Hai Life in St. Pankraz - elasmobranch diversity from the Cretaceous to Eocene

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The sediments of the vicinity of St. Pankraz near Salzburg are well-known for its extraordinary fossil richness. The most popular outcrop comprises sediments from the Eocene, yielding a diverse fossil content of invertebrates as well as scarce vertebrates. Among the vertebrates are remains of turtles, crocodiles, terrestrial- and marine mammals, and teleost fishes. The most diverse group of vertebrates, however, comprises elasmobranchs (sharks and rays). An intensive study of teeth from the deep-marine "Fossilschicht-layer" of the abandoned Schlössl Bruch enabled the re-evaluation and description of 37 shark and ray species from the middle Eocene (Lutetian). Considering the global scarcity of deep-water elasmobranchs during the middle Eocene warm period, this mesopelagic fauna fills a current gap in knowledge on elasmobranch diversity and faunal composition. A faunistic comparison between Eastern Atlantic, North Sea Basin and Tethyan communities further indicates homogeneity of deep-marine elasmobranch faunas during this period in Europe (Adnet et al. 2021).
In addition to the well-known and intensively studied Eocene sediments, this locality also bears a hitherto unknown Cretaceous elasmobranch fauna. The tectonically disturbed deep marine sediments crop out sporadically but provide a unique snapshot of elasmobranch diversity from the Late Cretaceous (Maastrichtian) of Austria on which we report our preliminary results.

References

ADNET S., FEICHTINGER I., HARZHAUSER M. & POLLERSPÖCK J. (2021): A mesopelagic selachian fauna from the middle Eocene of St. Pankraz (Austria) reveals homogeneity in deep-marine environments during the warm period in Europe. Neues Jahrbuch für Geologie und Paläontologie, 301/1, 25-63.