## Paper Number: 3459 USING THE ISOTOPIC CONTENT OF FOSSIL REMAINS AS EVIDENCE OF PALEOENVIRONMENTAL CONDITION OF THE LATE JURASSIC WEST GONDWANA. Souto, P.R.F.<sup>1</sup>, Sardenberg, M.S.S.<sup>2</sup> and Andrade, J.A.F.G.<sup>3</sup>

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the Late Jurassic section that preserves one of the few records of macrofauna associated to development of large lake which cover the African-Brazilian Depression occupying an area of approximately of 50.000 Km<sup>2</sup> in Brazilian northeastern due the opening of South Atlantic Ocean during break-up of West Gondwana paleocontinent (Silva et al, 2012). For the last years fossil remains of scales, disarticulates bones of fishes and coprolites collected in the Araripe (Brejo Santo Formation), Jatoba (Aliança Formation) and Alagoas (Bananeiras Formation) basins and respectively deposited under fluvio-deltaic system before the pre-rift stage.

The specimens were described macroscopically, with homogeneous portions of each sample being selected for analysis by X-ray diffraction and isotopic ratio. The isotopes C and O profiles of fossil structures collected from different outcrops and basins for more detailed study of the paleoenvironment of these organism, ultimately helping to clarify the ecology and biology of these fauna distribution. To scales the  $\delta$ 13C values ranging from -4.37 to -5.20% VPDB and  $\delta$ 18O to between - 5.48 to -6.63% VPDB while the bones the  $\delta$ 13C values ranged from -1.70 to -3 85 ‰ VPDB and  $\delta$ 18O values were between 0.18 to -7.31 ‰ VPDB. These values found displays similar correlation with other studies development with different lacustrine organisms (Lister et al., 1991; Talbot and Kelts, 1989). The results obtained from carbon and oxygen isotopes of the fossil samples analyzed suggest that despite of the tendency to zero percentage indicative of salinity the paleolake environment hydrologically had a significant contribution of freshwater.

[1] Silva et al. (2012). Journal of South America Earth Science, 37:13-24.

[2] Lister, G.S. et al. (1991). Palaeogeogr, Palaeoclimatol, Palaeoecol. 84:141-162.

[3] Talbot, M.R. and Kelts, K.R. (1989). In: *The Phanerozoic record of lacustrine basins and their environmental signals*. Palaeogeogr, Palaeoclimatol, Palaeoecol. 70: 1–304.