PALEOPALYNOLOGY FROM THE MINE 08 OF THE CAMBUÍ CARBONIFEROUS COMPANY, FIGUEIRA - PR. (LOWER PERMIAN, PARANÁ BASIN, BRAZIL)

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Abstract
The project envisions the palynological analysis of carbonaceous samples belonging to the Rio Bonito Formation (Early Permian) from ative mine field of the Cambuí Carboniferous Company in the region of Figueira (PR), and its main objective is the reconstruction of the vegetation, climate, taphonomy and the current environment during the deposition of coal seams. By counting palinomorphous slides, it is observed the presence of two assemblies of pollen: an associated with the environment to a proximal source of organic matter and other distal.

Key words: paleopalynology, coal, Rio Bonito Formation

Introduction

The paleoflora associated with the beginning of the Permian Rio Bonito Formation confirms the change from a glacial/interglacial environments, represented by the deposits of the Itararé Group, to a transitional environment such as deltas and estuaries, capable of generating coal beds and carbonaceous shales rich in continental and marine fossil content, as found as in the Triunfo Member. Samples of coal beds were collected in the mining fronts with a thickness of 120 cm, in order to study the palinomorphous that occur associated with 5 carbonaceous levels: base coal bed (level 1), middle layer coal bed (level 2), top of the coal seam (level 3) and two levels related to carbonaceous shales cover (level 4 and 5). These assemblies contribute to climate study, taphonomy, vegetation type and age of the region in which they were deposited. It also contributes to the knowledge of the vegetation associated with wetlands communities of *Glossopteris* Flora characteristic of temperate regions of western Gondwana during the Permian.

Results and Discussion

The coal and shale samples were dissolved with HNO_3 and with the final organic residue obtained slides were made, which were studied in biological microscope. For each level was count a minimum of 200 palinomorphs, thus obtaining results shown in Chart 1. Level 4 showed low palynological content and it was therefore discarded for the study.

Chart 1: Palynomorphs ratio counted by level

Classification/Level	1	2	3	5
Algae	14	13	13	6
Pollens	8	3	4	29
Spores	42	57	47	35
Organic detritus	35	27	36	30
Fungi spores	1	#	#	#
Total points	235	208	230	209

From the palynomorphs counting it is clear the presence of two palynological assemblies in the mining fronts studied.

Conclusions

One of the assemblies is found closely related with the environment that originated the coal seams and being represented by the levels 1, 2 and 3. In this levels was observed a larger amount of phytodetritus and algae, indicating that the place of deposition was localized closer to the source of organic matter and elements such as algae came from a mostly submerged environment. The second assembly is associated with the carbons shales levels (level 5), which displays a higher proportion of pollen from pteridosperm and gymnosperm, indicating distance of the vegetation from which they were derived.

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