

# **CURRICULUM VITAE**

**Renee Maria Borges**  
**Centre for Ecological Sciences**  
**Indian Institute of Science**  
**Bangalore 560 012, India**

**DATE OF BIRTH:** 25 February 1959

## **POSITIONS HELD:**

- 1. Chairperson**  
2012 – 2016, Centre for Ecological Science, Indian Institute of Science, Bangalore, India
- 2. Professor**  
2011. Centre for Ecological Sciences, Indian Institute of Science, Bangalore, India
- 3. Associate Professor**  
2005. Centre for Ecological Sciences, Indian Institute of Science, Bangalore, India
- 4. Assistant Professor**  
1997 – 2005. Centre for Ecological Sciences, Indian Institute of Science, Bangalore, India
- 5. Deputy Director (Research)**  
1992-1995. Bombay Natural History Society, India
- 6. Visiting Faculty**  
1990-2003. Wildlife Institute of India, Dehradun, India.

## **EDUCATION:**

- 1. Ph.D. in Biology (Ecology, Evolution and Behaviour)**  
1989. University of Miami, Florida, USA  
Thesis title: "Resource heterogeneity and the foraging ecology of the Malabar Giant Squirrel *Ratufa indica*"
- 2. Master of Science in Zoology (Animal Physiology)**  
1982. Institute of Science, University of Bombay  
First Class
- 3. Bachelor of Science in Zoology and Microbiology**  
1979. St. Xavier's College, University of Bombay  
First Class with Distinction

## **AWARDS:**

1. J. C. Bose National Fellowship, DST, 2016
2. Elected Fellow of the Indian National Science Academy (INSA), 2016
3. Chairperson, DST-PAC, Animal Sciences (2016-2019)
4. Elected Fellow of the Indian Academy of Sciences, Bangalore, 2009.

## **PROFESSIONAL RECOGNITION:**

1. Elected Council Member, International Society of Chemical Ecology, 2015-
2. Chairperson, Program Advisory Committee (PAC) in Animal Sciences, Department of Science and Technology, Government of India, 2015-. This body review and recommends proposal for funding.
3. Member, Apex Committee for Northeastern Region (NER) Biotechnology Programmes, Department of Biotechnology, Government of India, 2013-
4. Member, Genetic Engineering Appraisal Committee, Ministry of Environment and Forests, Government of India, 2013-
5. Member, Board of Governors, National Institute of Technology, Goa. 2012-
6. Member of Western Ghats Ecology Expert Panel, Ministry of Environment and Forests, Government of India, 2010 (a special committee interacting with Members of Parliament of Western Ghat Constituencies and the Minister of Environment and Forests, GOI, to designate Ecologically Sensitive Areas in the Western Ghats where development will be controlled).
7. Member, Expert Group-A: Conservation and Sustainable Utilisation of Natural Resources, Ministry of Environment and Forests, Government of India. 2010-2012. This is a research advisory group to review research proposals on the Western and Eastern Ghats.
8. Member of group selected to write White Paper for Indian National Science Academy (INSA), New Delhi, on Vision for Indian Science (2010).
9. Recipient of the Sunderlal Baghai Gold Medal Award for Science, Rotary Club, Bangalore, 2005.
10. Elected to the Council of the Association of Tropical Biology (ATB) (2001-2003) – the only international association of scientists exclusively devoted to the study of tropical systems, based in USA. This association produces the widely read scientific journal *Biotropica*.
11. Given the “Outstanding Teaching Assistant” award of the College of Arts and Science, University of Miami, for 1987.

## **EDITORIAL SERVICES:**

- Editorial Board Member: *Journal of Chemical Ecology*, 2016–
- Editorial Board Member: *PLoS ONE*, 2014–
- Associate Editor, *Acta Oecologica*, 2008–2015
- Editor with Finn Kjellberg of Special Issue of *Acta Oecologica* (May 2014) on: Plant–insect mutualisms and their parasites: figs and fig wasps.
- Editorial Board Member, *Acta Oecologica*, 2016–
- Editorial Board Member, *Biotropica*, 2003–2007
- Editorial Board Member, *Journal of Biosciences*, 1997–
- Editorial Board Member, *Journal of the Indian Institute of Science*, 2008–

- Editor of Special Issue of Journal of Indian Institute of Science (January 2015) on: Plant Volatiles: Chemistry, Ecology and Evolution
- Editorial Board Member, Conservation and Society, 2001–2007

## **REVIEWER OF SCIENTIFIC PAPERS OF:**

1. Acta Oecologica
2. American Journal of Botany
3. American Naturalist
4. Animal Behaviour
5. Annals of Botany
6. Arthropod–Plant Interactions
7. Biodiversity and Conservation
8. Biological Journal of the Linnean Society
9. Biology Letters
10. Biotropica
11. Botany (National Research Council, Canada)
12. Conservation and Society
13. Conservation Biology
14. Current Science
15. Ecological Applications
16. Ecologia Experimentalis et Applicata
17. Ecology Letters
18. Ecology
19. Functional Ecology
20. Gayana Botanica
21. Heredity
22. Integrative Zoology
23. Journal of Biosciences
24. Journal of Chemical Ecology
25. Journal of the Bombay Natural History Society
26. Journal of Genetics
27. Journal of Insect Science
28. Journal of Theoretical Biology
29. Journal of Threatened Taxa
30. Journal of Tropical Ecology
31. Mammalia
32. Methods in Ecology and Evolution
33. Naturwissenschaften
34. Oecologia
35. Oikos
36. Oryx
37. Philippine Agricultural Scientist
38. Plant Biology
39. Plant Systematics and Evolution
40. PLoS One
41. Proceedings of Indian National Academy of Sciences
42. Resonance
43. Scientific Reports (Nature)

## **REVIEWER OF RESEARCH PROPOSALS FOR:**

### **International:**

1. National Science Foundation (NSF), USA
2. French National Research Agency
3. Springer Verlag (book proposal)
4. Elsevier (book proposal)
5. International Postdoc Fellowship Programme in Plant Sciences, Zurich-Basel Plant Science Centre
6. National Research Council of South Africa

### **National:**

1. Elsevier (book proposal)
2. Ministry of Environment and Forests
3. Council for Scientific and Industrial Research (CSIR)
4. Indo-US Science Forum, DST
5. Kothari Postdoctoral Scheme of UGC
6. University of Delhi
7. Department of Science and Technology (DST)
8. Department of Biotechnology (DBT)
9. University of Hyderabad
10. DBT Postdoctoral Fellowship programme

## **EXAMINER FOR:**

### **a) Ph.D theses at:**

- Salim Ali School of Ecology, Pondicherry
- Aligarh Muslim University
- Shivaji University, Kolhapur,
- Saurashtra University
- Indira Gandhi Forest Research Institute, Dehradun
- Bangalore University,
- University of Mysore

### **b) M. Sc. theses at:**

- Salim Ali School of Ecology, Pondicherry
- Wildlife Institute of India, Dehradun
- Agricultural University, Bangalore

### **c) Indian Forest Services Wildlife Diploma candidates (Wildlife Institute of India, Dehradun)**

## **OTHER ACADEMIC SERVICES:**

1. Member, Genetic Engineering Appraisal Committee (GEAC), MoEF & CC
2. Member, Apex Committee, DBT-North East Region
3. Council Member, International Society of Chemical Ecology
4. Member, DST-FIST Appraisal Committee
5. Member, Tata Innovation Fellowship Evaluation Committee (DBT)
6. Member of group selected to write White Paper for Indian National Science Academy (INSA), New Delhi, on Vision for Indian Science (2009)
7. Member, Post-graduate Board of Studies in Biosciences, University of Mysore, 2003-2005
8. Member, Evaluation Committee for School of Humanities, National Institute of Advanced Studies, Bangalore, 2007
9. Nominated Associate, National Institute of Advanced Studies, Bangalore, 2007
10. Invited Participant in Discussion meeting of Tiger Task Force, Wildlife Institute of India, Dehradun, 2007
11. Member, Search Committee for Council Members and President, Association for Tropical Biology, USA. 2002
12. Member, Search Committee for Chief Editor, Biotropica. 2002
13. Member, Local Organizing Scientific Committee, Association for Tropical Biology's Annual Meeting, 2001, held at Bangalore
14. Member, Program Advisory Committee in Animal Sciences, Department of Science and Technology, Government of India. 1995-1997
15. Member, Research Advisory Council, Worldwide Fund for Nature (WWF)-India. 2005 onwards
16. Member, Research Advisory Council, Ashoka Trust for Ecology and Environment (ATREE), Bangalore, 2004 onwards
17. Member, Examination Paper setting committee, CSIR NET examination, 2006
18. Member, Editorial board of "Hornbill" – a periodical published by the Bombay Natural History Society. 1994-1995
19. Member, Working Group for Conservation of Wild Animal Diversity, National Biodiversity Action Plan. Special focus on conservation of mutualisms. 2000-2003
20. Member, Steering Committee, Western Ghats Forum. 2002-present
21. Membership of Scientific Societies: a) Life member: Ethological Society of India and b) Life Member: International Union for the Study of Social Insects (Indian Chapter), c) Association for Tropical Biology and Conservation, d) American Association for Botany
22. Member, IUCN South Asian Invertebrate Specialist Group, 2003 onwards
23. Member, IUCN Declining Pollinator Task Force (based at University of Guelph, Canada), 2003 onwards
24. Member, IUCN Asian Rodent Specialist Group. 1991-1995
25. Consultant, Maharashtra State Forest Department. 1989 onwards
26. Independently wrote proposal for "Capacity Building of the Bombay Natural History Society under Capacity 21 of Agenda 21". Submitted to the Ministry of Environment and Forests. 1994. (subsequently this proposal was awarded to the Society)

