

Cenozoic fishes, we examined several thousand teeth and some vertebrae from the Noil Tobee locality housed in the Natural History Museum London, UK and the NBC Naturalis in Leiden, The Netherlands. Preliminary results of this revision are: (1) some but not all of the taxa identified by L.F. de Beaufort and W. Weiler could be confirmed; (2) the selachian fauna comprises a diverse assemblage of open-sea and pelagic taxa; (3) only a single incomplete and thus questionable hybodont tooth could be identified; (4) the enigmatic shark taxon *Ptychodus*, which is characteristic for the Late Cretaceous is represented by several species; (5) teeth of lamniform sharks are most common but identification of most specimens is complicate due to their fragmentary nature; (6) teeth and tooth remains of *Carcharocles megalodon* are very common; (7) isolated tooth crowns of *Mitsukurina lineata* occur in high numbers; (8) remains of Hexanchiformes are rare; (9) other selachians include *Galeocerdo* and *Hemipristis*; (10) teeth of Cretaceous enchodontids are quite common in most samples; (11) teeth of *Lophius* occur prevalently; (12) several tooth plates of *Diodon* were recovered. The most important result of this study is that the fish fauna of Noil Tobee represents a mixture of fish assemblages of different age ranging from the Late Cretaceous to the Miocene contradicting previous interpretations. This age assumption is in good accordance with the tectonic model for the red clays of western Timor island.

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Fossil brittle stars from the Paratethys (Miocene, Europe) – state of the art

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The Paratethys was a large sea that formed during the Eocene and was separated from the Mediterranean by the rise of the alpidic mountain chains. This shallow epicontinental sea is one of the best investigated fossil basins. Being easily accessible in abundant artificial and natural outcrops, its deposits were intensely studied by 19th and 20th century palaeontologists. Yet some taxonomic groups received considerably less attention than others. Brittle stars which are common in equivalent modern settings

were largely ignored so far. In part this may be explained by their multi-element skeleton which tends to fall apart rapidly after death. Here we present the current state of knowledge on Cenozoic brittle star assemblages of the Paratethys. Articulated specimens are exceedingly rare, only few localities have delivered whole individuals. In most cases these specimens are embedded in silt and clay and appear to have been killed by obruption. Isolated ossicles are much more common, but tend to be restricted to a specific time slice during the Middle Miocene. In this interval tropical conditions prevailed, providing for abundant and diverse habitats ranging from soft bottoms to coral reefs. A survey of the ophiuroid species described from these deposits shows that most are in serious need of taxonomic re-assessment, often being placed indiscriminately in a few genera (mostly *Amphiura* and *Ophiura*). Detailed analysis of topotypic material, however, shows a rich diversity similar to analogous modern environments (e.g. the Caribbean).

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From bone to pixel – 3D reconstruction and visualization of *Erlikosaurus andrewsi*

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The study of anatomical and morphological features of fossils relies heavily on their preservation and completeness. This is especially true for complex and articulated structures, such as cranial elements. Although the vertebrate skull holds a multitude of informative characters, it is rarely fully preserved in fossil animals and prone to damage – not only through taphonomic and diagenetic processes, but also by preparation. Until recently, mechanical or chemical preparation was the only possibility to expose fossils encased in matrix, often at the cost of losing valuable information, or even impossible for fragile specimens. The advent and wider availability of non-destructive methods, such as computed tomographic (CT) scanning, has changed that.

Exemplified by the skull of the therizinosaur dinosaur *Erlikosaurus andrewsi* from the Late Cretaceous, we demonstrate the effectiveness of using CT generated data