

Our honoured colleagues, Drs Tiiu Märss and Philippe Janvier, commemorated at the 16th ISELV, Valencia, Spain: personal memories

Nuestros distinguidos colegas, los Drs. Tiiu Märss y Philippe Janvier, homenajeados en el 16° ISELV, Valencia, España: memorias personales

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The 16th International Symposium on Early and Lower Vertebrates, Valencia, held in June 2022 was dedicated to the work of two important members of the Palaeozoic fossil fish community. Both have worked on numerous and various vertebrate groups and taxa, notably agnathan and gnathostome fishes. Geologists and palaeobiologists Professors Tiiu Märss and Philippe Janvier have collected, studied, illustrated and contributed many books and papers to geoscience, for which we thank them. I first met Tiiu and Philippe ('Phil') in Tallinn in September 1976 at Elga Mark-Kurik's 1st Middle Palaeozoic Fish symposium (Schultze, 2005, 2018), nearly half-a-century ago (Fig. 1A–1C). My work at that time on the nature and use of agnathan thelodonts in biostratigraphy had already been influenced by their respective scientific papers (e.g., Mark-Kurik & Noppel, 1970; Janvier, 1971, 1975). As the only western woman at that gathering, it was a delight for me to meet up with many more young and enthusiastic fellow workers on Palaeozoic fossil fish from Europe and the then Soviet Union, then in short supply in Britain. Not least to meet so many female Palaeozoic fish workers, including Tiiu! Philippe Janvier, 'Phil', especially, introduced me there to the intricacies of the Soviet system at that time; much of our 'quiet' time at the conference was spent in our rooms at the Hotel Tallinn telling disreputable and scurrilous stories with the motive of giving any KGB/Politburo listeners (who allegedly occupied the lower floors) something good to listen to!

Since then, we have worked together, co-operated on projects small to major, discussed, exchanged information, met at conferences such as the Early/Lower Vertebrates symposia (ELVS; Figs. 1A, 2), in institutions and in our homes, all to good effect and in the friendly and inspirational spirit of our discipline, palaeoichthyology. Here we celebrate their achievements (Anon., 2022a, 2022b; Turner, 2022a; this volume), in the field and to the microscope, over six decades, admire their outputs and energy, and wish them long life to continue adding to scientific knowledge and mentoring.



Figure 1. **A**, Young Tiiu Märss in the field, 1970s (photo by unknown); **B**, young Philippe Janvier at Peter the Great's Summer Palace near Tallinn, September 1976; **C**, Erik Jarvik, Phil Janvier and Ulf Borgen at the 1st Middle Palaeozoic Fossil Fish Symposium, Tallinn 1976. All photos by and c. Susan Turner unless noted.

DR TIIU MÄRSS

From Tiiu, we have excellent and numerous works on early vertebrates to Recent fish showing the quality of this great Estonian's life's output, not least our joint *Handbook of Paleichthyology* on the Thelodonti with the late Valentina Karatajute-Talimaa (Märss *et al.*, 2007), through which we honed and compromised on a combined 100+ years of taxonomic experience (Fig. 2A). Her works are constantly on my desk as I attempt to identify specimens down my microscope, currently dealing with Arctic Canadian, Scottish and Irish Silurian remains (e.g., Märss *et al.*, 2006; Märss & Ritchie, 1998). Despite the vagaries of political change over the decades, Tiiu has maintained an honoured career in her homeland and also helped to create a new cohort in Sweden, with whom she is a major collaborator. That relationship brought us together most recently to work on Scandinavian thelodonts (Bremer *et al.*, 2019).



Figure 2. **A**, The 'Thelodont three', co-authors of volume 1B of the *Handbook of Paleichthyology* on thelodonts, Tiiu Märss, Valya Talimaa and Sue Turner at the launch of the book at ELVS Uppsala in 2007 (photo by Alain Blicek); **B**, Tiiu in the field at Gauja River, Latvia, 1989; **C**, Tiiu, co-proposer of IGCP 328 at first meeting in Miguasha, July 1991 (photo by Hans-Peter Schultze); **D**, Tiiu in the field in Germany, joint SDS–IGCP 328 Walter Gross conference in August 1993; **E**, Tiiu at the Museum of the Earth, Warsaw ELVS 2017. All photos by and c. Susan Turner unless noted.