27. Member, Advisory Committee, Indo-German project on sustainable development and conservation of biological diversity in sacred groves and catchment areas of dams in the Western Ghats of Maharashtra. 1991
28. Consultant to the Bronx Zoo, New York, on the captive management of the Malayan giant squirrel *Ratufa bicolor*. 1987
29. Section editor, Annelid Section, Encyclopedia of Indian Natural History, published for the Bombay Natural History Society by Oxford University Press. 1986

## **RESEARCH INTERESTS:**

### **Behavioural and Sensory Ecology within the context of Plant–Animal Interactions especially:**

- Ant–plant interactions
- Fig biology
- Evolution of sexual displays in plants
- Phytochemicals and their role in food selection by herbivores
- Ant-mimicking spiders and floral mimicry in crab spiders
- Fungus-farming in termites

### **Conservation biology especially:**

- Pollination in fragmented forests

### **History and philosophy of science especially:**

- Ethics and evolution

## **FIELD EXPERIENCE:**

- Western Ghats, Eastern Ghats, and Central India
- Costa Rica
- Panama

## **PUBLICATIONS:**

1. Borges, R.M., Somanathan, H., Kelber, A. 2016. Patterns and processes in nocturnal and crepuscular pollination. *The Quarterly Review of Biology*. 91(4): 389-418.
2. Borges, R.M. 2016. On the air: broadcasting and reception of volatile messages in brood-site pollination mutualisms. Pages 227-255 In *Deciphering Chemical Language of Plant Communication* (James D Blande, Robert Glinwood, Editors), Springer International Publishing.
3. Bain, A., Borges, R.M., Chevallier, M.H., Vignes, H., Kobmoo, N., Peng, Y.Q., Cruaud, A., Rasplus, J.Y., Kjellberg, F. and Hossaert-Mckey, M. 2016. Geographic structuring into vicariant species-pairs in a wide-ranging, high-dispersal plant–insect mutualism: the case of *Ficus racemosa* and its pollinating wasps. *Evolutionary Ecology* DOI 10.1007/s10682-016-9836-5

4. Hossaert-McKey, M., Proffit, M., Soler, C.C.L., Chen, C., Bessièrè, J.M., Schatz, B. and Borges, R.M., 2016. How to be a dioecious fig: Chemical mimicry between sexes matters only when both sexes flower synchronously. *Scientific Reports (Nature)*, 6:21236.
5. Kandasami, R.K., Borges, R.M. and Murthy, T.G., 2016. Effect of biocementation on the strength and stability of termite mounds. *Environmental Geotechnics* 3:99-113.
6. Borges, R. M. 2015. How to be a fig wasp parasite on the fig–fig wasp mutualism. *Current Opinion in Insect Science*, 8, 34–40.
7. Borges, R. M. 2015. Fruit and seed volatiles: multiple stage settings, actors and props in an evolutionary play. *Journal of the Indian Institute of Science*, 95, 93–104. (Special issue on Plant Volatiles edited by RM Borges)
8. Ranganathan, Y., Bessièrè, J. M. and Borges, R. M. 2015. A coat of many scents: Cuticular hydrocarbons in multitrophic interactions of fig wasps with ants. *Acta Oecologica*, 67, 24–33.
9. Borges, R. M. 2015. How mutualisms between plants and insects are stabilized. *Current Science* 108: 1862-1868.
10. Krishnan, A., Ghara, M., Kasinathan, S., Pramanik, G. K., Revadi, S. and Borges, R. M. 2015. Plant reproductive traits mediate tritrophic feedback effects within an obligate brood-site pollination mutualism. *Oecologia*, 179, 797–809.
11. Chanam, J., Kasinathan, S., Pramanik, G. K., Jagdeesh, A., Joshi, K. A. and Borges, R. M. 2015. Foliar extrafloral nectar of *Humboldtia brunonis* (Fabaceae), a paleotropical ant-plant, is richer than phloem sap and more attractive than honeydew. *Biotropica*, 47,1–5.
12. Krishnan, A., Pramanik, G. K., Revadi, S. V., Venkateswaran, V. and Borges, R. M. 2014. High temperatures result in smaller nurseries which lower reproduction of pollinators and parasites in a brood site pollination mutualism. *PLoS ONE*, 9, e115118.
13. Chanam, J., Sheshshayee, M. S., Kasinathan, S., Jagdeesh, A., Joshi, K. A. and Borges, R. M. 2014. Nutritional benefits from domatia inhabitants in an ant–plant interaction: interlopers do pay the rent. *Functional Ecology*, 28, 1107–1116.
14. Krishnan, A. and Borges, R. M. 2014. Parasites exert conflicting selection pressures to affect reproductive asynchrony of their host plant in an obligate pollination mutualism. *Journal of Ecology*, 102, 1329–1340.
15. Chanam J, Kasinathan S, Pramanik GK, Jagdeesh A, Joshi KA and Borges RM. 2014 Context dependency of rewards and services in an Indian ant–plant interaction: southern sites favour the mutualism between plants and ants. *Journal of Tropical Ecology* 30: 219–229.
16. Ghara, M., Y. Ranganathan, A. Krishnan, V. Gowda, and R. M. Borges. 2014. Divvying up an incubator: How parasitic and mutualistic fig wasps use space within their nursery microcosm. *Arthropod–Plant Interactions* 8:191–203
17. Borges, R. M., and Kjellberg, F. 2014. New insights from the fig–fig wasp model interaction system. *Acta Oecologica* 57: 3–4.
18. Krishnan, A., Joshi, K.A., Abraham A., Ayyub, S., Lahiry, M., Mukherjee, R., Javadekar, S.M., Narayan, V., and Borges R.M. 2014.

- Finding hidden females in a crowd: mate recognition in fig wasps. *Acta Oecologica* 57:80-87 [Special Issue on Fig–Wasp Interactions resulting from the VIII International Fig Symposium held at University of Sao Paulo, Ribeirao Preto, Brazil, 2012]
19. Borges, R.M. and Rao, M.K. 2014. The biology of giant squirrels: A census manual. Maharashtra Forest Department. In Marathi (translated from English). English edition expected soon.
  20. Borges, R.M. 2014. Review of: *Just Babies: The Origins of Good and Evil*. Paul Bloom, Crown Publishers, New York. *Current Science* 107:306-307.
  21. Borges, R.M. Bessièrè, J-M, and Ranganathan, Y. 2013. Diel changes in volatiles across fig syconium development: making sense of scents. *Journal of Chemical Ecology* 39:630-642.
  22. Borges, R.M. 2013. The Last Word on Evolution. BBC Knowledge Magazine, April issue.
  23. Shenoy, M., Radhika, V., Satish, S., Borges, R.M. 2012 Composition of extrafloral nectar influences interactions between the myrmecophyte *Humboldtia brunonis* and its ant associates. *Journal of Chemical Ecology* 38:88–99
  24. Ghara, M., Kundanati, L. and Borges, R. M. 2011 Nature’s Swiss army knives: ovipositor structure mirrors ecology in a multitrophic fig wasp community. *PLoS One* 6(8):e23642.
  25. Borges, R.M., Ranganathan, Y., Krishnan, A., Ghara, M, and Pramanik, G. 2011. When should fig fruit produce volatiles? Pattern in a ripening process. *Acta Oecologica* 37:611-618.
  26. Ranganathan, Y. and Borges, R.M. 2011. To transform or not to transform: that is the dilemma in the statistical analysis of plant volatiles. *Plant Signaling & Behaviour* 6:113–116 [Invited paper].
  27. Borges, R.M. 2011. Living long or dying young in plants and animals: ecological patterns and evolutionary processes. Invited Book Chapter in: *The Field of Biological Aging: Past, Present and Future* (Editor: Abdullah Olgun), Publisher: Transworld Research Network, Trivandrum, pp 61-82.
  28. Borges, R. M. 2011. The sacred in forests, trees and seeds: boon or bane of ecosystem services? Invited Book Chapter in: *Anthropology, Nutrition and Wildlife Conservation* (Editors: Edmond Dounias, Igor de Garine and Valérie de Garine), Publisher: Estudios del Hombre, University of Guadalajara (Mexico).
  29. Report of the Western Ghats Ecology Expert Panel (WGEEP), Submitted to the Ministry of Environment and Forests, Government of India, August 2011. Co-authored by Madhav Gadgil (Chairman, WGEEP), Renee M. Borges, and 14 other WGEEP members, Vol I (171 pp) and Vol II (351 pp).
  30. Dev, S. A., Kjellberg, F., Hossaert-McKey, M. and Borges, R.M. 2010. Fine-scale population genetic structure of two dioecious keystone species *Ficus hispida* and *F. exasperata*. *Biotropica* 43:309–316.
  31. Ranganathan, Y., Ghara, M. and Borges, R.M. 2010. Temporal association in fig–wasp–ant interactions: diel and phenological patterns. *Entomologia Experimentalis et Applicata* 137:50–61.
  32. Shenoy, M. and Borges, R.M. 2010. Geographical variation in an ant–



