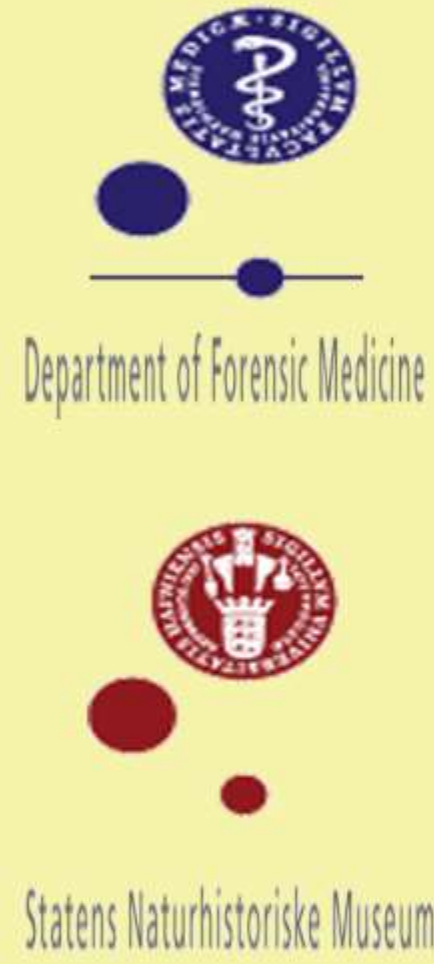


EOCENE TARPONS FROM THE NORTH SEA REGION, DENMARK AND UK

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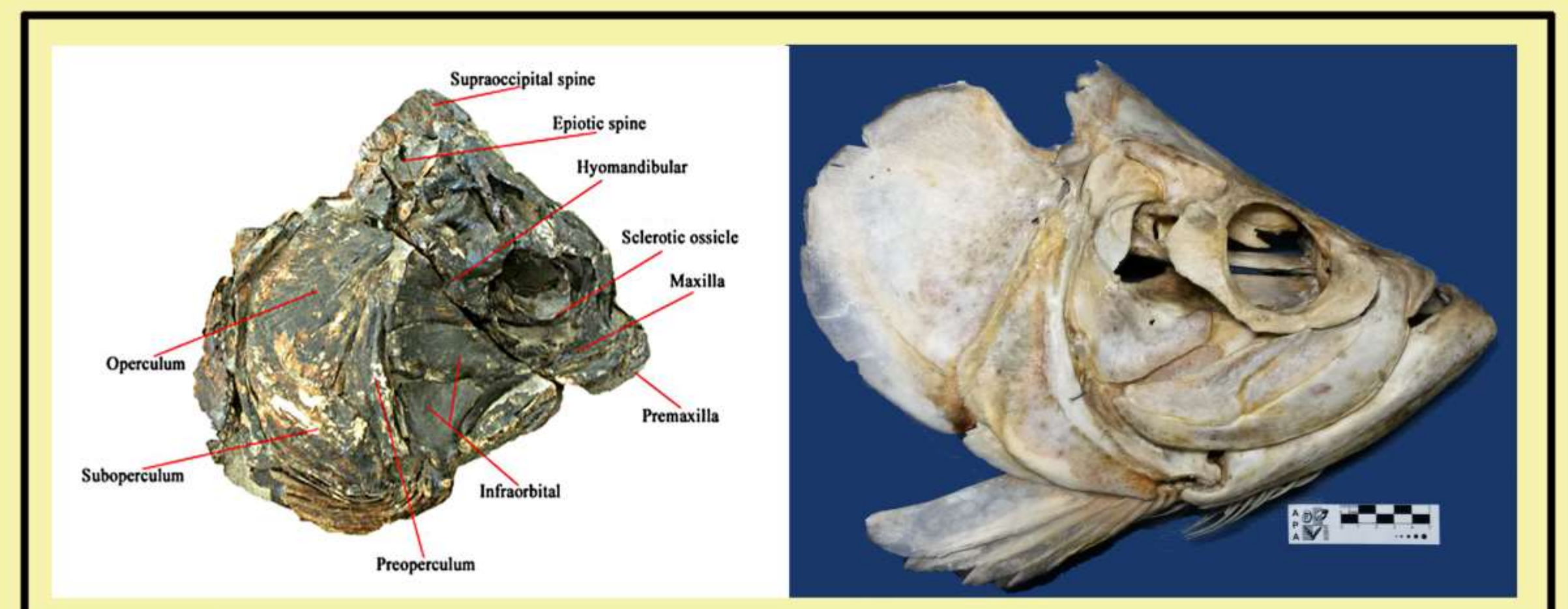
Undescribed Mo-Clay "Tarpon" c. 110 cm long; missing dorsal fin and lower jaw.



