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IN MEMORIAM
PROF.DR. NICOLAE BOTNARIUC

Representative figure of the Romanian Biology, President of the Romanian Biology Society, member of the Romanian Academy, he was one of the founding members of the Faculty of Biology, part of the Western University "Vasile Goldis" from Arad, he has donated to the university's library an impressive collection of over 5000 copies and manuscripts from the field of ecology, biology, physiology and not only.

Professor Nicholas Botnariuc was born on March 13, 1915 at Riscani, Bassarabia. The locality is sitated in Podolia Plateau, about halfway between Edinti city and Balti, in the Raut river basin, an affluent of the Nistru river. In the surrounding there rise hills that sometimes pass 200 m altitude. The diverse and picturesque geographical area clearly explain student Botnariuc's inclination to study natural sciences, especially rock and local fauna. After graduating "Ion Creanga" high school from Balti and getting the baccalaureate in 1936, he enrolled at the Polytechnic School of Bucharest (1936-1938), and then he joined the Faculty of Sciences, Natural Sciences Departament, at the University of Bucharest, where he graduated in 1942. At the faculty he had a pleiad of of brilliant professors, including Ion Popescu Voiteşti (1876-1944), Ion Atanasiu (1892-1949), Andrei Popovici-Bâznoşanu (1876-1969), Gh Th. Dornescu (1898-1980) and Constantin Motaş (1891-1980). Noticed by the latter, he teamed with his field colleague Traian Orghidan (1917-1985), starting, under the guidance of the teacher, the study of Phyllopode crustaceans.

Nicholas Botnariuc worked for a short period of time (1942-1943) at the Zoological Station in Sinaia, then in 1943 he entered after an examination as an assistant at the Laboratory of Animal Morphology, where T. Gh. Dornescu was Head of the Department, successor of the scientist Dimitrie Voinov. Here he prepared his doctoral work, that he sustained in 1946 and published it a year later in "Notationes Biologicae" under the title: "Contributions à la connaissance des Phyilopodes Conchostracés de Roumanie".

In 1948, N. Botnariuc was promoted and appointed Associate Professor, Head of Department of Biology - a position he held until his retirement(1983). In 1962, N. Botnariuc was confirmed professor at the General Biology and Ecology disciplines and appointed Dean of the Faculty of Biology - a position he held until 1972. After nearly 41 years of activity (1942-1983), Professor N. Botnariuc ended his prodigious teaching career. He was able to look back with satisfaction, leaving behind several generations of well-prepared students, to whom he always held up to date lectures with the latest developments in the field, as well as many specialists who he trained in his capacity of a PhD.

Along with teaching, Professor Nicholas Botnariuc had an intense scientific activity in the Faculty of Biology and of the Romanian Academy. Since 1949, he took over as editor of academic volumes in the series "Romania's Fauna". From this series have appeared so far (2005) not less than 88 volumes from the 307 expected according to the " Wildlife Advisor" (1951). Since 1990 he is seconded by St. Negrea as secretary, then as a deputy editor. After he was elected correspondent member of the Academy (1964), Prof. Dr. Botnariuc led an intense activity for environmental protection in Romania, becoming, trough the published scientific work and trough his achievements in the functions entrusted by the Academy, an authority in the field. It is sufficient to remind his activity as Chairman of Commission of Natural Monuments' Protection (1976), as president of the Romanian National Committee for the "Man and Biosphere" program; as chief editor of the magazine "The Preservation of Nature and Environment". In 1981 he was elected an active member in the International Council for MAB / UNESCO Program Coordination. In 1990 he became member of the Romanian Academy and president of the Division of Biological Sciences for a term of four years - position that he served with the same conscientiousness, wisdom and modesty as always.

The scientific activity of Professor N. Botnariuc developed in several directions, closely linked together by the research field (ecology of continental waters) trough systemic concepts and methods applied in biology. All his activity has led to important generalizations for the field of general biology, which have contributed to the strengthening of modern evolutionary theory.

Professor Botnariuc was the supporter of a modern systematic and taxonomy, through which the morphological and anatomical study of the species was correlated with the study of phylogeny and ontogeny, with their ecology and ethology, including their distribution to areas in the past and present. He approached the study of crustacean-concostracee since he was a student (1941), publishing in 1953, together with T. Orghidan, the volume "Phyllopoda" in the R.P. Romanian Fauna. Also in 1953, zoologist Botnariuc published the first paper on tendipedide dipters (today chironomids) whose larvae plays an important role in the trophic cycle of inland waters - group of insects that can be also found today in his studies. Thorough researches, sometimes in collaboration (mainly with Victoria Candea-Cure and Paula Albu), have led to a performance of taxonomic revisions with the description of new species, including larval stages, but also to important results on the ecology of chironomids, studies communicated to International Congress held in Moscow, Pion, Helsinki or

Winnipeg.In 1999, appeared an important synthesis, "The Guide for Determining Chironomids larvae", developed together with Victoria Cure. A special place is taken by a relatively recent work - St. Negrea, N. Botnariuc and HJ. Dumont, 1999 - about phylogeny, evolution and classification of branchiopods, the authors help resolve problems with cladistic method, developed by Henig in 1980.

Danube Lakes ecology - in 1953, Professor N. Botnariuc started the ecological study of continental water in Romania, especially the flooded zone and the Danube Delta, both at the population level and biocoenotic level. After first publishing a paper on dynamics of the population of regular waters (1953), his attention has turned to study the horizontal distribution of zooplankton in the puddle Surianu (1954-1956) and to the hydrobiological study of Gâlcescu Lake (1957). His contribution to the study of plankton is the development of new methods for more accurate estimation of biomass and biological motivations trough vertical migrations.