- plant interaction correlates with domatia occupancy, local ant diversity and interlopers. *Biological Journal of the Linnean Society* 100:538–551.
33. Krishnan, A., Muralidharan, S., Sharma, L., and Borges, R. M. 2010. A hitchhiker's guide to a crowded syconium: how do fig nematodes find the right ride? *Functional Ecology* 24:741–749.
  34. Ghara, M. and Borges, R. M. 2010. Comparative life-history traits in a fig wasp community: implications for community structure. *Ecological Entomology* 35:139–148.
  35. Dev, S.A., Shenoy, M. and Borges, R.M. 2010. Genetic and clonal diversity of the endemic ant-plant *Humboldtia brunonis* (Fabaceae) in the Western Ghats of India. *Journal of Biosciences* 35:267–279.
  36. Ranganathan, Y. and Borges, R. M. 2010. Reducing the babel in plant volatile communication: Using the forest to see the trees. *Plant Biology* 12:735–742.
  37. Borges, R.M. 2010. Ecological and environmental impacts of GM food: how should they be evaluated? In: *Proceedings of the Symposium on: Societal implications of genetically modified foods. Annual Congress of the Indian Academy of Social Sciences*. Pp. 16–26.
  38. Borges, R. M. 2010. The behaviour and ecology of the Malabar Giant Squirrel *Ratufa indica*. In: *Mammals of South Asia: Ecology and Conservation*. (A. J. T. Johnsingh and N. Manjrekar, editors). Universities Press, Hyderabad (in press).
  39. A draft vision document for Indian Science. 2010. Indian National Science Academy (INSA). Member of INSA Vision Group.
  40. Borges, R.M. 2010. Review of: *Spiders of India*. PA Sebastian and KV Peters (eds). *Current Science* 98:436–437.
  41. Somanathan, H. S., Warrant, E. J., Borges, R. M., Wallén, R., Kelber, A. 2009. Resolution and sensitivity of the eyes of the Asian honeybees *Apis florea*, *Apis cerana* and *Apis dorsata*. *Journal of Experimental Biology* 212: 2448–2453.
  42. Bhaskara, R. M., Brijesh, C M, Ahmed, S. and Borges, R. M. 2009. Perception of ultraviolet by crab spiders and its role in selection of hunting sites. *Journal of Comparative Physiology A* 195:409–417.
  43. Ranganathan, Y. and Borges, R.M. 2009. Predatory and trophobiont-tending ants respond differently to fig and fig wasp volatiles. *Animal Behaviour* 77: 1539–1545.
  44. Somanathan, H. S., Kelber, A., Borges, R. M., Wallén R., Warrant, E. J. 2009. Visual ecology of Indian carpenter bees II: adaptations of eyes and ocelli to diurnal and nocturnal lifestyles. *Journal of Comparative Physiology A* 195:571-583.
  45. Borges, R. M. 2009. Phenotypic plasticity and longevity in plants and animals: cause and effect? *Journal of Biosciences* 34:605–611.
  46. Borges, R. M. 2009. Organic evolution. Chapter 2 in *History of Science, Philosophy and Culture in Indian Civilization, volume XII Part 6: Life and Organicism*, edited by NS Rangaswamy. Centre for Studies in Civilizations, New Delhi, pp. 41–78.
  47. Borges, R.M. 2009 The excitement of colours and scents. Pp 59–62 in *Lilavati's Daughters* (eds: Rohini Godbole & Ram Ramaswamy), Indian Academy of Sciences, Bangalore.
  48. Borges, R. M. 2009. Revolutions in evolutionary thought: Darwin and

- after. *Resonance* 14:102–123.
49. Borges, R. M. 2009. Of pungency, pain and naked mole rats: chili peppers revisited. *Journal of Biosciences* 34:349–351.
  50. Borges, R. M, Bessi re, J-M, Hossaert-McKey M. 2008. The chemical ecology of seed dispersal in monoecious and dioecious figs. *Functional Ecology* 22: 484–493.
  51. Borges, R. M. 2008. The objection is sustained: A defence of the defense of beanbag genetics. *International Journal of Epidemiology* 37:451–454 [Invited Commentary].
  52. Somanathan, H., Borges, R. M., Warrant, E. J., Kelber, A. 2008a. Nocturnal bees learn landmark colours in starlight. *Current Biology* 18:R996–997.
  53. Somanathan, H, Borges, R. M., Warrant, E. J., and Kelber, A. 2008b. Visual ecology of Indian carpenter bees I: Light intensities and flight activity. *Journal of Comparative Physiology A* 194:97–107.
  54. Shenoy, M and Borges, R. M. 2008. A novel mutualism between an ant-plant and its resident pollinator. *Naturwissenschaften* 95:61–65.
  55. Borges, R. M. 2008. Plasticity comparisons between plants and animals: concepts and mechanisms. *Plant Signaling and Behavior* 3: 367–375 [Invited Review].
  56. Borges, R. M. 2008. Why are there so many giants, including giant squirrels, in the Old World tropics? *Current Science* 95:866–970 [Invited paper in Special Section on Arboreal Squirrels].
  57. Borges, R. M. 2008. Review of: *Annual Review of Entomology*. Vol. 52 (2007). M. R. Berenbaum, R. T., Card  and G. E. Robinson (eds). *Current Science* 95:675–677.
  58. Borges, R. M., Ahmed, S. and Prabhu, V. 2007. Male ant-mimicking salticid spiders choose between retreat silks of sympatric females: implications for pre-mating reproductive isolation. *Journal of Insect Behavior* 20:389–402.
  59. Somanathan, H., Mali, S., and Borges, R. M. 2007. Arboreal larder-hoarding in the tropical Indian giant squirrel *Ratufa indica*. *Ecoscience* 14:165–169.
  60. Proffit, M., Schatz, B., Borges, R. M. and Hossaert-McKey, M. 2007. Chemical mediation and resource partitioning in non-pollinating fig wasp communities. *Journal of Animal Ecology* 76:296–303.
  61. Vignes, H., Hossaert-McKey, M., Beaune, D., Fevre, D., Anstett, M.-C., Borges, R. M., Kjellberg, F. and Chevallier, M. H. 2006. Development and characterization of microsatellite markers for a monoecious *Ficus* species, *Ficus insipida*, and cross-species amplification among different sections of *Ficus*. *Molecular Ecology Notes* 6:792–795.
  62. Gaume, L., Shenoy, M., Zacharias, M. and Borges, R. M. 2006. Co-existence of ants and an arboreal earthworm in a myrmecophyte of the Indian Western Ghats: anti-predation effect of the earthworm mucus. *Journal of Tropical Ecology* 22: 1–4.
  63. Guru Prasad, B. R. and Borges, R. M. 2006. Searching on patch networks using correlated random walks: Space usage and optimal foraging predictions using Markov chain models. *Journal of Theoretical Biology* 240:241–249.

64. Schatz, B., Proffit, M., Rakhi, B. V, Borges, R. M. and Hossaert-McKey, M. 2006. Complex interactions on fig trees: ants capturing parasitic wasps as possible indirect mutualists of the fig/fig wasp interaction. *Oikos* 113:344–352.
65. Borges, R. M. 2006. Pictures at an exhibition: bees view Van Gogh's sunflowers. *Journal of Biosciences* 31:503–505.
66. Borges, R. M. 2006. Review of: *Annual Review of Entomology*. Vol. 51 (2005). M. R. Berenbaum, R. T. Cardé and G. E. Robinson (eds). *Current Science* 91:969–971.
67. Gaume, L., Zacharias, M., Grosbois, V. and Borges, R. M. 2005a. The fitness consequences of bearing domatia and having the right ant partner: experiments with protective and non-protective ants in a semi-myrmecophyte. *Oecologia* 145:76–86.
68. Gaume, L., Zacharias, M. and Borges, R. M. 2005b. Ant–plant conflicts and a novel case of castration parasitism in a myrmecophyte. *Evolutionary Ecology Research* 7:435–452.
69. Borges, R. M. 2005. Do plants and animals differ in phenotypic plasticity? *Journal of Biosciences* 30: 41–50.
70. Borges, R. M. 2005. Ernst Mayr and evolutionary biology: polemics and synthesis. *Current Science* 89:947–954.
71. Borges, R. M. 2005. Polemics and synthesis: Ernst Mayr and evolutionary biology. *Resonance* 10:21–33.
72. Borges, R. M. 2005. The frontiers of India's biological diversity. *Tropinet* 16:1–3.
73. Borges, R. M. 2005. Review of: *Pheromones and Animal Behaviour. Communication by Smell and Taste*. By Tristram D. Wyatt. Cambridge University Press, Cambridge UK, 2003. *Current Science*. 88: 826–828.
74. Somanathan, H., Borges, R. M. and V. S. Chakravarthy. 2004. Does neighbourhood floral display matter? Fruit set in carpenter bee-pollinated *Heterophragma quadriloculare* and beetle-pollinated *Lasiosiphon eriocephalus*. *Biotropica* 36:139–147.
75. Mali, S. and Borges, R. M. 2003. Phenolics, alkaloids, saponins, and cyanogenic glycosides in a species-poor cloud forest in India. *Biochemical Systematics and Ecology* 31: 1221–1246.
76. Borges, R. M., Gowda, V. and Zacharias, M. 2003. Butterfly pollination and high-contrast visual signals in a low-density distylous plant. *Oecologia* 136:571–573.
77. Michener, C. D., Borges, R. M., Zacharias, M. and Shenoy, M. 2003. A new parasitic bee of the genus *Braunsapis* from India (Hymenoptera: Apidae: Allodapini). *Journal of the Kansas Entomological Society* 76:518–522.
78. Borges, R. M. 2003. Conservation of pollinator services in rain forests. In: *Conservation of Rainforests in India* (A. K. Gupta, A. Kumar and V. Ramakantha, editors). Chapter 16; pp 229–242; ENVIS Publication, Wildlife Institute of India.
79. Borges, R. M. 2003. The anatomy of ignorance or Ecology in a fragmented landscape: do we know what really counts? Pp. 56–85 in *Battles Over Nature. Science and the Politics of Conservation*. V. Saberwal and M. Rangarajan, editors. Permanent Black, New Delhi.

