Microwear analysis on the teeth of the heterodont eusuchian crocodylian from Iharkút (Bakony Mountains, western Hungary)

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The peculiar heterodont crocodylian discovered from the Upper Cretaceous Csehbánya Formation at Iharkút represents one of the most basal members of Eusuchia and it is the sister taxon of *Hylaeochampsa vectiana* Owen, 1874 from the Barremian of the Isle of Wight. This Hungarian form possesses special multi-cusped molariform teeth. In addition to the unusual mammal-like dentition, the reconstructed cranial adductor musculature and macrowear patterns on the teeth indicate a jaw mechanism accompanied by buccolingual movement and a herbivorous rather than durophagous diet has been suggested.

Microwear studies of the isolated teeth of the Hungarian crocodile are the first ever made among Crocodyliformes. During the analyses the cleaned occlusal surfaces of the isolated teeth have been studied and the semiautomatic Microware software has been used for quantifying the results. Analyses of three different areas on an anterior tooth showed a higher number of pits (pit ratio:75-87%). However, studying of 8 different areas on three large posterior grinding teeth (17. teeth) pointed out that they bear a much higher quantity of long (up to several hundred μm) and thin scratches than pits (pit ratio: 5-57%). This suggests, on the basis of microwear patterns of recent mammals, that this Late Cretaceous crocodile fed on soft, presumably vegetable food items and not on shelly animals (gastropods, bivalves, shrimps, turtles, etc.).