

SKOLITHOS ICHNOFABRIC AS A STRATIGRAPHIC TOOL: THE STUDY CASE OF THE ALTO GARÇAS FORMATION (ORDOVICIAN), PARANÁ BASIN, BRAZIL

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The Skolithos ichnofacies characterizes the late Ordovician Alto Garças Fm. in the Chapada dos Guimarães region, NW border of the Paraná Basin, Mato Grosso State, where it is represented solely by the trace-fossil *Skolithos linearis*. The ichnofacies shows variably intense bioturbation and, in accordance to the ichnofabric indexes (ii) of Bottjer & Droser (Palaos, v.6, 1991), it is possible to identify ii4 (40–60% of bioturbation) and ii5 (60–100% of bioturbation) within the upper part of the formation. The authors investigated a complete section, 15 m thick, of the uppermost Alto Garças Fm., where observed cycles vary from ii4 to ii5, in bedsets 96 cm thick in average (beds of ii4 are in average 18 cm thick, and those of ii5, 78 cm thick). These cycles are related to PACs (Punctuated Aggradational Cycles), of which the shallowing up trend means smaller rates of stratal aggradation, and, therefore, higher bioturbation rates. The cycles were evaluated altogether with the “Fisher plot” technique. Despite the limited dataset, it suggests a decrease in the rate of generation of accommodation space for the lower third of the analyzed interval of Alto Garças Fm., followed by stabilization of this rate in its intermediate part, and an increase in the upper third. These observations point out, respectively, to phases of relative sea-level fall, stabilization, and sea-level rise for the upper Alto Garças Fm. This case study shows the success of applying trace-fossils to Sequence Stratigraphy interpretations.