

ZDENĚK V. ŠPINAR – THE PROFESSIONAL LIFE OF A WORLD-RENOWNED CZECH PALEOHERPETOLOGIST

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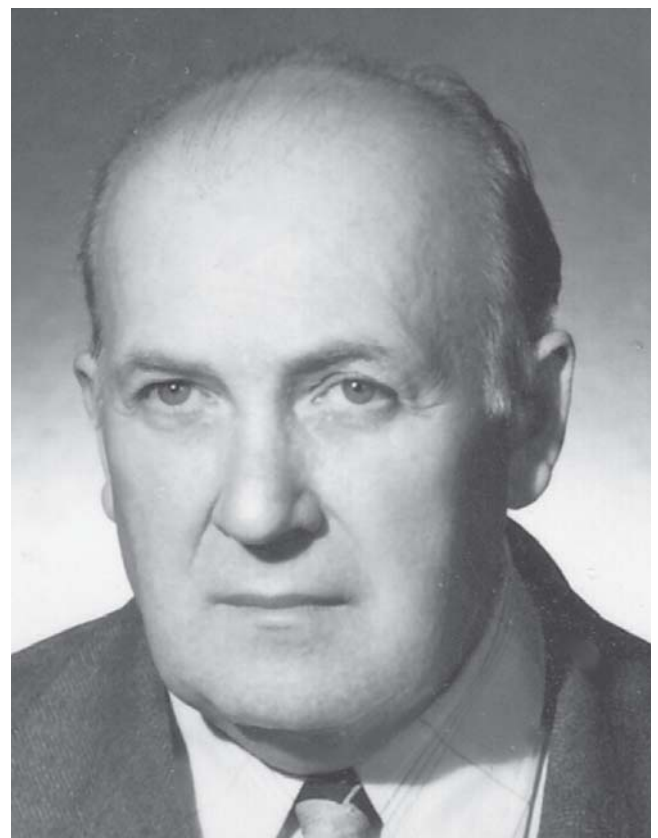
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Zdeněk V. Špinar was a leading authority, teacher, and personality in Czechoslovak vertebrate paleontology during the second half of the 20th century, and one of the most renowned paleoherpetologists in the world. He was appointed professor of zoopaleontology on the Faculty of Natural Sciences of Charles University (founded 1348) in Prague, and in this post he trained several generations of Czech and Slovak paleontologists. Although his earliest papers were on invertebrate fossils, he soon turned his attention to fossil amphibians, first to Permian discosauriscids and then to Tertiary frogs. In this respect, he continued a tradition founded by a Czech zoologist and paleontologist, Antonín Frič (known also as Anton Fritsch), during the second half of the previous century. Besides a long series of scientific papers on fossil amphibians, Špinar also wrote several extensive textbooks of both vertebrate and invertebrate paleontology, in which he gathered up-to-date knowledge on all major groups of fossil animals. Because these textbooks, which were originally meant for university students, were also widely known among amateur paleontologists, they had a profound effect on the development of paleontology in the whole country. Moreover, the general public (not only from the former Czechoslovakia, but from many other countries as well) knew Špinar from his popular books, titles such as “Life Before Man”, illustrated by Zdeněk Burian. For many professional paleontologists, Špinar’s popularization of paleontology initiated their own professional interest in the discipline.

Zdeněk Špinar was born on April 4th, 1916 in the small town of Čáslav, about 70 km east of Prague, into the family of the municipal financial commissioner. There he completed five years of mandatory primary school and, at the age of eleven, he entered the first class (“prima”) of the gymnasium, a secondary school preparing students for higher education at a university. At that time, there were two kinds of gymnasiums: (1) the Classical Gymnasium with emphasis on classical education including ancient Greek and Latin



Text-fig. 1. Zdeněk V. Špinar at the age of 70.

languages, which prepared its students for university studies of law, among other subjects; and (2) the so-called Real Gymnasium, which put its focus on science, like mathematics and natural sciences, and modern languages. Špinar’s parents chose for him the latter. He spent eight years at the gymnasium and graduated in June, 1935.

