Deep-water fossorial shrimps from the Oligocene Kiscell Clay of Hungary: Taxonomy and palaeoecology

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We describe deep-water ghost shrimp assemblages from the otherwise well known Oligocene Kiscell Clay in Hungary. The described fossorial shrimps (Decapoda: Callianassidae and Ctenochelidae) include: Ctenocheles rupeliensis (younger synonym Callianassa nuda) and Lepidopthalmus crateriferus (younger synonym Callianassa brevimanus). The fossil material of the former species is assigned to Ctenocheles based on the morphology of the major chelifed, particularly the pectinate fingers, bulbous propodus, cup-shaped carpus and elongated merus. Lepidopthalmus crateriferus from the Oligocene of Hungary is the first unequivocal fossil record of the genus, which is distinguished in the fossil record on the basis of the presence of a meral blade and meral hook on the major chelifed. Lepidopthalmus is today known exclusively from shallow-water environments. The finding of a deep-water fossil representative of Lepidopthalmus therefore appears to be a reverse of the common pattern of groups shifting environments from onshore to offshore over geological time, as seen in many taxa. The presence of Lepidopthalmus crateriferus comb. nov. in the Kiscell Clay therefore suggests different ecological requirements for at least some populations of this genus in the geological past.

Key words: Decapoda, Callianassidae, Lepidopthalmus, Ctenochelidae, Ctenocheles, systematics, deep-water environment, Oligocene, Hungary.

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