

Eliahu Swirski
1921–2002



IN MEMORIAM

Professor Eliahu Swirski, a gifted entomologist and a veteran research scientist in the Israeli entomological community, a world-renowned specialist in Phytoseiid mites and aphids, a strong advocate of biological control, an inspiring teacher, and one of the founders of the Entomological Society of Israel, died on March 4, 2002, in Tel Aviv. Eliahu's passing is an enormous loss, not only to his family but also to the entomological, acarological and aphidological community, to farmers and to students. On the personal level, I lost a dear friend.

Eliahu Swirski was born in 1921 in Vilna, Lithuania, and immigrated to what was then Palestine at the age of 13. As a boy he was already attracted to agriculture and therefore majored in agricultural studies at the Herzliya High School, from which he graduated in 1938. During 1938–1942, Swirski studied biology at The Hebrew University of Jerusalem. With the outbreak of the Second World War, he interrupted his studies and volunteered for service with the British Army, in which he served from 1942 until 1946. After the war he resumed his studies and in 1948 was awarded his M.Sc. degree in Zoology. During the same year he began working as a scientist in the Department of Entomology of the Agricultural Experiment Station, Rehovot, but again had to set aside his professional activities when the Israeli War of Independence broke out. He served in the Israel Defense Forces (Givati Brigade) throughout the war (1948–1949), participating in the battles in the south of Israel.

Swirski resumed his job in the Department of Entomology soon after the war was over and received his Ph.D. degree in 1951, for his studies of aphids attacking fruit trees. He was soon recognized as a world authority in this field of research, and in 1951 he was invited by Prof. F.S. Bodenheimer to join the Department of Entomology at The Hebrew University of Jerusalem, where he continued his studies of aphids. These studies resulted in a comprehensive book, *The Aphids of the Middle East*, written with Prof. Bodenheimer and published in 1957.

Eliahu Swirski's love of agriculture and his strong desire to help find solutions for practical agricultural problems motivated him to return to the Agricultural Experiment Station in 1955; there he began his intensive and extensive work on pests of deciduous fruit trees, citrus, date palms and avocado. His numerous studies and his day-to-day contacts with the farmers contributed to the solution of many agricultural problems.

One could compile a long catalog of the pests that he investigated, which included, *inter alia*, the following: Aphids: the pear phylloxera *Aphanostigma pyri* on pears, and the spirea aphid *Aphis spiraeicola* on citrus; Mealybugs: the long-tailed mealybug *Pseudococcus longispinus* on avocado; Flies: the Mediterranean fruit fly *Ceratitis capitata* on peaches and mangoes; Psyllids: the pear psylla *Psylla pyricola* on pears; Scale insects: the date palm scale *Parlatoria blanchardi* and the date pit scale *Asterolecanium phoenicis* on date palms; the California red scale *Aonidiella aurantii*, the Florida wax scale *Ceroplastes floridensis*, and the Mediterranean black scale *Saissetia oleae* on citrus; Mites: the citrus rust mite *Phyllocoptruta oleivora* on citrus and the carmine mite *Tetranychus*

cinnabarinus on strawberries; and Lepidoptera: the honeydew moth *Cryptoblabes gnidiella* and the giant looper *Boqrmia selenaria* on avocado. Swirski contributed an enormous amount of data to the knowledge of Phytoseiid mites, and published many papers on their biology, ecology, reproduction, taxonomy and control.

In 1959 Eliahu Swirski was appointed Head of the Department of Entomology at the Agricultural Experiment Station (later to be known as The Volcani Center of the Agricultural Research Organization [ARO]) and held this position, despite the many difficulties and hard work involved, until his retirement in 1986. Under his leadership, emphasis in the Department was placed on projects dealing with the biological control of insect pests by their natural enemies. Biological and ecological studies of insect pests and their natural enemies were carried out in the Department of Entomology, and many parasitoids and predators of these pests were imported into Israel from other countries. A great believer in and proponent of biological control of insect pests, Swirski dedicated himself to studies of this subject and should be considered one of the founders, in Israel, of the Integrated Pest Management (IPM) approach. His research in this field contributed to the development of IPM systems for citrus, date palms and avocado.

