

## Chronicle

# Professor Barbara Machnicka-Rowińska DVM PhD (1932–2016)

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Fig. 1. Prof. Barbara Machnicka-Rowińska honored with the dignity of Honorary Member of the Polish Parasitological Society; XXIst Congress of the PPS, Międzyzdroje 2007 (on the left: Prof. Bożena Moskwa, President of the PPS)

Professor Barbara Stanisława Machnicka-Rowińska was born on February 23, 1932 in Warsaw in the family of intellectuals. Her mother was an opera singer; father was a military instructor who took an active part in the works of the Polish Underground State during World War II. Ms Barbara Machnicka and her family survived the war in Warsaw and after it she began intensive learning in school.

Having obtained a diploma in Jan Kochanowski Secondary School, she studied at the Veterinary Faculty of the Warsaw University of Life Sciences (SGGW). She graduated in 1953 and started research work in the Department of Epizootiology at the Veterinary Faculty, SGGW. Under the guidance of Prof. A. Stryszak she was investigating

scabies in silver foxes, brucellosis and other animal diseases.

On account of her involvement in scientific research, Ms Barbara Machnicka received a doctoral scholarship in order to pursue actively the object of her study. She earned the degree of Doctor of Veterinary Medicine on the basis of the thesis entitled "Studies on hepatic dysfunction in dogs and foxes infected with the virus *Hepatitis contagiosa canum*" (October 26, 1960).

Dr. Barbara Machnicka decided to continue her work at the Veterinary Faculty of SGGW in Warsaw. After serving a short internship in the Department of Parasitology, SGGW, she obtained the position of a senior assistant (1961) and then an assistant professor in the Department of Parasitology.

In her work at the Department of Parasitology she chose the field of immunology, focusing primarily on the study of parasitic antigens, especially of tapeworms in sheep, and the immune response of the infected animals. The research concerned *Taenia saginata*, *Hymenolepis diminuta*, *Echinococcus* and nematodes *Trichinella spiralis* and *Toxocara canis*. Specific studies for the evaluation of antigens concentrated on *Moniezia expansa* (the tapeworm of goats, sheep and cattle) – the subject of future habilitation work.

Over the years, she developed research on the detection of circulating immune complexes, evaluation of immunosuppressive states in the host and detection of coproantigens in the invasion of *Taenia saginata* and *Echinococcus multilocularis* in humans. The studies have permanently enriched the scope of knowledge in the field of immunoparasitology.

A separate topic of research related to the detection of *Cysticercus bovis* invasion in cattle

using intradermal test in diagnostic evaluation.

In 1972 (November 28), on the basis of the assessment of overall scientific achievements and habilitation thesis entitled "Studies on *Moniezia expansa* antigens", she received a postdoctoral degree in veterinary sciences in the field of parasitology (conferred upon her by the Council of Veterinary Faculty, University of Agriculture in Warsaw).<sup>1</sup>

Further scientific activity of Associate Professor Barbara Machnicka-Rowińska was honored with the scientific title of Professor of veterinary sciences (February 18, 1988).

In 1997 (October 15) Prof. Barbara Machnicka-Rowińska, was appointed to the position of Professor at the W. Stefanski Institute of Parasitology, the Polish Academy of Sciences in Warsaw. She worked in the Institute until 2002, serving as Head of the Immunology Laboratory. She was also a member of Scientific Council of the Institute.

The contribution of Prof. Barbara Machnicka-Rowińska, to the development of selected aspects of research in the field of experimental trichinosis cannot be overlooked. In the 90's her attention focused on the pathogenesis of changes in muscle cells in the course of *Trichinella spiralis* invasion –

the meaning of the nurse cell-larva complex of *T. spiralis*, morphological and ultrastructural reconstruction and participation of satellite cells in response to injury and reorganization of muscle cell in the course of *T. spiralis* invasion.

She presented some issues from the scope of experimental trichinellosis at international conferences of the International Commission on Trichinellosis: the 8th International Conference of ICT (Orvieto 1993, Italy) and the 10th International Conference of ICT (Fontainebleau, 2000, France); in 2001, during the 18th International Conference of the World Association for the Advancement of Veterinary Parasitology (Stressa 2001, Italy), she presented the paper on detecting the presence of the *T. spiralis* antigen in urine in humans and experimental mice in the early stages of invasion (in cooperation with the Department of Infectious Diseases in Bialystok).

