

Madhusudan P. Srinivasan

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RESEARCH INTERESTS

I am a plant community and ecosystem ecologist. My research interests and experience span the ecology of disturbances, invasions and global change agents in grasslands. I apply ecological knowledge and theory to solve ecosystem degradation issues that warrant immediate restoration action. My specific interests include: quantifying invasion spread and evaluating relevant methods of invasion control, and monitoring ecological patterns and processes of community assembly in disturbed habitats. I am also interested in understanding species-environment relationships in reference communities and applying this knowledge to long-term restoration experiments. I am interested in using experiments to evaluate the success of the framework species and the developing community, and quantify community-environment feedbacks and species interactions.

TEACHING DUTIES

I am involved with developing computer-based lessons that teach the scientific method and writing and reasoning skills to undergraduate students enrolled in non-majors biology courses..

EDUCATION

PhD (Biology), 2011 – Department of Biology, University of Kentucky

MS (Ecology), 2001 – Salim Ali School of Ecology, Pondicherry University, India

BSc (Environmental Science), 1998 – St. Josephs College, Bangalore, India

EXPERIENCE & PROJECTS

Biology Teaching Instructor, Dept. of Biology, University of Kentucky, since Aug 2011

Developing computer based lessons that teach writing and reasoning skills

Graduate Teaching Assistant, Dept. of Biology, University of Kentucky, 13 semesters b/w 2003–2011

Courses taught: Principles of Biology (lab) I & II, Introductory Ecology (recitation), Introductory Biology Laboratory, Ecology Laboratories

Graduate Scientist, Dept. of Biology, University of Kentucky, USA, 2003 - 2011, and **Research Associate**, Keystone Foundation, the Nilgiris, INDIA, since 2005

The ecology of disturbances and global change in the montane grasslands of the Nilgiris, south India

- Ecological impact assessment of introduced plants and strategizing to alleviate ecosystem health
- Implemented reference plant community assessment model to instigate landscape restoration
- Documented ecosystem responses to atmospheric nitrogen deposition (a global change driver)

Junior Research Fellow, Biodiversity Documentation Unit, Jawaharlal Nehru Center of Advanced Scientific Research, Bangalore, INDIA, 2001 - 2002

- Collaborated in developing a biogeographic and taxonomic database of plant resources of India

Graduate Researcher, School of Ecology, Pondicherry University, INDIA

Impacts of a *Lantana camera* on the native vegetation in a tropical forest in B. R. Hills, south India

- Assessed biodiversity loss and threats to native tree species regeneration by introduced shrub

Research Assistant, Ashoka Trust for Research in Ecology and Environment, INDIA, 1998 - 1999

- Mapping bird and butterfly diversity in B. R. hills, south India.
- Assessing the impact of anthropogenic pressures on the biodiversity in B. R. hills, south India.

Undergraduate Researcher, St. Joseph's College, Bangalore, INDIA, 1998

- Lead content in the ambient air of petrol filling stations in Bangalore city

PUBLICATION & MANUSCRIPTS

Srinivasan MP, Gleeson SK and Arthur MA. 2012 Short-term impacts of elevated nitrogen deposition on a montane grassland ecosystem in a biodiversity hotspot. *Plant Ecology & Diversity*
DOI:10.1080/17550874.2012.727486.

Srinivasan MP, Bhatia S and Shenoy K. Vegetation-environment relationships in a unique montane grassland ecosystem: restoration implications. *Tropical Ecology* (under review).

Srinivasan MP. 2012 Scotch broom (*Cytisus scoparius*) invasion in the montane grasslands of the Nilgiris, south India: the potential role of fire as a restoration tool. *Biological Invasions*, 14:1009-1028

Srinivasan MP, Kalita R, Gurung IK, Bhattacharjee SK, Antony PM, Krishnan S and Gleeson SK. 2012 Response of invasive shrub Scotch broom (*Cytisus scoparius*) to fire and simulated grazing in the montane grasslands of the Nilgiris, south India. *Acta Oecologica*, 38:41-48.

Srinivasan MP, 2011. The ecology of disturbances and global change in the montane grasslands of the Nilgiris, south India. *PhD dissertation* submitted to the *University of Kentucky*.

Srinivasan MP, Shenoy K and Gleeson SK. 2007. Population structure of Scotch broom (*Cytisus scoparius*) and its invasion impacts on the resident plant community in the grasslands of Nilgiris, India. *Current Science*, 93:1108-1113.

Shenoy K and **Madhusudan PS**. 2006. Small mammal communities in a rapidly developing southern Indian city. *Zoo's Print Journal*, 21(2): 2152 - 2159.

Arvind NA, Rao D and **Madhusudan PS**. 2001. Additions to the birds of Biligri Rangaswamy Temple Wildlife Sanctuary, Western Ghats, India. *Zoos' Print Journal*, 16:541-547.

Srinivasan MP. Impact of *Lantana camara* on the floristic structure and composition of a semi-evergreen forest of B. R. hills, south India. *MS thesis submitted to Pondicherry University*.