80. Borges, R. M. 2003. Review of: *Return of the Crazy Bird – The Sad Strange Tale of the Dodo*. C. Pinto-Correia. Springer-Verlag, New York. Current Science 85:1090–1093.
81. Borges, R. M. 2002. Stephen Jay Gould: A view of life. 1941–2002 Resonance 7:2–5.
82. Borges, R. M. 2002. Warring ants: Lessons from Lanchester’s laws of combat? Journal of Biosciences 27:75–78.
83. Borges, R. M. 2002. Review of: *Annual Review of Entomology*. Vol. 46 (2001). M. R. Berenbaum, R. T. Cardé and G. E. Robinson (eds). Current Science 82:97–99.
84. Somanathan, H. and Borges, R. M. 2001. Nocturnal pollination by the carpenter bee *Xylocopa tenuiscapa* (Apidae) and the effect of floral display on fruit set of *Heterophragma quadriloculare* (Bignoniaceae) in India. Biotropica 33:78–89.
85. Borges, R. M. 2001. Ant and human farmers face similar problems. Journal of Biosciences 26:121–124.
86. Borges, R. M. 2001. Why are chillies pungent? Journal of Biosciences 26:289–291.
87. Somanathan, H. and Borges, R. M. 2000. Influence of exploitation on population structure, plant spacing and reproductive success in dioecious tree species within a fragmented cloud forest in India. Biological Conservation 94:243–256.
88. Borges, R. M. 2000. The anatomy of fragmentation. Journal of the Indian Institute of Science 80:601–608.
89. Borges, R. M. 2000. Feverish honeybees. Journal of Biosciences 25:215–216.
90. Borges, R. M. 2000. How asymmetrical before it’s asymmetrical? Journal of Biosciences 25:121–122.
91. Borges, R. M. 2000. Review of: *Levels of Selection in Evolution*. L. Keller (editor). Princeton University Press, 1999. Current Science 79:383–385.
92. Borges, R. M. 2000. Review of: *Ecology – A Pocket Guide*. Ernest Callenbach. Universities Press (India) Ltd, 1999. Resonance 5:99–102.
93. The Status, Ecology and Conservation of the Malabar Giant Squirrel *Ratufa indica*. 1999. Prepared with S. Mali and H. Somanathan. United States Fish and Wildlife Service and Wildlife Insitute of India.
94. Borges, R. M. 1999. Review of: *The Ecology and Evolution of Inducible Defenses*. Ralph Tollrian and C. Drew Harvell (editors). Princeton University Press, 1999. Current Science 77:825–826.
95. Borges, R. M. 1998. Leviathan, natural selection, and ethics. Current Science 74:750–758.
96. Borges, R. M. 1998. Spatiotemporal heterogeneity of food availability and dietary variation between individuals of the Malabar Giant Squirrel *Ratufa indica*. In: *Ecology and Evolutionary Biology of Tree Squirrels* (J. F. Merritt and D. A. Zegers, editors). Special Publication, Virginia Museum of Natural History, USA. Pp. 99–111.
97. Borges, R. M. 1998. Gender in plants. Part II. More about why and how plants change sex. Resonance 3:30–39.
98. Borges, R. M. 1998. Gender in plants. Part I. Why do plants change

- sex? *Resonance* 3:64–71.
99. Borges, R. M. 1998. Clonal versus sexual fish – who wins? *Journal of Biosciences* 23:166-167.
  100. Borges, R. M. 1998. One size does not fit all (caveats for conservation from the Bhimashankar Wildlife Sanctuary). *Seminar* 466:31–36 (Special issue on Indian wildlife).
  101. Borges, R. M. 1998. Review of: *Evolutionary Ecology of Freshwater Animals: Concepts and Case Studies*. B. Streit, T. Städler and C. M. Lively (editors), Birkhäuser Verlag, 1997. *Current Science* 75:628–630.
  102. Borges, R. M., Somanathan, H. and Mali, S. 1997. Alternations of sexes in a deciduous tree: temporal dioecy in *Bridelia retusa*. *Current Science* 72:940–944.
  103. Borges, R. M. 1997. Ethics and evolution: Thomas Henry Huxley and the problem of evil. In: *Proceedings of the National Seminar on Bioethics. Indian Perspectives*. Organised by the Indian Council of Philosophical Research and the Department of Philosophy, Goa University. Pp. 61–66.
  104. Borges, R. M. 1997. *Evolution – the story of life*. National Council for Science and Technology, New Delhi.
  105. Borges, R. M. 1996. Contributions to the identification, distribution, and ecology of some Indian species of endangered mammals. (I. Mallik, editor). *TRAFFIC-India Identification Manual*, WWF (India), New Delhi.
  106. Borges, R. M. 1996. Joint management of Bhimashankar Wildlife Sanctuary. In: *Towards Participatory Conservation in India*. (A. Kothari, N. Singh, and S. Suri, editors). Sage Publications, New Delhi. Pp. 151–166.
  107. Endangered rodents of India. 1994. Prepared with Ishwar Prakash and V. C. Agarwal for IUCN's Asian Rodent Specialist Group.
  108. Borges, R. M. 1994. Review of: *Mammals of the Thar Desert*. I. Prakash. Scientific Publishers, Jodhpur, 1994. *Hornbill*.
  109. Borges, R. M. 1994. Review of: *Indian Birds*. R. K. Gaur. Brijbasi Printers, New Delhi. *Hornbill*.
  110. Borges, R. M. 1993. Figs and Malabar Giant Squirrels in two tropical forests in India. *Biotropica* 25:183–190.
  111. Conservation Problems of the Mookambika Wildlife Sanctuary, Dakshin Kannada, Karnataka. 1993. Invited report prepared for the Karnataka Forest Department.
  112. Status of the Indian Giant Squirrel and its associated forests. 1993. Submitted to Forest Departments of Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra and Tamil Nadu.
  113. Borges, R. M. 1993. Review of: *The Discovery of Evolution*. D. Young. British Museum of Natural History. *Journal of the Bombay Natural History Society*.
  114. Borges, R. M. 1992. A nutritional analysis of foraging in the Malabar Giant Squirrel (*Ratufa indica*). *Biological Journal of the Linnean Society* 47:1–21.
  115. Borges, R. M. 1992. Biodiversity conservation in the sacred groves of Bhimashankar Wildlife Sanctuary – a need for research and scientific management. In: *Proceedings of the Consultation/Workshop on*

- Biodiversity Conservation in the Western Ghats. Centre for Ecological Sciences, Indian Institute of Science and WWF-India. Pp. 130–140.
116. People/Wildlife Conflicts: The Bhimashankar Wildlife Sanctuary as a case study. 1992. Submitted to WWF-India and the Bombay Natural History Society.
  117. Borges, R. M. 1990. Sexual and site differences in calcium consumption by the Malabar Giant Squirrel *Ratufa indica*. *Oecologia* 85:80–86.
  118. Rane, U. V. and Borges, R. M. 1987. Sighting of the Blackcrested Baza (*Aviceda leuphotes*) at Bhimashankar. *Journal of the Bombay Natural History Society* 84:679.
  119. Borges, R. M. 1987. Review of: *The Fall of a Sparrow*. S. Ali. Oxford University Press. Florida Field Naturalist.
  120. Borges, R. M. 1986. On the occurrence of the Ceylon Frogmouth (*Batrachostomus moniliger*) in North Kanara, Karnataka. *Journal of the Bombay Natural History Society* 83:200.
  121. Borges, R. M. 1986. Possible play between the Indian Giant Squirrel (*Ratufa indica*) and the Common Langur (*Presbytis entellus*). *Journal of the Bombay Natural History Society* 83: 197.
  122. Borges, R. M. 1986. Predation attempt by the black eagle (*Ictinaetus malayensis* perniger) on the Indian Giant Squirrel (*Ratufa indica* elphinstonei). *Journal of the Bombay Natural History Society* 83 (Suppl.): 203.

## **SYMPOSIUM ORGANISATION:**

1. Organised a Symposium on **Vertebrate–Plant Interactions in a Changing Climate**, June 2011, Annual Meeting of the Association of Tropical Biology and Conservation, Arusha, Tanzania.
2. Organised a Workshop on “**Asking the Right Question**” for Young Ecologists Talk and Interact (YETI) conference, IISc, Bangalore 2010.
3. Organised an International Workshop on **Nocturnal Pollination: Patterns and Processes**, March 23<sup>rd</sup> -27<sup>th</sup> 2009, Indian Institute of Science, Bangalore.
4. Organised a National Workshop on Critical Tiger Habitat and Critical Wildlife Habitats, May 8<sup>th</sup> – 9<sup>th</sup> 2008, Indian Institute of Science, Bangalore.
5. Organised symposium in the First Conference of the Asian Chapter of the Association for Tropical Biology and Conservation, Mahabalipuram, on “Averting Biodiversity Meltdown in the Asian Tropics”, March 2007.  
**Symposium title: Endangered Ecosystem Services.**
6. Organised symposium in the Second Western Ghats Forum Conference on “Integrating Science and Management of Biodiversity in the Western Ghats”, Coimbatore. **Symposium title: Ecosystem Services.**
7. Organised a symposium in the International Annual meeting of the

Association for Tropical Biology, Bangalore, 2001. **Symposium title: Mammal–plant Interactions.** 6 speakers: 3 US speakers representing work from Mexico, Africa, Brazil; 1 French speaker representing work from French Guyana; and 2 Indian participants.

