

IN MEMORIAM PROFESSOR ZLATKO KVAČEK (1937–2020)

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Fig. 1. Professor Zlatko Kvaček (1937–2020).

Platanus neptuni, *Tetraclinis salicornioides*, *Laurophyllum markvarticense*, *Byttneriophyllum tiliifolium*, *Alnus julianaeformis*, ... and numberless other fossil plant names that immediately recall Professor Zlatko Kvaček. Petipsy Area, Bechlejevica, Kundratice, Markvartice, and Veselíčko ... villages in the Czech countryside which became world-known fossil plant localities thanks to his papers. Moreover, he was who rediscovered long forgotten floras abroad and in

Europe or described important Tertiary floras for the first time, e.g. in Austria, France, Germany, Greece, Hungary, Norway, Poland, Slovakia, and even overseas!

Thanks to his collaborations through decades, Zlatko Kvaček became well-known also among Hungarian geologists and palaeontologists. Although he visited the collection of the Hungarian Natural History Museum as a young researcher and met Professor Gábor Andreánszky, his cooperation with Hungarian colleagues started only later, in the 1980s. The ‘scientist from Prague’ has been a personality decisive for palaeobotanical research world-wide for many decades. His research was acknowledged by international scholars as early as the 1970s and 1980s. Although he lived and worked behind the “Iron Curtain”, his expertise and scientific results were so much outstanding that the western part of Europe and later North America caught sight of him. And this was achieved by an unpretentious, likable person who was alien from pushing himself forward. He has been devoted to palaeobotany and has done his utmost in order to help young scientists and students who endeavoured to study fossil plants not only in the Czech Republic but also in its surrounding countries in eastern Central Europe. The first author of this paper, (LH), conducted studies by Zlatko in this way during the last years of the 1970s: and how useful it was that I learned the method of preparation in such circumstances, not in a well-equipped lab which I could not have used at home in the lack of good equipment! Instead of a fume hood, hydrogen fluoride was kept between the window sash and slides were warmed on an up-side-down iron ... Later I turned to him with several palaeobotanical questions via mails, which is unimaginable now for the young colleagues – it took 2–3 weeks to have answers to my questions. We arranged our projects and study trips in this way in the 1980s and at the beginning of the 1990s.

Zlatko Kvaček was born in Prague, on the 28th of July, 1937, as the second child of the physician Dr Jiří Kvaček and Marie Kvačková. He was fascinated by nature and science already in his childhood. Influenced first of all by his school director grandfather, Josef Kvaček, he prepared a herbarium. He met Hana, his later wife, in secondary school. They got married on the 6th of July, 1961, and their deep emotional relation has been lasting through 41 years. The marriage gave them two children, Jiří and Lucie. Both children followed the professional footsteps of their parents: Dr Lucie Kvaček is a dentist like her mother, while Dr Jiří Kvaček works as a palaeobotanist at the National Museum in Prague (WALTHER 2007).

Zlatko began studying at the Faculty of Sciences of Charles University in Prague in 1958. He graduated as a geologist and his thesis focussed already on fossil plants: “Tertiary plant remains from the Julius Fučík Mine, in Želénky near Duchcov.” From 1960 to 1963 he was employed as a geologist in the mining company Geologický průzkum n. p. Dubí, where he worked in the exploration of non-coal resources. From 1963 to 1965 he was a graduate student at the Institute

of Geology of the Czechoslovak Academy of Sciences (ČSAV) in Prague. During that time he worked on his PhD dissertation under the supervision of Prof. Dr František Němejč. He defended his thesis, entitled “Evolution of the brown coal swamp flora in Bohemia during the late Tertiary” in 1966. He had worked at ČSAV until 1991. Meanwhile, he defended his DSc thesis (1985) on the “Cuticle analysis of Neogene trees from Central Europe” at the Academy’s Institute of Geology and Geotechnology.

Since 1991 Zlatko has been active in the Faculty of Sciences at Charles University, first as an Associate Professor, and later in 1998, he was promoted to full Professor in Palaeobotany. From 1990 to 2000, he additionally served as head of the Institute of Palaeontology. He was retired in 2003, although this was not recognized by the scientific community. He has unbrokenly continued publishing papers, he has participated conferences, and joined international co-operations.

Zlatko has almost never worked alone. Most of his papers included many authors, initially his excellent colleagues, Erwín Knobloch, Čestmír Bůžek, and František Holý. Unfortunately, they all had already passed away. The longest and most decisive collaboration Zlatko had, was maintained with the well-known palaeobotanists, Prof. Harald Walter from Dresden and Prof. Dieter Mai from Berlin. Their joint work established a wholehearted and lifelong friendship. Zlatko started cooperation with Hungarian scientists more than 40 years ago. Despite of the “Iron Curtain”, he organized an international conference on “Advances in Angiosperm Palaeontology” as early as 1977, which put palaeobotanists in touch with each other both from the east and west and some researchers led by Prof. David Dilcher attended the conference even from the USA. That was the first time scientists from the east and west met each other and a young, beginner palaeobotanist from Hungary (LH) could attend the conference. Thereafter Zlatko has organized many conferences and symposia among which the largest one, the 7th European Palaeobotany-Palynology Conference was held in Prague, in 2006.