It was during his middle school years that Zdeněk became interested in animals and plants. Under the influence of his father he began to collect and identify beetles, butterflies and minerals, and he even had a little herbarium of his own. However, a crucial moment in his life (according to his own words) occurred one day when he accompanied his father to go fishing. They both were sitting silently, watching the water's surface, when suddenly a beautifully coloured bird – a kingfisher – alighted on his fishing rod and spent several seconds there. From that time on, Zdeněk fell in love with ornithology. He read all the books about birds in his school library and asked his father to buy him all the new books on birds that were published during that time. Because one of these books was written by Jiří Janda, the founder of the Czechoslovak Ornithological Society and founder and first director of the Zoological Garden in Prague, he asked his father to take him to the opening ceremony of the zoo, and to introduce him to Professor Janda. This happened on September 28th, 1931, when Zdeněk was 15 years old and Janda was nearly 70.

At that time, the gymnasium was a highly respected kind of school, and many of its professors performed their own research, for instance in local history, faunistics, and floristics. Two professors at his school recognized Špinar's abilities and introduced him not only to the ornithological literature, but also to the basic methodology of scientific investigation.

As a teenager, Zdeněk's second principal interest was scouting. The Czech Scout movement was founded in 1911, and during the 1920s and 1930s it became very popular among Czech boys and girls. It put emphasis on "learning by doing" and thus provided experiences and hands-on orientation as a practical method of learning and building self-confidence. This, together with the Woodcraft Indian movement initiated by Ernest Thompson Seton, Chief Scout of the Boy Scouts of America, which focused on living in nature, was very close to Zdeněk's mentality. He became a Scout at the age of 14, and soon became a leader of his Scout group. The boys spent their summer holidays in their camp in the wooded lands of southern Bohemia, where they learned how to survive in the wilds of nature and how to help each other. This was undoubtedly the source of Špinar's social, informal and fair-minded behaviour. One event can illustrate what shaped the character of young people at that time. In August, 1939, when the Czechoslovak Republic was already occupied by Nazi Germany and became its so-called "Protectorate of Bohemia and Moravia", a few days before the beginning of WW2, Cub Scouts, i.e., young Scout adepts, took their Scout oath to Špinar as a leader of the unit, that they will "always be loyal to their native country, the Czechoslovak Republic, and will be prepared to serve it at any time".

However, scouting also influenced Špinar's life in another, quite unexpected manner. He left Čáslav in October, 1935 for Prague, where he decided to study natural history and chemistry at Charles University. He hoped to become a middle school teacher (of course, with particular emphasis on ornithology). He spent the first academic year 1935 – 1936 enrolled in routine courses, but in June of 1936, he suddenly decided to join a little group led by Radim Kettner, Professor of Geology at the university, to do field work in

Slovakia. Špinar had never mentioned geology before as an area of interest, but because Kettner was a Senior Scout, it is highly probable that Špinar and Kettner became acquainted as Scouts. Špinar was also an active Scout in Prague, which follows from the fact that he personally met Ernest Thompson Seton during Seton's visit to Prague in December, 1936.

Kettner was the head of the Geological-Paleontological Institute of the Faculty of Natural Sciences at Charles University, and Špinar worked with him there as a volunteer beginning in October, 1936. He abandoned his plans to study ornithology (although he maintained ornithology as his hobby for the rest of his life), and began to work on his doctoral thesis (for the title RNDr., *Rerum Naturalium Doctor*) entitled "*The Devonian Stromatopora of Moravia*". He finished his thesis in autumn of 1939, but because of the anti-Nazi student demonstrations during the end of October and in November, 1939 and then the closing of all Czech universities and dormitories on November 17th, he was not allowed to defend it. Nevertheless, he prepared the thesis for publication and it appeared in 1940 as his first scientific publication. He was also able to pass his first State examination in chemistry.

After November 17th, 1939, times were difficult for Špinar. There was a general ban on employing students, so he was dependent on financial support from his parents. From time to time he was accepted as an unpaid volunteer at the National Museum, but even this was too risky, especially for the regular employees of the museum. In order to spend his spare time in a productive way, he prepared himself for state examinations in geology and biology, which he was thus able to pass immediately after the defeat of Nazi Germany in 1945. Nevertheless, the unpleasant feeling that he was still dependent on his parents, and that instead of being active as a university student he was wasting his time (the idea that he involuntarily lost six years continued with him until the end of his life) had to have been a very heavy psychological burden for him. Finally, after three years he got a brief job with a road-construction company, and then he worked until the end of the war in various posts in chemical laboratories.

