

Zlatko Pavletić (1920-1981) – on the 100th anniversary of his birthday

Professor Zlatko Pavletić (April 4, 1920 – March 19, 1981) was a milestone person for biology in Croatia in the second half of 20th century. He was one of the first native bryologists, founder of microbiology teaching at the Faculty of Science, University of Zagreb, prominent limnologist and a tireless populariser of science (Fig. 1).

He was born in Rijeka. During the turbulent years of World War II, he lost a leg, but persisted in the struggle against fascism with his commitment to the education of the Dalmatian refugees in the El Shatt camp in Egypt. Having started to study biology in Zagreb before the war, he remained dedicated to biological research and teaching to the end of his life. In 1950 he became an assistant, in 1964 an associate and in 1969 a full professor at the Botanical Department of the Faculty of Science, University of Zagreb. One of the first tasks confided to him by his supervisor, Professor Vale Vouk, was to start filling the gap in bryological research into Croatia and the whole of Yugoslavia. The result was a masterpiece, the *Prodromus flore briofita Jugoslavije* [Prodromus of Yugoslav bryophyte flora] published in 1955. It

is remarkable work and from the present point of view, it is impressive how he succeeded in compiling all the literature referring to the bryophyte flora of Yugoslavia without any text or spreadsheet processor, or databases. On 578 pages, he quotes all the bryophyte species known for the Yugoslav flora, including the synonymy and comprehensive lists of localities. This work will stay the keystone for all other species catalogues and distributional atlases for the whole territory at issue. It was the basis and main source of data for many other checklists (e.g. Martinčić 1968, Düll et al. 1999, Sabovljević 2000, 2003, 2006, Sabovljević et al. 1999, 2006, 2008).

The second step in filling the bryological gap was the preparation of identification keys. This task was finished in 1968 with the handbook *Flora mahovina Jugoslavije* [The bryophyte flora of Yugoslavia] containing identification keys for families, genera and species provided by short morphological descriptions, basic data on species habitats, ecology, phenology and chromosome numbers. This is not only the first identification key for bryophytes published in Croatian,



Fig. 1. Professor Zlatko Pavletić with his colleagues and associates before the fieldtrip (second half of 1970-ies). From the left to the right: Ivančica Krulik, Božidar Stilinović, Nada Mrkša, Paula Durbešić, Ivo Matoničkin, Biserka Primc, Ivan Habdija and Zlatko Pavletić. Photo by courtesy of Professor Biserka Primc.

but the first in the South Slavic languages (The rare exceptions are the identification keys for the bryophytes of Mt Medvednica published by A. Heinz in 1887 and 1888). With this work Pavletić became the first native Croatian bryologist (However, there are several earlier sporadic bryological papers published by Croatian authors). For although Croatia has a long tradition of bryological research dating back to the first decades of the 19th century, all of these researchers came mainly from other parts of the Austrian-Hungarian Empire, of which Croatia was a part. Simultaneously with his work on these monographic publications, Pavletić started with his own field researches. At the focus of his scientific interest was the bryophyte vegetation of tufa barriers in karst rivers. In 1954 he started with comprehensive researches into the Krka River and over the years he expanded them to take in almost all karst waters in Croatia including Plitvice Lakes, and several in adjacent areas. The results of these researches were published in a series of papers that are fluently written and with a feeling for language, informed by many detailed observations and additional data. They reveal a passionate naturalist and analytical scientist with an ability to synthesize collected data in well-worked-out descriptions and theories on the structure and functioning of the biocoenoses in karst rivers. During the 1960s he worked with his colleague and friend, zoologist and professor Ivo Matoničkin, with whom he studied algae, bryophytes and macrozoobenthos, the main constituents of the biocoenoses of karst rivers. It is important to emphasize that Pavletić's approach was not only descriptive, for from the very beginning he included in his research measurements of physico-chemical parameters as environmental drivers crucial for the structure and development of river biocoenoses. His papers remain an invaluable and not-to-be-missed source of information for any further study of karst river ecosystems, providing the grounds for studies of changes that have occurred in the last sixty years. Unfortunately, Pavletić did not have a direct successor in bryological research, and after him we had again a gap of several decades. His second field of inter-

est, microbiology of ecosystems, was more fortunate in this respect. With his assistant, later professor, Božidar Stilinović he started to research into the microbiology of soils, rivers and the sea, mostly in terms of pollution, water quality classification and saprobiology. For the purpose of these researches, he established the first microbiological laboratory at the Faculty of Science. This laboratory is continuously working and is very successful in research into the bacteriology of polluted waters.

