

WOMEN IN ENTOMOLOGY

A Conversation with a Woman Who Shaped Plantation Entomology in India: Dr. Chandrika Mohan

Dr. Chandrika Mohan is a distinguished entomologist and Principal Scientist at the ICAR–Central Plantation Crops Research Institute (CPCRI), Regional Station, Kayamkulam, Kerala. She started her career at ICAR- Indian Lac Research Institute, rebranded as ICAR-National Institute of Secondary Agriculture, Ranchi Jharkhand. With decades of experience in agricultural entomology, she has made significant contributions to the understanding and management of insect pests affecting India's major plantation crops, particularly coconut. She has received Father Gabriel Memorial Gold medal for 1st Rank in M.Sc. from Calicut University and secured 2nd Rank in MPhil in Zoology with entomology specialization.

Her research focuses on pest ecology, diagnosis, and sustainable pest management strategies, with a strong emphasis on biological control and eco-friendly approaches. Working at the interface of laboratory science, field research, and farmer-centric extension, Dr. Mohan has played a vital role in translating entomological research into practical solutions for coconut growers. Her work has helped address emerging pest problems and changing pest dynamics in plantation ecosystems, especially under the influence of climate variability.



Dr. Mohan has been actively involved in the identification and management of major and emerging insect pests, contributing to improved surveillance, advisory services, and integrated pest management (IPM) strategies. She has authored and co-authored several research papers, technical bulletins, and book chapters, and has contributed to national training manuals on palm and plantation crop health management. Her scientific outputs reflect a balance between rigorous research and

applied relevance.

Beyond research, Dr. Mohan is deeply committed to extension and capacity building. Functioned as focal point expert from India in International Workshops organized by SAARC and FAO on coconut pest management. She has been closely associated with farmer outreach programmes, including Farmer Field Schools, field diagnostics, training programmes, and national initiatives such as Mera Gaon Mera Gaurav. Through



these efforts, she has strengthened the linkage between scientists and farming communities, ensuring that entomological innovations reach the field in a meaningful way.

In recognition of her contributions to plantation crop entomology, Dr. Chandrika Mohan received the Dr. K.K. Nirula Memorial Prize (2021) for her outstanding work in the biological suppression of coconut pests and delivered the inaugural Dr. K.K. Nirula Memorial Lecture at a national seminar. She is also a regular invitee at scientific conferences, webinars, and training programmes, where she shares her expertise with researchers, students, and extension professionals. She was associated with projects funded by NATP, ICAR-AP Cess fund, ICAR-out reach network projects, DBT, CFC/DFID/APCC/FAO, CDB and Kerala State Department of Agriculture on various IPM aspects of coconut.

As a woman scientist in a field-intensive discipline, Dr. Mohan's career stands as an inspiring example of perseverance, scientific excellence, and leadership. Her journey highlights the crucial role women play in strengthening applied entomology and sustainable agriculture in India. Through her research, mentorship, and extension work, she continues to contribute to resilient plantation crop systems and to the advancement of entomology as a discipline.

Bhagyasree S N (BSN): What inspired you to choose entomology as a career, and how did your journey lead you to ICAR-CPCRI?

Dr. Chandrika Mohan (CM): I was born and raised in the remote village of Anakkara in the Palakkad district, Kerala, where I completed my primary education in a government school (Malayalam medium). With a strong interest in biology, I pursued a B.Sc. in Zoology at Pattambi Government College.

For a girl from a small village, the common career choices were becoming a Bank Employee or a School Teacher. However, I felt neither of these paths aligned with my aspirations. Wanting to study further, I enrolled in the M.Sc. Zoology program at Government College Madappally, specializing in Entomology—an experience that ignited my deep interest in the subject.

After completing my M.Sc., I secured admission for an M.Phil. at Calicut University. It was during this time that I learned about the ARS exam from my seniors. Later, I joined the Ph.D. program at Calicut University, which helped me to realize that my passion lay in research. Encouraged by my seniors, I decided to attempt the ARS exam and was fortunate to secure the first rank in the subject (Entomology). This achievement was overwhelming, but the joy soon turned into anxiety when I received my posting order to the Indian Lac Research Institute in Ranchi (then Bihar)—a place far beyond what my family had ever imagined for me. I was unsure if I could continue pursuing my dream. However, my father, my greatest role model, supported me wholeheartedly and personally accompanied me to Ranchi, where I joined the institute in 1986.

My training at NAARM was an eye-opener, introducing me to research management. It took nearly a year to adjust to the new environment and

the crop, Lac, I was working on at Ranchi. In 1989, I moved to ICAR–CPCRI and joined the headquarters in Kasaragod to work on Crop Protection in coconut.

BSN: Is there any defining moment, mentor, or field experience that shaped your interest in Plantation crop entomology which is considered challenging field?

CM: At ICAR–CPCRI Kasargod, I was entrusted with a project on white grub management - one of the major challenges faced by farmers in the region and a priority area for the institute. Through this work, I developed a systematic sampling technique, studied the pest's bioecology, and formulated an effective chemical management strategy for its control.

