

Introduction to the special issue “Contributions in honour of Zbyněk Roček”

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Preface

Over the course of his nearly five decades long career, the Czech herpetologist and palaeontologist Zbyněk Roček (Fig. 1) has become well known for his research on lower vertebrates, especially on the origins, anatomy, functional morphology, development, ecology, systematics and fossil record of frogs. Zbyněk has also been a teacher and supervisor, a generous mentor and a valued colleague for several generations of students and researchers. In recognition of Zbyněk Roček’s many academic contributions and on the twin occasions in 2015 of his being appointed Emeritus Professor at the Czech Academy of Sciences and his 70th birthday, here, we (1) provide a biographical sketch and commentary on his academic contributions and (2) present a collection of papers by some of Zbyněk’s colleagues that echo many of the themes and topics of his research programme.

This article is a contribution to the special issue “Contributions in Honour of Zbyněk Roček”.

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Biographical sketch and commentary on the academic contributions of Zbyněk Roček

Zbyněk Roček was born on 16 August 1945, a few weeks after the end of the WWII and two years before the beginning of Soviet domination of Czechoslovakia, in the small town of Litomyšl in eastern Bohemia, now within the Czech Republic. His childhood and youth were spent in the region, initially in the town of Vysoké Mýto and later in the town of Pardubice, where his father worked as a public notary. Zbyněk completed the mandatory eight years of primary school and, because he was destined for university, an additional three years of middle school. During his middle school years, Zbyněk and several friends served as field assistants for an ornithologist friend of his father’s—that experience led to a lifelong interest in natural history and drove home the importance of regarding organisms, even fossil ones, as living entities within their environment. Upon graduation in June 1962 and a few months shy of his 17th birthday, Zbyněk applied for entrance into Charles University in Prague, where he planned to study geography and biology, with a particular emphasis on ornithology, in hopes of becoming a middle school lecturer. The committee of school and communist party officials who reviewed university applications in those post-war years instead decreed that Zbyněk spend one year working in a variety of non-academic positions. During that year, Zbyněk established his proletarian credibility by delivering milk from a dairy factory, labouring as a bricklayer’s assistant, unloading cargo from trains and working in a book store for a state publishing house.

In August 1963, Zbyněk passed the entrance interviews and was admitted into the Faculty of Science at Charles University, and then promptly spent much of the next few



Fig. 1 Emeritus Professor Zbyněk Roček, in his laboratory at the Institute of Geology in March 2015. Photograph courtesy of Zbyněk Roček and Pavel Lisý (Institute of Geology of the Czech Academy of Sciences, v.v.i., Prague)

months in an undergraduate work party that helped bring in the year's harvest of hops (a key ingredient in brewing tasty Czech beer) and potatoes. After enduring the usual dull first year of mandatory classes, over the next four years, Zbyněk enjoyed the diversity of courses he took and the instruction he received within the departments of Physical Geography and Zoology. Many of his classes had a field-based component, which Zbyněk fondly recalls as being invaluable for complementing and expanded upon what was taught in the classroom. He also gained valuable experience as a teaching assistant in both departments, participated in collecting expeditions with the Department of Zoology, was a member of the Faculty of Science's rock-climbing club and taught skiing.¹ During his second year at university, Zbyněk received some pivotal advice

¹ One memorable, non-academic experience for Zbyněk during that time was a brief foray into the movie business. In June 1968, he was cast as an extra in the WWII movie 'The Bridge at Remagen' (released in 1969), for scenes being filmed along the Vltava River, south of Prague. Zbyněk recalls being paid the then-princely sum of 100 Czech crowns per day, and subsequently learning that the goat belonging to a fellow extra was also earning the same daily rate as the human extras. Although Zbyněk has watched the film several times, he was never able to pick himself out of the crowd scenes. In 2014, while touring fossil frog localities near Bonn, Germany, Zbyněk was finally able to visit the stretch of the Rhine Valley where the original Remagen Bridge stood, but was never rebuilt after being destroyed near the end of the war.

that was to define the course of his academic career. As Zbyněk recalls, a young research assistant in the Department of Zoology told him, "Don't be foolish, everyone wants to be an ornithologist. Think about your future: there are too many ornithologists who cannot get jobs. Try to do something else, like amphibians and their distribution. Nearly nothing is known about that." Zbyněk took that advice to heart and, for his Master's thesis, studied the distribution of Alpine newts in the Czech Republic; the results of that work appeared in a trio of papers (Roček 1968, 1970, 1972). Zbyněk's final half-year of university was enlivened by events during the Prague Spring of 1968, when Czechoslovakia cautiously flirted with political reform, before Soviet and other Warsaw Pact troops occupied the country in August and Moscow's will was re-imposed. Zbyněk participated in some of the street rallies that summer and then, when order was restored, he returned to his studies. He graduated with a *Promovaný Biolog* (Prom. Biol.: 'graduated biologist') degree later in the fall of that year. Although many of his fellow graduates left the country soon after graduation, Zbyněk elected to remain.