The results of his researches were the basis for many feasibility studies and action plans on nature protection, water management and the development of methods for estimation of ecological status of rivers.

Besides his scientific work, Pavletić was inexhaustible populariser of science. He wrote dozens of popular science articles, over 50 in the journal *Priroda*, where he was the main editor for 10 years. With his friend Ivo Matoničkin he wrote the book *Život naših Rijeka* [The life of our rivers] published in 1971, which is still an excellent introduction to river biology and conservation. It is written fluently and understandably in a clear style, summarizing several decades of their research. Another popular book *Životopis života* [Biography of Life], published posthumously in 1984, is thematically very accurate, despite the huge amount of new knowledge on the topic, and the growing amount of pseudo-scientific and creationist literature that was penetrating the educational system.

He is remembered as a professor dedicated to his students, an excellent lecturer and patient supervisor of many MSc and PhD theses. Moreover, he always tried to help his former students to find positions in the profession.

A more detailed biography with a list of scientific and professional publications was published by Miličić (1979-1980) and Miličić and Stilinović (1981).

Professor Antun Alegro
Division of Botany, Department of Biology,
Faculty of Science, Zagreb

References

- Düll, R., Martinčić, A., Pavletić, Z., 1999: A contribution to the Yugoslavian bryoflora – Checklist of the Yugoslavian bryophytes. *Bryologische Beiträge* 11(1), 1–94.
- Heinz, A., 1887: Briofiti zagrebačke okolice, Dio I. Pravi mahovi. *Glasnik hrvatskoga naravoslovnoga društva* 2(1), 217–266.
- Heinz, A., 1888: Briofiti zagrebačke okolice, Dio II. Jetrenjače. *Glasnik hrvatskoga naravoslovnoga društva* 3(1), 57–86.
- Martinčić, A., 1968: *Catalogus florae Jugoslaviae II/1. Bryophyta – Musci*. Academia Scientiarum et Artium Slovenica, Ljubljana.
- Matoničkin, I., Pavletić, Z., 1971: *Život naših rijeka*. Školska knjiga, Zagreb.
- Miličić, D., 1979-1980: U povodu 60. godišnjice života prof. dra Zlatka Pavletića i 10. godišnjice uređivanja časopisa "Priroda". *Priroda* 68 (5-6), 149-151.
- Miličić, D., Stilinović, B., 1981: Prof. dr. Zlatko Pavletić (1920–1981). *Acta Botanica Croatica* 40, 269–277.
- Pavletić, Z., 1954: Istraživanja briofita na travertinskim slapovima rijeke Krke. *Ljetopis Jugoslavenske Akademije znanosti i umjetnosti*. 61(1), 331–351.
- Pavletić, Z., 1955: *Prodromus flore briofita Jugoslavije*. Jugoslavenska akademija znanosti i umjetnosti, Zagreb.
- Pavletić, Z., 1968: *Flora mahovina Jugoslavije*. Institut za botaniku Sveučilišta u Zagrebu, Zagreb.
- Pavletić, Z., 1984: *Životopis života*. Školske novine, Zagreb.
- Sabovljević, M., 2000: Checklist of hepatics of the Federal Republic of Yugoslavia. *Lindbergia* 25, 37–42.
- Sabovljević, M., 2003: The hepatic check list of Croatia. *Archives of Biological Science Belgrade* 55(1-2), 59–66.
- Sabovljević, M., 2006: Checklist of mosses of Croatia. *Archives of Biological Science Belgrade* 58(1), 45–53.
- Sabovljević, M., Natcheva, R., 2006: A check-list of the liverworts and hornworts of Southeast Europe. *Phytologia Balcanica* 12(2), 169–180.
- Sabovljević, M., Natcheva, R., Dihoru Tsakiri, E., Dragičević, S., Erdag, A., Papp, B., 2008: Check-list of mosses of SE Europe. *Phytologia Balcanica* 14(2), 207–244.
- Sabovljević, M., Stevanović, V., 1999: Moss Conspectus of Federal Republic of Yugoslavia. *Flora Mediterranea* 9, 65–95.