

OBITUARY

Krešimir Balenović

(1914–2003)

Professor Krešimir Balenović, the distinguished Croatian chemist and member of the Croatian Academy of Sciences and Arts, died on February 25, 2003. He was born on May 17, 1914 in Zagreb, where he finished elementary and grammar school (1933), and graduated in chemistry from the Faculty of Philosophy (1937). Two years later (1939), he won his doctor's degree from the University of Zagreb with the thesis *A Contribution to the Chemistry of Elemi Resin Acids*, written under the supervision of Professor Miloš Mladenović (1898–1973). Balenović did postdoctoral research from 1942 to 1943 with Albert Szent-György (1893–1986; in 1937 he won the Nobel Prize for medicine and physiology) at Szeged University, and from 1949 to 1950 with Vladimir Prelog (1906–1998; he shared with John Warcup Cornforth the Nobel Prize for chemistry in 1975) at ETH (Zürich). Later on, Balenović returned to ETH as visiting professor (1968–1969).

From 1939 he worked as an assistant lecturer in the Chemistry Division of the Faculty of Philosophy and in 1945 he was appointed associate professor of organic chemistry at the Faculty of Pharmacy. In 1946 he was appointed associate professor and in 1952 full professor in the Department of Chemistry of the Faculty of Science and Mathematics. From 1946 to 1970 he served as head of the Laboratory of Organic Chemistry and Biochemistry, and as dean of the Faculty of Science and Mathematics (1958–1959). After retirement, Balenović ran the Center for the Chemistry of Natural Organic Compounds of the Croatian Academy of Sciences and Arts (the former Yugoslav Academy of Sciences and Arts).

Balenović successfully collaborated with several Croatian companies such as Fotokemika, Chromos, Pliva. He was one of the founders of chemical research at the Rugjer Bošković Institute (RBI) and was its external staff associate from 1954 to 1958. He also sat on the editorial boards of *Croatica Chemica Acta* and *Tetrahedron*. He was elected an associate member of the Yugoslav (now Croatian) Academy of Sciences and Arts in 1958 and its regular member in 1975. He received the Life Achievement Award in 1985. He was also one of the first six vice-presidents of the newly established independent Republic of Croatia.



Balenović's research has been published in a number of research papers in the field of natural organic compounds, amino acids, sulfur organic compounds and polyketones. His research was primarily focused on natural compounds of interesting physiological action but he also worked in pure organic chemistry, *viz.*, on preparation of organic compounds and their structure determination. His extensive work can be classified into six major fields:

- In pure organic chemistry he mostly dealt with analysis, structure determination and synthesis of organic compounds, such as disulfides and selenoxides;

- He studied amino acids, particularly the chemistry and stereochemistry of β -amino acids, solving their structure and determining their relationship to α -amino acids and then using the obtained results to explain the stereochemistry of alkaloids;

- He studied optically active α -amino aldehydes;

- From α -diazoketones he synthesized amino glyoxals and amino hydroxy acids;

- He did research on polyoxo compounds, notably special reactions of α -, γ -, δ - and ξ -tetraketones; and

- He studied natural and biologically active compounds, especially alkaloids.

He took part in many scientific meetings and congresses at which he usually delivered plenary lectures. Some of his most notable lectures were those given at the 16th IUPAC Congress (Paris, 1957), 4th International Congress on Biochemistry (Vienna, 1958), Ciba Symposium on Amino Acids and Peptides with Antimetabolic and Cytotoxic Properties (London, 1958), International Symposium on Organic Chemistry dedicated to the study of natural products (Brussels, 1962), 19th IUPAC Congress (London, 1963), 2nd Meeting of the Federation of European Biochemical Societies (Vienna, 1965), International Symposium on the Constitution and Response Abilities of Organic Compounds (Sofia, 1966), 5th International Symposium on the Chemism of Natural Products (London, 1968), *etc.* As a prominent Croatian organic chemist, he won international reputation for his work in stereochemistry and chemistry of β -amino acids, synthesis of the antibiotic Sulforafen and polyketone chemistry.

Together with Professor Božo Težak (1907–1980), Professor Balenović played an important role in internationalizing our journal. In 1946 he was elected to the Editorial Board of our journal, then called *Arhiv za kemiju* (Archives for Chemistry). In 1955, he signed a proposal to change the name *Arhiv za kemiju* into *Croatica Chemica Acta* (CCA). Other chemists who cosigned the proposal were Težak (who was Editor-in-Chief of *Arhiv za kemiju*), Karlo Schulz, Dionis Sunko, Petar Alaupović, Egon Matijević, Velimir Vouk and Josip Kratochvil. After considerable lobbying for their proposal, they succeeded in adopting the present name of the journal. Furthermore, they also moved for the papers published in CCA to be written in one of the major European languages (English, German, French, Russian). Eventually, English became the language of our journal. However, the first paper in English was published long before this change, in 1946. This paper was written jointly by Krešimir Balenović and his doctoral student Rikard Munk (1918–1970). Balenović

was also president of the Croatian Chemical Society (1956–1957) and its vice-president (1958–1959).

At the end of this rather brief account of the life and work of Professor Krešimir Balenović, I wish to add a few personal remarks. I heard about Balenović while I was still an undergraduate student in the Department of Chemical Technology of the Faculty of Technology. After graduating, I joined the Research Institute of PLIVA, then and now the largest pharmaceutical company in the southeast of Europe. I decided to continue my chemical education by entering, as an undergraduate student, the Department of Chemistry of the Faculty of Science and Mathematics. Several days after submitting my application, I got a letter from Professor Balenović, in which he suggested my enrolling into the graduate school instead of starting undergraduate studies at the same faculty. I went to see him and he explained to me the advantages of getting a M.Sc. degree instead of another B.Sc. degree. I entered the graduate school, left PLIVA and got both M.Sc. and Ph.D. degrees, never regretting having followed Professor Balenović's advice. The point of this story is that Balenović did not know me, I was not his undergraduate student and had no contact with people from the Department of Chemistry at the Faculty of Science and Mathematics. I suppose he decided I was worth helping just by looking through my documents. Later on, I attended his lectures in organic chemistry; they were superb. Balenović also delivered a series of excellent lectures on magnetic resonance spectroscopy for graduate students. He gave me the chance for my first public lecture. I talked about polarography of organic compounds, because I was doing research for a B.Tech. degree in polarography. I am therefore one of the many people who will always remain grateful to Professor Balenović for his decisive help in my beginnings as a research chemist.

Nenad Trinajstić