### **SEMINARS AND WORKSHOPS (Selected):**

1. M. Hossaert-McKey, M. Proffit, C.C.L. Soler, C. Chen, J-M.Bessière, B. Schatz , & R.M. Borges. 2016. “How to be a dioecious fig: chemical mimicry between sexes matters only when both sexes flower synchronously”. Poster presentation at Gordon Research Conference on Plant Volatiles: Diversity of Targets, Effects and Applications of Plant Volatiles at Ventura Beach Marriott, Ventura, CA United States.
2. Venkateswaran, V, Srivastava, A., Kumble, A. & Borges, R. M. 2016. “Fast and slow fig wasps” How to move across microcosms in a fig wasp community” . Oral presentation at the IX International Fig Symposium, CEFE, CNRS Campus, France
3. Borges, R.M. 2016. “Deciphering a chemical code: Host location mechanisms in non-pollination fig wasps” Oral presentation at the 53<sup>rd</sup> Annual Meeting of the Association for Tropical Biology and Conservation (ATBC), Le Corum, Montpellier, France.
4. Borges, R.M. 2016. “A multiplicity of galls: How do so many galler wasp species co-exist within a fig microcosm?”. Oral presentation at the ICE 2016 XXV International Congress of Entomology, Orlando, Florida, USA.
5. Katariya, L., Ramesh, P. and Borges, R.M. 2015. Sniffing out the enemy: how termites recognise their mutualistic and parasitic fungi. Talk at 31st Annual Meeting of the International Society of Chemical Ecology, Stockholm.
6. Borges, R.M. 2015. A multiplicity of interactions in the network between figs and wasps. **Premier Presentation** at Annual Meeting of the Entomological society of America, Minneapolis, Minnesota.
7. Yadav, P., and Borges, R. M. 2014. The sensory ecology of fig wasp ovipositors. Invited talk in Symposium on Floral, Fruit and Seed Volatiles at Gordon Research Conference on Plant Volatiles, Ventura, California
8. Chhaya, K. and Borges, R.M. 2013. What do flowers of an Indian seasonal cloud forest look like to bees? Talk at Third International Conference on Invertebrate Vision, Sweden.
9. Borges, R. M. and Ghara, M. 2012. Ovipositor structure mirrors ecology in a multitrophic fig wasp community. Invited talk at VIIIth International Fig Symposium, University of Sao Paulo, Ribeiro-Preto, Brazil.
10. Chanam, J, Kasinathan S, Jagdish, A, Jogdev, K, and Borges, R.M. 2012. Ants, non-ants and housing rent: interactions of a myrmecophyte host with its

non-protective tenants. Talk presented at 8<sup>th</sup> International Conference of Applications of Stable Isotope Techniques to Ecological Studies (ISOECOL), Brest, France. PhD student Joyshree Chanam was **awarded 2<sup>nd</sup> prize** for her talk.

11. Borges, R.M. and Ranganathan, Y. 2012. Can physicochemical, biochemical, and psychophysical factors explain developmental and diel variation in fig volatiles? Invited talk in Symposium on Floral, Fruit and Seed Volatiles at Gordon Research Conference on Plant Volatiles, Ventura, California
12. Borges, R.M. 2012. Foraging dilemmas in the Indian Giant Squirrel *Ratufa indica*. **Plenary talk** at 6<sup>th</sup> International Colloquium on Tree Squirrels at Kyoto, Japan
13. Borges, R.M. and Ranganathan, Y. 2011. Diel variation in fig volatiles across syconium development: the right scents at the right time? Invited talk in Symposium on Volatiles in Forest Ecosystems at 27<sup>th</sup> Annual Meeting of the International Society of Chemical Ecology (ISCE), Simon Fraser University, Burnaby, Vancouver, Canada. July 2011.
14. Borges, R.M. 2011. Vertebrate–Plant Interactions: Past (Adaptation), Present (Ecology) and Future (Evolution). Talk in Symposium on Vertebrate–Plant Interactions in a Changing Climate. June 2011, Annual Meeting of the Association of Tropical Biology and Conservation, Arusha, Tanzania.
15. Borges, R.M., Ranganathan, Y., Krishnan, A., Ghara, M., and Pramanik, G. 2010 When should fig fruit produce volatiles? Pattern in a ripening process. **Plenary talk** at Conference on Frugivores and Seed Dispersal: Mechanisms and Consequences of a Key Interaction for Biodiversity, Montpellier, France.
16. Borges, R.M., Krishnan, A., Muralidharan, S., and Sharma, L. 2010. Tritrophic interactions in a changing climate: Potential impact on phoretic nematodes in the fig/fig wasp mutualism. Invited Talk in Symposium on Mutualism in a Changing Climate. Annual Meeting of Association for Tropical Biology and Conservation, Bali, Indonesia
17. Kundanati, L., Ghara, M., Borges, R.M., Sane, S. and Gundiah N. 2010. Micromechanics of insect boring during oviposition. Poster presented at 6<sup>th</sup> World Congress on Biomechanics, Singapore.
18. Ranganathan Y and Borges R. M. 2009. Reducing the babel in plant volatile communication: using the forest to see the trees. Poster presented at Gordon Research Conference on Floral and Vegetative Volatiles, Oxford, UK.
19. Borges R. M. 2008. The scent of a fig: how do birds, bats, wasps and ants like it? **Plenary** lecture delivered at Annual Meeting of the Association for Tropical Biology and Conservation (ATBC), Paramaribo, Suriname



20. Borges R. M. 2008. Ultraviolet perception in crab spiders. Second International Conference on Invertebrate Vision, Sweden, and at Pan-Asian Conference on Photobiology, Benares Hindu University, Varanasi.
21. Borges R. M., Ghara M, Krishnan A, Muralidharan S and Ranganathan Y 2008. Chemical signaling and evolutionary conflicts in an ancient nursery pollination system: mutualists, parasites, predators, and hitchhikers in fig/wasp interactions. Paper presented at Conference on Plant Life Through the Ages at Birbal Sahni Institute of Paleobotany, Lucknow.
22. Borges, R. M. 2008. The chemical ecology of seed dispersal in monoecious and dioecious figs: role of plant volatiles. UGC sponsored Biovistas Conference on Plant Sciences, St Joseph's College, Bangalore
23. Somanathan, H, Borges, R. M., Kelber A., and Warrant, E. 2008. Orientation to artificial landmarks and colour discrimination in a nocturnal carpenter bee in India. Paper presented at conference on: Orientation and Navigation. Birds, humans and other animals. Organised by Royal Institute of Navigation, University of Reading, UK.
24. Borges, R. M. 2007. Comparative longevity of a fig wasp community. Paper presented at VIII Annual Discussion Meeting in Entomology: Facets of Cecidology: Intricacies of Insect-plant interactions (Birth centenary celebrations of MS Mani), December, Chennai, India
25. Borges, R. M. 2007. Revisiting differences in phenotypic plasticity between plants and animals. Paper presented at International Conference on Phenotypic and Developmental Plasticity, organized by Vidyanand Nanjundiah, Stuart Newman, and Rajiv Gandhi Institute of Biotechnology, December, Trivandrum, India
26. Borges, R. M, Bessi re, J-M, Hossaert-McKey, M. 2007. Scents to attract and to repel: The volatiles of seed-bearing and pollinator-breeding dioecious figs. Presented at Gordon Conference on Floral & Vegetative Volatiles. Les Diablerets, Switzerland, October 2007.
27. Ghara, M. and Borges, R. M. 2007. Comparative longevity of a fig wasp community: parasitoids live longer. Poster presented at X European Workshop on Insect Parasitoids, September, Sicily, Italy.
28. Ranganathan, Y and Borges, R. M. 2007. Eavesdropping ants in an obligate insect-plant mutualism. Poster presented at 23<sup>rd</sup> Meeting of the International Society of Chemical Ecology. Jena, Germany. July 2007
29. Somanathan, H., Kelber, A., Warrant, E. J. and Borges, R. M. 2007. Nest specificity and pollen utilization by carpenter bees in India. Paper presented at Annual Meeting of the Association for Tropical Biology and Conservation (ATBC), Mexico. July 2007

