

EVALUATION OF CONSTRUCTIONAL DIFFERENCES IN JURASSIC AMMONITE SHELLS AND NAUTILUS

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Modern *Nautilus* has served as a model in understanding the construction and function of the ammonite phragmocone. In the early Upper Jurassic of Madagascar a nautiloid that is essentially like modern *Nautilus* occurs together with the representatives of the three orders of the ammonites, Lytoceratina, Phylloceratina, and Ammonitina. All these are preserved without changes in their mineral shell structure, and in part, with their siphuncular tube well preserved. The different features of shell that resulted from septum formation, chamber sheet attachment, siphonal-tube construction, muscle attachment and internal living chamber coatings (wrinkle layer, callus layer) are well preserved, while some organic layers have disappeared during early diagenesis, that resulted in no shell crushing due to compaction. The features interpreted in the light of new data that we have collected in our most recent studies on chambered cephalopods in Hamburg, Berlin, and Hanover give new insights into ammonite paleobiology.

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