H. Madsen and B. Söe; 2b. the block in the wall;

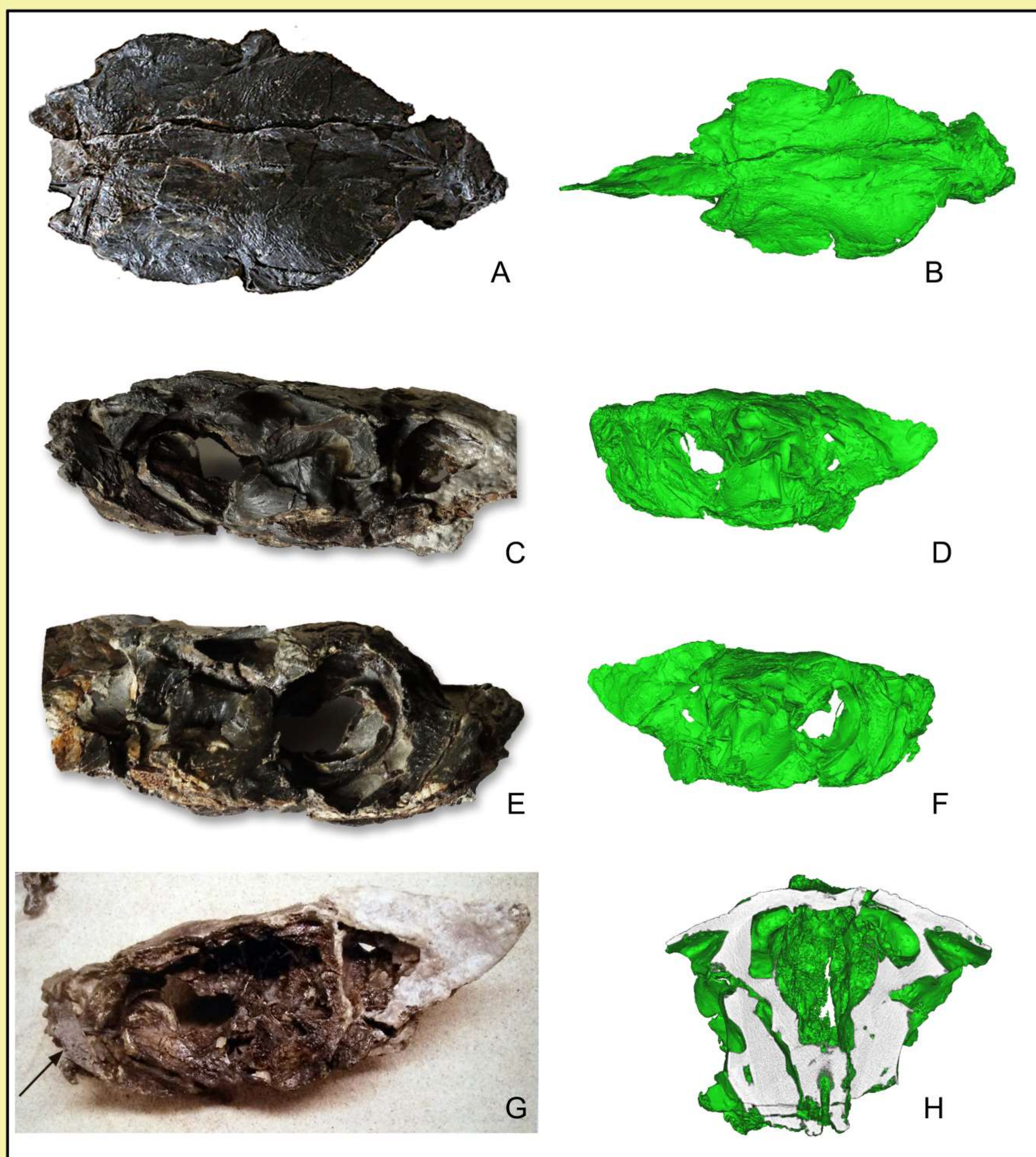


F. Osbäck - preparation



Mo-Clay "Tarpon" skull;