30. Somanathan, H., Kelber, A., Warrant, E. J. and Borges, R. M. 2007. Visual ecology of Indian carpenter bees. Poster presented at Eighth International Congress of Neuroethology, Vancouver, Canada. July 2007
31. Borges, R. M. 2007. The sacred in forests, trees and seeds: boon or bane of ecosystem services? Paper presented in First Conference of the Asian Chapter of the Association for Tropical Biology and Conservation, Mahabalipuram, on "Averting Biodiversity Meltdown in the Asian Tropics", March 2007.
32. Borges, R. M. 2006. Chemical mediation of mutualism and parasitism: examples from figs and ant-plants. Paper presented at Workshop on Proteomic Insights into Plant-insect Interactions. Max-Planck Society-India Partnership Program, National Chemical Laboratory, Pune, December 2006.
33. Somanathan, H. S., Kelber, A., Warrant, E. J., and Borges, R. M. 2006. Divided, we don't fall: partitioning of time and food resources in a carpenter bee community in India. Paper presented at Annual Meeting of the Association for Tropical Biology and Conservation (ATBC), Chinese Academy of Sciences, Kunming, China, July 2006
34. Shenoy, M, Radhika, V, and Borges, R. M. 2006. The evolution of myrmecophytism: spatial variation in ant partners and in chemical composition of ant rewards in the unspecialized myrmecophyte *Humboldtia brunonis*. Paper presented at Annual Meeting of the Association for Tropical Biology and Conservation (ATBC), Chinese Academy of Sciences, Kunming, China, July 2006
35. Borges, R. M., Hossaert-McKey, M. and Bessièrè, J-M. 2006. Bird- versus mammal-dispersed figs: do they differ in dispersal-phase volatile organic compounds? Paper presented at Seventh International Symposium on Fig-Fig Wasp Biology, Chinese Academy of Sciences, Xishuangbanna Botanical Garden, China, July 2006
36. Hossaert-McKey, Bessièrè, J-M., Profitt, M., Chen C. and Borges, R. M. 2006. Pollinator attraction and intersexual mimicry in dioecious fig species. Paper presented at Seventh International Symposium on Fig-Fig Wasp Biology, Chinese Academy of Sciences, Xishuangbanna Botanical Garden, China, July 2006
37. Borges, R. M. 2006. Why do giants occur in the Old World? **Plenary** talk delivered at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Coimbatore, February 2006.
38. Borges, R. M., Guru Prasad, B. R., Mali, S., and H. Somanathan. 2006. How do foraging path statistics in the Malabar Giant Squirrel, *Ratufa indica*, vary across timescales? A comparison of consecutive day variation with long-term variation. Paper presented at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Bangalore.

39. Guru Prasad, B. R., Mali, S., Somanathan, H. and Borges, R. M. 2006. Detecting central place bias in the foraging movements of Malabar Giant Squirrels: Insights from vector field analysis. Paper presented at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Bangalore.
40. Guru Prasad, B. R., Mali, S., Somanathan, H. and Borges, R. M. 2006. Power-law disparities in tree usage by the Malabar Giant Squirrel, *Ratufa indica*: Some trees in the territory are much more important than others. Paper presented at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Bangalore.
41. Somanathan, H., Mali, S. and Borges, R. M. 2006. Home range size and territory overlap in the Malabar giant squirrel, *Ratufa indica*, in relation to fruit availability. Paper presented at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Bangalore.
42. Somanathan, H., Mali, S. and Borges, R. M. 2006. Intraspecific variability in seed hoarding behaviour in the Malabar giant squirrel (*Ratufa indica*) correlates with small-scale habitat disturbance: implications for conservation. Paper presented at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Bangalore.
43. Mali, S., Somanathan, H., and Borges, R. M. 2006. Variation in phytochemicals within classes of food items and its influence on food selection by the Malabar Giant Squirrel *Ratufa indica*. Paper presented at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Bangalore.
44. Mali, S., Somanathan, H., and Borges, R. M. 2006. An endangered tree squirrel caught between insensitive forest management and research neglect: the importance of lianas to giant squirrels. Paper presented at Fourth International Tree Squirrel Colloquium, India. Organised by National Institute of Advanced Studies, Bangalore.
45. Somanathan, H. and Borges, R. M. 2005. Insect pollination services in natural and semi-natural landscapes is affected by pollinator type and inter-plant distance. Paper presented at Second Western Ghats Forum Conference on "Integrating Science and Management of Biodiversity in the Western Ghats", Coimbatore, India
46. Borges, R. M. 2005. To be or not to be (plastic): Is this **the** question? Implications for plant resistance. Paper presented at VI Discussion Meeting on: Emerging Technologies and Resistance Dynamics in Insects and Crop Plants, COSTED, Chennai, India
47. Shenoy, M. and Borges, R. M. 2005. Latitudinal variation in ant-plant characters in the semi-myrmecophyte *Humboldtia brunonis* (Fabaceae) in

- India. Paper presented at Annual meeting of the Association for Tropical Biology and Conservation, Uberlandia, Brazil.
48. Shenoy, M. and Borges, R. M. 2005. How do utilization of sugars and amino acids by ant communities relate to extrafloral nectar compositions of a myrmecophyte? Poster presented at the 21<sup>st</sup> Annual Meeting of the International Society for Chemical Ecology, Washington DC
  49. Borges, R. M. 2005. From functional ecosystems to the valuation of natural products: the gaps in our knowledge. Paper presented at conference on Biodiversity: Science and Governance, organized by the French Ministry of Research in collaboration with UNESCO, Paris
  50. Hossaert-McKey, M. and Borges, R. M. 2004. Pollinator attraction and intersexual mimicry in dioecious fig species. Paper presented at Symposium on Insect-Plant Interactions, 20th Annual meeting of the International Society of Chemical Ecology, Berlin
  51. Borges, R. M., Mali, S. and Somanathan, H. 2004. Fruit resource attributes and aggression at fruiting trees in the Malabar giant squirrel *Ratufa indica* within a fragmented cloud forest in India. Workshop on Seed Dispersal and Frugivory in Asia. Kunming, China, Organised by the Chinese Academy of Sciences
  52. Borges, R. M. 2003. Do plants and animals differ in phenotypic plasticity? Discussion meeting on Genetic Determinism, Pelling, Sikkim. Organised by Vidyanand Nanjundiah, sponsored by the Indian Academy of Sciences, and the Wellcome Trust.
  53. Borges, R. M. 2003. The Idea of Symbiosis. Presented in the History of Ideas Series conducted by the National Institute of Advanced Studies, Bangalore.
  54. Prasad, B. R. G. and Borges, R. M. 2003. The consequences of walking on a graph: the case of the Malabar Giant Squirrel, *Ratufa indica*. 1) Annual Meeting of the Society for Mathematical Biologists, Dundee, UK, and 2) Second Alcala International Conference on Mathematical Ecology, Alcala, Spain.
  55. Veena, C. P. and Borges, R. M. 2003. Looking for cryptic species: male response to female silks in ant-mimicking salticid spiders in India. Annual meeting of Association for Tropical Biology and Conservation and Special Symposium of British Ecological Society, University of Aberdeen, UK.
  56. Gaume, L., Zacharias, M. and Borges, R. M. 2002. Castration parasitism in a plant ant and roles of morphological devices against plant-ant conflicts. In Symposium entitled: Funktionelle Aspekte der Evolution der Pflanzen (Functional aspects of evolution in plants) in Botanikertagung: Conference of the Deutsche Botanische Gesellschaft (German Botanical Society), Freiburg i. Br. (Germany), September 2002.

57. Borges, R. M., Zacharias, M. and Shenoy, M. 2002. Ant diversity in two sites dominated by the myrmecophyte *Humboldtia brunnonis* in India. Paper presented at: International Conference on Tropical Forests: Past, Present and Future; Annual meeting of the Association for Tropical Biology, Panama City, Panama.
58. Borges, R. M. 2001. The biology of laughter. Paper presented at: International Conference on Science and Metaphysics, National Institute of Advanced Studies, Bangalore.
59. Borges, R. M. Plant-animal interactions: through the looking glass. Paper presented at: Workshop on Research Priorities in Rainforest Fauna, Salim Ali School of Ornithology and Natural History and State Forest College, Coimbatore.
60. Borges, R. M., Gowda, V. and Zacharias, M. 2001. Effect of bract removal on visitation to the flowers of *Mussaenda frondosa* by the southern birdwing butterfly *Troides minos*. Poster presented at: International Conference on Invertebrate Vision, Sweden, organized by University of Lund, Sweden.
61. Borges, R. M., Talwar, M. and Zacharias, M. 2001. Retreat or die: the perils of mimicry when the model preys on the mimic. Paper presented at: 27th International Ethological Conference, Tuebingen, Germany.
62. Borges, R. M. and Mali, S. 2001. Hotspots in nutrient landscapes and herbivory by giant squirrels in an Indian seasonal cloud forest. Pages 485-488 in *Tropical Ecosystems: Structure, Diversity and Human Welfare*. K.N. Ganeshiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi.
63. Gowda, V., Zacharias, M. Vishveshwara, and Borges, R. M. 2001. Do 'pollinator flags' aid in floral visitation in *Mussaenda frondosa*? Pages 207-210 in *Tropical Ecosystems: Structure, Diversity and Human Welfare*. K.N. Ganeshiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi. (V. Gowda won the 'Best Poster Award')
64. Shenoy, M. and Borges, R. M. 2001. Is the richome-rich leaf surface of the aggressive weed *Broussonetia papyrifera* (paper mulberry) a successful means of impeding herbivores? Pages 473- 476 in *Tropical Ecosystems: Structure, Diversity and Human Welfare*. K.N. Ganeshiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi.
65. Somanathan, H., Mali, S. and Borges, R. M. 2001. Effect of tree stratum on flowering synchrony in a seasonal cloud forest in the Bhimashankar Wildlife Sanctuary, India. Pages 750-753 in *Tropical Ecosystems: Structure, Diversity and Human Welfare*. K.N. Ganeshiah, R. Uma Shaanker and K. S. Bawa