In 1994, I was transferred to the Regional Station at Kayamkulam, where I increasingly recognized the importance of sustainable management approaches for perennial crops. The station had a strong legacy in crop protection research and was home to highly accomplished scientists specializing in entomology, plant pathology, and nematology.

My Ph.D. guide and mentor, the late Dr. B. Sathiamma, a devoted expert in biological control, played a pivotal role in nurturing my interest in the field and shaping my commitment to environmentally responsible pest management.

BSN: Which insect species or ecological interaction has fascinated you the most during your research, and why?

CM: The coconut black headed caterpillar, *Opisina arenosella* Walker has always fascinated me, particularly for its remarkable ability to survive in challenging field conditions atop coconut palms, enduring strong coastal winds and fluctuating temperatures. The insect exists within a complex natural ecosystem, surrounded by a diverse array of

parasitoids—each highly specific to different larval instars and pupal stage—as well as numerous predators found in the field.

BSN: Plantation crop entomology involves extensive fieldwork. What are some unique challenges and rewards of working in such ecosystems?

CM: Coconut, predominantly cultivated as a homestead crop in Kerala, grows in close association with people. Consequently, the loss of even a single palm is felt profoundly—both by farmers whose livelihoods depend on it and by the scientists committed to safeguarding the crop. Implementing pesticide spraying for pest management is largely impractical due to environmental and health concerns, as well as the shortage of skilled labor. Additionally, data collection in coconut fields heavily depended on trained climbers, making the process even more challenging. In coconut research, to correlate any pest management study to yield it takes a minimum of three years to generate data. However, perennial nature of the crop gives more freedom to work on sustainable nature-friendly management options.

BSN: As a woman scientist in entomology, what challenges did you face early in your career, and how did you overcome them?

CM: Although I had registered for a full-time Ph.D. at Calicut University in 1985 with a CSIR fellowship, I was unable to continue due to my posting at the Lac Research Institute in Ranchi. Later, when I chose to return to my Ph.D., balancing a demanding career with the responsibilities of raising two young daughters, especially with my husband working in another city, was undoubtedly challenging. I adapted by shifting to a part-time Ph.D, a decision that allowed me to progress academically without compromising my career

and family.

BSN: How important has mentorship been in your career, and how do you support young researchers especially women today?

CM: My research guide, the late Dr. B. Sathiamma, has been one of the greatest inspirations in my scientific journey. Her sincerity, dedication, and remarkable work ethic left a lasting impression on everyone who worked with her. She exemplified punctuality in submitting reports and constantly reminded her juniors about the judicious use of government resources no matter how small the expenditure. She often emphasized that our work ultimately serves the farmers, and that we must demonstrate technologies ourselves in the field. Only then, she taught us, can we gather genuine feedback, refine our interventions, and make them more farmer friendly and impactful.

I was also fortunate to have exceptional colleagues at ICAR–CPCRI Kayamkulam. My seniors, Dr. C. P. R. Nair, Mr. P. Rajan, and my junior Dr. A. Joseph Rajkumar, whose support and teamwork greatly enriched my professional experience. We always worked as a cohesive unit, and this spirit of collaboration is something I wholeheartedly recommend to all young researchers. Strong teamwork not only strengthens research outcomes but also shapes us into better scientists and individuals.

BSN: What strategies helped you balance scientific work, field responsibilities, and personal life?

CM: Extended working hours were quite common at the ICAR-CPCRI Regional station, Kayamkulam, during that period, often involving intensive fieldwork and week long official tours. Through all of this, I was blessed with two wonderful daughters who were remarkably understanding and

supportive of my work commitments and frequent travel. My mother would often visit and help care for them in my absence, and our neighbour, Mrs. Alamelu Srinivasan (Wife of Dr. Srinivasan ICAR-CPCRI), extended her unconditional support during those years at CPCRI Quarters. Their presence and encouragement made it possible for me to continue pursuing my professional responsibilities with confidence and peace of mind.

BSN: What skills beyond academic knowledge are essential for success in applied entomology today?

CM: Along with strong academic skills in insect species identification, patience is essential. Equally important is the ability to listen to and understand problems faced by farmers, combined with the readiness to engage in extensive fieldwork.

BSN: How do you see the role of entomologists evolving in ensuring food security, ecological resilience, and sustainable agriculture?

CM: We must always think about holistic plant health management especially in plantation crops rather than in pest management. Nowadays ecosystem management is given much importance with higher awareness on “One Health”. Biological control has become a strategic pillar of sustainable agriculture playing a crucial role in pest management while safeguarding food security and environmental health.

BSN: If you could change one thing about how entomology is taught or practiced in India, what would it be?

CM: We need to provide students with more hands-on practical exposure, developed through strong collaborations with institutes working on field crops, so that their interest in the subject can be meaningfully nurtured.

**BSN: Looking back, what gives you
the greatest sense of fulfilment as an
entomologist and scientist?**

CM: Seeing farmers adopt the technologies
I developed and witnessing their positive impact
directly in the field has been deeply rewarding.

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