In 1969, Zbyněk began juggling his time between starting employment as a zoologist at a small regional museum in the town of Rychnov nad Kněžnou in eastern Bohemia and fulfilling his final year of compulsory military service. Not wishing to continue serving as a tank commander, a role for which he had trained part-time during university, he was able to exploit his geography training to get re-assigned to a cartography unit. During the summer of 1970, his unit surveyed and corrected the positions of rock cairns used to demarcate the borders between Czechoslovakia and neighbouring countries. Those cairns had a mysterious habit of shifting which, at least temporarily, allowed farmers on one side of the border to plant crops in a bigger field. Zbyněk recalls the work as being pleasant and not especially regimented. During the grape harvesting season, he and his colleagues used their military truck to haul grapes for local farmers in exchange for bottles of delicious, locally made wine. One week in early July, Zbyněk slipped away for a week to get married in Bohemia and, upon returning from his honeymoon, was not surprised, but still relieved, to find that his absence had not been officially noticed.

After completing his military service and while still at the museum in Rychnov nad Kněžnou, Zbyněk continued his research on newts. In 1972, he was awarded a *Rerum Naturalium Doctor* (RNDr.: 'Doctor of natural things') degree from Charles University for his dissertation on the biometrics of central European populations of Alpine newts. During his time at the museum, he generated over two dozen natural history publications, including two about Alpine newts derived from his *Rerum Naturalium* research (Roček 1974a, b), his first frog papers, which reported on developmental variation in body proportions and polydactyly in extant populations of green frogs

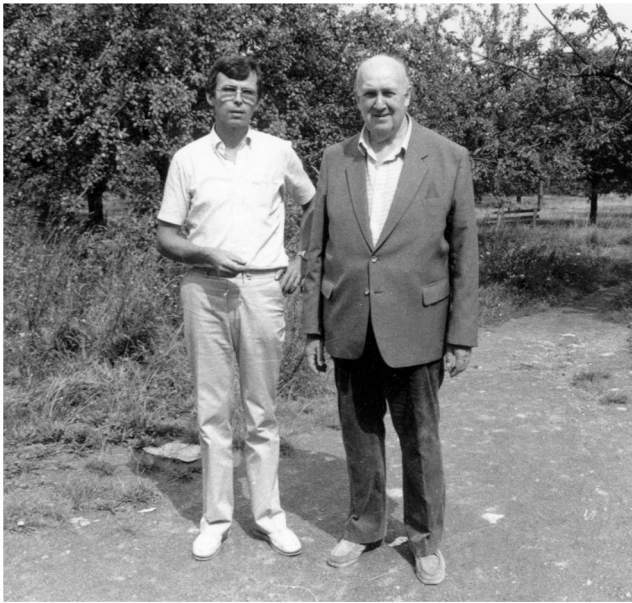


Fig. 2 Zbyněk Roček (left) and Professor Zdeněk V. Špinar (right), during one of their regular Sunday afternoon walks in May 1986 in Prague. At that time, Špinar was 70 years old and Zbyněk had been working as Špinar's assistant for the past decade. Photograph courtesy of Zbyněk Roček and Marie Špinarová (Třebíč)

(Roček 1974c, d), and his only solo-authored mammal paper (Roček 1974e). His papers on newts and frogs brought him to the attention of Zdeněk Špinar, who was a professor of palaeontology at Charles University. Zbyněk had never met Prof. Špinar, although he was familiar with his work, especially Špinar's pair of classic palaeontology books published just a few years earlier.² Špinar invited Zbyněk to meet him at Charles University, where they examined the university's collection of articulated frog fossils from the Oligocene locality of Bechlejovice in northern Bohemia and had a short discussion. At the end of that meeting, Špinar offered Zbyněk a position at Charles University as his assistant. This tempting offer was complicated by the fact that Zbyněk's wife Jana had only recently secured a high school lecturer position in Rychnov, where they lived. Moving to Prague would mean Jana would have to wait for a similar teaching vacancy to open in one of Prague's high schools. In a compromise familiar to many academic couples, they decided on a short-term solution: he would move to Prague to begin working at Charles University, while she continued to live and work in Rychnov until a teaching position opened in Prague.

