

Obituary



Kazimierz Petruszewicz, 1906—1982

World science suffered a great loss as the result of the death of Professor Kazimierz Petruszewicz on 26th March 1982 in Warsaw. A man has passed on who was not only a distinguished scientist and teacher of a very large number of ecologists in Poland and abroad, but also an outstanding scientific organizer who exerted an important influence on the development of ecology in Poland. His influence was equally great in the shaping of the International Biological Programme. It is seldom that such a wide variety of scientific activity is concentrated in one person.

Kazimierz Petruszewicz was born at Mińsk in 1906. He completed his biological studies at the University of Vilnius. By the time war broke out in 1939 he had published papers on the ecology of spiders and the biocenosis theory. He emphasised the necessity for the integration of ecological studies carried out by zoologists and botanists, and this found expression, amongst others, in his well known contribution presented at the International Congress of Naturalists and Physicians. During the war (1939—1944) he served in a Resistance formation. From 1944—45 he carried out the function of Vice-Minister of Supply, and from 1945—1949 Vice-Minister of Shipping. After an interval of ten years he returned to science in 1949, and as from that date was lecturer on the theory of evolution at Warsaw University. At the beginning of the '50s he published a large number of dissertations on the significance of the concept of species for the development of biological sciences. He was particularly interested in the relations between the individual, the species and the population in the process of evolution. He returned to these problems towards the end of his life, publishing in 1978 an excellent book entitled "The individual, population and species". In 1952 he was co-organizer of the Polish Academy of Sciences, in which he was head of the Department of Biological Sciences until 1956. He took up this function again during the period from 1962—1968.

In 1954 Professor K. Petruszewicz initiated studies in the Institute of Ecology, Polish Academy of Sciences, on the population structure of white laboratory mice. One of the more important results of these studies was the paper published in 1958 showing that a change of cage in which the population was kept led to modification of interaction between individuals, which rapidly increased the number of young born and their survival, consequent increase in the numbers of the whole population. The above publication was one of the first to appear in world literature, presenting studies showing experimentally the great importance of interaction between individuals in a population for control of its numbers. In 1956 Professor Petruszewicz became Head of the Institute of Ecology, PAS. The sphere of his interests extended to include studies on the structure of laboratory populations of invertebrates (*Tribolium castaneum* and *T. confusum*). He continued this research during his stay in the United States and in 1961 published the results jointly with the American ecologists T. Park and D. Mortz. On his return from USA to the Institute of Ecology Professor Petruszewicz began to interest himself in the population structure of the wild house mice and forest rodents.

In 1963 Kazimierz Petruszewicz took part in the conference held in Brussels, during which preparations were discussed for research on the productivity of terrestrial ecosystems in connection with the planned International Biological Programme (IBP). He lent his support, with great enthusiasm and ardour to what was the greatest biological programme of that period. During the 1st General Meeting of IBP in Paris (July, 1964) he was elected Vice-Chairman for the period 1964—1969. Right up to the end of the IBP in 1975 he was a member of the Special Committee for the International Biological Programme (SCIBP) which exercised scientific supervision over the programme.

During the first session of SCIBP in July 1964 Professor K. Petru-

sewicz was entrusted with the task of drawing up a programme of studies on secondary production of terrestrial ecosystems. It was due to his initiative that minimum and maximum programmes were clarified. In the first of these the values of a certain small number of parameters was estimated, without the necessity for the use of complicated measuring apparatus. The parameters were, however, so chosen as to make it possible, for instance, using data in literature on the bioenergetic characteristics to assess energy flow through a population in a given ecosystem. In the case of the maximum programme, implemented in well-equipped laboratories, characteristics and methods were elaborated which permitted of enlarging studies carried out under the minimum programme. Owing to the above scheme it proved possible both for centres possessing highly-qualified staffs and ample apparatus and newly-formed centres to take part in IBP. The training courses organized were intended to acquaint participants as quickly as possible with research methods and techniques.

As stated in 1975 by J. B. Cragg, Convener of Sectional Committee for Productivity of Terrestrial Communities (PT) it did not prove possible to introduce wide-scale studies based on execution of minimum programmes as IBP developed. This resulted, in his opinion, in many important regions of the world or groups of organisms not being appropriately investigated during the course of IBP. It was Professor K. Petruszewicz who warned SCIBP during the period from 1964—1966 of the possibility of this situation occurring, and this may be considered as a measure of his great knowledge of the principles of organizing science.