- (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi.
66. Talwar, M., Zacharias, M., Gowda, V., Kapoor, V., Raychaudhuri, S., Sridhar, H., Lokhandwala, Z. and Borges, R. M. (2001). Understanding ant-avoidance behaviours in the myrmecomorphic spider *Myrmarachne plataleoides*, mimic of the weaver ant *Oecophylla smaragdina* Pages 649-653 in Tropical Ecosystems: Structure, Diversity and Human Welfare. K.N. Ganeshiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi.
  67. Zacharias, M., Gaume, G, and Borges, R. M. (2001). How effective are ants in protecting the myrmecophyte *Humboldtia brunonis* (Fabaceae) against herbivory? Pages 645-648 in Tropical Ecosystems: Structure, Diversity and Human Welfare. K.N. Ganeshiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi.
  68. Invited lecture in one-day symposium to commemorate Stephen Jay Gould. Organized by Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), at Jakkur, August 2002. Lecture title: Stephen Jay Gould: A View of Life.
  69. Participant in Discussion Meeting on the Origin and Evolution of Life, Organised by V. Nanjundiah, sponsored by Indian Academy of Sciences, Bangalore, at Coorg, December 2000
  70. Invited speaker in symposium on Behavioural Ecology at XXVI International Conference on Ethology. Presented paper entitled "Insect-plant interactions and the evolution of plant secondary sexual characters". August, 1999, Bangalore
  71. Invited speaker at National Seminar for Wildlife, Wildlife Institute of India. Participated in debate on "Whither conservation research in India?". August, 1998, Dehradun.
  72. Discussion Meeting titled "Concepts and Models in Developmental Biology". Sponsored by DST and organised by Prof. V. Nanjundiah, IISc. Gave lecture entitled "The development of bird song". April, 1998, Nainital.
  73. III Congress of the International Union for the Study of Social Insects (IUSSI, Indian Chapter) and National Symposium on Diversity of Social Insects and Other Arthropods and the Functioning of Ecosystems. Presented paper with H. Somanathan entitled "Effect of floral display and carpenter bee visitation and fruit set in *Heterophragma quadriloculare* (Bignoniaceae)". H. Somanathan received the award for the "Best Paper Presentation". March, 1998, Mudigere.
  74. Participant in workshop titled "Natural Resource Monitoring with GIS and Remote Sensing". Organised by K. N. Ganeshiah and R. Uma Shaanker for

the Ashoka Trust for Research in Ecology and Environment. December, 1997, Bangalore.

75. National Seminar on Bioethics: Indian Perspectives. Organised by the Indian Council of Philosophical Research and the Department of Philosophy, Goa University. Presented paper entitled "Ethics and evolution: Thomas Henry Huxley and the problem of evil". November, 1997, Goa.
76. Invited participant in Seminar entitled "Science, Tradition and Scientific Tradition" organised by the Philosophy of Science Group, National Institute of Advanced Studies, Bangalore. 1996
77. Invited participant in DST-sponsored Discussion Meeting on Evolutionary Biology organised by V. Nanjundiah, Indian Institute of Science, Mangalore University. 1995
78. Invited to send guidelines on "Constraints on the success of biodiversity conservation and sustainable use" to International Development and Research Centre, New Delhi. This paper was used in a follow-up workshop on Joint Protected Area Management. 1994.
79. Invited participant in Workshop on Nature Education, Gujarat Ecology and Environment Research Foundation, Gandhinagar. 1994.
80. Invited speaker at Workshop on Joint Protected Area Management by Indian Institute of Public Administration (IIPA), New Delhi. Presented case-study of people/wildlife conflicts at Bhimashankar Wildlife Sanctuary. Chairperson of concluding session. 1994.
81. Invited participant in Workshop on Global Biodiversity Assessment organised by Madhav Gadgil, Centre for Ecological Sciences, and United Nations Environment Program (UNEP). Bangalore 1994.
82. Invited participant in Interaction Meeting on Evolutionary Ecology organised by Radhavendra Gadagkar on behalf of Program Advisory Committee (PAC) – Behaviour, Ecology, and Evolution – of the Department of Science and Technology (DST). Indian Institute of Science, Bangalore. Presented research proposal on cliff swallow reproductive strategies. Subsequently invited by DST to prepare detailed research proposal for funding consideration (temporarily postponed). 1994.
83. Invited participant in Interaction Meeting on Pollination and Dispersal ecology organised by Dr K. N. Ganeshiah and R. Umashaanker on behalf of Program Advisory Committee (PAC) – Plant Sciences – of DST. Presented research proposal on sexual displays of plants. 1993.
84. Participant in International Symposium on Pollination in the Tropics organised by the International Union for the Study of Social Insects. Bangalore, 1993.

85. Invited participant in Workshop on Methodology for Assessing Biodiversity organised by Madhav Gadgil, Centre for Ecological Sciences, Bangalore 1993.
86. Invited speaker at Workshop on Biodiversity Conservation in the Western Ghats organised by WWF-India, at the Indian Institute of Science, Bangalore. Presented paper on the need for scientific research in sacred groves. Chairperson for one session. 1992.
87. Invited participant in Workshop on Rodent Population Control organised by Central Arid Zone Research Institute (CAZRI), Jodhpur. Presented paper on life-history strategies in rodents based on data from the Malabar Giant Squirrel *Ratufa indica*. 1991
88. Participant in International Meeting of Fig Biologists, University of Miami, Florida, 1988.
89. Participant in Annual Meeting of the American Society of Mammalogists, University of Florida, Gainesville. 1985.
90. Selected as participant in two-month field course in Tropical Ecology conducted by the Organisation for Tropical Studies (OTS) in Costa Rica. 1983. Subsequently spent two weeks at Smithsonian Tropical Research Institute, Barro Colorado Island, Panama. 1983.
91. Selected for one-month Training Programme in Wildlife Management conducted by the United States Fish and Wildlife Service and the Department of Environment (DOEn), at Kanha National Park, Madhya Pradesh. 1982.

## **TEACHING EXPERIENCE:**

### **Graduate and Post-graduate degrees:**

1. Resource person in International Workshop in Chemical Ecology, Bangalore, India, 2014, and 2015
2. Have taught courses in a) Plant–Animal Interactions, b) Evolutionary Biology, and c) Frontiers of General Biology, at Centre for Ecological Sciences, Indian Institute of Science, for Ph.D. students.
3. Currently have seven Ph.D students who are researching on plant-animal interactions. 1) B R Guru Prasad: Modelling the foraging movements of giant squirrels *Ratufa indica* in the forest canopy, 2) Lakshya Katariya: Defences of fungus-growing termites against parasites of their mutualistic fungus 3) Pratibha Yadav: Short-range detection of hosts in galls and parastoids of figs. 4) Kruti Chhayya: Multi-modal perception and pollination by nocturnal and diurnal bees. 5) V Vignesh: Long- range detection of figs by fig wasps, 6) Satyajeet Gupta: Role of nematodes in the interaction between figs and fig wasps. 7) Ananya Jana: The energy and nutrient economics of fig galls



4. Current post-doctoral student: Lucy Nongbri: Chemical ecology of figs and fig wasps
5. Past Post-doctoral students: 1) CM Brijesh: Visual ecology of crepuscular butterflies, 2) Suma Arundev: Molecular ecology of monoecious and dioecious figs
6. Post-doctoral student Laurence Gaume from Centre d'Ecologie Fonctionnelle et Evolutive (CEFE), CNRS, Montpellier, France. Research on Ant-plant Interactions in *Humboldtia brunnonis* (Fabaceae) in the Western Ghats of India. January 1999- August 1999.
7. Co-supervisor for MSc project of R. Abdul Hakkim, M Sc student from Department of Microbiology, PSG College of Arts and Sciences, Coimbatore. Thesis topic: "The role of anti-microbial peptides in the cultivation of a specialized fungus by fungus-growing termites". 2004.
8. M. Sc Thesis guide for Vena Kapoor, student from Salim Ali School of Ecology, Pondicherry; Co-guide: Priya Davidar, Salim Ali School of Ecology, Pondicherry: Thesis title: "Exploring the possible relationship between the green lynx spider *Peucetia viridans* (Oxyopidae) and the glandular undershrub *Jatropha gossypifolia* (Euphorbiaceae)". 2002
9. Project guide for Nandini Rajamani; post-MSc student from Salim Ali School of Ecology, Pondicherry. Project Title: "The biology of the flying squirrels of the Western Ghats". Funded by: Karnataka Forest Department, 2002
10. Ph. D student Subhash Mali was awarded degree for thesis entitled "Plant chemical profiles and their influence on food selection in the Malabar Giant Squirrel *Ratufa indica*". University of Bombay, July 1999.
11. Ph. D student Hema Somanathan was awarded degree for thesis entitled "Community phenology and reproductive success of some insect-pollinated plants in Bhimashankar Wildlife Sanctuary, Western Ghats". University of Bombay, February 1999.
12. Guide for several summer research fellows from Centre for Theoretical Studies, IISc, and Jawaharlal Nehru Centre for Advanced Scientific Research.
13. Visiting faculty at Wildlife Institute of India, Dehradun. Between 1990-2003 teaching courses every alternate in Community Ecology and Population Biology for M. Sc. (Wildlife Biology), Wildlife Institute of India. Responsible for setting and evaluation of examination papers. Contributed to two revisions of M.Sc syllabus. Conducted entrance examinations for M.Sc. candidates in Bombay in 1993 and in Bangalore, 1999.
14. Independently wrote syllabus for proposed M. Sc. in Conservation Biology to be offered by University of Bombay. 1994.

15. Member, B. Sc. Syllabus Revision Committee, University of Bombay. Part of three-member sub-committee to write syllabus for newly introduced special papers in Wildlife Biology. 1994.
16. Faculty and co-organiser with Priya Davidar of field course in Island Ecology and Biogeography for M. Sc. students of the Salim Ali School of Ecology, Pondicherry, at Ritchie's Archipelago, Andaman Islands. Designed field projects on the model of the field course conducted by the Organisation for Tropical Studies (OTS) in Costa Rica. 1989.

