

## **NEW INFORMATION ON THE SKULL AND CRANIAL ENDOCAST OF THE NORTH AMERICAN EXTINCT TURTLE *STYLEMYS NEBRASCENSIS* (BRULE FORMATION, OLIGOCENE), BASED ON CT SCANS**

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*Stylemys nebrascensis* is a testudinid tortoise from North America that lived in subtropical areas during the Paleogene, being one of the anatomically best-known species within extinct turtles. The specimen at the Raymond M. Alf Museum (USA), RAM 8315, corresponds to an almost complete skull with articulated jaws, which were virtually removed — together with the sediment — to allow the observation of the palate, a region that is incompletely known in this species. From an anatomical point of view, we seek to observe the presence of characters like the premaxillary ridge and prefrontal pits, present in the alleged sister-group *Gopherus*. The complete endocranial cast is the first known for this taxon, and includes the nasal cavity, the brain proper, and the inner ear. The general proportions of the regions of the endocranial cast are similar to other extinct and living testudinids, with poorly marked angles between fore, mid and hindbrain. The medulla oblongata is elongate and low, and the dorsal expansion — although is not strongly projected — is markedly larger than that in living testudinids. The cerebral hemispheres are clearly demarcated on the lateral sides. The vestibular eminences are not ossified and consequently the inner ear cavities are confluent with the endocranial cavity medially. Olfactory bulbs are only differentiated from the cerebral hemispheres by a slight constriction. The general morphology of the inner ear resembles that in other living testudinids, with a triangular vestibular region formed by low and robust semicircular canals, and a short and conical lagena.

## **PALEOECOLOGICAL RECONSTRUCTION OF A TRIASSIC PALEOLAKE (AGUA DE LA ZORRA FORMATION, CUYANA BASIN, MENDOZA, ARGENTINA)\***

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The Agua de la Zorra Formation outcrops in the Paramillos de Uspallata Area (NW of Mendoza), and represents a deltaic-lacustrine system with episodic incursions of peperitic basalts. The succession includes, from the base to the top, lacustrine distal facies, with proximal shallow facies towards the middle section. Paleontological record includes invertebrates (spinicaudatans, insects), vertebrates (mainly in the shallow facies), vertebrates and invertebrates traces, and plant remains (mainly referred to *Umkomasiales*) that reflect the presence of plant paleocommunities corresponding to the typical *Dicroidium* Flora around the paleolake. The kerogen of the distal facies is mostly terrigenous, with scarce amorphous and palynomorphs (disacates and microalgae), it shows a variable percentage of total organic carbon content (between 0.2 and 4.6), and hydrogen and oxygen indices indicating a type III kerogen. In the shallow facies, kerogen is practically absent, and traces registered in proximal facies appear to reflect a sporadic subaerial exposure of the sediments. The data suggest a lake with very low productivity, which can be understood considering diluted hydrological conditions in an overfilled lake-type basin. This is consistent with the Agua de la Zorra paleolake inferred trophic state as oligotrophic (mesotrophic?). Probably low productivity is also linked to the presence of lava in the water column what can be supported by the spinicaudata mortality events registered suggesting changes in the physicochemical parameters. In an alternative explanation, the character of the kerogen could be evaluated in relation to diagenetic processes.

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## **REPRODUCTIVE STRUCTURES OF THE UPPER TRIASSIC FROM THE MIDDLE-WEST OF GONDWANA\***

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The paleofloras of the Upper Triassic of Argentina are mainly known for their vegetative elements, however during the last decade several contributions had approached the studies of Triassic reproductive structures. Here we provide new information of reproductive structures recovered from two Triassic units from the central-west of Argentina: the Agua de la Zorra Formation (Cuyana Basin) and the Los Rastros Formation (Ischigualasto-Villa Unión Basin). In both units the plant fossil record is diverse and corresponds to the *Dicroidium* Flora. In the Agua de la Zorra Formation ovules/seed recorded were assigned to *Cordaicarpus*, cupulate female strobilus were assigned to *Matatiella* sp. (Matatiellaceae) and *Rissikiostrobus* sp. (Podocarpaceae). On the other hand, ovules/seeds registered in the Los Rastros Formation, were assigned to genus *Cordaicarpus*, *Samaropsis*, and several specimens were identified as morphotype 1. Female strobilus specimen was assigned to *Umkomasia*