakash, N.A. Aravind, G. Ravikanth and S. Dayanandan. 2016. Ecological niche modeling for conservation planning of an endemic snail in the verge of becoming a pest in cardamom plantations in the Western Ghats biodiversity hotspot. Ecology and Evolution, 10.1002/ece3.2368.
- 11. Priti, H., R.R. Sarma, B. Ramya, H.S. Sudhira, G. Ravikanth, N.A. Aravind and K.V. Gururaja.
  2016. Integrative Taxonomic Approaches for Describing a New Cryptic Species of Bush Frog (*Raorchestes*: Anura: Rhacophoridae) from the Western Ghats, India. *PLoS One*, 11(3): e0149382. doi:10.1371/journal.pone.0149382.
- **12.** Priti, H., **N.A. Aravind**, R. Uma Shaanker and G. Ravikanth. **2016**. Modelling impacts of future climate on the distribution of Myristicaceae species in the Western Ghats, India. *Ecological Engineering*, 89: 14–23.
- 13. Sarma, R.R., M. Munsi and N.A. Aravind. 2015. Effect of Climate change on invasion risk of Giant African Snail (*Achatina fulica* Férussac, 1821: Achatinidae) in India. *PLoS One* 10 (11): e0143724. doi:10.1371/journal.pone.0143724.
- **14.** Subba, B., G. Ravikanth and **N.A. Aravind. 2015**. High altitude records of amphibians in the age of Climate Change: Reply to global high-altitude limits for amphibians by T.A. Seimon and A. Seimon. **Journal of Threatened Taxa**, 7: 7851–7852.
- **15.** Subba, B., G. Ravikanth and **N.A. Aravind. 2015**. Scaling new heights: New record of *Scutiger boulengeri* from high altitude lake in Sikkim Himalaya, India. *Journal of Threatened Taxa*, 7: 7655–7663.
- 16. Raheem, D.C., H. Taylor, J. Ablett, R. Preece, N.A. Aravind and F. Naggs. 2014. A Systematic revision of the land snails of the Western Ghats of India. *Tropical Natural History*, Suppl 4: 1-298.
- **17.** Abhisheka, K., **N.A. Aravind** and T. Ganesh. **2013**. Linking kids and conservation: some thoughts on the vacation training programme. *Current Science*, 105: 1464.
- **18. Aravind N.A.**, R. Uma Shaanker and K.N. Ganeshaiah. 2013. Indian monsoon drives phenology of plants. *Biology Letters* 9: http://dx.doi.org/10.1098/rsbl.2013.0675
- **19.** Reid, D.G., **N.A. Aravind** and N.A. Madhyastha. **2013**. A unique radiation of marine littorinid snails in the freshwater streams of the Western Ghats of India: the genus

- *Cremnoconchus* W.T. Blanford, 1869 (Gastropoda: Littorinidae). *Zoological Journal of Linnaean Society*, 167: 93-135.
- **20. Aravind N.A. 2013**. Potential of social network and Internet media for biodiversity mapping and conservation. *Current Science*, 105: 291-293.
- **21.** Sen, S., G. Ravikanth and **N.A. Aravind**. **2012**. Status of terrestrial mollusks in Indian conservation arena: a synthesis. **Journal of Threatened Taxa**, 4: 3029–3037.
- **22.** Seshadri, K.S., K.V. Gururaja, and **N.A. Aravind. 2012**. A new species of *Raorchestes* (Amphibia: Anura: Rhacophoridae) from mid-elevation evergreen forests of the southern Western Ghats, India. *Zootaxa*, 3410: 19–34.
- **23.** Jayashankar, **N.A. Aravind** and A. Verghese. **2011**. Malacofaunal pest complex in Bangalore region. **Pest Management in Horticultural Ecosystems**, 17: 162-164.
- **24. Aravind, N.A.**, Dinesh Rao, K.N. Ganeshaiah, R. Uma Shaanker and J.G. Poulsen. **2010**. Impact of *Lantana camara* on bird assemblage at Malé Mahadeshwara reserve forest, South India. *Tropical Ecology*, 51: 325-338.
- **25. Aravind, N.A.**, K.P. Rajashekhar and N.A. Madhyastha. **2008**. Micro mollusks of the Western Ghats: Distribution and threats. *Zoosymposia*, 1: 281-294.
- **26.** Dolia, J., M. Soubadra Devy, **N.A. Aravind** and Ajith Kumar. **2008**. Butterfly communities in coffee plantations around a protected area in the Western Ghats, India. **Animal Conservation**, **11**: 26–34.
- 27. Prathapan, K.D. Priyadarsanan Dharma Rajan, T.C. Narendran, C.A. Viraktamath, K.A. Subramanian, N.A. Aravind and J. Poorani. 2008. Death sentence on taxonomy in India. Current Science, 94: 170-171.
- **28.** Gururaja, K.V., **N.A. Aravind**, Sameer Ali, T.V. Ramachandra, T.P. Velavan, V. Krishnakumar and R.K. Aggarwal. **2007**. Morphogenetic description of a new frog species from the central Western Ghats of India: an indicator species of forest fragmentation. **Zoological Science** 24: 525-534.
- 29. Aravind N.A., B. Tambat, G. Ravikanth, K.N. Ganeshaiah and R. Uma Shaanker. 2007. Patterns of species discovery in the Western Ghats, a megadiversity hot spot in India. Journal of Biosciences 32:781-790.
- **30.** Aravind N.A. 2006. Organic rice cultivation- CD Review. *Current Science* 91: 1413.