² Špinar, Z. V. (1972). *Tertiary frogs from Central Europe*. The Hague: Dr. W. Junk N.V.

Špinar, Z. V. (1972). *Life before man*. London: Thames and Hudson Ltd. [This book was translated into many other languages, although the Czech version did not appear until 16 years later: Špinar, Z. V. (1988) *Kniha o pravěku*. Prague: Albatros.]

Zbyněk began working as Prof. Špinar's assistant in November 1975 (Fig. 2). At Špinar's suggestion, Zbyněk immediately began his *Candidatus Scientiarum* (CSc.; equivalent to a PhD) dissertation on the cranial anatomy and development of *Pelobates*. That study was Zbyněk's first serious foray into frogs, and many of its themes (e.g. the interplay between development, ontogeny and evolution in tetrapods; the osteology, origins, fossil record and systematics of frogs) were further explored and expanded upon during the rest of his research career. The latter half of the 1970s was a busy and eventful time for Zbyněk. In 1976, he re-opened the Bechlejovice Oligocene frog quarry in northern Bohemia, but quickly realised there was little chance of collecting any significant new fossils from that already exhaustively sampled quarry.³ Despite his limited time working at that quarry, many previously collected specimens from Bechlejovice would be featured much later in his papers on development and metamorphosis in fossil pipoid frogs (e.g. Roček 2003a; Roček and Van Dijk 2006). The next year, Zbyněk led a crew that screen washed the lower Miocene Dolnice locality in western Bohemia; the abundant, isolated bones from that locality formed the basis for a series of descriptive and faunal papers by Zbyněk and colleagues through the 1980s (Moody and Roček 1980; Rage and Roček 1983; Roček 1984a; Młynarski and Roček 1985; Fejfar and Roček 1988). Also, in 1977, the Czechoslovakian company Geindustria, which was carrying out geological mapping for the Libyan government, invited Prof. Špinar and Zbyněk to collect at the then-recently discovered lower Oligocene locality of Jabal al Hasawinah, in the Sahara Desert. Their Libyan expedition resulted in the discovery of numerous vertebrate fossils (e.g. Špinar and Roček 1978; Roček 1979), including several dozen frog skeletons belonging to a new species of *Xenopus*,⁴ plus the memorable experience of being briefly detained and questioned as suspected spies by Libyan security officials for having snapped photographs in a Tripoli market on their first day in the country. In 1979, Zbyněk spent three months working in Prof. Erik Jarvik's laboratory at the Swedish Museum of Natural History in Stockholm, where he was able to study Jarvik's extensive collection of Devonian sarcopterygian and tetrapod fossils, including sectioned skulls that revealed otherwise hidden details of internal cranial anatomy. Insights that Zbyněk gleaned from that short but intensive time in Sweden were incorporated into many of his subsequent papers dealing with the origins and development of amphibians (e.g. Roček 1981, 1988a, 1990, 1993a, 2003b). Also, in 1979, Zbyněk and Jana became parents when their daughter Hana was born.

³ Bechlejovice has yielded nearly 1600 fossil tadpoles and metamorphosed frogs (Z. Roček, personal communication, 2015).

⁴ Špinar, Z. V. (1980). The discovery of a new species of pipid frog (*Anura*, Pipidae) in the Oligocene of Central Libya. In M. J. Salem & M. T. Busrewil (Eds.), *The geology of Libya. Vol. 1* (pp. 327–348). London: Academic Press.

Zbyněk completed his dissertation and was awarded his *Candidatus Scientiarum* degree in 1980 from Charles University. The following year, the monograph version of his dissertation was published in English (Roček 1981), and it quickly became a classic reference work on the development and osteology of the anuran skull.⁵ Following the completion of that degree, Zbyněk remained at Charles University, where he continued his academic research and duties in the Department of Paleontology and later in the Department of Zoology. From 1992 onwards, he was cross-appointed as a Senior Researcher at the Institute of Geology of the Czech Academy of Sciences, also conveniently located in Prague.