In 1959 Dr. Swirski was awarded the Histadrut Prize for his studies of the biology of the citrus rust mite and in 1961 he received awards from the Municipality of Rehovot and the Citrus Marketing Board of Israel. In 1960 he was invited to Japan and Hong Kong to conduct a survey of Phytoseiid mites – a mission that resulted in the description of several new species. During 1964–1967 he served also as the Director of the Institute of Plant Protection within Israel's ARO and, despite the heavy load of administrative work, continued his scientific activities with even greater energy.

Among his many other activities, Eliahu Swirski was involved in the taxonomy of aphids and predatory mites, and described many new species. Ten newly described insect species carry his name, an honor awarded to him by taxonomists from all over the world. They are: *Amblyseius swirskii* Athias-Henriot; *Phytoseius swirskii* Gupta; *Seiulus eliahuswirskii* Ragusa di Chiara; *Typhlodromus swirskii* Denmark; *Platysejiella eliahui* Ueckermann; *Phytocoris swirskii* Linnavuori; *Metaphycus swirskii* Annecke and Mynhardt; *Paraseirola swirskiana* Argaman; *Lachnus swirskii* Hille Ris Lambers; and *Swirskiaphis* Hille Ris Lambers, a new genus. In 1972 Prof. Swirski traveled to Kenya and South Africa searching for natural enemies of soft scales. He subsequently succeeded in introducing many of them into Israel, including the parasitoid *Metaphycus bartletti*, an efficient natural enemy of *S. oleae*. In addition he discovered another parasitoid, a new species, described later as *M. swirskii*, that became successfully established in Israel as an important natural enemy of the pyriform scale *Protopulvinaria pyriformis* on avocado.

Throughout the years, Eliahu Swirski developed close relationships with many scientists from overseas and was often asked, as a world authority on the taxonomy of predatory mites, to re-examine species sent to him from all over the world. He was also well known as an excellent lecturer and was chosen in 1974 as Lecturer of the Year at the ARO (The Volcani Center). In 1978 he was invited to teach at the Faculty of Agriculture of The Hebrew University of Jerusalem, in Rehovot, and continued to do so until 1988. Several times his many students voted him Best Lecturer at the Faculty of Agriculture. Recognized as an excellent scientist and inspiring teacher, he also supervised the work of numerous students towards their M.Sc. and Ph.D. degrees, and some of these students continued working with him later in the Department of Entomology at The Volcani Center (ARO).

From 1983 to 1988 Prof. Swirski was a valued member of the Editorial Board of *Phytoparasitica*. In 1986 Prof. Swirski was awarded the prestigious Kaplan Prize for developing an IPM system for avocado groves in Israel which resulted in reduced applications of insecticides and improved environmental ecology. In the same year he was appointed an Honorary Fellow of the Pesticide Research and Development Fund. In 1987 his name was entered in the Golden Book of the Jewish National Fund (Keren Kayemet le'Israel) by the Fruit Marketing Board of Israel, in recognition of his work on fruit tree pests. In 1988 he was awarded an Honorary Fellowship by the Agricultural Research Organization.

Professor Swirski officially retired in 1986. Nevertheless, he remained active and continued to participate in most of the projects in which he had been involved previously. Upon his retirement he established The Rachel and Eliahu Swirski Foundation, which helps to support university students specializing in Entomology and in Insect Pest Management. He also established the Rachel and Eliahu Endowment Fund for supporting the *Israel Journal of Entomology*. He maintained his contacts with scientists abroad, and with individual farmers and establishments in Israel, and continued his regular visits to fruit tree plantations throughout Israel, advising farmers, conducting field trials and collecting insects for his future publications. In 1994 Eliahu Swirski was awarded the country's most prestigious honor – the Israel Prize – for his achievements in the field of biological control, environment protection, and teaching the next generation of entomologists.

Professor Swirski was active until the last days of his life, and recently published several faunistic papers on the Phytoseiid mites of Israel and an annotated list of Israeli Aphidoidea. Professor Swirski's 266 publications include scientific papers, books and chapters in books; his last book, on *Arthropod Pests of Subtropical Fruits of Israel*, is currently in press.

Eliahu is survived by his wife Rachel, his daughter Tali, his son Yoram and his family, and his grandchildren Yohay and Matan; we extend our condolences to them in their sorrow. He will be fondly remembered for his achievements and fine personality and will be sorely missed, by his family, colleagues and friends. We will cherish his memory.

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