- **31.** Prathapan K.D., D.R. Priyadarsanan, T.C. Narendran, C.A. Viraktamath, K.A. Subramanyan, N.A. Aravind and J. Poorani. **2006**. Biological Diversity Act, 2002: Shadow of permit-raj over research. *Current Science* 91: 1006-1007.
- **32. Aravind, N.A.**, K.P. Rajashekhar and N.A. Madhyastha. **2005**. Species diversity, endemism and distribution of land snails of the Western Ghats, India. *Records of Western Australian Museum*, Suppl. No 68: 31-38.
- **33. Aravind, N.A.**, D. Rao, K.N. Ganeshaiah, R. Uma Shaanker and G. Vanaraj. **2005**. A comparative analysis of red-listed medicinal and non-red listed plant species in the Western Ghats, South India: are red-listed species really threatened? *Current Science* 88: 258-265.
- **34.** Barve, N., M.C. Kiran, G. Vanaraj, **N.A. Aravind**, Dinesh Rao, R. Uma Shaanker, K.N. Ganeshaiah, and J. G. Poulsen. **2005**. Measuring and mapping human threats to a wildlife sanctuary in south India. *Conservation Biology* 19: 122-139.
- **35.** Uma Shaanker, R., K.N. Ganeshaiah, M. Nageswara Rao and **N.A. Aravind**. **2004**. Ecological consequences of forest use-from genes to ecosystem: a case study in the Biligiri Ranganswamy Temple Wildlife Sanctuary, South India. *Conservation and Society* 2: 347-363.
- **36.** Uma Shaanker, R., K.N. Ganeshaiah, S. Krishnan, R. Ramya, C. Meera, **N.A. Aravind**, A. Kumar, D. Rao, G. Vanaraj, J. Ramachandra, R. Gauthier, J. Ghazoul, N. Poole, B.V.C. Reddy. **2004**. Livelihood gains and ecological costs of NTFP dependence: assessing the roles of dependence, ecological knowledge and market structure in three contrasting human and ecological settings in south India. *Environmental Conservation* **31**: 242-253.
- **37. Aravind, N.A.,** K.N. Ganeshaiah and R. Uma Shaanker. **2004**. Croak, croak, croak: Are there more frogs to be discovered in Western Ghats? *Current Science* 86: 1471-1472.
- **38. Aravind, N.A.,** Dinesh Rao and P.S. Madhusudan. **2001**. Additions to the birds of Biligiri Rangaswamy Temple Wildlife Sanctuary, Western Ghats, India. **Zoos' Print Journal** 27: 541-547.
- **39.** Sheeba, V., **N.A. Aravind** and A. Joshi. **1998**. Oviposition preference for novel versus normal food resources in laboratory population of *Drosophila melanogaster*. **Biosciences**, 23: 93-100.

### b) Journal papers (Non-ISI Journals)

- Soubadra Devy, M., Savitha, S. and N.A. Aravind. 2009. Reshaping urban green spaces.
   Economic and Political Weekly, 44: 25-27.
- Aravind, N.A. 2002. First report of Micrixalus nudis (Amphibia: Ranidae) from Karnataka, India. Hamadryad 27: 116-117.

#### c) Journal papers (Under Review)

- Srirama R, H. Priti, N.A. Aravind and G. Ravikanth. Development and characterization of
  microsatellite markers for an endemic frog Nyctibatrachus kempholeyensis and cross
  amplification with other Nyctibatrachus species from the Western Ghats, India. 3 Biotech
  (Under Review).
- Charles, B., R.R. Sarma and N.A. Aravind. Possible range shift in Nasikabatrachus sahyadrensis (Nasikabatrachidae) due to climate change in the Western Ghats, India.
   Amphibian and Reptile Conservation (Under Review)
- **3.** Rameez, A., A. Khuroo, Anzar; B. Charles, M. Hamid, I. Rashid and **N.A. Aravind**. Global distribution modelling, invasion risk assessment and niche shift patterns of Ox-eye Daisy (*Leucanthemum vulgare*) under climate change. *Scientific Reports* (Under Review)
- **4.** Sil, M., **N.A. Aravind** and P. Karanth. Role of geography and climatic oscillations in governing into-India dispersal of freshwater snails of family: Viviparidae. *Journal of Biogeography* (Under Review).
- **5.** Munsi, M. and **N.A. Aravind.** Framing of freshwater habitat conservation within the legal frameworks of India. *Current Science* (Under Review)
- **6.** Pradhan, U., M. Soubadra Devy and **N.A. Aravind.** Cash crop expansions in tropics: Are pollinator needs of crops taken into consideration? *JoTT* (Under Review).
- 7. Chakraborty, S., A. Saha and N.A. Aravind. Comparison of DNA extraction methods for non-marine molluscs: Is modified CTAB DNA extraction method more efficient than DNA extraction kits? *Conservation Genetic Resources* (Submitted)
- **8.** Ahmad, R., A.A. Khuroo; M. Hamid, B. Charles, I. Rashid and **N.A. Aravind.** Global distribution modelling, invasion hotspots and niche dynamics of invasive *Acacia auriculiformis* (Earleaf acacia) under climate change. *Biological Invasions* (Submitted)
- **9.** Garg, S., R. Suyesh, A. Das, J. Jiang, N. Wijayathilaka, A.A.T. Amarasinghe, F. Alhadi, K.K. Vineeth, **N.A. Aravind**, G. Senevirathne, M. Meegaskumbura and S.D. Biju. Systematic

- revision of *Microhyla* (Microhylidae) frogs of South Asia: a molecular, morphological, and acoustic assessment. *Vertebrate Zoology* (Under Review).
- **10.** Munsi, M., **N.A. Aravind**, G. Ravikanth and K.N. Ganeshaiah. Identifying high conservation value sites of freshwater biodiversity in India. **Aquatic Conservation: Marine and Freshwater** (Rejected).
- 11. Munsi, M. and N.A. Aravind. Environmental determinants and spatial concordance in freshwater biodiversity at landscape and regional scales in India. *Hydrobiologia* (Rejected).
- **12.** Bipin Charles, G. Ravikanth and **N.A. Aravind**. Ecology, natural history and determinants of distribution of the Western Ghats endemic frog Nyctibatrachus kempholensis.