The next 35 years were devoted to teaching, supervising students, research, study trips abroad, and attending and organising conferences. In 1980, Prof. Lehman hosted what was intended to be a six-month study visit by Zbyněk to the *Muséum National d'Histoire Naturelle* in Paris. When Lehman unexpectedly died soon after Zbyněk arrived, Jean-Claude Rage (then a CNRS researcher at *Université Paris VI*) and his wife Agnes befriended Zbyněk and helped salvage the remainder of his Parisian visit. Jean-Claude and Zbyněk remain close friends and have collaborated on a variety of papers, most notably on frog origins and re-descriptions of the stem frog *Triadobatrachus* (Rage and Roček 1986, 1989; Roček and Rage 2000a, b), the evolution of frog assemblages in Europe during the Cenozoic (Rage and Roček 2003), a review of Tertiary anurans (Roček and Rage 2000c) and descriptions of Miocene snakes and an Eocene frog (Rage and Roček 1983, 2007). They also re-interpreted a supposed Devonian tetrapod print as the somewhat less exciting resting trace of a starfish (Roček and Rage 1994). Another pivotal event during the 1980s that was to have long-term benefits for Zbyněk occurred in 1985, when he hosted the 3rd Ordinary General Meeting of the European Herpetological Society in Prague. That meeting was attended by about 400 delegates, and was remarkable for being one of the first occasions when herpetologists and palaeontologists from Warsaw Pact countries and the rest of the world were able to freely meet and learn about each other's work. As a result of personal contacts made at that conference, the next year, Zbyněk was invited to work with several prominent Canadian and American colleagues at their home institutions. Since then, international collaborative research, especially on palaeontological topics, has been an important component of Zbyněk's career (e.g. Roček and Nessov 1993; Roček and Lamaud 1995; Kordikova et al. 2001; Bernor et al. 2004; Roček and Van Dijk 2006; Delfino et al. 2009; Gardner et al. 2010; Roček et al. 2010, 2011, 2012a, b, 2015). The mid-

⁵ Although long out of print, digital copies of this monograph are now accessible through several web sites (e.g. ResearchGate.net and Academia.edu) and from the 'Scientific papers by Zbyněk Roček' website maintained by the Institute of Geology of the Czech Academy of Sciences at: <http://rocek.gli.cas.cz/Bibliography.htm>.

1980s also saw the publication of "Evoluce Obratlovců" (= "Evolution of Vertebrates": Roček 1985a), the first of his three solo-authored books.

Through the latter part of the 1980s and into the early 1990s, Zbyněk tackled his final graduate degree. In December 1991, he was awarded a Doctor of Sciences (DrSc) degree from Charles University for his study on the origin and evolution of anurans, which was based on a series of 14 solo- and co-authored papers, some of which had not been published by the time his degree was awarded (Böhme et al. 1982; Jarošová and Roček 1982; Roček 1984b, 1985b, 1986a, 1987, 1988a, 1989, 1990, 1991, 1993b; Rage and Roček 1989; Roček and Veselý 1989; Roček and Nessov 1993). Zbyněk's next major undertaking that decade was being the lead organiser for the 3rd World Congress of Herpetology, which met during August 1997 in Prague,⁶ and was attended by over a thousand international delegates. For Zbyněk, one of the highlights of that event was being pleasantly surprised at how much the attendees enjoyed an evening concert of classical Czech music presented as part of the Congress programme. During the 1990s and into the next millennium, Zbyněk continued his academic career and rose through the ranks at Charles University, where he became a Full Professor in 2007 and then an Emeritus Professor at the Czech Academy of Sciences in 2015.

In recent correspondence to us, Zbyněk summed up his research career by stating that he was primarily focused on the origins and structural evolution of anurans, and that he was especially interested in questions like: (1) what were the principal anatomical transformations leading to the origin of the anuran body plan and subsequently during the group's evolution, (2) how are these transformations documented in the fossil record and ontogeny of extant frogs and (3) to what extent can anatomical features that arose in various frog lineages be used to reconstruct their phylogenetic histories? Those themes and questions are especially prominent in his papers and conference presentations, having titles such as "The *incrassatio frontoparietalis* in frogs, its origin and phylogenetic significance" (Jarošová and Roček 1982), "Anatomical transformations in the transition from temnospondyl to proanuran stages" (Roček and Rage 2000a), "Ontogeny in Tertiary frogs" (Roček 2004), "Transformation of the pectoral girdle in the evolutionary origin of frogs: insights from the primitive anuran *Disco-*

⁶ Zbyněk recalls that this conference was held under quite different circumstances than the European Herpetological Society meetings 12 years early. In the intervening years, the collapse of communism across Eastern Europe and the Czechoslovakian Velvet Revolution paved the way initially for the installment of a democratic government in the country and then its peaceful partitioning into the Czech Republic and Slovakia. As those of us who attended the 1997 meetings can attest, by that time, the Czech Republic was enthusiastically embracing capitalism and, once again, Prague was becoming a fashionable European city.

