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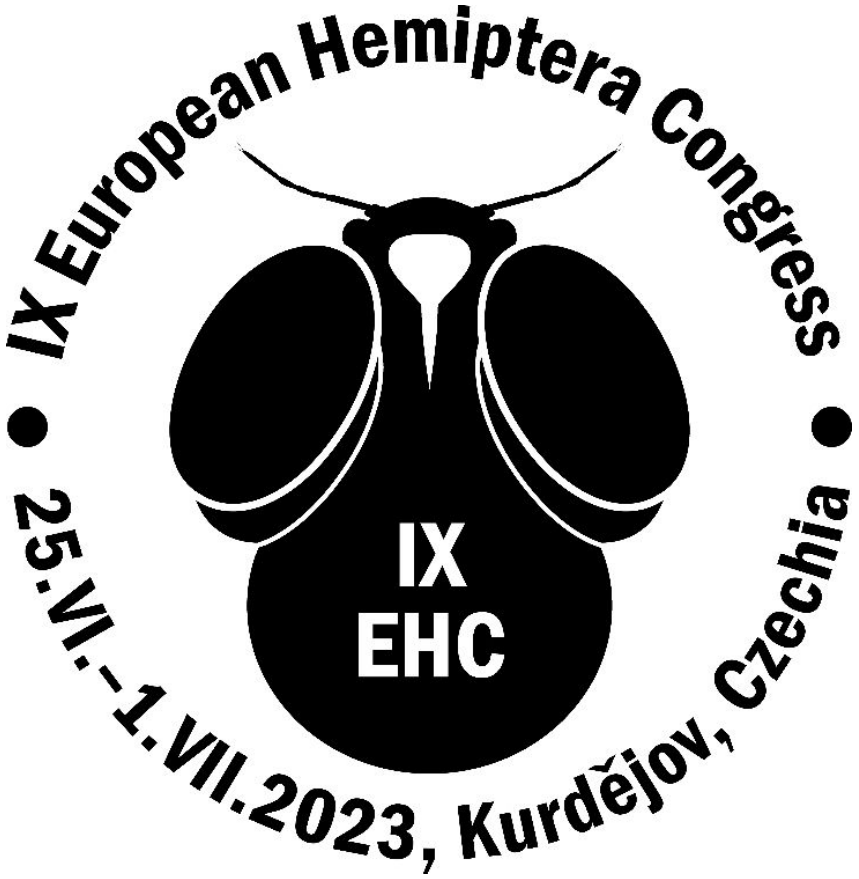
Book of abstracts



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National Museum of the Czech Republic, Prague

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synanthropic animals, and most these association might represent temporary associations. Pigeon- and poultry-associated populations also exist in long term. The first genetic evidence available connects the pigeon lineage to the bat- not human-associated lineage. We examined how the bat- and human-associated lineage keep separated genetically and morphologically, although being sympatric. We found, however, no evidence for reproductive isolation, i.e. all crosses between bat- and human-associated populations were fully fertile. The bat-associated lineage is capable of longer sperm storage, likely reflecting interrupted seasonal host availability. However, bat blood increases fertility, sperm storage time and sperm competitiveness in human associated lineage too, compared to human blood. The two host lineages also differed in gene expression, possibly reflecting adaptation to diet. However, when bat- or human associated lineages were forced to feed the blood of not their own but the other hosts, changes in gene expression in response to bat or human blood were larger than to the genetic component of the bat- or human-associated lineages per se. The bed bug lineages thus represent an interesting case of incipient host driven speciation.

Hemiptera of the European Jurassic World – unique and informative [O]

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The Hemiptera is a very diverse and numerous taxon, both in modern-day as in past, with species inhabiting all terrestrial environments and some marine ones. These insects appeared in the fossil record in the Carboniferous, with the oldest known members of this order coming from European deposits: Protoprosbolidae (upper Namurian, ca. 319.9 Ma) and Aviorrhynchidae (Moscovian, ca. 307 Ma). Since then, the Hemiptera fruited in various lineages resulting in their current evolutionary success. The Jurassic times were very important for the diversification of the Hemiptera and its lineages, external factors, as climatic changes, natural disasters, as well as biotic interactions shaped their diversity. On the one hand, trends initiated in the Triassic, miniaturisation, cryptic form and lifestyle continued, while on the other, environmental challenges resulted in the development of new strategies and taxonomic differentiation. Most of the known Jurassic fossil taxa come from the Asian lacustrine deposits, but several European localities (in England, France, Belgium, Luxembourg, Germany) brought fossils of various hemipteran groups. The fossil sites yielding the Hemiptera are mostly marine deposits, both coastal and open sea, and in some fossils could be up to 15% of all insect remains. The groups represented in the Jurassic fossil state cover Sternorrhyncha, Fulgoromorpha, Coleorrhyncha, Cicadomorpha and Heteroptera. Despite their numbers, their state of preservation varies from vestigial to almost complete. The latter is the result of taphonomic conditions during the deposition. One of the most important events during the Jurassic was Toarcian Oceanic Anoxic Event (TOAE), which took place about 183 mya. This event had a huge impact on climatic conditions in marine as well as terrestrial ecosystems. Rapid changes in climatic conditions, weather catastrophic events, as heavy rains and storms, rapid fires, fast transportation and burial, and lack of oxygen in the sediments resulted in good preservation, often as complete specimens of small and fragile organisms as insects. These fossils gave a unique opportunity to look through the time window to the European Jurassic World.