#### d) Book chapters

- 1. Ganesan R., N.A. Aravind, D.R. Priyadarsanan and G. Ravikanth. 2017. The nitty gritty of a name: Systematic Biology and Conservation. In: *Transcending boundaries: Reflecting on twenty years of action and research at ATREE*, Hiremath, A.J., N.D. Rai and A. Siddartha. Ashoka Trust for Research in Ecology and the Environment, Bangalore, pp. 162-171.
- 2. Aravind N.A., M. Munsi and R.R. Sarma. 2017. Navigating murky waters: Challenges and approaches for conservation planning of freshwater ecosystems of India. In: *Transcending boundaries: Reflecting on twenty years of action and research at ATREE*, Hiremath, A.J., N.D. Rai and A. Siddartha. Ashoka Trust for Research in Ecology and the Environment, Bangalore, pp: 80-87.
- 3. Aravind, N.A., N.A. Madhyastha, G.M. Rajendra and Anirudha Dey. 2011. The status and distribution of freshwater molluscs of the Western Ghats. In: *The status and distribution of freshwater biodiversity in the Western Ghats, India*, Molur, S., K.G. Smith, B.A. Daniel and W.R.T. Darwall (Compilers). Cambridge, UK and Gland, Switzerland: IUCN, and Coimbatore, India: Zoo Outreach Organisation, Pp. 59 72.
- **4. Aravind N.A.** and F. Naggs. 2011. Snailing in the Canopy. In: *Canopies of South Asia, A glimpse*, Ganesh, T., MS. Devy and A. Tripaty. ATREE, Bangalore
- Budha, P.B., N.A. Aravind and B.A. Daniel. 2011. The status and distribution of freshwater molluscs of the Eastern Himalaya. In: *The Status and Distribution of Freshwater Biodiversity in the Eastern Himalaya*, Allen, D.J., S. Molur and B.A. Daniel (Compilers).

- Cambridge, UK and Gland, Switzerland: IUCN, and Coimbatore, India: Zoo Outreach Organisation. Pp. 42-53.
- 6. Uma Shaanker, R., Gladwin Joseph, N.A. Aravind, R. Kannan and K.N. Ganeshaiah. 2010. Invasive plants in tropical human dominated landscapes: need for a paradigm shift in their management. In: Perrings, C., H. Mooney and M. Williamson (eds.), *Bioinvasions and Globalization: Ecology, Economics, Management, and Policy*. Oxford University Press, London, pp. 202-219.
- Kumar, A., N.A. Aravind, R. Uma Shaanker, K.N Ganeshaiah, S. Purushothaman and S.N. Kashyap. 2009. Herbal exports from India—Trends and Implications. In: Uma Shaanker, R., G. Joseph, A.J. Hiremath and N.D. Rai (Eds), Non-timber Forest Products: Conservation, Management and Policy in the Tropics. ATREE and UAS, Bangalore, pp: 129-138.
- **8.** Ramakrishna, S.C. Mitra and **N.A. Aravind.** 2006. Mollusca: Gastropoda. In: *Fauna of Biligiri Rangaswamy Temple Wildlife Sanctuary*, **Conservation Area Series**, 27: 9-12.
- **9. Aravind, N.A.** 2006. Mammalia. In: *Fauna of Biligiri Rangaswamy Temple Wildlife Sanctuary*, **Conservation Area Series,** 27: 259-263.
- **10. Aravind, N.A.** and Dinesh Rao. 2006 Aves. In: *Fauna of Biligiri Rangaswamy Temple Wildlife Sanctuary*, **Conservation Area Series**, 27: 239-258.
- 11. Uma Shaanker, R., N.A. Aravind and K.N. Ganeshaiah. 2004. Forest Management for Conservation. In: Burley, J., J. Youngquist and J. Evans (eds.), *Encyclopedia of Forest Science*, Elsevier Science, United Kingdom. PP: 215-223.
- 12. Aravind, N.A. and Dinesh Rao. 2001. Biodiversity: An introduction. Eds. Hosetti, B.B. and M. Venkateshwaralu. In. Current trends in wildlife Biodiversity, Conservation and Management. Vol. II. Daya Publishing House, New Delhi. Pp. 1-26.
- 13. Patil, R.K. and N.A. Aravind. 2016. Perturbation in the pattern of land snail diversity due to anthropogenic disturbance to wet evergreen forests of the Western Ghats, India. In: Priyadarsanan, D.R., M.S Devy, K.A. Subramanian, N.A. Aravind and N. Seena (eds.), Invertebrate diversity and conservation in the Western Ghats. ATREE, Bangalore.

#### e) Books (including edited volumes)

 Priyadarsanan, D.R., M. Soubadra Devy, K.A. Subramanian, N.A. Aravind and N. Seena (eds), Invertebrate diversity and conservation in the Western Ghats. ATREE, Bangalore. (In Press).