glossus” (Havelková and Roček 2006) and “Post-metamorphic development of Early Cretaceous frogs as a tool for taxonomic comparisons” (Roček et al. 2012a). Those same themes and questions are also evident to varying degrees in most of his other papers, including those focused primarily on anatomy and development (e.g. Kolesová et al. 2007; Královec et al. 2010; Roček et al. 2015), functional morphology (e.g. Delfino et al. 2009; Příkryl et al. 2009; Robovská-Havelková et al. 2014) and classical descriptive and systematic palaeontology (e.g. Roček 2008; Wuttke et al. 2012; Dong et al. 2013; Roček et al. 2014). Other notable contributions by Zbyněk and colleagues included summaries and reviews of the anuran fossil record (e.g. Sanchiz and Roček 1996; Roček and Rage 2000c; Roček 2000a, 2013a) and faunal-style papers reporting on assemblages of frogs, other amphibians and reptiles from the Mesozoic and Cenozoic of Europe, Asia and North America (e.g. Roček and Nessov 1993; Roček 1994a, b, 2005; Roček and Wuttke 2010; Roček et al. 2010). Although Zbyněk is justifiably best known for his work on frogs, he has also published a modest number of papers dealing with reptiles (e.g. Moody and Roček 1980; Roček 1980a, b, 1984a; Rage and Roček 1983; Młynarski and Roček 1985). Echoing his early work on Alpine newts, Zbyněk has maintained an ongoing sideline interest in fossil and extant salamanders (e.g. Roček 1994c, 1996a, b, c, 1997a, b, c, 1999; Vater and Roček 2004) and also contributed Alpine newt accounts (Roček 1992a; Roček et al. 2003) for two natural history books. In keeping with his modest nature, Zbyněk tends to downplay his work by arguing that none of his projects has been especially flashy. However, even a cursory glance at the number and breadth of his publications (see ‘Selected scientific publications of Zbyněk Roček’ at end of this article) convincingly demonstrates that his research programme has made substantial contributions to the fields of herpetology and palaeontology.

In addition to maintaining an active and productive research programme, Zbyněk was a long-time teacher at Charles University and supervised several dozen student research projects. Regarding his supervisory philosophy, Zbyněk stated, “I always considered it important that my students work on scientific problems that they liked, not on problems imposed on them. A good scientist should be able to recognise problems that deserve to be clarified.” He encouraged his students to work independently and with minimal supervision, but was always available to provide general advice as needed. Although many of his students worked on frog projects, others worked on topics as disparate as revising a fossil coelacanth species and reconstructing the speech capabilities of Neanderthals. Many of his students went on to careers in conservation and as high school lecturers, with a minority (including one of us, namely TP) having gone into academia.

Outside of his research, teaching and supervisory roles, Zbyněk has provided decades’ worth of service to the scientific community in a variety of ways. Especially notable in this regard have been his constructive and supportive reviews of manuscripts and grant applications, his mentoring of younger researchers (both of us have certainly benefited from Zbyněk’s advice and help over the years) and his participation in organising numerous scientific conferences and symposia. As part of his ongoing efforts to promote an appreciation for evolution and natural history within his country, Zbyněk also translated into Czech four popular science books for adults⁷ and a larger number of books for children about dinosaurs and other animals. Presenting this tribute to Zbyněk in the journal *Palaeobiodiversity and Palaeoenvironments* is especially fitting, because he is a member of the editorial board and he supports the journal by providing thorough reviews and high-quality papers. Given his sense of humour, Zbyněk undoubtedly appreciates the irony that, although his work has largely focused on frogs, thus far, the only taxon to be named in his honour has been the fossil lizard *Mediolacerta roceki*.⁸

Although retirement has freed Zbyněk of his teaching and administrative responsibilities, he continues to actively pursue research and related projects, albeit at a more leisurely pace. For example, in the past year, he co-authored a paper on the structure and taxonomic value of the frontoparietal bone in palaeobatrachid frogs (Roček et al. 2015) and spent several weeks working with colleagues at the Institute for Vertebrate Paleontology and Paleoanthropology in Beijing on new frog fossils. Currently, Zbyněk is editing a Festschrift for Prof. Špinar scheduled for publication in 2016.⁹ Retirement also means that Zbyněk and Jana are now able to devote more time to travelling and, closer to home, enjoying their mountain cottage nestled in a forested landscape dotted with numerous small ponds inhabited, fittingly, by frogs and newts. We wish Zbyněk all the best for his well-

⁷ From English:

Gould, S. J. (2005). *Dinosaur in a haystack*. New York: Harmony Books. [In Czech: Gould, S. J. (2005). *Dinosauri v kupce sena*. Praha: Academia.]

