

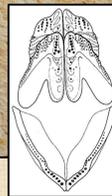
Christopher J. Duffin<sup>1</sup>, David J. Ward<sup>1</sup>, Bruce Lauer<sup>2</sup> and René Lauer<sup>2</sup>

<sup>1</sup> Department of Earth Sciences, The Natural History Museum, London, SW7 5BD, U.K.

<sup>2</sup> Lauer Foundation for Paleontology, Science and Education, Wheaton, Illinois, USA.

## Introduction

The lithographic limestone succession in SW Germany includes the lagerstätten of Nusplingen (Nusplingen Formation, Ulmense Subzone, Upper Kimmeridgian) and the Solnhofen areas (Altmühltal Formation, Hybonotum Zone, Tithonian). The holocephalian faunas from these two centres include isolated tooth plates and dorsal fin spines, as well as minimally disarticulated holomorphic specimens showing high fidelity preservation; members of both the Myriacanthiformes and Chimaeriformes are represented. The Plattenkalk holocephalian fauna is clearly moderately diverse with representative taxa enjoying a range of feeding strategies.



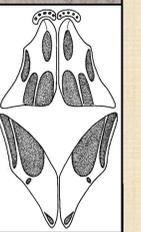
**LF 2322 – *Elasmodectes avitus***

The ‘rhinochimaerid’, *Elasmodectes avitus*, reached a maximum length of around 500 mm. It possessed a sectorial dentition, a short, virtually straight and unornamented dorsal fin spine, and a homocercal tail. This example is a male, as demonstrated by the clearly developed pelvic claspers and the frontal clasper preserved along the dorsal margin of the chondrocranium, armed with a complex of denticles, together forming the frontal tenaculum.



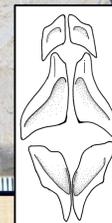
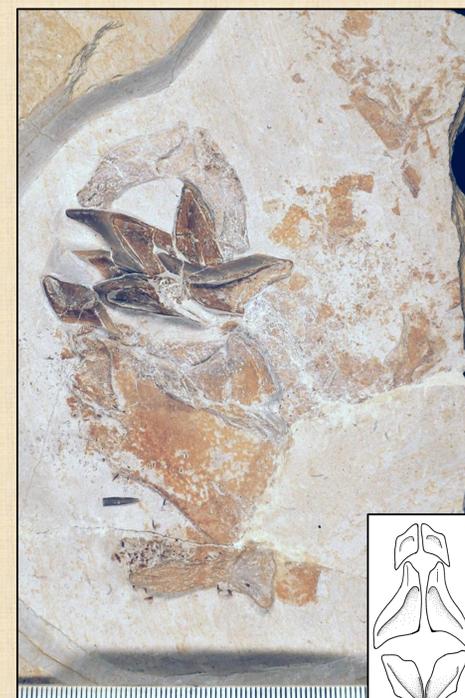
**NHMUK PX Z.183 Egg case**

Rare examples of callorhynchid egg cases have been recorded from the Solnhofen area. Being proteinaceous, they have exceedingly low preservation potential.



**LF1369 – *Ischyodus quenstedti***

This callorhynchid grew up to 1.5 m in length and possessed a long, weakly curved and unornamented dorsal fin spine, crushing dentition and a heterocercal tail. The reconstructed dentition is inset, tritoral pleromic hard tissue is shown by stippling.



**SMNS 95823/4**

Two partial specimens of an un-named callorhynchid, clearly not juveniles of *Ischodus quenstedti*, have been described from Nusplingen. Note the long, slender mandibular and palatine tooth plates.



**LF 2317 – *Chimaeropsis paradoxa***

This is an extremely rare component of the Eichstätt holocephalian fauna. The youngest recorded myriacanthoid, it is characterised by the presence of tuberculated fin spines, stellate scales in the reduced squamation, a typical myriacanthoid crushing dentition and four pairs of tuberculated dermal plates in the head region. The total body length is around 730 mm and the tail is diphyccercal.



**Chris Duffin**  
cduffin@blueyonder.co.uk



**David J. Ward**  
david@fossil.ws



**René Lauer**  
Rene@lauerfoundationpse.org



**Bruce Lauer**  
Bruce@lauerfoundationpse.org