### f) Reports and discussion papers

- 1. **Aravind N.A.** and K.V. Gururaja. 2011. Theme paper on "Amphibians of the Western Ghats". Report submitted to Western Ghats Ecology Expert Panel.
- Madhyastha, N.A. and N.A. Aravind. 2011. Theme paper on "Land snails of the Western Ghats". Report submitted to Western Ghats Ecology Expert Panel.
- Gururaja K.V. and N.A. Aravind. 2006. Inland waters biodiversity. In: Thematic Assessment Report - Biodiversity Components of the NCSA, Submitted to MoEF, Govt. of India.
- 4. **Aravind N.A.,** K.P. Rajshekhar and N.A. Madhaystha. 2006. Land snails of Western Ghats:

  Diversity, Distribution and Endemicity. **Sahyadri E News**(<a href="http://wgbis.ces.iisc.ernet.in/biodiversity/">http://wgbis.ces.iisc.ernet.in/biodiversity/</a>).

## g) Seminar Proceedings

- Jayshankar, M., T.M. Ramakrishana, N.A. Aravind and M.S. Reddy. 2010. Haanikaraka shanka basavana huluvina (*Achatina fulica*) ondu adyayana. In: *Vijnana Kannada 6*, *Proceedings of 6th Kannada Vijnana Samelana 2010*. Swadeshi Vijnana Andolana-Karnataka, Bangalore.
- Aravind, N.A., Dinesh Rao, G. Vanaraj, K.N. Ganeshaiah, R. Uma Shaanker and J.G. Poulsen. 2006. Impact of *Lantana camara* on plant communities at Malé Mahadeshwara reserve forest, South India. In: Rai, L.C. and J.P. Gaur (eds.), *Invasive alien species and biodiversity in India*. Banarus Hindu University, Banarus.
- 3. **Aravind N.A.**, Dinesh Rao, G. Vanaraj, J.G. Poulsen, R. Uma Shaanker and K.N. Ganeshaiah. 2001. Anthropogenic pressures in a tropical forest ecosystem in Western Ghats, India: Are they sustainable? In: Ganeshaiah, K.N., R. Uma Shaanker and K.S. Bawa (eds.), Tropical Ecosystems: Structure, Diversity and Function. IBH, New Delhi, Pp. 125-128.
- 4. Gururaja, K.V., **N.A. Aravind** and Raghunath. 1993. Checklist to the birds of Shimoga and Gudavi. Eds. Vergheese, A., S. Sridhar and A.K. Chakravarthy, In: Proceedings of the First National Seminar on the Changing Scenario of Bird Ecology and Conservation.

## h) Semi-Technical Papers

Aravind N.A. 2017. Crowd sourcing and conservation of Indian non-marine molluscs.
 Tentacle 25: 5-7.

- **2. Aravind N.A.** and R.R. Sarma. 2016. Identifying hotspots of non-marine mollusc distribution in the Western Ghats, India. *Tentacle*, 23: 41-44.
- **3. Aravind N.A.** and R.R. Sarma. 2015. Does invasion of *Lantana camara* (Verbenaceae) affect land snail diversity? *Tentacle*, 23: 24-26.
- **4. Aravind N.A.,** R.R. Sarma, M. Munsi and S. Sen. 2014. In search of *Corilla anax* (Corillidae), rare and endemic land mollusc of the Western Ghats. *Tentacle*, 22: 6-8.
- 5. Aravind N.A. 2012. African Giant Snail: Unwanted guest in our backyard. Bon, 2: 56-58.
- Aravind, N.A., B.A. Daniel, P.B. Budha and Allen David. 2011. Assessment of freshwater molluscs of the Eastern Himalaya Hotspot. *Tentacle*, 19: 52-53.
- 7. Uma Shaanker, R., G. Joseph, N.A. Aravind, R. Kannan and K.N. Ganeshaiah. 2010. Making chairs for conservation. *Current Conservation*, 4: 8-11.
- **8.** Raheem, D., F. Naggs, **N.A. Aravind** and R. Peerce. 2009. An illustrated guide to the land snails of the Western Ghats. Natural History Museum, London.
- Aravind N.A. and N.A. Madhyastha. 2009. Of shells and slimes. Hornbill, July-September: 26-29.
- 10. Uma Shaanker, R., G. Joseph, N.A. Aravind, R. Kannan and K.N. Ganeshaiah. 2007. A new use found for invasive species in the Western Ghats. Rainforest Concern, Autumn 2007.
- 11. Kannan, R., N.A. Aravind, G. Joseph, K.N. Ganeshaiah and R. Uma Shaanker. 2008. Lantana Craft: A Weed for a Need. *BioTech News*, 3(2): 9-11.
- 12. Aravind N. A. 2004. Birds of Biligiri Rangan Hills. In: Islam, M.Z. and A.R. Rahmani (eds), Important Bird Area Network. Bombay Natural History Society and BirdLife International, UK.
- 13. Aravind, N.A., N. Barve, R., Uma Shaanker, J. Poulsen and K.N. Ganeshaiah. 2002.
  Mapping Human Induced Threat to a Sanctuary, South India. ETFRN News, 36: 41-43.
- 14. Aravind N.A. 2005. Ficus pumila L.: A new host plant of Common Indian Crow (Euploea core Cramer, Lepidoptera: Nymphalidae). Journal of Bombay Natural History Society, 102: 129.
- 15. Aravind, N.A. 1995. Comments on the migration of Pratincoles. Newsletter for Birdwatchers, 33: 80.
- 16. Aravind, N.A. 1999. Vagrants of Dakshina Kannada and Udupi Districts. Newsletter for Birdwatchers, 39: 66.