Palmer, D. (1999). *The atlas of the prehistoric world*. London: Marshal Edition. [In Czech: Palmer, D. (2001). *Prehistorický atlas. Vývoj planety Země*. Praha: Knižní klub.]

Shubin, N. (2008). *Your inner fish. A journey into the 3.5 billion year history of the human body*. New York: Pantheon Books. [In Czech: Shubin, N. (2009). *Ryba v nás*. Praha a Litomyšl: Paseka.]

From German:

Beurlen, K., & Lichter, G. (1986). *Versteinerungen*. München: Mosaik Verlag. [In Czech: Beurlen, K., & Lichter, G. (1997). *Zkameněliny*. Praha: Ikar a Knižní klub.]

⁸ Augé, M. L. (2005). Évolution des lézards du Paléogène en Europe. *Mémoires du Muséum national d’Histoire naturelle*, 192, 1–369.

⁹ As a special issue of *Acta Musei Nationalis Pragae, Series B—Historia Naturalis*.

deserved retirement and look forward to both the results of his ongoing research and the possibilities for future collaborations.

Summary of papers included within this special issue

Tomáš Přikryl, Rostislav Brzobohatý and Růžena Gregorová: “Diversity and distribution of fossil codlets (Teleostei, Gadiformes, Bregmacerotidae): review and comments”

In the first contribution to this Special Issue, Zbyněk’s former student, Tomáš Přikryl, and his palaeoichthyological co-authors bring much needed clarity to the fossil record of codlets. These are a family of small-sized, pelagic fish that currently have a near-global distribution in warm marine waters and a modest fossil record extending back into the Eocene. The authors review the fossil record and history of work on codlets and, in a manner reminiscent of many of Zbyněk’s studies on fossil amphibians, they combine evidence from fossil specimens as well as the osteology and development of living codlets to revise the taxonomy of fossil members. Přikryl et al. accept the 12 nominal fossil species known only by otoliths, but for the five fossil species previously named on the basis of body fossils, they limit the number of diagnosable species to just two, both within the genus *Bregmaceros*, and question whether a poorly known monotypic species, *Bregmacerina antiqua*, can be retained within the family. (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi:10.1007/s12549-015-0222-z)

Pavel P. Skutschas: “A new crown-group salamander from the Middle Jurassic of Western Siberia, Russia”

The two decades since Zbyněk’s review of the European fossil salamander record (Roček 1994c) have seen substantial improvements in our understanding of the fossil record of that group, both within Europe and globally. As part of his ongoing, field- and laboratory-based research programme on the fossil record of salamanders and other tetrapods from Eurasia, Pavel Skutschas describes a new species of crown-clade salamander from a richly fossiliferous, Middle Jurassic quarry in Siberia. This new species is one of the oldest known salamanders and it extends the fossil record of the genus *Kiyatriton* back some 40 million years from its only previously known occurrence in the Aptian–Albian of Siberia. The new Siberian salamander contributes to the mounting evidence that stem and crown salamanders were contemporaneous during the initial portions of their known records and that present-day Siberia served as a refuge for a suite of Jurassic aspect vertebrate taxa well into the Early Cretaceous. (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi:10.1007/s12549-015-0216-x)

Yuan Wang, Liping Dong and Susan E. Evans: “Polydactyly and other limb abnormalities in the Jurassic salamander *Chunerpeton* from China”

In one of his early natural history reports, Zbyněk documented instances of additional digits among extant green frogs in Bohemia (Roček 1974d). Anomalous occurrences of additional phalanges, digits and even limbs now are well-known, but puzzling, phenomena in some extant populations of frogs and salamanders. Yuan Wang and colleagues document the first instances of these anomalies in the salamander fossil record, on the basis of a mono-specific sample of exquisitely preserved skeletons with body outlines from the Jurassic of northeastern China. The occurrence of such malformations in these ca. 160 million year old Chinese fossils suggests that developmental processes responsible for the growth and regeneration of digits and limbs—regardless of whether those structures are normal or malformed—have remained consistent throughout the evolutionary history of salamanders. As further noted by Wang et al., recent palaeontological and developmental studies by other researchers have raised the possibility that the ability to regenerate digits and appendages may be a primitive attribute for salamanders and, potentially, for Tetrapodomorpha as a whole. (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi:10.1007/s12549-015-0219-7)

Márton Venczel, James D. Gardner, Vlad A. Codrea, Zoltán Csiki-Sava, Ștefan Vasile and Alexandru A. Solomon: “New insights into Europe’s most diverse Late Cretaceous anuran assemblage from the Maastrichtian of western Romania”