In 1966 Kazimierz Petruszewicz organized an international conference which established the programme of activities in section PT at Jabłonna near Warsaw. Material from this conference was published in 1967 in the form of a 2-volume book entitled "Secondary productivity of terrestrial ecosystems", edited by K. Petruszewicz. The book forms an attempt at summing up the state of knowledge at that time on energy flow in terrestrial ecosystems and at setting out a research programme. In addition the meeting of a large number of eminent ecologists from all over the world formed the start of many international contacts which often developed into closer friendships. This personal aspect of many of the conferences organized during the IBP constituted one of his many successes. An outstanding contribution by Professor Petruszewicz to the achievements of the conference at Jabłonna was the presentation of two papers: 1) Concepts in studies on the secondary productivity of terrestrial ecosystems, and 2) Suggested list of more important concepts in productivity studies (definitions and symbols). In addition to the foregoing Professor Petruszewicz was co-author of the paper entitled "Estimation of energy flow through small rodent populations" and the report entitled "Nett production of confined mouse populations". All these four papers exerted a great influence on the development of studies on energy flow in relation of different groups of animals.

It was due to the initiative of Kazimierz Petruszewicz during the Jabłonna conference that the International Working Group on Small

Mammals was founded, and this, in the opinion of J. B. Cragg, was one of the most active working groups of IBP. Three international conferences of this group were organized, at Oxford, England in 1968; Helsinki, Finland in 1970, and the final conference summing up the whole activities of the working group, at Dziekanów Leśny, Poland, in 1973. Professor Petruszewicz was not only co-organizer of these conferences, but also co-editor of the Oxford conference proceedings published under the title of "Energy flow through small mammal population", and co-editor of the final volume of IBP syntheses, published in 1975 by Cambridge University Press under the title of "Small mammals: their productivity and population dynamics". Under the leadership of Professor Petruszewicz the Working Group on Small Mammals published six volumes of Small Mammal Newsletters, composed of 29 numbers, which were sent out to 239 persons in 33 countries, during the period from 1967—1972. This bulletin carried out the valuable function of information, rapidly disseminating news on new methods of research techniques, conferences etc. to which Petruszewicz attached great importance. Polish participants in the Small Mammal Working Group published over 160 papers during the period from 1967—1975. Professor Petruszewicz was the author, or co-author, of 14 papers. This is a very large number if it is remembered that the same time he carried out wide range of important duties and together with A. Macfadyen wrote the book entitled "Productivity of terrestrial animals", which was published in 1970 by Blackwell Sci. Publ. as IBP Handbook No 13. It was the first handbook in world literature to describe different methods used in studies on secondary production, and the book rapidly reached scientists interested in these problems all over the world. In 1970 K. Petruszewicz also published the paper entitled "Dynamics and production of the hare population in Poland", which forms an attempt at applying the concept of productive ecology to game management.

In 1973 Professor Petruszewicz ceased to be Head of the Institute of Ecology of PAS and in 1974 travelled to Caracas, Venezuela, where he helped to organize research in the recently founded Institute of Ecology there.

As elected member of the Board of the International Association for Ecology (INTECOL), he took part in the 1st Congress of Ecology held in 1974 at The Hague, Holland. During the conference he was again elected to the Board for the period of office up to the 2nd Congress at Jerusalem (1978), where for the third time he became a member of the INTECOL Board.

Professor Kazimierz Petruszewicz, in recognition of his outstanding scientific achievements, was elected honorary member of the American Society of Mammalogists in 1975 and honorary member of the British Ecological Society in 1977.

It is impossible in this short survey to mention the whole of the scientific educational and organizational output of Professor Kazimierz Petruszewicz. As head of the Institute of Ecology at Dziekanów Leśny Professor Petruszewicz, by his methods of teaching those under him, formed an ecology centre of world importance. In developing research

on population structure, and later on energy flow and productivity of ecosystems he created an original Polish School of Ecology. It may be said without exaggeration that by far the great majority of eminent ecologists all over the world, active during the period from 1963—1973, visited Professor Kazimierz Petruszewicz at the Institute of Ecology. The conferences he organized, his sending those he taught on visits to centres abroad and the extremely frequent visits of foreign guests enabled the young group of ecologists in Poland to strike out into the wide waters of world science. Today it may be said without exaggeration that Professor Kazimierz Petruszewicz was teacher to a whole generation of Polish ecologists. He assisted and facilitated the scientific development of his staff and took great pleasure in their successes. He himself had experiences of all kinds, ups and downs, but throughout his life he believed in the benefits which the development of ecology was capable of bringing the human race. He was a great man and outstanding scientist, and actively shaped his life without choosing easy ways out. Science has suffered a great loss by his premature death. Up to the last days of his life he was engaged in scientific work, preparing a paper for the 3rd Theriological Congress at Helsinki.

His memory will remain evergreen with all those who had the good fortune to work under his guidance.

L. Ryszkowski

(Photo by Z. Pniewski)

[Dept. of Agrobiolology and Forestry, PAS, Świerczewskiego 19, 60-809 Poznań]