### **Under Preparation**

- 1. Vineeth K.K., K.V. Gururaja, K.P. Rajashekhar and **N.A. Aravind.** Acoustic comparison of members of genus Microhyla from South—west India.
- 2. Madhushree Munsi and **N.A. Aravind.** Framing of freshwater habitat conservation within the legal frameworks of India. *Current Science*.
- 3. Ganeshaiah, K.N., **N. A. Aravind** and Sachin Rosario. Roles of para-taxonomists and citizen science in Asia (**BOOK CHAPTER**)
- 4. Sarma, R.R. and **N.A. Aravind.** Impact of Climate Change on the distribution pattern of *Indrella ampulla*, endemic land snail of the Western Ghats, India. *Landscape Ecology*
- **5.** Munsi, M., S. Krishnan and **N.A. Aravind**. India's water policy and central and state wetland conservation policies: A content analysis of convergences and contradictions.

#### Water International

- **6.** Roshmi Rekha Sarma and **N.A. Aravind**. An assessment of geographical distribution patterns in the Anurans of the Western Ghats, India.
- 7. Roshmi Rekha Sarma and **N.A. Aravind.** Effectiveness of Protected Areas in Conservation of Amphibians of the Western Ghats, India.
- 8. Ayushi Jain, Bipin Charles and N.A. Aravind. Freshwater turtle diversity hotspots in India.

## **FELLOWSHIPS, HONOURS AND AWARDS**

#### Honours

1. Member: IUCN's SSC Mollusc Specialist Group

2. Member: IUCN's SSC Amphibian Specialist Group

3. Fellow: Linnaean Society of London

## **Fellowships**

- Awarded Indian Academy of Sciences Summer Fellowship for the year 1995 to study Bird Communities of Western Ghats under Prof. Madhav Gadgil, Center for Ecological Sciences, IISc, Bangalore (first student to get fellowship).
- Awarded Indian Academy of Sciences Summer Fellowship for the year 1997 to study Oviposition preference in *Drosophila melanogaster* under Dr. Amitabh Joshi, JNCASR, Bangalore.

# **FUNDRAISING**

# a) On-going Projects

SI No	Title	Funding agency	Amount	Duration
1	Landscape Genetics of stream dwelling Anurans in Agriculture- forest matrix in the central Western Ghats	Dept. of Biotechnology, Govt. of India	29 Lakhs	3 years Jun. 2015 to May 2018
2	Phylogeny of land snails of the Western Ghats.	Dept. of Science and Technology, Govt. of India	56 Lakhs	3 years (March 2017 to Feb 2020)
3	Exploration and inventories as means to strengthen taxonomy, biodiversity science, and monitoring in Northeast India – a pilot scale project in Manipur and Mizoram states	Institute of Bioresources and Sustainable Development (IBSD), Imphal	1 Crore	2 years (April 2017 to March 2019)
4	Modelling the distribution of globally important invasive plant species: Is there significant niche shift and range expansion during invasion?*	Dept. of Science and Technology, Govt. of India	39 Lakhs	3 years (Sept 2017 to August 2020)
5	Quantitative assessment and mapping of the diversity of non-marine molluscs (land snails and freshwater molluscs) of Northeast India	Dept. of Biotechnology, Govt. of India	93 Lakhs	3 years (April 2018 to March 2021)
6	Enhancing capacity in Communication about biological resources, biodiversity science and sustainable development for societal benefits in Northeast	Dept. of Biotechnology, Govt. of India	1.5 crores	3 years (April 2018 to March 2021)
7	Using high precision radio tags to relate movement patterns of migrant harriers with environmental and climatic factors.	Dept. of Science and Technology, Govt. of India	82 lakhs	3 years

# b) Completed Projects

SI No	Title	Funding agency	Amount	Duration
1	Assessment of Lesser known and functionally important taxa in Nagarahole National Park*	World Bank	6 Lakhs	1.5 Years (Mar. 2001 to Dec. 2002)
2	Impact of land-use change on land snail assemblage in Western Ghats, India.	International Foundation for Science, Sweden	7 Lakhs	1 year (April 2003 to March 2004)
3	Capacity building in Taxonomy of Land snails of south and South East Asia		11 Lakhs	3 years (May 2006 to Mar. 2009)
4	Freshwater Mollusc of the Western Ghats: Status and Distribution	Dept. of Science and Technology, Govt. of India	17 Lakhs	3 years (Aug 2008 to July 2011)
5	A Biological Survey of the Freshwater Algae and Benthic Macro-invertebrates of Rivers of the Western Ghats, India*	National Geographic Society, USA	11 Lakhs	2 years (Jan. 2013 to Dec. 2014)
6	Mapping the distribution and phylogenetic analysis of land snails of the Western Ghats	Dept. of Science and Technology, Govt. of India	22 Lakhs	3 years (Jul. 2012 to Jun. 2015)
7	Developing strategy and an action plan for strengthening the ecological integrity of the Dal Lake, Srinagar*	UNDP, New Delhi	35 Lakhs	1.5 years (Dec. 2013 to May 2015)
8	Tracking migrant harriers across space and time: understanding migration patterns and identifying key habitats*	Dept. of Science and Technology, Govt. of India	48 Lakhs	3 years (Oct. 2014 to Sept. 2017)