When Zbyněk published his comprehensive review of the global Mesozoic anuran record (Roček 2000a), what was known for the Upper Cretaceous portion of that record in Europe was largely confined to western portions of the continent. Beginning with discoveries in the mid-1980s, Maastrichtian sedimentary basins in western Romania have steadily yielded a growing number of isolated frog bones. On the basis of all previously published and newly available specimens, Márton Venczel and colleagues provide an up-to-date account of the latest Cretaceous frog assemblage from Romania. In containing three alytids, the oldest known bombinatorid, a possible pelobatid and at least two indeterminate taxa, this is proving to be the most taxonomically diverse Late Cretaceous frog assemblage currently known from Europe. The Romanian frog assemblage contains a mix of endemic and more widespread groups, and when compared to other Late Cretaceous European frog assemblages, it shows both similarities (e.g. preponderance of alytids) and differences (e.g. lacks both the palaeobatrachids from the Campanian–Maastrichtian of western Europe and the putative neobatrachian from the Santonian of Hungary). (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi: 10.1007/s12549-015-0228-6)

Amy C. Henrici: “Digging through the past: the evolutionary history of burrowing and underground feeding in rhinophrynid anurans”

Crediting Roček and Rage’s (2000c) review of the Tertiary frog record as the inspiration for her contribution, Amy Henrici details the palaeontological evidence for the skeletal novelties, specialised lifestyle and distribution of the endemic North American Rhinophrynidae. Today, rhinophrynids are represented by a single species that is highly specialised for a subterranean existence and is confined to the extreme southernmost USA southwards into Central America. The family has a more extensive fossil record in western North America, where its geographic distribution extends northwards into southernmost Canada and its temporal range extends back to the Palaeocene and, perhaps, even to the Late Jurassic. Utilising previously published and newly identified fossils, combined with recent palaeoclimatic studies, Henrici traces the timing and appearance of osteological features linked to the evolution of underground feeding and head-first burrowing in these bizarre frogs, and she proposes that climatic and environmental changes initiated during the late Palaeogene in western North America forced rhinophrynids southwards. (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi:10.1007/s12549-015-0215-y)

Hugues-Alexandre Blain, Massimo Delfino, Claudio Berto and Marta Arzarello: “First record of *Pelobates syriacus* (Anura, Amphibia) in the early Pleistocene of Italy”

One of Zbyněk’s favourite frog genera, *Pelobates*, is the subject of the contribution by Hugues-Alexandre Blain and colleagues. These authors document a palaeobiogeographically unexpected record for *P. syriacus*, on the basis of isolated bones recovered from a lower Pleistocene fissure fill in south-eastern Italy. That species is currently restricted to the eastern Mediterranean region and the Middle East. Blain et al. propose that the extralimital presence of *P. syriacus* in Italy during the early Pleistocene was the result of it having dispersed eastwards during cooler intervals, when sea levels dropped and suitable overland routes emerged across the Aegean Sea. (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi:10.1007/s12549-015-0220-1)

Jorge M. Lobo, Iñigo Martínez-Solano and Borja Sanchiz: “A review of the palaeoclimatic inference potential of Iberian Quaternary fossil batrachians”

One of the initial goals for Zbyněk’s Master’s project in the late 1960s was to assess whether the distribution maps he generated for populations of the Alpine newt in the Czech Republic could be explained in terms of geographical, climatic and other environmental factors. Fast forward to the

early 21st century, when advances in computing power, the advent of GIS mapping and a more sophisticated understanding of the factors influencing species distributions have now made those ‘ecological suitability analyses’ feasible and, according to their proponents, a powerful tool for explaining species distributions in the present, past and future. In their contribution, Jorge Lobo and colleagues assess how well actual distributional data for Quaternary (both extant and fossil) species of frogs and salamanders across the Iberian Peninsula match predictions for their maximum potential distributions, as generated from a suite of climatic variables. They find that the actual and predicted distributions are similar enough that, with some caveats, fossil occurrences of at least Quaternary amphibian taxa can be used to infer past climatic conditions. (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi:10.1007/s12549-015-0224-x)

Steven C. Sweetman: “A comparison of Barremian–early Aptian vertebrate assemblages from the Jehol Group, north-east China and the Wealden Group, southern Britain: the value of microvertebrate studies in adverse preservational settings”