Czech universities were re-opened provisionally in May of 1945 and definitively in October, 1945. Because Špinar was able to present his finished thesis, as well as demonstrate his knowledge gained until 1939 and by his self-study during the war years, he was permitted to graduate in June, 1945 with the degree RNDr. Nevertheless, for formal reasons he still had to pass the State examination in geology in January, 1946 (he had already passed his first State examination, in chemistry, during autumn of 1939). So at the beginning of 1946, when he was 30 years old, he formally completed his university studies.

In January, 1946, Špinar was immediately offered a position in the Geological-Paleontological Institute of the University, which he had been forced to quit in November, 1939. Full of energy, which he accumulated during the previous six years, he began to teach at the University as a lecturer, but he also spent considerable time in the field as an external researcher of the State Geological Survey. Together with Josef Augusta, Professor of Paleontology at the University, he collected Permocarboneous amphibians and plants in Moravia and it was Augusta (known for his



Text-fig. 2. Špinar's favorite work-place among his books at his country house in North Bohemia (1973).

popular books on paleontology published in cooperation with Zdeněk Burian in 1950s and 1960s) who directed Špinar towards the study of fossil amphibians.

Because Radim Kettner (the leading personality in Czechoslovak geology both before and after WW2 and Špinar's former teacher) pointed him towards field geology, Špinar decided in 1947 to make his first professional expedition to work at paleontological sites in Tunisia. Fortunately, he was able to do so in autumn of 1947, because starting in February, 1948, when communists took over the Czech government through a coup d'état, the possibilities to travel abroad became very restricted. In Tunisia he collected not only paleontological specimens (such as a nearly complete crocodile skeleton) for the collections of Charles University and of the National Museum in Prague, but also several living animals (lizards and turtles) for the Prague Zoo. This was his first, and for the next two decades, his only professional trip outside Czechoslovakia.

After his return from Tunisia he immediately began his taxonomic study of stegocephalians from Permian localities in Moravia. During 1949 – 1950 he organized several collecting expeditions for which he gathered a large group of students, often those who were specialists in other fields of geology. He was able to transfer his enthusiasm for research to everyone around him – and even Professor Kettner himself was thus inspired to draw all of the line drawings for Špinar's final publication, despite the fact that he never published a paleontological paper himself! Špinar did not hesitate to contact the most prominent international specialists in

vertebrate paleontology at that time, men like A. P. Bystrov and A.S. Romer, if he felt their opinion could correct his own conclusions and even when he had drawn conclusions that were contrary to prevailing dogma. His studies on Moravian discosauriscids, which had a broad impact in paleontology, provide an example of how he was willing to challenge established views. Previously, it was believed that members of this extinct family were reptiles, but Špinar discovered specimens with gills, which demonstrated that they were, in fact, amphibians. The paper, which was actually Špinar's habilitation thesis, was defended at the end of 1951 and appeared in 1952 under the title *Revision of some Moravian Discosauriscidae (Labyrinthodontia)*. Based on this habilitation thesis, Špinar was appointed Docent (= Associate Professor) of zoopaleontology in 1952.

After he completed his discosauriscid paper, he learned from field workers at the Central Geological Survey in Prague that they had discovered a new locality in northern Bohemia with superbly preserved fossil frogs. This Oligocene locality of Bechlejšovice later yielded more than 1500 specimens of fossil frogs, mainly Palaeobatrachidae and Pelobatidae, that preserved not only their skeletons but also soft tissue parts (including eye pigments, nerves, skin colouring) and besides adult specimens, also a complete developmental series of tadpoles. Because these frog taxa are quite ancient, this work had importance to paleontologists and herpetologists far beyond the borders of Czechoslovakia. Špinar worked there with his students each summer over the following 15 years; they performed all the excavations and

preparations of specimens for microscopic study. His first scientific publication (*Eopelobates bayeri – a New Frog from the Tertiary of Bohemia*) appeared in 1952, and the long series of carefully researched papers dealing with various aspects of the anuran fauna from Bechlejovice culminated with Špinar's classic book, entitled *Tertiary Frogs from Central Europe*, which was published in 1972. For this extensive study he was awarded the highest academic research degree, DrSc. (*Doctor scientiarum*) in 1968. Previously, in 1958, he had received the degree CSc. (*Candidatus scientiarum*), which at that time was the first post-graduate scientific degree.

