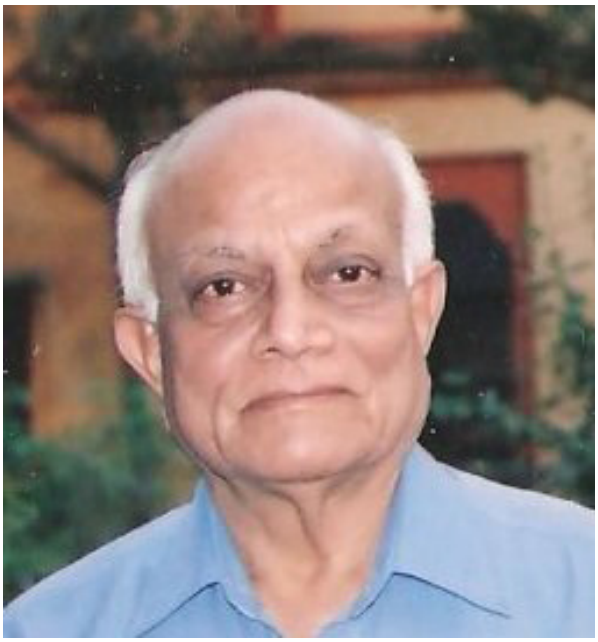
Obituary

H.Y. Mohan Ram – An Eminent Botanist (1930 – 2018)



Prof H.Y. Mohan Ram passed away peacefully at his residence on the night of June 18, 2018, after a well-lived, experience-rich life, deeply loved and respected by his family, friends, colleagues and students up till the end.

Having just immersed his ashes in the middle of the river, I stood under a Peepal tree by the river bank of Ganges at Assi ghat in Varanasi, awash with fond memories of five decades of our academic and personal association. During his many visits to Varanasi, he invariably enjoyed visiting the 'Ghats' for boating and photography along the river. His deft camerawork not only captured the human activity around the banks but zoomed into and, documented with his keen scientific eye, the trees and plants moored along the river bank or grappling the narrow lanes. In one of his early trips, he had photographed this peepal tree and the picture was subsequently featured in his article titled *Trees: Their uses and Biology (Current Science,* 1993). Standing under its shaded, comforting canopy, I paid a quiet tribute to my revered teacher, who embodied the very same essence of nobility of character, generosity of spirit and a life rooted in making an impact.

Holenarasipur Yoganarasimham Mohan Ram (HYM) was born on September 24, 1930 in Mysore to a brave, disciplinarian, liberated mother and a gentle, scholarly father, from whom he inherited the love for music. He had his early education in Mysore, received his B.Sc. degree from the University of Mysore in 1950, M.Sc. degree from the Agra University in 1953 and Ph.D. from Delhi University in 1959. His undergraduate teachers Drs. M.A. Rau and B.N.N. Rao instilled in him the difference between seeing and observing.

His career in Botany began as a demonstrator at St. Philomena's College, Mysore. Subsequently, he secured a part-time assistant lecturer`s post at, the then, B.R.College. He did a short stint as a lecturer at the University of Mysore before shifting to Delhi University in 1953 as a lecturer in Botany.

His research and scholarly contributions to Botany are deep, vast and diverse. The devotion to teaching and research were modelled for him by two great botanists early in his career: Dr. P. Maheshwari at Delhi University and Dr. F.C. Steward at Cornell University. Dr. Maheshwari strongly emphasized hard work and discipline and HYM was greatly influenced by his tutelage and leadership.

Prof HYM joined Cornell University as a Fulbright and Smith-Mundt Fellow (1958-60) and assisted Dr. F.C. Steward in editing the three volumes of his famous ten-volume treatise in Plant Physiology. At Cornell, he along with his wife Manasi, worked on the development of the banana plant. Besides publishing the first full length paper on the tissue culture of banana, he wrote a critical review on "Determining factors in Cell Growth" for the first volume of Advances in Morphogenesis published by the Academic Press (1961). In Dr. Steward's laboratory, he received advanced training in Plant Physiology, Morphogenesis, and Tissue culture.

He also collaborated with Dr. J.P. Nisch in the Laboratoire de Physiologie Pluricellullaire, CNRS at Gif-sur-Yvette, France as a UNESCO-UNDP senior fellow in 1970-71 and worked on developmental biology and flowering in *Utricularia* species.

The excellent training and influences formed the template for developing his own skills as a researcher and mentor, which he augmented and passed onto many generations of students throughout his long and productive academic career. He directly mentored 34 Ph.D. students,

published over 240 technical papers, and edited four books. He along with his students worked on a range of topics in plant sciences: hormonal control of flower development, flower sex expression and reversals (*Cannabis sativa* and *Ricinus communis*); post-harvest physiology of ornamental flowers; pollination biology; structural and developmental biology, flowering, fruiting, seed germination and adaptations of aquatic plants using in vitro culture (notably, *Utricularia, Ceratophyllum*, and the Indian Podostemaceae). He initiated the tissue culture of bamboos and legumes which formed the basis of research of several other research groups in the country. Tree biology is a field less attempted by plant researchers. Dr. Mohan Ram and his team worked towards understanding the anatomy of timber yielding plants and enhancement of gum and oleo-gum-resin yielding forest trees (such as *Dalbergia sissoo* and *Commiphora wightii)* and their breeding system, pollination biology and fruit and seed set.