In terms of the number of fossils recovered, the diversity of taxonomic groups known and the range of body sizes represented, the Wealden Group of southern Britain and the Jehol Group of northeastern China are the richest deposits for Early Cretaceous non-marine vertebrates in the world. Much of what we know about the vertebrate record for both units, especially for smaller sized taxa such as lissamphibians, has come to light over the past few decades thanks to the efforts of a few, mostly English, palaeontologists working in the Wealden and larger numbers of Chinese palaeontologists and their colleagues (including Zbyněk) working on Jehol fossils. Drawing on his extensive, first-hand experience with the Wealden and his contacts within the Chinese palaeontological community, Steve Sweetman is well positioned to provide a review and comparison of the Wealden and Jehol vertebrate assemblages. The two assemblages are broadly similar in terms of which major groups are present, whereas differences are likely attributable to a combination of geographic separation, palaeoenvironmental and taphonomic factors, and the more limited outcrop available for the Wealden Group and lesser amount of research having been devoted to that unit. (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi:10.1007/s12549-015-0217-9)

James D. Gardner and Jean-Claude Rage: “The fossil record of lissamphibians from Africa, Madagascar, and the Arabian Plate”

Fossil frogs of Africa and its adjacent regions have long been of interest to Zbyněk, beginning with the memorable trip he

made in 1977 with Prof. Špinar to collect Oligocene frog fossils in Libya, and subsequently with his collaborative redescription of the Triassic stem frog *Triadobatrachus* from Madagascar (Rage and Roček 1986, 1989), his participation in a pair of conferences held in 2002 and 2005 in South Africa and, most recently, his collaborative study of development in pipoid frogs that utilised Cretaceous fossils from South Africa and Israel (Roček and Van Dijk 2006). Because of its complex palaeogeographic history, any consideration of Africa's lissamphibian record must include its associated islands and the adjacent Arabian Plate portion of the Middle East. In the final contribution of this volume, Jim Gardner and Zbyněk's long-time friend and collaborator, Jean-Claude Rage, present a comprehensive review and commentary on the lissamphibian fossil record from Africa, Madagascar and the Arabian Plate. As documented in their review, the region's lissamphibian record is better than generally appreciated: fossils are known from over 90 sets of localities ranging in age from basal Triassic to Holocene age, 20 named taxa are currently recognised and Africa is one of only two continents (the other being North America) having records for all four lissamphibian clades (i.e. frogs, salamanders, caecilians and albanerpetontids). (*Palaeobiodiversity and Palaeoenvironments*, 96(1). doi: 10.1007/s12549-015-0221-0)

Acknowledgements The genesis of this article began with us recounting the many anecdotes that Zbyněk Roček had shared with us over the years about his life and career. We then proceeded to impose heavily on Zbyněk's generosity and patience by asking for extensive autobiographical details and clarification, a complete list of his publications and the two photographs included in this paper—all of which he provided in his usual prompt and conscientious manner. Jean-Claude Rage (Muséum National d'Histoire Naturelle, Paris, France) critiqued an earlier version of this paper and helped ensure its accuracy. We are grateful to Mrs. Marie Špinarová (Třebíč) for allowing us to publish the photograph in which her deceased husband, Prof. Špinar, appears with Zbyněk, and also to Pavel Lisý (Institute of Geology, CAS, v.v.i., Prague) for having taken the photograph of Zbyněk in his laboratory.

Assembling an edited collection of papers like this Special Issue relies on the efforts, goodwill and professionalism of many people. We thank the authors of the nine papers included in this volume for their diverse contributions and the reviewers who provided constructive and prompt reviews of the submitted manuscripts. In the editorial office for *Palaeobiodiversity and Palaeoenvironments*, the Managing Editor Sinje Weber and the Editor-in-Chief Peter Königshof enthusiastically endorsed our proposal, and then helped us navigate through the many steps needed to produce the final volume. We also appreciate the efforts of the production team at Springer, who helped turn the ten manuscripts constituting this Festschrift into a polished volume. JDG's wife, Joan Marklund, endured the familiar loneliness of being an 'editorial widow' during the latter stages of this project.

We offer this Special Issue of *Palaeobiodiversity and Palaeoenvironments* as a tribute to our colleague, mentor and friend, Emeritus Professor Zbyněk Roček.

Selected scientific publications of Zbyněk Roček

This abbreviated list includes scientific papers, important published conference proceedings, books, book chapters and edited volumes. Except where cited in the text, other publications (conference abstracts, book reviews, translations, and popular and semi-popular publications) are not included. For a more extensive publication list, see the 'Scientific papers by Zbyněk Roček' website maintained by the Institute of Geology of the Czech Academy of Sciences at: <http://rocek.gli.cas.cz/Bibliography.htm>.

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