PRESENTATIONS

Srinivasan MP. April 2011. The ecology of disturbances and global change in the montane grasslands of the Nilgiris, south India. *PhD defense talk, University of Kentucky*.

Srinivasan MP. May 2010. Grassland communities in relation to environmental factors in the Nilgiris, India. *Spring Ecology Symposium, University of Kentucky*.

Haddad, R. and **Srinivasan MP**. April 2010. Microhistology of ungulate feces: deciphering diet from dung. *Undergraduate Research Showcase, University of Kentucky*.

Srinivasan MP. April 2010. Role of environmental factors in shaping grassland communities in the Nilgiris. *Ecolunch, University of Kentucky*.

Srinivasan MP. August 2009. Can fire reverse the invasion effects of *Cytisus scoparius* in a montane grassland ecosystem? *94th annual ESA meeting*.

Srinivasan MP. February 2007. Grassland ecology and conservation issues in the Upper Nilgiris. Invited talk to MSc Wildlife Biology students, *Government Arts College, Ootacamund, India*.

Srinivasan MP. March 2008. Ecosystem goods and services in the context of the Nilgiris grasslands. Invited talk to high school students of Vetri Vikas School, Salem, India.

Srinivasan MP. May 2001. Impact of *Lantana camara* invasion on the floristic structure and composition of a semi-evergreen forest of B. R. Hills, south India. *MS thesis defense, Pondicherry University*.

Srinivasan MP. February 2001. Habitat modifications due to *Lantana camara* invasions in BR Hills, south India. *Ashoka Trust for Research in Ecology and Environment (ATREE), Bangalore India*.

Srinivasan MP, Arvind NA, Ganeshiah KN. October 1998. Mapping diversity of birds and butterflies in BRT Wildlife Sanctuary, South India. *ATREE – Karnataka Forest Department Interaction Meeting, Bangalore*.

GRANTS & AWARDS

Research grant, International Foundation for Science, Sweden, 2007; \$ 11,500
Dissertation Enhancement Award, University of Kentucky, 2006; \$3000
Commonwealth Research Award, University of Kentucky, 2005; \$1000
Student Support Award for Travel, University of Kentucky, 2006 – 2007; \$1600
Ribble Travel Grant, Department of Biology, University of Kentucky, 2005 – 2009; \$2400
Ribble Research Awards, Department of Biology, University of Kentucky, 2004-2008; \$2200

RESEARCH ADVISING

Predit Paul and Suresh Krishnan – **Masters research**, Department of Wildlife Biology, Ooty Government Arts and Science College, Nilgiris, India; December 2006 – April 2007.

Ratul Kalita – **Masters research**, Department of Ecorestoration, Dimoria College, Assam, India; October - November 2007, October - November 2008.

Razan Haddad – **undergraduate research** (BIO 395), University of Kentucky, Fall 2009, Spring 2010.

Asna Patel – **undergraduate research**, University of Kentucky, Summer 2012.

Other students trained through internships, 2006 - 2010:

Inder Gurung, Saroj Bhattacharjee, Madurya Mohandas, Amrit Kumar, Mriganka Mallapar – MSc Ecorestoration, Dimoria College, Assam, India; Oct - Nov 2007, 2008.

Saloni Bhatia – MS Sustainable Development, Sikkim Manipal University, India; Nov - Dec 2008.

Sachinandan Dutta, Saptarshi Bhattacharyya, Anasua Roy – MSc Conservation Biology, Durgapur Government College, West Bengal, India; December 2008.

Prajakta Hosangabdkar – BSc, Agriculture College, Amravati, Maharashtra; January 2009.

SERVICES

Guest lecture – Population dynamics and growth models (BIO 325), University of Kentucky, Sep. 2009.

Invited Article Review – Plant Ecology & Diversity, 2010.

Grant Proposal Review – WCS Research Fellowship Program, Wildlife Conservation Society, NY, 2012.

WORKSHOPS & TRAINING PROGRAMS

Making the most of your summer: tips for conquering the thesis or dissertation; Graduate Student Workshop, University of Kentucky; April 29, 2009

Restoration of Natural Capital - South Asia; Workshop, Earth trust, Nilgiris, India and Missouri Botanical Gardens, USA; November 2006

Hill wetlands: developing a conservation strategy and an action plan; Workshop, Keystone Foundation, Kotagiri, India; September 15-16, 2006

International Primatology Workshop, Psychology Department, Mysore University; March 2001

Sampling-based methods for monitoring large mammal population at Nagerhole National Park, India (line transect surveys and pellet density estimation for prey species; scat encounter rates and camera-trap studies for large carnivores), Training program, WCS-India; 12-19 May 1998.

REFERENCES

Dr. Scott Gleeson* (Associate Professor) | Phone: (859) 323-3284 | Email: Scott.Gleeson@uky.edu

Dr. Philip Crowley* (Professor) | Phone: (859) 257-1996 | Email: pcrowley@uky.edu

Dr. Nicholas McLetchie* (Associate Professor) | Phone: (859) 257-6786 | Email: mclet@uky.edu

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