<sup>\*</sup>as co-PI

# **CONFERENCE PRESENTATIONS**

## International

- "Challenges and opportunities in conservation of amphibians of India". 8<sup>th</sup> World Congress of Herpetology, 15<sup>th</sup> to 21<sup>st</sup> August, 2017, Hangzhou, China.
- "Global invasion patterns of non-marine molluscs under climate change scenarios".
   World Congress of Malacology, 17<sup>th</sup> to 24<sup>th</sup> July, 2016, Penang, Malaysia.
- 3. "Conservation of Cremnoconchus of the Western Ghats". Society for Tropical Ecology, GTO, 7<sup>th</sup> 10<sup>th</sup> April, 2015, ETH, Zurich
- 4. Presented a paper on "A review on ecological studies of land snails of the Western Ghats, India" at World Congress of Malacology held at Phuket, Thailand, July 18-24,2010.
- 5. Attended IUCN's *Eastern Himalaya Freshwater Biodiversity Assessment* workshop at Kathmandu from 22-26, July 2009.
- 6. Presented a paper on "Micro-mollusk of the Western Ghats, India: Status, distribution and threats" at World Congress of Malacology held at University of Antwerp, Antwerp, Belgium, from July 15-20,2007.
- Presented poster on "Impact of anthropogenic disturbances on land snail diversity of wet evergreen forests of Western Ghats, India" at First Asia Section Conference on "Biodiversity Conservation in Asia: Current Status and Future Perspectives" Kathmandu, Nepal 17-20, November 2005.
- Presented poster on "Impact of disturbance on bird community in a tropical forest ecosystem in South India" tat First Asia Section Conference on "Biodiversity Conservation in Asia: Current Status and Future Perspectives" Kathmandu, Nepal 17-20, November 2005.
- 9. Presented a paper on "Geographical distribution of land snails of the Western Ghats, India" at World Congress of Malacology held at University of Western Australia, Perth, Western Australia, from July 11<sup>th</sup>-16<sup>th</sup> 2004.

#### National

- Presented a paper on "Impact of Lantana camara invasion on plant assemblages at Male Mahadeshwara reserve forest, South India" at National workshop on "Alien invasive and biodiversity conservation in India" held at Banaras Hindu University, Banaras from August 17<sup>th</sup> to 20<sup>th</sup> 2004.
- Participated and presented paper on "Impact of Lantana invasion on Bird communities
  at MM Hills Reserved forest" at National Symposium on Avian biodiversity issues and

- conservation strategies. Held at ANGR Agricultural University, Hyderabad, February 7-8, 2002.
- Presented a Poster on "Anthropogenic pressures in a tropical forest ecosystem in Western Ghats, India: Are they sustainable? At "Anthropogenic International Conference on Tropical Ecosystems: Structure, Diversity and Human Welfare. Held at Bangalore from July 15<sup>th</sup>-19<sup>th</sup>, 2001. Organized by ATREE and Association of Tropical Biology, USA.

## **INVITED TALKS**

- "Beyond databasing: biodiversity analytics using databases" At Joint Workshop on Ecoinformatics. Jan 2013.
- "Social networking for biodiversity mapping and conservation" at Vellore Inst. of technology. Indian Academy Sponsored program on Bioresource mapping, utilization and conservation, Oct 31, 2012
- 3. *"Conservation Biogeography of non-marine mollusks of the Western Ghats"* At National seminar of Faunal diversity of Kerala, Pazzahi Raja College, Mattanur, 23<sup>rd</sup> and 24<sup>th</sup> March 2012.
- 4. "Non-marine molluscs of the Western Ghats: what do we know and what we don't?" At National workshop on faunal diversity of the Western Ghats, held at JCBM College Sringeri, 30<sup>th</sup> and 31<sup>st</sup> August 2012.
- Keynote address on *Impact of Climate change on species and communities* at Bioscience Symposium on Global Warming and Sustainability of Civilization held at CRM Institute of Management Studies, Bangalore, 13<sup>th</sup> March 2010.
- Delivered a talk on *Ecological Census Techniques* at National Workshop on Quantitative Assessment of Biodiversity held at SRTM University, Nanded, Maharashtra, 26-27 Feb 2010.
- 7. Talk on "Monitoring butterflies for conservation" at Urban Lake Monitoring and Management, CiSTUP, 23<sup>rd</sup>-25<sup>th</sup> September 2009.
- 8. Chaired a session and delivered a talk on "Freshwater Mollusc of the Western Ghats: Distribution and Threats" at Lake 2008, held at Centre for Ecological Sciences, IISc Bangalore, 22-24<sup>th</sup> December 2008.
- 9. "World of Molluscs". Youth Club, Mysore Zoo, 27 Sept, 2015

- "Non-marine molluscs of the Western Ghats", Zoology Teacher's Association, Govt. Science College, Bangalore, 3<sup>rd</sup> Oct, 2015
- "Taxonomy and Phylogeny of non-marine molluscs of the Western Ghats". At National Seminar on Phylogeny and Phylogeography held at Basavehswara Science College, Bagalkot, 6 Dec 2015
- 12. "Doing ecology in field and in lab". Lecture at PRIMER course, Gubbi Labs, Gubbi, 11 Dec

### **NEWS SPECIES DESCRIBED**

## a) Snails

### Cremnoconchus (Littorinidae)

Cremnoconchus castanea, Cremnoconchus cingulatus, Cremnoconchus dwarakii, Cremnoconchus agumbensis, Cremnoconchus hanumani and Cremnoconchus globulus