The study of the Lower Danube basin led Prof. N. Botnariuc to ecological conclusions expressed in works like : "The biological productivity of aquatic ecosystems" (with A. and M. Papadopol Murgoci, 1973), "The Balance of Ecological Systems , and their evolution and deterioration"(1979), "General Characterization of Aquatic Ecosystems" (with S.Godeanu and A. Petran, 1982), "Ecological Monitoring" (1987), "Ecology" (with A. Vădineanu, Didactic and Pedagogic Publishing House, 1982).

Professor N. Botnariuc has entered his name among the Romanian travelers and explorers abroad. He was 55 years old when he had the chance to lead the first Romanian trans-African scientific expedition. Worldwide, it was the second Romanian scientific expedition, the first one being the expedition of the Institute of Speleology "Emil Racovita" (L. Botoşaneanu, V. Decu St. Negrea and Racoviţă Gh.) who explored the caves of Cuba (and not only) between 14 March and 17 June 1969. The explorers have covered about 18,000 km through 12 countries in Africa. The eight members of the expedition (including four biologists: Botnariuc Nicolae, Dragos Neculce, Nicolae Coman and Valeriu Cimpoeru) have started on the Atlantic coast of Dakar on 9 December 1970 and, through the dry savanna, the deserts and dune and equatorial forest, reached the Indian Ocean coast at Mombassa, on 2 April 1971. The explorers brought into the country zoo and botanical material for students and museums and valuable scientific material, including fish of the genus Protopterus Polipterussi, considered living fossils, and the algae Spirulina from Ciad Lake. Other information from the source can be found in the book "Romanians of seven continents" by Val.Tebeica (1975) that took the explorers a collective interview printed on 40 pages.

In the field of general biology, Professor N. Botnariuc published the first synthesis of studies on evolution, variability, role of environmental factors and especially about the entireness of whole living world. These studies were among the first of its kind in Romania, contributed to the understanding of biological processes in Romania and the spread of modern theories in the field. Reading summaries related to general systems theory put him in contact with the evolution of ideas in general biology and history of biology trends in Europe and America (V. Farcas and Sidonia Soran, 1982). Addressing issues of general biology, namely the relationships between organisms and the environment, intra- and inter-specific relationships, the evolution of species factors, organization of living matter in terms of systems theory has allowed Prof. Botnariuc to explain important theoretical issues, such as: the adequacy and adaptive nature of variability, the problem of hyperthely, the completeness of biological systems and other.

To emphasize the thinking of Professor N. Botnariuc in issues of general biology, we quote the most important works in chronological evidence in this area: "The Issue of Specie and the Discussion Around It" (1957), "The Idea of Evolution in the Study of Living Nature and the Problem of Development Factors "(1960) "Some Aspects of Intra-and Inter-specific Relationships in Animals"(1960)," Levels of Organization of Living Matter "(1964), " Some Theoretical Aspects of the Problem of Completeness in biology" (1964) , " Adaptation and Adequacy - Two Essentially outstanding Biological Phenomenon (1966) the book "General Principles of Biology"(1967), "Self-adjusting Nature of Evolution" (1970), "The Concept of General biology and Systemic approach" (1973, 1976); the book "General biology" (1974 and 1982), "Evolution in the Present and Future" (1980), "Some Problems of Current Evolutionism" - speech of acceptance to the Academy (1992) the book "Evolutionism in Impasse"(1992) and the book "Evolution of Supra-individual Biological Systems " (1999 and 2003).

Professor Botnariuc wrote an inspired book for youth, entitled "Life in the Delta" (1960). The volume is rich and suggestive illustrated showing his real talent and style in fiction. It is worth reproducing here the motto of the book, signed by Darwin, which calls for the popularization of Science. "I think sometimes that general and popular impressions are almost as important for the advancement of truth as original works."

Professor Botnariuc greatly contributed to the protection and conservation of natural habitats from the mountains to the Danube Delta, following the tradition inherited from Emil Racovita, GrigoreAntipa and Alexandru Borza. Before being the president of the Natural Monuments Commission, he began publishing articles on the protection and the need of conservation of species and ecosystems. The chosen topics are relate to: the protection of water in the Danube flood plain and their productive potential (1968), the need to establish national parks in the Danube Delta (N. Toniuc and Al. Filipascu, 1975), national parks,

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forests and environmental protection (with N. Boşcaiu and N.Toniuc, 1979) ecological fundaments of environmental protection(with A. Vădineanu, 1984), the cost of development and its environmental implications (1987) ;Current problems of nature protection (1987), the relationship between socio-economic and environmental protection (1988), "Red Book of Vertebrates in Romania"(edited by V. Tatole, 2005). Articles on environmental protection are fewer overseas: Repetek biosphere reserve (with N. Toniuc, 1980), National parks in the design of global strategy of nature conservation (1986). In particular, it is worth mentioning the article "Ecological Role of Fire" (1976), in which Professor Botnariuc reveals a series of positive and negative impacts of fire on plant and animal biocoenosis - the article is based on personal observations made in the African savannah and sub-equatorial forest during the 1970-1971 expedition.

Professor Nicholas Botnariuc taught at the Western University “Vasile Goldis” Arad, being one of distinguished biologists from which many scientists have learned the secrets of research, a great man, distinguished biologist, with a scientific activity which has led to important generalizations for general biology, contributing to the consolidation of modern evolutionary theory.

Undoubtedly, Professor Botnariuc was a great man.

Let him rest in peace!

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