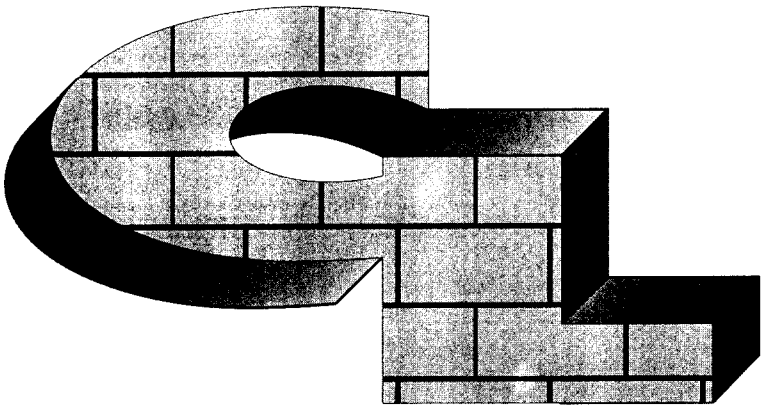

II INTERNATIONAL SYMPOSIUM ON LITHOGRAPHIC LIMESTONES

LAS HOYAS

A lacustrine Konservat-Lagerstätte Cuenca, Spain

M. Nieves Meléndez (Editor)

Field trip guide book

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IV.5. TURTLES

E. Jimenez-Fuentes

Two Chelonia specimens have been found in the Las Hoyas fossil site. The first one (LH84, Fig. IV-19) is composed of two slabs. Taking into account the distortion of the specimen, the estimated length of the carapace ranges from 46 to 49 mm, and the plastron length is about 40 mm. The plastron is cruciform with an enlarged central and two lateral fontanelles. The carapace conserves six right and ten left peripheral plates. The pygal plate is lost but it is possible to recognize its impression on the matrix. The pleural plates form fontanellae with the peripheral ones. The specimen shows the skull, seven cervical vertebrae, the pectoral and pelvic girdles and the caudal series, broken into portions of 3, 4 and nine vertebrae.The right humerus, ulna and radius, carpals, four metacarpals and three digits are present in the specimen. The left foreleg is very incomplete. The left hindleg is complete but badly preserved. In a first approach, the presence of enlongated digits seems to correspond to a marine form, but after more detailed comparison, one rejects this impression. The LH84 specimen shares with the Macrobaenids, Chelydrids

