A new freshwater basal eucryptodiran turtle from the Lower Cretaceous of Spain

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A freshwater turtle from the lithographic limestone of Las Hoyas (Barremian of Cuenca, Spain) is described as a new genus and species of Eucryptodira, Hoyasemys jimenezi. The holotype consists of the skull, lower jaw, carapace, plastron, vertebral column, pectoral and pelvic girdle remains, and fore- and hindlimbs. Hoyasemys jimenezi gen. et sp. nov. is characterized by three pairs of blind oblique depressions on the ventral surface of the basisphenoid, and a character combination composed, among others, of the articulation between the fourth and fifth cervical vertebrae through a cotyle in the fourth and a condyle in the fifth, amphicoelous caudal centra, and most digits of manus and pes with three elongated phalanges. This study allows clarification of the systematic position of a species of uncertain affinity often identified as “chelydroid” in appearance. A phylogenetic analysis shows Hoyasemys jimenezi gen. et sp. nov. forms a monophyletic group with Judithemys sukhanovi, Dracochelys bicuspid, Sinemys lens, and Ordosemys leios, collectively the sister group of crown Cryptodira.

Key words: Testudines, Eucryptodira, freshwater turtle, Barremian, Cretaceous, Las Hoyas, Spain.

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