

## BIOGRAPHICAL NOTICE

### RNDr. Zdenko Polák, CSc. – 70 years

RNDr. Zdenko Polák, CSc., plant virologist, senior research scientist of the Research Institute of Crop Production in Prague-Ruzyně, former head of the Department of Plant Pathology of the Institute of Experimental Botany, Czechoslovak Academy of Sciences, and scientific secretary of the Institute was born in Prague on November 13, 1932.

Already as a school-boy he was interested in living nature, principally in botany. It thus does not surprise that right after finishing high school he became technician at the Department of Plant Pathology, Institute of Experimental Botany, in 1951. After 2 years of service in the army he came back to this institute and matriculated at the Faculty of Science of the Charles University in Prague as an external student specialised in phytopathology. He studied with honors and graduated after defence of his diploma work “The Inhibitory Effect of Mucoproteins on Infection with Some Viruses” in 1960.

Dr. Polák started to work in plant virology at the Department of Plant Pathology under the supervision of academician Ctibor Blatný and RNDr. Jaroslav Brčák, DrSc. They suggested to him to study the problem of wild plants as natural sources of virus infection and their role in persistence and circulation of viruses in the open. In 1963 Dr. Polák defended his PhD. thesis “Virological Characterisation of a Selected Ruderal Plant Association”. His orientation at ruderal plant communities, which at that time had not been not fully explored from a virological point of view, remained his main scientific interest and later made him a well known specialist in that field even abroad.

In 1968 Dr. Polák was granted a Postdoctoral Fellowship by the National Research Council of Canada and started to work at the Virology Laboratory of the Cell Biology Research Institute, Canada Department of Agriculture, Ottawa. There he spent over 2 years studying the biological and physico-chemical properties of the new and economically significant *Wheat spindle streak* and *Poa semil latent viruses*. He also took part in studies on virus transmission by the mite *Aceria tulipae*, which had been discovered by his Canadian co-worker John T. Slykhuis, and cooperated with the American Type Culture Collection.

After his return from Canada he continued to investigate viral infections of the ruderal flora and succeeded to isolate from two *Umbelliferous* species the *Cow-parsnip mosaic virus*, a new virus which at the time was the third *Rhabdovirus* known to infect plants. He detected the virus also in material sampled in Germany and Finland. He discovered nine viruses new for our country, and over 100 new spontaneous ruderal host-virus interrelations. His results proved that ruderal communities can be severely infected with a number of economically significant viruses and mutants. They thus present a potential and permanent danger through the spread of virus infection into crops by specific vectors. In this context he also elucidated the role of wild annual plants in the persistence of viruses in the open.

In another field, Dr. Polák's thorough studies contributed to the knowledge of the role of surface waters in the spontaneous spread of viruses in our country. From the waters of streams, ponds, dumps, swamps and irrigation ditches he isolated infectious virions of eight significant virus species, of which *Tobamoviruses*, *Cucumber mosaic* and *Tomato bushy stunt viruses* were prevalent. He proved the persistence of *Cucumber mosaic virus* in water of an irrigation ditch, discovered that littoral and aquatic plant species are responsible for the contamination, and verified that the preservation of infectious virions in the water environment is affected by factors such as clay minerals and humic acids.

When forest decline began to become serious in Europe, Dr. Polák was asked to initiate studies of virus diseases in forest ecosystems which, not only in our country, had so far been neglected. Dr. Polák achieved priority results when investigating oak, beech, birch, ash, mountain ash, aspen, elder, elm, spindle and some deciduous ornamental trees infected with a virus, but also the changes in growth habit of uninfected trees. Some of the investigations were carried out in cooperation with foreign institutions in Germany (Phytopathological Institute at Aschersleben, and the University of Bonn) and Croatia (University of Zagreb). His studies showed a considerable spread of soil-borne and nematode-borne viruses. This illustrated the fact that our actual knowledge of viruses and their distribution in forest ecosystems still resembles the tip of an iceberg because of frequent latent and sectorial infectious that easily escape attention. The results significantly supported the theory that virus diseases are important predisposing factors for the decay of trees caused by a polluted environment. He also proved the contamination of surface water by sources of infection within the forest.

Dr. Polák worked as the coordinator of the main projects in plant virology at the Institute of Experimental Botany with participation of other institutions. As head of the Plant Pathology Department he spent much time and energy in support and teaching of young research workers. In the course of 20 years, nine graduate students obtained their PhD. under his supervision. Some of them are now in leading positions at various institutes, here and abroad. Many years he worked as the chairman of the Committee for defence of PhD. theses in agricultural phytopathology.

Dr. Polák is a member of the Section of Plant Medicine of the Czech Academy of Agriculture. In the past he was a member of the editorial boards of *Plant Protection Science* and *Biologia Plantarum*. He taught plant virology at the South Bohemian University, České Budějovice, and the Horticultural College at Mělník and organized several conferences and international meetings on plant virology.

The results he achieved and his merits in the development of plant virology in our country were appreciated and recognised by the Award of the Czechoslovak Academy of Sciences and medals of the Czech Academy of Agriculture and the Research Institute of Crop Production.

Along with our congratulations at this jubilee-year of his life we have to commend the outstanding human qualities of Dr. Polák and his always frank and positive relations with everybody. For the future we wish him the best of health and many happy years.

JAROSLAV POLÁK (Prague)