Recent Tarpon *Megalops atlanticus*

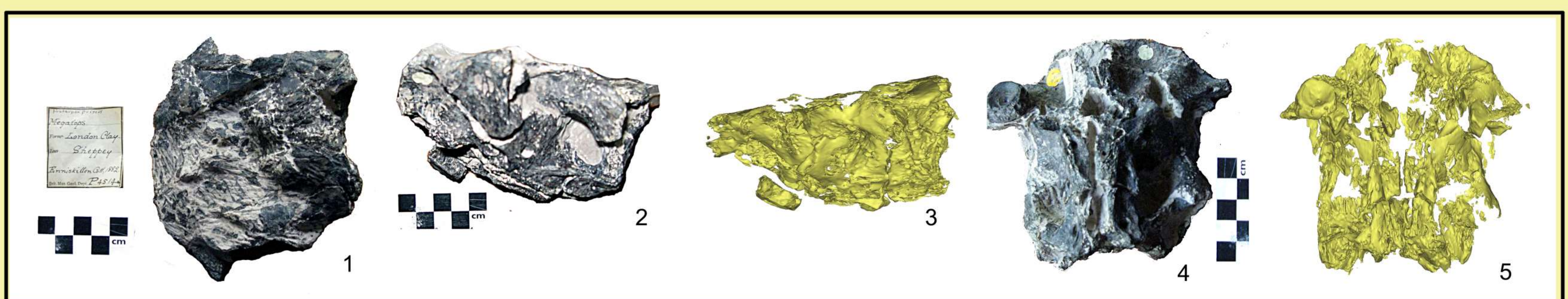


There are very few tarpons (fam. Megalopidae) and other elopiforms (fam. Elopidae) recorded in the Tertiary. The records are mainly from the Eocene, and more abundant in the "North Sea Region" in Early Eocene, as for instance the large Danish forms. They are also found in late Early Eocene in London Clay, in Late Eocene in Caucasia, and in Miocene of SE-Asia, although none was described from the famous Bolca fauna (early Mid Eocene). However, there is a large, still undescribed 'tarpon-like' fish in the Bolca Museum (obs. MECL & NB 2014). There are even fewer described from the long Cretaceous period, 4-5? genera, including *Paraelops* from Romualdo Formation, Araripe Basin, NE-Brazil, and a large undescribed megalopid from Tlayua, Pueblo, Mexico, both 'Mid Cretaceous'. The oldest elopiforms are from Late Jurassic Solnhofen Limestone.

The large Danish 'tarpons' come from 'cementstones' in Fur Formation (earliest Eocene, ca 55 m.y.), and here we report an almost complete specimen which is c. 110 cm long; found by Bent Söe and H. Madsen sorting over hundred tons of stones. However, big isolated scales found in this formation indicate fishes at least twice as big (comparable in size with the living *Tarpon atlanticus* - over 2½ m). This specimen has a heavy skull lacking the lower jaw, and is preserved in 3-D. It was split in the midline and acid prepared, being then CT-scanned in Aarhus, and reconstructed and laser-3D-printed in natural size at the Lab. Biol. Anthropology, Copenhagen University. The material was compared with modern skulls, and with the 3-D skulls preserved in concretions from the London Clay, e.g. *Protarpon* shown here, heavily pyritized.

(On geology and fossils from Fur Fm. see the adjacent poster on 'Fossil Lagerstätte')

Left fig. shows the 'tarpon' braincase from Fur Fm.: Left side photos, right side CT-scannings; A, B dorsal view showing sagittal cut; C, D left lateral views; E medial view of left side; F lateral view right side; G medial view of right side; H transverse section.



Braincase of *Protarpon* from London Clay, slightly flattened: 1) skull roof, forward left; 2, 3) left lateral, photo and scanned; 4, 5) ventral view, photo and scanning; 2-5) show one centrum at anterior right corner.

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At the qr-code: Use qr-code to see the movable reconstruction of the braincase – copyright with the co-authors.

