



*Tsvi Sachs (1936–2007)*  
*In Memoriam*

Tsvi Sachs, Professor Emeritus of Botany at The Hebrew University of Jerusalem, passed away suddenly after a brief illness, in January 2007.

Tsvi Sachs was born in Tel Aviv and grew up in the Sharon area, where he came into contact with the surrounding orange orchards, with Israel agriculture, and with plants. He attended the well-known Gymnasia Herzlyia high school, one of the most prestigious schools in Israel in those days. He began his studies in the Hebrew University in 1956 and was awarded his M.Sc. degree, *summa cum laude*, in 1961, doing his thesis work under my supervision. He continued his studies at Harvard University, under the supervision of Professor Kenneth Thimann, one of the most prominent plant scientists of the 20th century. He received his Ph.D. in 1965. It was Kenneth Thimann who first got him interested in plant growth substances and the first of his publications with Thimann, on apical dominance, was published in 1964. This topic continued to interest him throughout his research. In 1966 he joined the Department of Botany of the Hebrew University, where he was appointed lecturer. From then on he continued as a member of the academic staff of the department, being promoted to the rank of Full Professor in 1979. Throughout his career, a central scientific interest was the control of the development of plants and the factors that regulate their morphology, form, and structure. A particular feature was his work on the differentiation of vascular tissues of plants and the role of auxin indoleacetic acid, as a factor guiding and determining the direction of the development of the vascular system. He especially stressed the importance of the direction of flow of auxin and not just its presence or concentration. The pattern of differentiation was a central point of focus in all his research. His work and his contributions to this topic were in many ways groundbreaking. This aspect culminated in a review in *Advances of Botany* 1981, which to this day is a definitive

discussion of patterned development of the vascular system of plants. In 1985 he received the Jeanne Siron Pelton Award for sustained and creative contributions to plant morphology from the Botanical Society of America. His continued research led him to the problems of how patterns are formed in plants, for example, what determines the distribution and frequency of stomata on a plant leaf, and branching patterns in trees. The various aspects of this problem occupied Tsvi Sachs over the years, and his efforts were summarized in his book *Pattern Formation in Plants Tissues*, which appeared in 1991, again a central publication. Tsvi's interests were always wideranging; he was a true biologist who observed plants in their natural habitats. As he walked every day from his home to the university campus, well over four kilometers, he would notice the germination and growth and development of plants and follow up his observations over long periods of time in order to acquire better insight into what happens in nature and not just in the lab. His lab was always full of plants that he grew and whose growth and development he manipulated in various ways. He was a recognized authority on plant morphogenesis; over the years he was asked to summarize aspects of plant development, for example in *Plant Cell and Environment* in 1999 and again in *Current Opinions in Plant Biology* in 2001. Tsvi was a devoted and almost perfect teacher. He spent time and energy preparing his lectures and always succeeded in arousing the interest of his students, who appreciated his lectures. As I taught a course in Fundamentals of Botany together with him, I followed his lectures, which were always a model of clarity and logic, and at the same time challenging intellectually. In this respect he was far from being a run-of-the-mill academic. His interest in teaching also had other aspects. For several years he was chairman of the teaching committee and assistant dean for teaching in the Faculty of Science. Although he was never fond of administrative duties, he fulfilled this function with energy and innovation, and his approach was characterized by his lack of formality, his non-conformism, and the originality of his approach to the problems inherent in this job. He was a member of the Committee for High School Biology of the Ministry of Education and worked to refresh and update the high school curricula, and was one of the few university staff who devoted time and effort to the problems of secondary school education.

Tsvi liked to work alone in his research and, by choice, had relatively few students. Although at times shy and withdrawn, he never refused help to anyone who asked for it, students or colleagues alike.

Tsvi Sachs was an unusually gifted, unconventional scientist, kind yet reserved, original and non-conformist in his approach to science and to society, and always contributing to his surroundings. He was devoted to his family and is survived by his wife, a son, two daughters, and a granddaughter. All those who knew him will miss him. I feel I have lost both a friend and long-term colleague.

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