#### Dicharax (?) (Alycaeidae)

Dicharax (?) bawai

## b) Frogs

### Raorchestes (Rachophoridae)

Raorchestes kakachi, Raorchestes honnametti

### Microhyla (Microhylidae)

Microhyla kodial

#### **TEACHING EXPERIENCE**

## a) Teaching

- 1. Taught Core Course on "Methods in Natural Sciences" since 2009 (1.5 Credit). I was involved in designing the course content, lectures and field modules
- 2. Offered elective course on "Biosystematics" since 2009 (1 Credit). I co-teach this module and I was involved in teaching theory related to Biosystematics
- 3. I also taught Ecology course for 2007 batch PhD students (3 Credits)
- 4. Field module on ecological methods for University of Kansas and Columbia University as a part of Study Abroad Program

5. Taught course on Ecological methods, Biogeography and Tools in conservation for Certificate Course in Conservation Science

## b) Supervising Research Students

SI No.	Category	Numbers	Status
1	PhD (Guide)	2	1 Awarded 1 on-going
2	PhD (Co-Guide)	3	On-going
3	PhD (Committee Member)	7	On-going
4	MPhil (Co-Guide)*	2	Completed
5	MSc (Guide)*	3	Completed
6	MSc (Co-Guide)*	1	Completed
7	MTech*	1	Completed
8	BTech*	4	Completed
9	Interns*	30	
10	Research Associates and Senior Research Fellows	5	
11	Post-Doctoral Fellow	1	

<sup>\*</sup>Institutions other than ATREE

#### RESEARCH EXPERIENCE

- 1. Darwin Initiative Grant from DEFRA, Govt. of UK. "Capacity building in Taxonomy of Land snails of south and South East Asia". May 2006- October 2009
- "Inventorying biodiversity in and around Myristica swamps in Western Ghats, India"
   Funded by Rainforest Concern, United Kingdom. September 2003 to August 2004.
- 2. "Impact of land-use change on land snail assemblage in Western Ghats, India" Funded by International Foundation for Science (IFS-www.ifs.se), Sweden. April 2003 to March 2004.
- **3.** "Mapping of rare, endangered, and threatened medicinal plant resources in medicinal plant conservation areas (MPCAs), Karnataka." Funded by Foundation for Revitalization of Local Health Traditions (FRLHT) Bangalore. February 2001 to February 2004.

- 4. "Role of Forest fruits in sustaining livelihood of forest fringe communities in South India".

  Department for International Development, UK. June 2001-March 2002.
- "Assessment of biodiversity of lesser-known and functionally important groups in Nagarahole National park". Funded by World Bank through Karnataka Forest Department. March, 2001 to December 2002
- "Mapping of birds and butterfly diversity of Biligiri Rangaswamy Temple Wildlife Sanctuary". ATREE Internal funding, 1998-2001
- 7. "Impact of invasive species on the diversity, health and productivity of ecosystems: A study in the tropical forests of south India". Funded by Centre for International Forestry Research (CIFOR). April 2000 to August 2001.
- 8. "Assessing the impact of anthropogenic pressures on biodiversity of a tropical forest ecosystem in India". Funded by Centre for International Forestry Research (CIFOR). October 1998 to March 2000.

#### **ACADEMIC SERVICE**

### a) Thesis referee

- 1. External examiner for PhD Thesis of University of Delhi (Two Theses)
- 2. External examiner for PhD Thesis of Mysore University
- 3. External examiner for PhD Thesis of Indian Institute of Science, Bangalore

#### b) Journal reviewer

- 1. PLoS One
- 2. Ecological Informatics
- 3. Environmental Monitoring and Assessment
- 4. Landscape and Ecological Engineering
- 5. Forest Ecosystems
- 6. Animal Conservation
- 7. Current Science
- 8. Checklist Journal
- 9. Resonance
- 10. Journal of Threatened Taxa
- 11. Plant Diversity

- 12. Global Change Biology
- 13. Ecological Engineering
- 14. Royal Society Open Science
- 15. Scientific Reports

## c) Research grant reviewer

- 1. Dept. of Science and Technology, Government of India, New Delhi
- 2. CEPF Small and Large Grants, CEPF- ATREE, Bangalore
- 3. ATREE Small Grants, ATREE, Bangalore

## d) Editor/Editorial Board member

Editorial Board member of Taprobanica – A journal of South Asian Natural History,
 Published from Sri Lanka (2009 onwards)

## e) Board of Studies member

- Member of Board of Studies, Dept. of Wildlife Management, Kuvempu University (2012 2015)
- Member of Board of Studies, Dept. of Zoology, St. Agnes College (Autonomus), Mangalore (2011- 2018)

#### **OUTREACH**

### Popular articles

- Abishekha, K., N.A. Aravind and T. Ganesh. 2011. Of hunter and the hunted. *Deccan Herald*, April 19, 2011.
- Abishekha, K., N.A. Aravind and T. Ganesh. 2010. Attention, young eco champs! *Deccan Herald*, July 22, 2010.
- 3. **Aravind N.A.** and N.A. Madhyastha. 2009. Of shells and slimes. *Hornbill*, July-September: 26-29.