The palaeobotanical collection of the Hungarian Natural History Museum in Budapest was of outstanding importance for Czech palaeobotanists. The famous Lobkowitz collection which comprised both type specimens from localities in the Czech Republic and material of famous palaeobotanical monographs was settled here in 1870 (HABLY *et al.* 2001). But Professor Kvaček showed interest also for other parts of our collection. His favourite saying was – “The best locality is the collection”. The widespread adoption of cuticular analysis in Tertiary palaeobotany was also his merit. He observed specimens one and all that showed any remains of cuticles and he inspired others to do the same. He was an outstanding taxonomist. He also cooperated with the authors on the Oligocene and Pliocene floras of Hungary. If a new locality turned up he did not afraid even of hard field work – for instance in Hungary we collected together the Pliocene

fossils of Pula and Gérce from the mines during hot summer days under the burning sun. We studied together the collected material the result of which was a monograph (HABLY and KVAČEK 1998). The importance of these localities is significant since only these are dated with radiometric K-Ar method as Pliocene. Moreover the Pliocene flora was a real surprise for us, since Sarmatian flora elements that were believed as extinct by the late Miocene in the Pannonian Basin due to the formation of Lake Pannon showed a mass occurrence. Thus, we witnessed the survival and reappearance of an earlier flora and vegetation induced by ecological change.

Later, when among the uninventoried material of the Budapest collection we came across type specimens from Ettingshausen's monograph on the fossil flora around Bilin (Czech Republic), Zlatko also joined the work to determine the age of the localities such as Brežanky, Kučlín, Zichov, Chuderice, Jenisov Ujezd and to revise the type material. The reason for storing this material without any label in the museum was not a kind of mess in the collection. During the Hungarian Revolution in 1956 the soviet troops fired also the building of the National Museum and many collections were destroyed including also the labels of the



Fig. 2. During a fieldtrip with friends in Eger-Kiseged, Hungary.
From left to right: upper row – Leon Stuchlik, Harald Walther, Lilla Hably, Zlatko Kvaček,
lower row – David Ferguson, Dieter Hans Mai.

Lobkowitz collection. We studied together this precious material from the 19th century and Zlatko joined us with the revision of the Czech material. The results of this work were published in a catalogue (HABLY *et al.* 2001). It comprises the specimens of the Budapest collection which were published as original or type specimens in monographs by Ettingshausen and Unger during the 19th century.

One of the most interesting studies we had was the recognition of the fossils representing the genus *Sloanea*. We had already been working on the early Oligocene floras of the Tard Clay Formation and some Slovenian floras originating from similar strata when Zlatko came again to Budapest. He recognized the similarity of some fossils from Kiseged and from Czech localities. He published already the latter ones as *Icaciniophyllum*. The similarity with the specimens from Budapest, however, was not so evident since they showed high morphological variation. Finally, cuticular analysis revealed that the same species occurred at localities in Slovenia, Kiseged, and Budapest. In the latter localities co-occurring fruit fossils supported the idea that they belong to the genus *Sloanea*. It turned out that this Elaeocarpaceae genus was a dominant arboreal element of the Oligocene vegetation (KVAČEK *et al.* 2001).

Although in Hungary Zlatko worked mostly in the palaeobotanical collection of the Hungarian Natural History Museum, he also visited the Mátra Museum in Gyöngyös and studied the late Oligocene flora of Eger-Wind-brickyard. The Tertiary material of the Mining and Geological Survey of Hungary (former Geological Institute of Hungary) was also investigated and published by him.

Zlatko's research projects have also been focused on taphonomical and palaeoecological aspects of the fossil sites, with a particular aim to reconstruct Tertiary vegetation and environment. In addition, Zlatko took part in other international projects like the IUBS Plant Fossil Record and the "Database of European Neogene Floras".

Zlatko Kvaček is the most well-known personality in European palaeobotany and his name is familiar for palaeobotanists all over the world. He had studied first of all Tertiary and Late Cretaceous floras of the Czech Republic, but later he has been engaged in the investigation of fossil plant localities from all over Europe and even North America. His scientific interest has covered a wide range of topics and methods, and resulted in more than 200 scientific publications. In 2018 he was awarded the IOP Honorary Membership by the International Organization of Palaeobotany, which could not have reached a better person.

Even as a world-known scientist, he has always been kind and unpretentious with a good sense of natural and delicate humour. It was a pleasure to be around him and to work with him. His legacy is invaluable and an unbelievable progress has been seen in palaeobotany thanks to his work through decades. Professor Zlatko Kvaček passed away on the 25th October, 2020. We will miss him deeply!

REFERENCES

- HABLY, L., ERDEI, B. and KVAČEK, Z. (2001): 19th century's palaeobotanical types and originals of the Hungarian Natural History Museum. – *Studia Naturalia Hungarica* **13**: 1–235.
- HABLY, L. and KVAČEK, Z. (1998): Pliocene mesophytic forests surrounding crater lakes in western Hungary. – *Review of Palaeobotany and Palynology* **101**: 257–269.
[https://doi.org/10.1016/s0034-6667\(97\)00077-8](https://doi.org/10.1016/s0034-6667(97)00077-8)
- KVAČEK, Z., HABLY, L. and MANCHESTER, S. R. (2001): Fruits and foliage of *Sloanea* (Elaeocarpaceae) from the Early Oligocene of Hungary and Slovenia. – *Palaeontographica*, B, **159**: 113–124.
- WALTHER, H. (2007): In honour of the 70th birthday of Zlatko Kvaček. – *Sborník Národního Muzea v Praze Acta Musei Nationalis Pragae Series B – Historia Naturalis* **63**(2–4): 71–74.