

Extant cats inhabit open landscapes, forests or mountainous regions. The forearm bones reflect adaptations specific to each habitat. Several measurements were taken from the radius and the ulna of different extant felids of which the preferred habitats are known. Plain data were plotted in simple scatter plots. Within these plots, open landscape cats are separated from those inhabiting forests. A factor analysis confirmed these results with clearly separated clusters of both habitat groups. Open habitat felids are more cursorial, having relatively longer and slimmer radii and ulnae, whereas forest inhabitants have relatively shorter and thicker forearm bones. Insufficient data was available for a comparison to the mountain habitat group. The presented methodology has also been applied to published data of different fossil species, e.g. *Panthera atrox* and *Smilodon fatalis* from the famous Pleistocene locality Rancho la Brea, to determine their habitats, suggesting a forest habitat for these species.

### **Metapodial variation in Pleistocene rhinoceros** [poster presentation]

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Isolated teeth and bones are found in gravel pits of the northern Upper Rhine Plain. These remains of the Pleistocene fauna belong to the last glacial and interglacial period, but a contamination with Holocene material is possible. The large mammal assemblage of both periods comprises giant deer, woolly mammoth, woolly rhinoceros, steppe bison and aurochs, but also cave bear, cave hyena, water buffalo and hippopotamus. Skulls and isolated teeth of rhinoceros show the presence of the woolly rhino (*Coelodonta antiquitatis*) in the glacial sediments, while the remains from the interglacial period in the gravel pits belong to two species of *Stephanorhinus*. Isolated metapodials of fore and hind feet have been measured and examined to distinguish at least between the two genera. Because most of the juvenile bones are not recognizable due to an early epiphyseal fusion in metapodials a distinction is difficult. The results show that most of the investigated metapodials probably belong to the more abundant woolly rhino, which therefore indicates a high variation in dimensions of the bones and the size and shape of articulation facets in this species.

### **The transformation from *Gauthieria radiata* to *Gauthieria princeps* (Phymosomatidae) – Heterochrony in the evolution of Cretaceous regular sea urchins** [poster presentation]

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