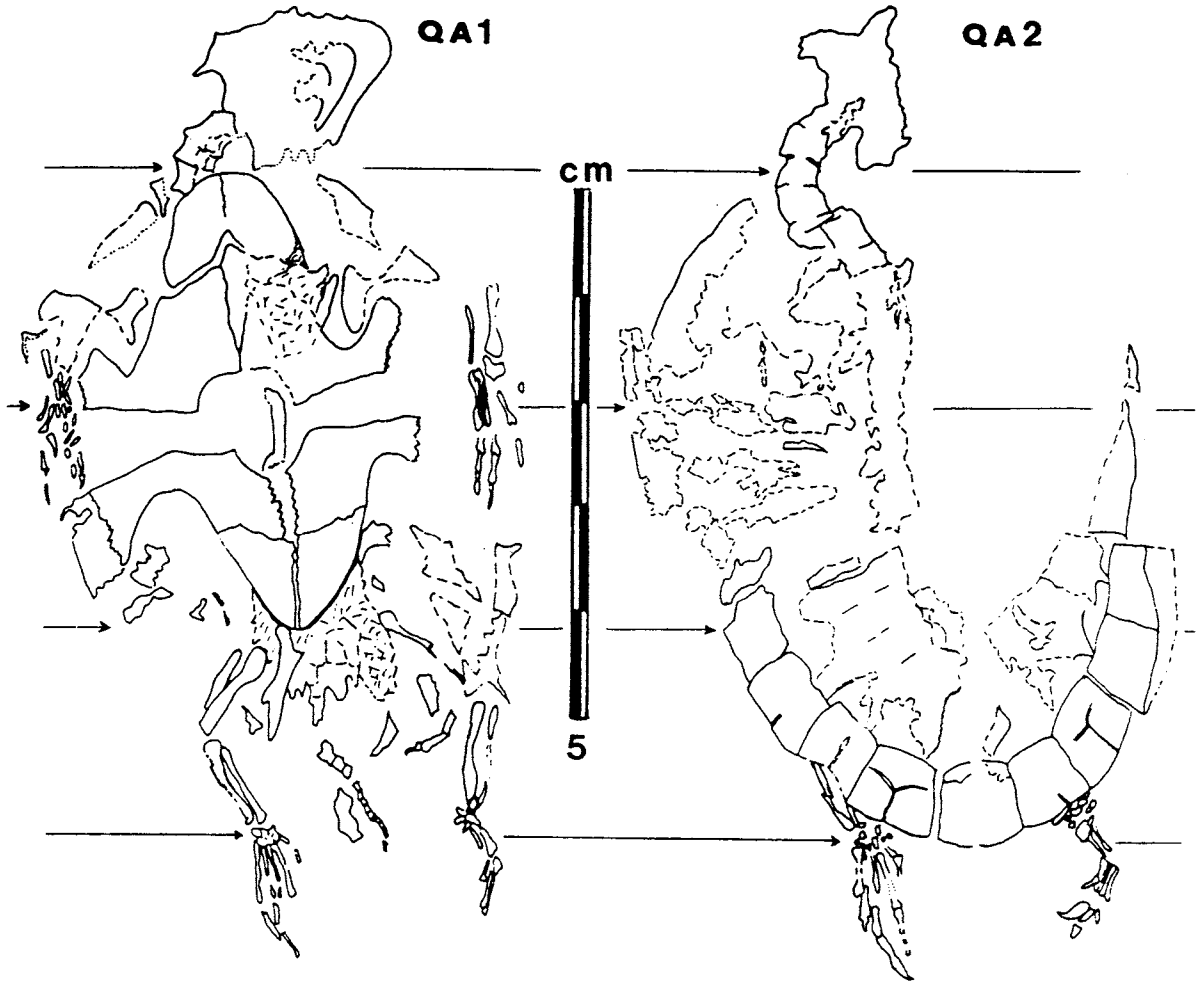

Fig. IV 19; Ventral (QA1) and dorsal (QA2) interpretaton of the LH 84 specimen.

and the forms gathered as "Toxochelyidae" the presence of a cruciform plastron, hyo-hipoplastral fontanellae, and slender limbs. However, it differs from the Chelydrids in lacking a ligamentous attachment of the sternal bridge. The specimen shares with the Chelonioids the presence of two larger digits in the manus. The humerus seems to present an intermediate morphology between the chelydroid and the chelonioid types. The relative position of the humerus and radius is not clear.

Therefore, the LH84 specimen could be considered a "toxocheloid" form that, according to Gaffney & Meyland (1988), can be tentatively related to the Chelonioidea clade. However, the specimen from Las Hoyas presents the same problematic set of characters not taken into account by Gaffney & Meyland (1988) as other freshwater and stuarine mesozoic turtles such as: *Hangaiemys, Kirgizemys, Anatolemys, Tabsbacka, Sinemys, Toxocheloides, Yaxartemys, Manchurochelys and Macrobaena*. Several authors have considered this group as Sinemydids or as Macrobaenids. So the phylogenetic relationships of all these primitive freshwater, stuarine and coastal turtles are, up to now, problematic.

The second Las Hoyas specimen (LH254) is badly preserved. It is bigger than the other one (104 mm in length), but only half part of the carapace is available. On the carapace surface, it is only possible to recognize the sutures, enhanced by the distortion of the specimen. Dermic grooves are not well preserved. The contour of the pygal plate is bilobed and only a supra-pygal plate is present. The specimen does not present fontanelles. The last neural plate is hexagonal. The intermarginal dermic groove is larger than the pygal plate length. These characters only allow us to consider the specimen LH 254 as a Chelonii indet.

Both Las Hoyas specimens share a bilobed contour of the pygal plate but the absence of other comparable characters precludes assessing them as different forms or different ontogenetical stages of the same species.