In the meantime, however, the number of students studying geology and paleontology substantially increased by the beginning of the 1950s. Whereas the number of students in geology at Charles University had been about 6 or 7 during a five year period, and thus all could have been educated individually, this number gradually increased to more than 100 after WW2. The old Geological-Paleontological Institute was divided in 1952 into several departments specialized in various fields of geology, plus an independent Department of Paleontology. In a very short time, teaching duties of all paleontologists in this department, including Špinar, increased substantially, so that only a minor portion of their working time was left over for their own scientific projects. In addition, they had to write text-books to provide students with up-to-date information. Personalized, individual education was not possible any longer.

Writing text-books is very time-consuming work. Nevertheless, Špinar wrote two text-books, *Introduction into zoopaleontology* and, simultaneously, *Principles of invertebrate paleontology*. Both appeared in 1960 and the second one, in spite of its title ("Principles"), had about 850 printed pages. It described all major taxa of fossil invertebrates and focused on the morphology and identification of fossils in the field. Špinar later decided to gather a team of specialists in invertebrate paleontology and they wrote another volume entitled *Systematic paleontology of invertebrates*, which appeared in 1966 and had more than 1000 printed pages. Because he liked to discuss problems of vertebrate paleontology with students, even for long hours after his regular courses had ended, there was no immediate need for a text-book about paleontology of vertebrates. Therefore, this was published much later and only shortly before he retired, in 1984.

Besides his scientific work and pedagogical activities, Špinar was also active in Czechoslovak and international scientific communities. In 1968, during the "Prague Spring" (when Czechoslovakia cautiously flirted with political reforms), he helped to organize, as the person responsible for the paleontological programme, the 23rd International Geological Congress. The Congress was to have started in Prague on August 21st, but precisely on this same date Soviet tanks rolled into Prague. Rather than being able to enjoy the pleasant results of the countless hours that he and other members of local organizing committee had worked on the congress, instead they had to help foreign participants escape from the country.

Josef Augusta, who was known from his popular books on fossil animals illustrated by Zdeněk Burian, died in 1968. Špinar was asked to continue Augusta's popular activities, so he wrote another book, entitled *Life before man*, for which they both prepared completely new reconstructions. This book was first published by Thames and Hudson in London, and later it was translated into many other languages. The Czech version did not appear until 16 years later, in 1988. Nevertheless it was only part (although the most visible part) of Špinar's popularization activities, which consisted of dozens articles, TV programmes, and scripts for educational films on different aspects of paleontology. His last popular book, *Great dinosaurs*, written together with P. J. Currie and illustrated by J. Sovák, was published in 1994, shortly before Špinar's death. His research and teaching, together with his massive efforts to popularize paleontological studies, was a major factor in the renaissance of paleontology in Czechoslovakia after World War 2.

When Zdeněk Špinar reached the age of 60, in 1976, everybody around him expected that he would restrict his activities to writing review papers and giving courses to selected students. Nothing like this happened! In June of 1977, during the hottest time of the year, he joined a team of workers from the Czechoslovak company "Geoindustria", which carried out geological mapping in the Sahara Desert of Libya. Špinar did not hesitate and took part in excavations at a locality where they discovered fossil pipid frogs. Among them he discovered a new species.

Zdeněk Špinar retired in 1986. This, however, only meant that he moved to his secondary house in North Bohemia where he wrote his last papers, and also invited his foreign friends and colleagues to visit. In August 1995, he planned to meet there Amy Henrici, a specialist on fossil frogs from the Carnegie Museum of Natural History in Pittsburgh. She duly arrived in Prague on August 15th, one day after Špinar died. She participated in Špinar's funeral a few days later.

Špinar's outstanding contribution to science justifiably made him a famous man among paleontologists, zoologists, and herpetologists throughout the world. At the same time, his humility, generosity, and sincere interest in the welfare of his fellow man was widely known and appreciated by his colleagues everywhere. We remember how happy he was to be among his colleagues at the first meetings of the European Herpetological Society and, especially, at the World Congress of Herpetology in Canterbury, United Kingdom, in 1989. Because Špinar's wise counsel was highly valued, he was appointed to the International Herpetological Committee that organized this first-ever world event for herpetology. It was therefore quite natural that we decided to demonstrate the esteem accorded to Špinar by dedicating to him the Third World Congress of Herpetology that was held in Prague in 1997. The prolonged applause from the huge assembly of herpetologists from throughout the world, after this announcement was made, confirmed everyone's deep respect for Professor Zdeněk V. Špinar.