In 2002 she was the main co-author of team experimental work on ultrastructure of nurse cell-larva complex of *Trichinella spiralis* in mice examined in the sixth month of the invasion. The paper was presented at the 10th International Congress of Parasitology – ICOPA X (Vancouver, August, 2002, Canada). In 2005, together with her research team, she published another work on



Fig. 2. Xth International Conference on Trichinellosis; Fontainebleau, 20-24 August 2000 (from the left: Prof. Wanda Kocięcka, Prof. Barbara Machnicka-Rowińska and Prof. Bożena Moskwa)

<sup>1</sup> This was the period in which the Faculty of Veterinary Medicine, University of Life Sciences was incorporated into the University of Agriculture in Warsaw.

calcification process of *T. spiralis* larval capsule.

Prof. Barbara Machnicka-Rowińska associated scientific research with organizational activities and cooperation with a number of scientific institutions, thus expanding the horizons of science and research capabilities.

A large impact on the deepening of knowledge and the development of scientific work had internships at research centers in the country and abroad, among others the internships in the Department of Microbiology, Medical University in Warsaw (Prof. E. Mikulaszek), the Department of Parasitological Faculty of Pharmacy University of Lille (Prof. J. Biquet) and the Imperial College of Science, Technology and Medicine, University of London (Prof. D. Smith).

In 1990–1992, Prof. Barbara Machnicka-Rowińska participated in the project of FAO/UNEP/WHO working group which, basing on the results of scientific research, developed in subsequent years guidelines designed to prevent and combat echinococcosis, taeniasis and cysticercosis. She was involved in preparation of a scientific conference devoted to the diagnosis and combating bovine cysticercosis, which was held in 1978 in Edinburgh under the patronage of Scientific Veterinary Commission of the European Economic Community.

Professor Barbara Machnicka-Rowińska cooperated with several research centers in the country, which resulted in collective publications and participation in scientific conferences. Worth mentioning are: the Institute of Marine and Tropical Medicine in Gdynia (Prof. Cz. Zwierz, Prof. P. Myjak), Department of Infectious Diseases, Medical University in Białystok (Prof. D. Prokopowicz), Department of Parasitic and Tropical Diseases, Medical University in Poznań (Prof. W. Kocięcka), Military Institute of Hygiene and Epidemiology in Warsaw (Prof. Z. Golińska), Department of General Biology and Parasitology, Medical University of Warsaw (Prof. B. Grytner-Zięcina). She also collaborated with the Mammal Research Institute in Białowieża. Among the foreign centers she greatly valued scientific cooperation with the Czechoslovak Institute of Parasitology and later the Slovak Academy of Sciences in Kosice, where she conducted cooperative immunologic studies on the course of the *Cysticercus bovis* invasion. She was

awarded the prize of the Czechoslovak Academy of Sciences (CSAV) and the Polish Academy of Sciences (PAN).

In the years 1981–2002 Professor Barbara Machnicka-Rowińska was a member of the Parasitology Committee of Division II, Biological Sciences of PAN. Over a period of two terms, in the years 1990–1992 and 1993–1995, she served as Chairperson.

Since 1965 she was a member of the Polish Parasitological Society (PTP); in the years 1967–1983 she served as Vice-President and later Chair of the Warsaw Branch of PTP. On her initiative the Conference and 3 symposia on "Dictyocaulosis in cattle – scientific and practical problems" (1972) were organized during this period. A series of Symposia (1974, 1980, 1981) were devoted to assessing economic losses of livestock caused by endoparasites; energy metabolism of endoparasites and foundations of immunodiagnosis of invasive diseases.

Professor Barbara Machnicka-Rowińska was the author of over 200 scientific publications. She reviewed many doctoral and habilitation theses. She was the supervisor of four doctoral dissertations. In the period 2007–2013 she was the editor-in-chief of *Annals of Parasitology*, the journal of the Polish Parasitological Society.

In 2007, at the request of the Warsaw Branch and by decision of the Main Board of the PTP, Professor Machnicka-Rowińska was honored with the dignity of Honorary Member of the PTP (during the XXI Congress of the PTP in Międzyzdroje). On October 20, 2014 during the Scientific Conference on „Polish Parasitology at the turn of the 20th and the 21st Century” (Warsaw, the Polish Parasitological Society, the Polish Academy of Sciences) she was awarded the title: Nestor of the Polish Parasitology.

Scientific activity was her passion. Her chief qualities were thoroughness and discernment in research work. She was demanding of herself and of others, and for that reason she is respected in the world of science. She was a woman sensitive to people and the surrounding world, she developed numerous friendships.

She died in the comfort of home on May 17, 2016, leaving family, friends and science – everything she loved.

*All photos from Prof. B. Moskwa archive*