**WHEN IS *Retispora lepidophyta* A RELIABLE PROXY TO DEFINE THE DEVONIAN-CARBONIFEROUS BOUNDARY (DCB)?**

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The main objective of this contribution is to update and critically analyze the hitherto published findings of *Retispora lepidophyta* (Rl), especially those in deposits from South America (SAM). According to records around the world, it is interpreted that the Rl flora reached a wide paleobiogeographic distribution with a high degree of synchronicity during the last 2 Ma of the Late Devonian. Although, Rl together with other Devonian taxa are frequently found reworked especially into Mississippian and Pennsylvanian rocks of South America as well as in the Northern Rockies of western North America. In the latter, a controversy remains as to whether or not Rl is *in situ* in the Early Mississippian strata of the Sappington, Bakken, and Banff formations. The extinction of Rl together with several terrestrial and marine fossils would have been triggered by a global paleoclimatic change at the end of the Devonian. A global regression of glacio-eustatic origin confirmed by diamictites in South America, Africa, and eastern North America was likely the main factor among others (e.g. diastrophic processes, volcanism, meteoric impact, orbital forcing). At this point it is worthy to be asked “When is Rl a reliable proxy to define the Devonian-Carboniferous boundary (DCB)?”. Could there be a diachronic appearance of Rl in SAM with respect to its appearance in Europe or other regions of the world? There is another phrase that also applies in this case: "tell me who you hang out with and I'll tell you how old you are". Therefore, of great importance is to carefully classify all the taxa found along stratigraphic successions of the Famennian - Tournaisian and analyze their stratigraphic range, especially FADs (first appearance datum) of those that are or could be diagnostic. An updating of palynological associations obtained from diamictites from the Cumaná Formation in Isla del Sol, Matilde and Hinchaka Mine and from the Toregua Formation in various sections of the Bolivian mountain range and in the Pando and Manuripi wells, suggested their Early Carboniferous age bearing recycled Rl. As well, geological evidences such as discontinuities in the sedimentation identified in those sections, due to the effect of local and regional tectonic processes that acted in parallel with glacio-eustasy. Unfortunately in SAM, other proxy data such as conodonts and ammonoids and forams are not found in association with Rl palynofloras, which are more frequently present in paleotropic-equatorial marine associations rather than elsewhere in southern Gondwana. Moreover, till now, there are very few Rl palynofloras radiometrically dated but any in South America. Hence, to try to shed light to these uncertainties, a critical revision of the presence of Rl in diamictites and / or tillites is mandatory to define their time-"in situ" or “reworked” character.

[**Funding**: PIP CONICET 0812 (2015-2017)].

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