OBITUARY

India lost one of its most distinguished mycologists, Prof. Dr. Balumuri Pandu Ranga Vittal on 28.10.2018 due to a massive cardiac arrest in a city hospital in Chennai, at the age of 74. His sudden demise is an irreparable loss to his family members, former students, colleagues and fellow mycologists.

Prof. B.P.R. Vittal
(1944-2018)

Early Life and Education

Prof. B.P.R.Vittal was born on 03.04.1944, in Ravipadu village, Cumbum Mandal, Prakasam district, Andhra Pradesh. His father was Mr. Balumuri Rangaiah a clerk in an advocates' office and mother Mrs. Balumuri Seshamma, a housewife. He had his early schooling in Narasaraopet, Prakasam Dt., Andhra Pradesh, till his Bachelor's degree.

Fondly called as 'Vittal Sir' by students and 'Vittal Garu' by friends, Dr. B.P.R. Vittal, obtained Master's Degree in Botany from Andhra University, Visakhapatnam, India, in 1964. He joined PL480 research project, as a Research Assistant, to work on the aerobiology of sugarcane pathogens including whip smut, red rot, yellow spot and rust diseases, under the supervision of late Professor T. Sreeramulu, Department of Botany, Andhra University. Subsequently, Dr. Vittal moved to the Centre for Advanced Studies in Botany, University of Madras, Chennai and, working under the supervision of late Prof. C.V. Subramanian, the doyen of Indian Mycology, on taxonomy and ecology of leaf litter fungi, obtained a Ph.D. Degree in Botany from Madras University in 1973. From January 1974 to June 1976 he did post-doctoral studies at CAS in Botany under Prof. C.V. Subramanian.

Professional Life

He was appointed as Lecturer in CAS in Botany in 1976 and elevated as Reader in 1984 and subsequently became Professor in 1994 and continued his services until retirement in 2004. Prof. Vittal served as Emeritus Professor, in CAS Botany, University of Madras, from November 2005 to August 2010. Prof. Vittal, always admired as an inspiring teacher, was actively engaged in teaching Microbial Diversity, Plant Ecology and Fungal Ecology to M.Sc. and M.Phil. students.

Research Interests

He was a dedicated researcher and his research interests were primarily in Mycology, especially on diversity of fungi colonizing decomposing leaf litter in terrestrial ecosystems and marine fungi colonizing woody litter in mangroves. Apart from studies on taxonomy and ecology of litter fungi, Dr. Vittal initiated aerobiological studies for the first time in CAS in Botany and developed an active school of aerobiology. Prof. Vittal supervised the research work of 26 M.Phil. students and 11 Ph.D. students. He has over 80 publications in national and international journals and Proceedings of Symposia. He received extensive support from national funding agencies such as the UGC, CSIR, DBT and MOEF and successfully handled 10 major research projects in the fields of Mycology and Aerobiology. He was an invited guest speaker at various symposia/conferences on Fungal diversity and Aeromycological studies. He has been a resource person in various refresher courses and delivered lectures on Fungal Taxonomy.

Fungal Diversity Studies: Prof. Vittal continued his research pursuits in the area of fungal diversity particularly fungi colonizing leaf litter of different plants, through his students. Dr. Dorai (1988) was the first research scholar to work on diversity of hyphomycetes colonizing leaf litter. Together they published several new species in the erstwhile hyphomycetes including new genus. *Civisubramaniania eucaliptii*, and new species such as *Cercosperma longispora, Dactylaria eucalypti, Minimidochium indicum Kellermania intermedia* and *Stachybotrys ramosa* collected on *Eucalyptus* litter (Dorai and Vittal 1986, 1988; Vittal and Dorai 1986, 1991). A few other students also worked on leaf litter fungi from terrestrial habiats. These include T. Saravanan (2004) who has worked on "Studies on the biodiversity of microfungi in the Eastern Ghats of Tamil Nadu, India; B. Sampath Kumar (2005) on "Studies on the biodiversity of microfungi associated with decomposing leaf litter of some palms in South India"; S. Shanthi on "Studies on the fungal diversity and pattern of fungal colonization of leaves and litter of *Anacardium occidentale* L.". In addition to taxonomic contributions ecological investigations were also carried out on leaf litter fungi by him during his doctoral work and subsequently with his students (Subramanian and Vittal 1979, 1980; Shanthi and Vittal 2010, 2012).

In addition to the studies on taxonomy, diversity and ecology

of leaf litter fungi from terrestrial habitats, Prof. Vittal also initiated a detailed work on diversity and ecology of marine fungi in mangroves from east of India. While D.R. Ravikumar (1991) has submitted a thesis on "Studies on fungi from mangroves of the east coast of India" mainly concentrating on marine fungi from mangroves of Cauvery delta in Tamil Nadu, V.V. Sarma (1998) worked on "Studies on the biodiversity of fungi colonizing litter of mangrove plants in Godavary and Krishna deltas, east coast of India". The diversity and ecological investigations on marine fungi from these studies have resulted in several publications (Ravikumar and Vittal 1991, 1996; Kohlmeyer and Vittal 1986; Sarma and Vittal 1998-99, 2000, 2001, 2002, 2004; Sarma *et al*., 2001; Vittal and Sarma 2006).