We came together notably in 1989 during the 2nd Middle Palaeozoic Fish meeting in Tallinn (= 6th International Symposium ‘Early Vertebrates/Lower Vertebrates’) and field trip into Latvia (Fig. 2B), which Tiiu helped to organise, to forge one of the most important developments in the late 20th century for our community, the proposal of a UNESCO: IUGS International Geological Cooperation Project (IGCP); this became IGCP 328 project on Palaeozoic microvertebrates (1991–1996) (Fig. 2C, 2D). Out of our IGCP work came the important first international vertebrate biozonal scheme for the Silurian recognised by the IUGS (Märss *et al.*, 1995). This project then spawned several more, the next of which (IGCP 406), Tiiu co-led, and that took her to new realms in Arctic Canada, where, with her co-workers, she has brought to light older and more fascinating new jawless and jawed vertebrates (*e.g.*, Märss *et al.*, 2006). Her expertise has revolutionised our understanding of early vertebrates—Wiki shows 171 taxa, to date(!) to her name. Of great importance has been her insights into the palaeobiology of the animals, and for me, those that illuminate the scales in fossil fishes are some of the best (*e.g.*, Märss, 2006).

DR PHILIPPE JANVIER

Through his diverse and body of work on many taxa, including his classic book ‘*Early Vertebrates*’ (Janvier, 1996), ‘Phil’ has achieved one of France’s highest accolades as a member of the French Académie des Sciences (Paris: <http://www.academie-sciences.fr/fr/Liste-des-membres-de-l-Academie-des-sciences/-/J/philippe-janvier.html>). His pioneering field work in many countries has enabled me to produce taxonomic opinions on fossils from as far afield as Bolivia, Iran, Thailand and Turkey (*e.g.*, Turner & Janvier, 1979; Gagnier *et al.*, 1988; Turner, 2017) and he has joined ventures such as the early/lower vertebrate meetings and IGCP projects (Turner *et al.*, 1995; Blicek *et al.*, 1995; Fig. 3A, 3B). But for me Phil will always be the mercurial ‘Aramis’ of ‘my’ Three Musketeers (along with Daniel



Figure 3. **A**, Phil at the ELVS dinner with Meemann Chang (Zhang Miman) at Miguasha in July 1991; **B**, Monsieur “Winter” on the Silurian foreshore near Percé, Québec during the IGCP 328/ELVS 1991 field trip; **C**, Philippe and Brigitte Janvier at their home near Père-Lachaise, Paris, October 2018; **D**, Phil Janvier speaking at University of Science and Technologies Lille, Villeneuve d’Ascq, France at the Société géologique du Nord ‘Hommage à Alain Blicek’ in September 2022. All photos by and c. Susan Turner unless noted.

Goujet and our dear late friend Alain Blicck: Blicck-Cazaux, 2021). Meeting these three young researchers gave me a great boost in 1976, when there was little support for fossil fish research in England, not least because they seemed overjoyed to meet the author of papers where early vertebrates were used to solve geological and palaeogeographical problems, then uppermost in the mind of Palaeozoic workers (Turner, 1970a, 1970b). I thank him for all his help over the years assisting me in finding specimens and literature, for invitations from his wife Brigitte and himself (Fig. 3C), and in his introduction to and traverses of Paris.

We have not always agreed. For instance, we think differently about what the thelodonts were (e.g., Forey & Janvier, 1993, 1994; Janvier, 1996; Märss *et al.*, 2007). And, only recently (Fig. 3D), Phil and I had further discourse on the nature and relationships of conodont animals, the elements of which he still considers to be vertebrate odontodes (Janvier, 2022); this option I and several of our colleagues refute (e.g., Blicck *et al.*, 2010; Turner *et al.*, 2010; Schultze *et al.*, 2011; Turner, 2022b).

I have enjoyed all conversations and interactions with both Tiiu and Phil since the heady days of '76. Such wrangling is the nature of science and our different hypotheses have spurred scientific effort over the years and new perspectives. Good scientists should both support and challenge each other. With Tiiu Märss and Phil Janvier, long may this continue.

NB. All photos by and c. Susan Turner unless noted.

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