the genus? Using the thus established phylogenetic framework, we (3) investigate chromosome number evolution (including newly obtained chromosome data) to test whether different chromosome numbers correlate with phylogenetic lineages in *Phyteuma*; (4) reconstruct the biogeographic history of this genus to identify patterns of range formation with particular emphasis on the relationships between lowland areas and high mountain ranges as well as among different high mountain ranges; and (5) reconstruct habitat evolution with special emphasis on alpine habitats.

Biotic control of local biodiversity – Jurassic rudist bivalve reefs from the Alpine-Carpathian transition [Talk]

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The Hippuritida, commonly known as rudist bivalves, evolved at around the Middle to Late Jurassic transition and persisted until the end of the Cretaceous. As soon as by the Late Jurassic, representatives of one of their two basal families, the Epidiceratidae, formed densely grown patch reefs in shallow lagoonal settings. The Tithonian-Berriasian carbonate platforms of the northern Tethys margin are well-known for their remarkable species richness, which was promoted by a complex environmental patchwork of fringing ooid bars, scleractinian patch reefs, and lagoonal habitats. Identified as the cradle of the modern crab fauna, these environments, in particular the Ernstbrunn-Pavlov Platform of NE Austria and SE Czech Republic and the Štramberk Platform of NE Czech Republic, also hosted an extraordinary high diversity of gastropods, bivalves, scleractinians, and other benthic invertebrates. This is, however, not true for the immediate surrounding of the Epidiceratidae. In favourable settings, these bivalves, which are frequently also found as associates in coral build-ups, grew to patch reefs of several decimetres in height and extent. Unlike coral reefs, however, these build-ups are characterised by a remarkably low biodiversity both of constructors and reef dwellers. We investigated three-dimensionally preserved frameworks from carstic fissures as well as 10 subsequent sections through a 0.2 m^3 epidiceratid reef preserved in massive limestone (more than four square metres in total) in order to obtain statistically significant data sets. Data confirm the mere absence of encrusters or bio-eroders from living epidiceratid bivalves, as well as the total absence of additional frame-builders from the bivalve reef. Moreover, the richness and abundance of reef dwellers is significantly depleted with regard to the surrounding high-diversity habitats. We suggest that biochemical repellents produced by the rudists may have caused this remarkable drop of local biodiversity. During the latest Jurassic, rudist bivalves formed only locally dense populations – during their bloom in the Late Cretaceous, however, the Hippuritida dominated most of the tropical–subtropical shallow marine carbonate settings. As a result, biodiversity in these extensive areas was effectively down-levelled by biotic interaction. Consequently, the Hippuritida, which constitute a major group of reef-forming biota in earth history, did not promote but suppress diversification.