Aerobiological Studies: Prof. B.P.R. Vittal initiated Aerobiological studies for the first time in 1976 at the Centre for Advanced studies in Botany, University of Madras. Initial studies were confined to short term surveys of air mycoflora of farm environments using Burkard Volumetric spore trap. These were further extended as (i) enumeration of airborne fungi from extramural, intramural and occupational environments, (ii) enumeration of pollen grains in the atmosphere and preparation of pollen calendar and (iii) clinical studies with aeroallergens. Prof. Vittal had supervised a comparative simultaneous enumeration of airborne fungal propagules in urban (Madras city) and rural environments (Maduravoyal-suburb of Chennai city) using vertical cylinder traps. Krishnamurthy (1983), his first doctoral student submitted a thesis on "Studies on the air mycoflora of Madras city and neighbour rural area". Studies were also conducted in indoor environments such as straw store houses, animal care facilities and libraries with Rotorod samplers. In a project funded by the Indian CSIR, M. Pugalmaran (1998) carried out detailed investigations on the intramural environments of slum huts, slum clearance board tenements, corporation schools, grain storage go-downs, libraries with and without AC facilities and leather storage houses using Burkard personal sampler and Andersen 6-stage sampler, for his doctoral thesis. On the basis of Prof. Vittal's research contributions to aerobiology, the CAS in Botany was recognized by the MOEF, New Delhi, as one of the coordinating centres of aerobiological research in India. Detailed survey of pollen content in Chennai city was carried out by his student, Satheesh Kumar (2000). On the basis of data collected over a period of two years, a pollen calendar for Chennai city was prepared. As part of the project, studies were also carried out in occupational environments such as poultry houses, bakeries, cattle farms, etc. by his student, N.K. Udaya Prakash (2001). An extensive study was carried out in indoor environments of numerous residential houses using Burkard personal sampler and Andersen 2-stage sampler by S. Bhuvaneswari (2005). Extensive studies were carried out to enumerate airborne fungi in poultry farms (cage type and litter type) throughout the state of Tamil Nadu in a project funded by the UGC. Further, a survey of and bio-deterioration involving moulds growing on manuscripts (paper and palm leaves) in libraries, archives, museums, art galleries and heritage buildings were investigated simultaneously along with air and dust mycoflora under a UGC Major Research Project, during 2005-2008. Some preliminary studies were also carried out to assess the allergic potential of some of the culturable molds isolated from outdoor and indoor environments in collaboration with practicing allergy specialists of a local hospital in Chennai. The results of these studies in the aerobiology have been published in various journals (Bhuvaneswari and Vittal 2005; Nadimuthu and Vittal 1995; Pugalmaran and Vittal 1999; Udaya Prakash and Vittal 2003a,b, 2005, 2011; Udaya Prakash *et al*. 2011; Vittal 2005; Vittal and Krishnamurti 1981,1988a,b).

Visits Aborad

Prof. B.P.R. Vittal conducted several study visits abroad. He first visited the UK under Young Scientists Exchange Program between the UGC and British Council during Aug.-Nov. 1978. He was a Visiting Fellow at Centraalbureau voor Schimmelcultures, Baarn, The Netherlands, from Dec. 1978 to Jan. 1979. He visited the UK, second time, under the Commonwealth Foundation Bursary Program sponsored by the Royal Society, London, from Aug. 1981 to Feb. 1982. Dr. Vittal worked at Rothamsted Experimental Station, Harpenden, the UK, in 1981 and 1986, with Prof. P. H. Gregory and Dr. J. Lacey, respectively. Under the Third World Microbiology fund sponsored by the Society for General Microbiology he again visited the UK from Nov. 1986 to Aug. 1987. He also attended the International Marine Mycology Symposium, Portsmouth, UK, during July 1995.

Awards and Honours

Prof Vittal received several laurels. He served as the President of Indian Aerobiological Society (1994-1997) and Treasurer, Secretary and President of Mycological Society of India (1994-2004). He delivered the late Prof. T. Sreeramulu oration lecture in the Annual Meeting of Indian Aerobiological Society held at Davangere, Karnataka, India, in 2016. He was a founder member of Mycological Society of India and member of International Aerobiological Society and Indian Aerobiological Society. Prof. Vittal was conferred with several Fellowships, Awards and Honours which included Fellowship of Indian Aerobiological Society; Fellowship of Madras Science Foundation; Lifetime Achievement Award of Indian Aerobiological Society and Lifetime Achievement Award of Mycological Society of India.

A Tribute

Besides being an excellent teacher and a dedicated researcher, Professor Vittal was a wonderful human being. A man of simplicity and great humility, Prof Vittal was very affectionate, soft spoken and often very witty in conversation. He was very helpful to students, colleagues and friends, alike. With passing away of Prof. Vittal, mycological fraternity lost a dedicated researcher and a great teacher.

Prof. Vittal is survived by his wife, daughters, sons-in-law and grandchildren. We express our deep condolences and pray God to provide strength to his family to tide over this irreparable loss. It is a personal loss to many of his friends, former colleagues, research scholars, students and members of Mycological Society of India and we are sure that, all of them, world over, would join us in paying rich tributes to this departed noble soul.

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