## Press coverage of research published from my lab

- 1. Deccan Chronicle (Lantana)
- 2. The Hindu (Freshwater Molluscs)

- 3. iMint Journal (Taxonomy of amphibians)
- 4. Bangalore Mirror (New frog species)
- 5. Mogambay.com (New frog species)
- 6. Times of India (New mollusc species)
- 7. DNA (New mollusc species)
- 8. Nature India (Crowd Sourcing)
- 9. India Bioscience
- 10. Reader's Digest
- 11. Science
- 12. Down To Earth
- 13. Scroll.in

## c) TV /Radio interviews/talks given

- 1. Scroll.in (Twice)
- 2. Swarna News (Kannada News Channel)

### d) Workshops organised:

- 1. Co-organized: Workshop on Environment Education for the School Teachers, MM hills (February 2010)
- Co-organized: Workshop on Alien Invasive plants at MM hills (December, 2010) for Forest Guard and Watchers
- 3. Organized JTT Small Grantee's Workshop (July 22<sup>nd</sup> 2011)
- 4. Co-Coordinated **DNA club coordinator's workshop** (Dec 2010)
- Co-organized course on "Quantitative techniques in biodiversity assessment" at SRTM University, Nanded
- 6. Student Symposium on "Canopy Science" on 25<sup>th</sup> October 2009, as a pre-conference event of 5<sup>th</sup> International Canopy Conference

### e) ATREE Committees

- 1. Chair, Computer committee, Since January 2012
- 2. Member, Executive Committee, Since July 2016
- 3. **Member, Library Committee,** Since 2001.

- 4. **Member, Media Committee**, since June 2015
- 5. Member, ATREE Animal Ethics Committee, since February 2016
- 6. Member, CEPF Regional Implementation Team (RIT) since 2014
- 7. **Member, ATREE Small Grants Committee:** Successfully coordinated two rounds of Small Grants. I was involved in reviewing proposals, coordinating with Asst. Coordinator and Accounts in dispersing the money, reviewing the progress report, maintaining records etc.
- 8. Ex-Officio Member, Academic Committee: August 2009 to December 2011
- 9. Chair, Taskforce for Project Based PhD program: 2010
- 10. Member, CEPF Project evaluation committee
  - a. **CEPF**: Revived small (8 Proposals) and large grant proposal (6 proposals) for Western Ghats CEPF RIT
  - b. **CEPF**: Project Site Visit on behalf of CEPF RIT (2 visits)
  - c. **CEPF**: Project Review Committee Member at Kotagiri and Tinnelvely
  - d. **CEPF**: Final report evaluation (9 reports)

## f) Institutional events organized

- Canopy Conference: Coordinated talk by Dr. K.N. Ganeshaiah at Nandi Hills during Canopy Conference (Oct 2009)
- Canopy Conference: Co-organized, canopy photo contest during Canopy Conference (Oct 2009)
- 3. Coordinated: Jamshetji Tata Trust Small Grants Program through Academy, (2010)
- 4. **Coordinated:** 5 students from SDM Institute for Management Development, Mysore, visited ATREE from 8th to 18 March 2010 to complete their socially relevant project
- Talks on ATREE and Academy for various college/university/institute students during their visit

#### g) Others

- Assisted in developing MoU between ATREE and a) Natural History Museum, London and
   b) Gubbi Labs, Tumkur, Dec 2015.
- IUCN red list assessment: Assessed Red list status of 120 species of freshwater molluscs of India for IUCN. 2009-2010.

- 3. Founder and Moderator: ButterflyIndia Yahoo Group
- Founder and Moderator: SPAIS- A Citizen Science Initiative on Spotting Alien Invasive Species of India
- 5. Moderator: Frogs of India Facebook Page
- 6. Moderator: ATREE Facebook Page
- 7. Moderator: SPIAS- Spotting Alien Invasive Species Facebook Page
- 8. Moderator: InvertebratesIndia Facebook Page
- 9. Moderator: IBP Frogs Watch- A Citizen Science Initiative on Mapping Frogs of India

#### i) Contributions to India Biodiversity Portal

#### a) Distribution Maps

- 1. Aravind N.A. and Roshmi Rekha Sarma, 2015. *Achatina fulica*. ATREE, Bangalore (http://indiabiodiversity.org/map?layers=lyr 407 achatina fulica&title=Distribution)
- 2. Aravind N.A. and Roshmi Rekha Sarma, 2015. *Indrella ampulla*. ATREE, Bangalore (<a href="http://indiabiodiversity.org/map?layers=lyr">http://indiabiodiversity.org/map?layers=lyr</a> 408 indrella ampulla&title=Distribution)
- Aravind N.A. and Roshmi Rakha Sarma. 2016. Nasikabatachus sahyadrensis. ATREE,
   Bangalore
  - (<a href="http://indiabiodiversity.org/map?layers=lyr">http://indiabiodiversity.org/map?layers=lyr</a> 409 nasikabatrachus&title=Location)

### b) Species pages

1. Contributed 90 species pages on non-marine molluscs to India Biodiversity Portal

#### c) Observation interface

- 1. Contributed to observations interface in India Biodiversity Portal
- 2. Identification and moderation of different taxa in India Biodiversity Portal

#### **COLLABORATIONS**

#### International

- 1. Fred Naggs, Natural History Museum, London
- 2. David Reid, Natural History Museum, London
- 3. Barna Páll-Gergely, Shinshu University, Japan

#### **National**

- 1. Uma Shaanker, R. and K.N. Ganeshaiah, University of Agricultural Sciences, Bangalore
- 2. Rajashekhar K. Patil, Mangalore University, Mangalore
- 3. Arun Bhagwath, Yenapoya University, Mangalore
- 4. Gururaja K.V. and Sudhira H.S., Gubbi Labs, Gubbi, Tumkur
- 5. Subramanian K.A., Zoological Survey of India, Kolkata
- 6. Krushnamegh Kunte, National Centre for Biological Sciences, Bangalore
- 7. Praveen Karanth, Centre for Ecological Sciences, Bangalore
- 8. Karthick Balasubramanian, Agarkhar Research Institute, Pune