### **Diploma and Certificate Courses:**

1. Member, Course Development Core Group, SNDT Women's University Certificate Correspondence Course in Environment Management, Bombay 1995.
2. Independently developed and co-ordinated Post-Graduate Diploma in Conservation Biology organised by the Bombay Natural History Society for the first time in India in 1994. Supervised oral presentations and written assignments for 12 students. Conducted one-week field training for students at Melghat Tiger Reserve. Four of these students pursued Ph. D. degrees in Ecology/Conservation Biology at American Universities.
3. Co-ordinator of Post-graduate Diploma Course in Science and Technology Communications, Xavier Institute of Communication, Saint Xavier's College, Bombay. 1990-1992. Taught introductory courses in a) history and philosophy of science, and b) the scientific method, and guided students on science communication projects using print and audiovisual media.

### **Outreach/Lecture Series/Miscellaneous Lectures: (selected sample)**

1. Talk on "Assembling an insect community on a nutrition-dispersal axis". Conference on Insect Biodiversity Studies: Where does India stand in the Global Map?, at Centre University of Kerala, Padanakod, Nileshwar, Kasargod, Kerala, 2016.
2. Talk on "Why do plants flower at night and what are the consequences of nocturnal blooming for floral scents and rewards?" Workshop on First Collaborations in Indian Chemical Ecology at NCBS, Bangalore, 2016.
3. Talk on "The special vulnerabilities of small protected areas: the Bhimashankar Wildlife Sanctuary in Maharashtra as a case study" . Conference on "Western Ghats revisited", Forest Department, Vanbhavan, Pune. 2016
4. Plenary Lecture on "How to be a parasite in the fig-fig wasp brood-site pollination mutualism". International Conference on Entomology at Punjabi University Campus, Patiala, 2016.

5. Talk on "Why do plants flower at night and what are the consequences of nocturnal blooming for floral scents and rewards?" NCBS Annual Talks - 2016 - Coming of Age: Transitions in Biological Systems at NCBS, Bangalore, 2016.
6. Lecture on "Cross-Kingdom Interactions: Mutualism and Parasitism in a Tale of Three Cities" Divisional lecture at Biological Science Building, Indian Institute of Science, 2016
7. Talk on "Case studies of mutualism and parasitism in insect-plant and insect-fungus interactions". Resource person for DST-SERB School in Insect Biology, Punjab University, Patiala, 2016.
8. Lecture on; Why is pollination important for biodiversity? Invited talk at Forest Department celebration of World Forestry Day, Chhattisgarh, Central India, 2015.
9. Lecture on: Pollination Security and Nutritional Security: at First Research Meet of the Research Wing of the Forest Department of Himachal Pradesh, 2014.
10. Lecture on: Do ants and earthworms pay the rent for being tenants in an ant-plant? Lead talk at National Seminar on Conservation of Faunal Diversity of the Western Ghats: Problems and Perspectives. Sri Jagadguru Chandrashekhara Bharathi Memorial (JCBM) College, Sringeri, Karnataka, August 2012.
11. Lecture on: The Idea of Symbiosis, for DST-sponsored Workshop on Science and Technology Communication, National Institute of Advanced Studies, Bangalore, August 2011.
12. Lectures on: a) Evolutionary ethics, and b) Punishment in Human and Animal Societies, at Summer School in Philosophy for the Social Sciences and Humanities, Manipal University, Manipal. July 2011.
13. Lecture on: Nothing in Biology Makes Sense Except in the Light of Evolution, Lecture-workshop on Frontiers in Biology, sponsored by Indian Academy of Sciences, Bangalore, June 2011.
14. Lecture on: Visual ecology of carpenter bees and crab spiders. DST Inspire Programme, Rajiv Ganhi University, Kottayam, Kerala, February 2010.
15. Lecture on: The Descent of a Man: The influence of Erasmus Darwin on his grandson. Delivered at one-day symposium on Darwin, organized by Department of Molecular Reproduction and Developmental Genetics (MRDG) and Indian Academy of Sciences, November 2009.
16. Evolutions of Mutualisms. Lecture delivered at International Conference on Darwinism – A Sesqui-Centennial Celebration, Karnatak University, Dharwad. 2009.

17. Co-evolution: Patterns and Processes. Lecture delivered during workshop on Evolution and Natural Selection organized by Indian Academy of Science at Mar Athanasios College for Advanced Studies, Tiruvalla. 2009.
18. Chemical signaling and evolutionary conflicts in an ancient nursery pollination system: mutualists, parasites, predators, and hitch-hikers in fig/wasp interactions. Lecture delivered at Madurai Kamaraj University, Department of Animal Behaviour during Summer School in Animal Behaviour and Chronobiology.2009.
19. What's in an eye? Colour vision at starlight in bees and Exploitation of the ultraviolet by hunting crab spiders. Lecture delivered at Madurai Kamaraj University, Department of Animal Behaviour during Summer School in Animal Behaviour and Chronobiology. 2009.
20. Chemical signaling between fig and fig wasps. Lecture delivered at Sophia College, Mumbai, during workshop on Darwinism. 2009.
21. Evolutionary ethics: Patterns and Processes. Lecture delivered at the Centre for Knowledge Culture and Innovation Studies, Department of Philosophy and the School of Medicine, University of Hyderabad during the workshop on Charles Darwin. 2009.
22. Revolutions in evolutionary thought: Darwin and after. Lecture delivered on occasion of Darwin Bicentennial at Maharani College, Bangalore. 2009.
23. Chemical signaling and evolutionary conflicts in an ancient nursery pollination system: mutualists, parasites, predators and hitch-hikers in fig/wasp interactions. Lecture delivered on occasion of Darwin Bicentennial at School of Biosciences, Rajiv Gandhi University, Kotayyam, Kerala. 2009.
24. What's in an eye? Colour vision at starlight in bees and Exploitation of the ultraviolet by hunting crab spiders. Lecture delivered on occasion of Darwin Bicentennial at School of Biosciences, Rajiv Gandhi University, Kotayyam, Kerala. 2009.
25. Delivered lecture on chemical signalling at Workshop on Taxonomy, Reproductive Biology and Conservation, at Centre for Environmental Management of Degraded Ecosystems (CEMDE), February 2009.
26. Invited lecture on occasion of receipt of Sunderlal Bahgai Gold Medal, Rotary Club (Bangalore). Lecture title: The global pollination market and food security. 2005.
27. Lecture entitled: The future of plant-animal interactions: a perspective from pollination, in a symposium to honour Prof. Madhav Gadgil on the occasion of his retirement from the Centre for Ecological Sciences, Indian Institute of Science. 2005.
28. Regular invited resource person in annual or bi-annual workshops entitled:

“Methods in Behavioural Ecology”, conducted by Prof. Raghavendra Gadagkar, sponsored by DST. 1998 onwards

29. UGC Refresher Course (Academic Staff College) in Department of Philosophy, Goa University, 6 lectures on Philosophy of the Mind and Environmental Ethics, March 1998.
30. Invited lectures on miscellaneous topics in Evolutionary Biology at a) Bangalore University Zoology Teachers’s Forum Refresher Course in Zoology (sponsored by the University Grants Commission), b) Bangalore Science Forum, National College, c) Bangalore Association for Science Education, Bangalore Planetarium, d) REAP Biology Programme. 1998 onwards
31. Resource person at University Grants Commission Refresher Course in Neurobiology, Behavioural Rhythms and Ethology, Academic Staff College, Madurai Kamraj University. 5 lectures on Behavioural Ecology and Evolution. 1995.
32. Invited to lecture on “Tropical rain forest conservation” to the Botanical Society, Indian Institute of Science, Bombay, 1995.
33. Invited to lecture on “Biodiversity conservation” to the Science Club, Ramnarain Ruia College, Bombay. 1995.
34. Gave lecture series at the Bombay Natural History Society on evolution and behaviour. 1994-1995.
  - Patterns in primate evolution
  - Landscapes in evolution and the Red Queen Hypothesis
  - The faithful and the philanderer – the evolution of mating systems
  - Some games plants play
  - Sexual selection or what makes the comb of the junglefowl so red?
  - Why do helpers help? Cooperative breeding in animals
  - The prisoner’s dilemma – selfishness and altruism in animal societies
  - The logic of animal conflict
35. Resource person in Training Programme for Indian Forest Service (IFS) personnel on People’s Participation in Forest Management. Focus on tribal-forest interface. Tata Institute of Social Sciences, Bombay. 1994, 1995, 1996.
36. Resource person in Training Programme for Managers of Biosphere Reserves organised by Madhav Gadgil, Centre for Ecological Sciences, and Tamil Nadu Forest Department. Mudumalai. 1993
37. Resource person in Workshop in Methods in Behavioural Ecology organised by Raghavendra Gadagkar, Centre for Ecological Sciences, Indian Institute of Science, Bangalore. 1992
38. Conducted a 2-day workshop on “How to write a research proposal” for Bombay Natural History Society scientists. 1991.

39. Organised a 2-day workshop on Animal Census Methods conducted by Bombay Natural History Society. 1991. Candidates from workshop participated in annual wildlife census conducted by the Maharashtra State Forest Department at Bhimashankar Wildlife Sanctuary.
40. Resource personnel in DST-sponsored workshop on Vertebrate Ecology organised by Bombay Natural History Society at Mudumalai. Gave lectures and assisted with field projects and data analysis. Lecture titles: a) How to be a herbivore: the animal's point of view, b) How to avoid being eaten: the plant's point of view. 1990.