

Dr. P. SUDHAKAR SWAMY**Reader & Head**

Department of Plant Sciences
Centre for Excellence in Genomic Sciences
School of Biological Sciences
Madurai Kamaraj University, Madurai 625 021

**RESEARCH AREAS:**

1. Ecology of sacred groves with reference to inventory, use and the analysis of traditional conservation management processes.
2. Population dynamics and reproductive behavior of alien weeds.
3. Role of plant functional types on ecosystem structure and functional processes.
4. Global change biology (Carbon sequestration)
5. Molecular ecology of exotic weeds.
6. Bio-prospecting of plant resource

CONTACT DETAILS:

Phone: 0452-2458928
Email: swamyps@yahoo.co.in

RESEARCH INTERESTS:

During the last few decades Tropical forests in the Western Ghats of Tamil Nadu were subjected to various human pressures like agriculture, construction of hydroelectric project, to raise monoculture plantations and other developmental activities. The ever-increasing demand for forest products and forestland, together with the alarming rate of population growth has put the remaining patches of forests on the verge of extinction (Sundarapandian and Swamy, 1999). Since, natural (treefalls/deaths) and anthropogenic perturbations to tropical forest ecosystems have become necessary evils, great amount of research effort has been put in towards understanding the implications of these disturbances on local biodiversity and the ecosystem processes. Recent studies of ours suggested that natural disturbances such as canopy gaps created by treefalls in moist deciduous forests increased fine root biomass production compared to closed canopies (Sundarapandian and Swamy 1996). While, disturbances caused by biotic interferences in natural and man-made ecosystems have resulted in change in the vegetation structure and species composition (Chandrasekaran and Swamy1995,) and ecosystem function (Chandrasekaran and Swamy, 2002) by paving the way to exotic weed invasion or by domination of grasses in the herbaceous community. The altered herbaceous vegetation structure and species composition influences fine root biomass and production (Sundarapandian and Swamy, 1996a,b, 1998).

Alien plants invasions into native ecosystems have been receiving attention of ecologist's world over because of global change .I have been working in this area since 1981. We studied the process of invasion of *Mikania micrantha* HBK an exotic weed which comes up as an early colonizer in successional communities subsequent to slash and burn agriculture (Swamy and Ramakrishnan 1987a,b,c,d).*Mikania* plays a significant role in conservation of potassium. Currently we are working on growth and reproductive behavior of alien weeds with the aim of assisting in developing effective control methods.

Studies on the qualitative characteristers of vegetation structure, the process of exotic weed invasion, ecophysiological attributes of selected weeds and their influence

on ecosystem processes are under the process of communication for publication in scientific journals.

PUBLICATIONS

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