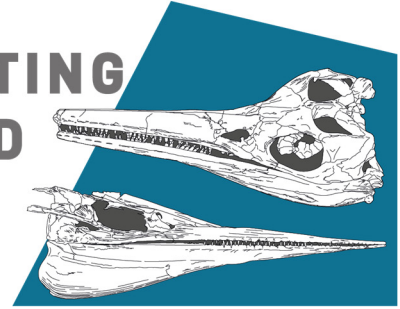


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ABSTRACT VOLUME

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CHIMAEROPSIS PARADOXA, A POORLY KNOWN HOLOCEPHALIAN FROM THE LATE JURASSIC OF GERMANY

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The lithographic Plattenkalk limestones of the Solnhofen area in southern Germany are well represented with holomorphic holocephalian fossils showing high fidelity preservation. The 1.5m long callorhynchid *Ischyodus egertoni* (formerly *I. quenstedti*) and the much smaller ‘rhinochimaerid’ *Elasmodectes avitus* are each represented by numerous specimens. Examples of the myriacanthoid *Chimaeropsis paradoxa*, however, are much rarer and rather poorly known, partly because of the loss of significant but rather cursorily described and figured specimens from the 19th century. The acquisition of the part and counterpart (LF 2317P and LF 2317N) of a 630 mm long, complete individual by the Lauer Foundation for Paleontology, Science and Education in Wheaton, Illinois provides an opportunity to reassess this enigmatic taxon.

The myriacanthoid affinities of the specimen are demonstrated by the presence of a 142 mm long, almost straight, tuberculated fin spine angled at 34° to the dorsal body surface. Details of the spine ornamentation clearly indicate that it differs from the spine of *C. franconicus* from the Late Jurassic of Streitburg. The subterminal mouth displays jaws which are virtually horizontal, rather than being strongly angled ventrally as in extant chimaeroids. The dentition is myriacanthoid in organisation and comprises two paired upper toothplates (vomeres and palatines), paired mandibular toothplates, and a single symphyseal toothplate anteriorly.

Although the rostral soft tissues have collapsed post-mortem, their general outline can be discerned from the distribution of rostral scales and the presence of the distinctive rings enclosing parts of the sensory canal system. The ethmoid region of the pre-orbital part of the neurocranium slopes down to the rostral area at an angle of declination of approximately 30°, suggesting that there might have been space for an ethmoid canal, although no such structure is visible. The chondrocranium is poorly calcified and deepest occipitally.

There is no chin point on the Meckel’s cartilage and labial cartilages are absent. Five pairs of dermal plate seem to be present on the head. The tuberculated central plates, lying above the antero-dorsal corner of the orbit, are the best defined, possess a lamellar base and taper posteriorly. A much larger occipital plate, again tuberculated, is located behind the postero-dorsal corner of the orbit. The boomerang-shaped palatoquadrate plate situated just behind the palatoquadrate process has a reduced tubercular ornament. Large but rather delicate, thin tuberculated anterior plates lie directly in front of the orbit extending half-way down the cheek region and running forward toward the base of the rostrum. In addition to the ornament of tiny tubercles, there is a sagittal series of enlarged tubercles. A small, oval mandibular plate is surmounted by a central tubercle.

The dermal scales possess an upright crown sitting on a stellate base. The scapulocoracoids and some of the paired fin cartilages and partial fin outlines are preserved; the tail is homocercal with approximately equal lobes.

Soft parts include representations of the myotomic musculature and a ventrally displaced length of the valvular intestine which has exited the body cavity through a breach in the body wall.