

CT-SCANS OF A SHARK BRAINCASE FROM THE SANTANA FORMATION

1 MAISEY, J. G., 1 de CARVALHO, M. R., 1 REDDY, D., 2 ROWE, T. 1Amer. Mus. Nat. Hist, NY, NY: 2Univ. Texas, Austin, TX, USA

X-ray computed tomography (CT) is a relatively new tool in paleontological research. Here it is successfully applied to study the internal structure of a shark braincase from the Early Cretaceous. The shark (*Tribodus limae*) is a member of the extinct order Hybodontiformes, which probably represents the sister-group of modern sharks and rays. The cranial morphology of *Tribodus* agrees in many respects with that of *Egertonodus basanus* and other hybodont sharks, but is also divergently specialized. The internal structure of the braincase and ear region is poorly known in fossil sharks, and CT scanning provides an important non-invasive tool for exploring otherwise inaccessible structures. The technique relies upon there being an appreciable difference in density between fossil structures and surrounding matrix. In this specimen the difference is small and resolution was initially poor, but with subsequent image processing by computer the internal structure was better resolved. Some sample results are presented in the poster panel.