

RECOVERY OF PALYNOMORPHS FROM INTERPILLOW SEDIMENTS, SERRA GERAL GROUP, PARANA BASIN

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ABSTRACT: Palynology, since its establishment, has been used by many researchers as a powerful tool to provide data about biostratigraphy, paleoenvironment and paleoclimate. Since the 1960s fine grained samples such as those coming from shales and siltstones, are the primary and the main focus of palynologist due their good palynomorph preservation potential (PPP) when compare with other rocks (for example, sandstones). Despite the lower PPP on coarse-grained and unconventional samples (e.g. interpillow sediments), applying the palynology analyses on them can help solve geological problems, as for example uncertain chronologic range. Then, here we report the recovery of palynomorphs from interpillow sediments of Serra Geral Group, Paraná Basin in Minas Gerais. One sample have been recovered from the outcrop and prepared at Cenpes – Centro de Pesquisas Leopoldo Américo Miguez de Mello. The CENPES sample preparation is based on the standard procedure (with Hydrofluoric Acid and Hydrochloric acid) with no oxidation and centrifugation. However, the flotation stage took more time. This method has been effective to sediments affected by tectonism and igneous intrusions. To help identified organic compound on this unconventional sample, the slide was digitalized by the slide scanner Axio Scan-Z1 with brightfield and on the software Zen Lite 2012 blue edition. In this sample we observed organic-walled microfossils (OWM) as: spores (few of them resembling *Ischyosporites* sp. and *Cycadospites* sp.), fungal spores (probably *Pluricellaesporistes* sp.), dinocysts (one of them well-preserved and assigned as *Hystrichodinium* sp.), copepod eggs, *Botryococcus* sp. (individuals and colony) and others non-identified algae (resembling marine specimens). We also have identified fewer amorphous organic matter (AOM) and phytoclasts (many opaque – equidimensional and corroided; fewer non-opaque, normally pseudo-amorphized). In spite of the lava-sediment interaction, based on the palynomorph colors, no thermal effect have been observed. Previously stratigraphic works on the region, assigned a fluvio-lacustrine paleoenvironment associated with pillow lavas, which can be corroborate with the palynomorph assemblage recognized in the interpillow sediments. Our primarily identified OWM indicate Early Cretaceous range, especially due the probably occurrence *Hystrichodinium* sp. (140 – 130 Myr). Then, the interpillow sediments time range corresponds with the pillow lavas age (135-131 Myr). Considering our results, the palynological analyses of unconventional rock samples despite their lower PPP can be more used on future researches.

KEYWORDS: UNCONVENTIONAL PALYNOLOGY, PILLOW LAVA, LAVA-SEDIMENT INTERACTION