ON NEW FOSSIL CICHLIDS (OSTEICHTHYES, PERCIFORMES) FROM THE LUMBRERA FORMATION (EOCENE) OF NORTHWESTERN ARGENTINA

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Cichlidae is one of the most diversified vertebrate families with at least 1300 species. Despite this fact, the cichlid fossil record is poor, limited to few species in Africa, Europe, Central and South America, and Near East. In South America fossil cichlids are recorded for Oligocene-Miocene of Brazil (*Tremembichtys pauloensis*) and Miocene of Argentina (*Aequidens saltensis* and *Paleocichla longirostrum*). The Lumbrera Formation is the uppermost unit of the Santa Bárbara Subgroup of the Salta Group, consisting of fine clastic sediments of characteristic brick red color with an intercalation of green mudstones, which are called as Faja Verde. The specimens described here were collected from the middle part of the Faja Verde II at the Alemania locality in sediments dated as Eocene. This section is rich in insects, fish scales and organic matter content, mainly from phytoplankton origin, indicating an open, sporadically stratified lake with fresh to slightly alkaline water. The presence of fossil fish coincides with levels indicating bottom conditions of anoxia. The material described here comprises two articulated specimens belonging to the Universidad Nacional de Salta (CNS-V) which are assigned to two new species. The phylogenetic analysis to establish the position of CNS-V 20 and CNS-V 27 within Cichlidae was based on a matrix with 53 taxa (51 recent and 2 fossil taxa) and 91 characters. The analysis was performed on a Macintosh computer using PAUP 3.1.1, in a heuristic branch-swapping searching. As results, 1200 trees were produced and characters weighted on a scale from 0 to 1000 using rescaled consistency index. A new search was performed based on these 1200 initial trees with those weights applied, producing a single tree (612 steps, CI = 0.25, RI = 0.56). This tree shows CNS-V20 as sister-group of Cichlasomatinae with basis on only two characters: articulating process of premaxilla moderately distinct (character63, state 1) and fewer than 15 anal-fin rays (character 81, state 0). On the other hand, CNS-V 27 assume a position as sister-group of the clade Cichlasomatinae + CNS-V 20 supported only by the presence of a truncated caudal fin (character 83, state 1) and 13-14 pectoral-fin rays (character 85, state 2). Three autapomorphies are recognized for CNS-V 20: the ascending arm of premaxilla as long as dentigerous arm (character 64, state 1), dorsal lateral line on caudal fin between D2 and D3 (character 78, state2); and more than 3 procurrent caudal-fin rays (character 84, state 0). CNS-V 27 is defined by two autapomorphies: the ascending arm of premaxilla shorter than dentigerous arm (character 64, state 0), and absence of predorsal bones (character 66, state 2). Extant members of the family Cichlidae live mostly in lentic freshwater bodies, corroborating the lacustrine paleoenvironment assigned to this formation.