A versatile and passionate educator, he taught a wide variety of subjects: Plant Physiology, Tissue culture Techniques, Morphogenesis, Weed Biology and Economic Botany. The students greatly benefitted from his erudition and expansive knowledge, delivered with his inimitable eloquence, charm and humour. In every interaction with him, one came away feeling awed and inspired by the subject. HYM exercised the same rigor into his presentations as in his research with a dedicated focus on conveying the information effectively and enjoyably. Interspersing his lectures with self-taken photographs and anecdotes from his worldwide travels, he could make even the most mundane enthralling by injecting his unique perspective.

This lifelong commitment to effective scientific communication extended to his scholarly contributions outside research and teaching as well. He was passionate about promoting and popularizing science among the masses and making even the most complex information accessible to audience of all ages and stages of learning. An example of this was the authorship of NCERT sponsored school text books in Biology for class XI & XII, which were incorporated into the CBSE curriculum. He delighted in interacting with the younger generation and derived great satisfaction serving as a trustee of the Children's Book Trust. As a technical advisor he had contributed towards production of many educational films like "Life" (Films Division, Govt of India), "Test Tube Plants & Seeds" (MCRC) and "Trees"(Jain TV).

His contributions towards institution building and advancing scientific thought were also multifaceted and immense. He played a pivotal role in establishing the Department of Genetics and Environmental Biology in Delhi University, Institute of Himalayan Bioresource Technology (Palampur), and National Science Centre (New Delhi). Dr. Mohan Ram was instrumental in the founding and maintenance of Biodiversity Parks in Delhi and outside.

He was a Fellow of Indian Academy of Sciences, Indian National Science Academy, National Academy of Sciences (India) and National Academy of Agricultural Sciences. He continued to make widespread impact by serving in key administrative positions such as Vice President, Editor of Publications, Secretary, Member of Editorial Board etc. He was co-editor of several INSA publications such as *Science in India: 50 years of Academy (1985*); *Profiles in Scientific Research: Contributions of the Fellows of INSA*; and *Pursuit and Promotion of Science (2001)*. His role as a consultant or advisor for many important national and international organizations for promotion of science is noteworthy. He was the Chairman of Research Committees of National Laboratories of CSIR, Chairman of Birbal Sahni Instiute of Palaeobotany, Chairman of Indian Man & Biosphere Committee to mention a few.

Dr. Mohan Ram was recognized nationally and internationally for his myriad contributions to science in general, and botany in particular. He was the recipient of numerous awards and honours including, Professor P. Maheshwari Medal, J.C. Bose Award for Research in Biological Sciences, Om Prakash Bhasin award for Science and Technology, S.G. Nawaschin medal , Professor Shyam Bahadur Saksena Memorial Award for Botany, Birbal Sahni Birth Centenary Medal of ISCA , Gregor Johannes Bruhl Medal of Asiatic Society, Jawaharlal Birth Centenary award of ISCA, VASVIK award etc.

His position as an influential naturalist/biologist is reflected in number of plant and animal species that were named after him. One cultivar of the cactus is called *Gymnocalycium mihanovichii* cv *Prof H.Y.Mohan Ram*. *Cheirostylis mohanramii* sp. nov. is an orchid. *Mohan Ram Cannabis strain* was created by Sweet seeds which, is an Indica dominant hybrid (85% indica/15% sativa). It has an average THC (tetrahydrocannabinol) level ranging from 18–21% and is ideal for medical and recreational use due to sedative properties. Besides these three examples from plant kingdom, a species of insect (*Liothrips mohanramii*) also bear his name!!

A tireless academic, Prof Mohan Ram was professionally active till the very end. After his superannuation from Delhi University, he eschewed retired life and was appointed as INSA - S.Ramanujan Research Professor from 2011-16. During this period he worked on *Plant Resources in Human Well-being*. At his passing he was the Emeritus Scientist of INSA.

Despite an exemplary and prolific career, Dr. HYM was soft spoken and affectionate. He led a life dedicated to education, buttressed by inherent curiosity, academic humility and desire for greater good. His equanimity and wicked sense of humour are legendary. A polymath, his other passions included music, cricket and photography. He was also very fond of travelling and had visited all the continents, except Africa.

We will greatly miss his dynamic presence and guidance, but hope his influence inspires us to continue his rich legacy of lifelong learning, and promotion and popularization of science.

Uma Jaiswal
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