

Carboniferous of Brazil

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Palynology of the Paraná Basin

Palynological analyses of thin paralic coal beds intercalated in the glacial-bearing sequence of the Itararé Subgroup, late Palaeozoic of the Paraná Basin, yielded assemblages indicative of a Carboniferous age.

The assemblage from Buri (SOUSA et al. 1993) in the northern Paraná Basin, southeastern Brazil, contains typical continental spore elements dominated by lycophytes (*Densosporites*, *Ancistrospora*, *Cristatisporites*, *Vallatisporites* and *Lundbladispore*), sphenophytes (*Laevigatosporites*) and phyllicophytes (*Punctatisporites*, *Raistrickia*, *Granulatisporites* and *Apiculatisporites*, associated with rare *Michrystidium*). The microflora is correlated with the *Ancistrospora* palynozone in the Paganzo Basin of Argentina (AZCUY & JELIN 1980) of probable Westphalian age. Palaeoecologically the assemblage indicates a low, humid, deltaic environment.

Another assemblage from the coal beds at Monte Mór (SOUSA et al. 1993) and also from the Itararé beds in northern Paraná Basin, seems to be slightly younger (Late Carboniferous), as indicated by the presence of *Plicatipollenites* and *Potoniesporites*. Rare acritarchs are evidence of a paralic setting.

From the Lagoa Azul Formation (Itararé Subgroup) in the subsurface of the northern Paraná Basin, DAEMON & FRANCA (1993) reported the finding of spores which they assigned to the Westphalian associated with reworked Early Carboniferous and Devonian forms.

These age determinations suggest an earlier initiation of deposition for the glacial sediments of the Itararé Subgroup in the Paraná Basin than usually accepted.

Marine Invertebrates from the Piauí Formation, Parnaíba Basin

ANELLI (1993; and unpub. Masters thesis 1994) described 22 bivalve taxa from three shallow marine carbonate facies from the upper part of the Piauí Formation (Middle Pennsylvanian) Parnaíba Basin, northern Brazil. The fauna is typically "tethyan" and includes late Palaeozoic cosmopolitan genera such as *Wilkingia*, *Permophorus*, *Astartella*, *Pteronites*, and *Schizodus*, together with species of *Oriocrassatella* and *Vacunella*-like shells. Other invertebrates in the fauna are brachiopods, trilobites, cephalopods, bryozoans, conodonts, echinoderms, ostracods and foraminifers that are now being described.

The assemblage shows affinities with other Carboniferous assemblages from northern South America (e.g. Itaituba Formation, Amazon Basin; Caño Indio Formation, Venezuela) and from the US Midcontinent.

Palynology of the Amazon Basin

PICARELLI et al. (1993) reported the presence of *Prototaploxy-pinus*, *Complexisporites* and *Striamonosaccites* in conodont and fusulinid bearing Middle Pennsylvanian sediments from the Amazon Basin, northern Brazil. The first taxon is not known in beds older than Late Carboniferous in the Paraná Basin of southeast Brazil.

Palaeobotany of the Parnaíba Basin

IANNUZZI & RÖSLER (1993) and IANNUZZI et al. (1993) are revising the megaplant assemblage from the Poti Formation (Early Carboniferous), Parnaíba Basin, northern Brazil. As a result, the following taxa have been recognised: *Diplothmema gothanica* nov. comb., *Adiantites* sp., *Kegelidium lamegoi*, *Paulophyton sommeri*, *Paulophyton* sp., *Not-*

horhacopteris sp., *Triphylopteris adiantoides* nov. sp., and a lycophyte similar to *Ursodendron*.

The assemblage is a mix of Gondwanan and cosmopolitan genera and shows some endemism both at specific and generic levels. It is comparable with Late Carboniferous floras from Argentina, Peru and Bolivia. The age of the flora is still controversial but palynological determinations indicate a Viséan age.

References

- AZCUY, C.L. & JELIN, R. 1980. Las palinozonas del límite Carbonico-Permico en la Cuenca Paganzo. In: *Congr. Arg. Paleont. Bioestr.*, 2, Buenos Aires, *Atas*, 4: 51-67.
- SOUSA, P.A., LIMA, M.R. & SAAD, A.R. 1993. Palinologia dos carvões paleozóicos do Estado de São Paulo, Brasil. In: *Congr. Bras. Paleont. Soc. Bras. Paleont.*, 13, São Leopoldo, *Resumos*, p.198.
- IANNUZZI, R., DAEMON, R.F. & SOUZA, P.A. 1993. A importância bioestratigráfica dos elementos florísticos (mega e microfloras) da localidade do Riacho do Roncador, Formação Poti, Piauí. *An Acad. Bras. Ci.*, 65(3): 328-329.
- IANNUZZI, R. & RÖSLER, O. 1993. Reavaliação da flora carbonífera da Formação Poti. In: *Congr. Bras. Paleont. Soc. Bras. Paleont.*, 13, São Leopoldo, *Resumos*, p. 198.
- DAEMON, R.F. & FRANCA, A.B. 1993. Sedimentos do Westfaliano (Carbonífero médio) na Formação Lagoa Azul, Grupo Itararé. In: *Simpósio sobre Cronoestratigrafia da Bacia do Paraná, 1, Rio Claro, Resumos*, p. 36.
- ANELLI, L.E., SIMÕES, M.G. & LIMA FILHO, F.P. 1993. Análise tafonômica da assembléia de bivalves do calcário Mocambo (Neocarbonífero), Bacia do Parnaíba, Brasil. In: *Congr. Bras. Paleont. Soc. Bras. Paleont.*, 13 São Leopoldo, *Resumos*, p. 108.
- PICARELLI, A.T., MARQUES-TOIGO, M., QUADROS, L.P. de & CAZZULO KLEPZIG, M. 1993. A ocorrência do gênero *Prototaploxy-pinus* no Namuriano da Bacia do Amazonas - implicações paleoclimáticas e paleogeográficas. In: *Congr. Bras. Paleont. Soc. Bras. Paleont.*, 13, São Leopoldo, *Resumos*, p. 197.
- ANELLI, L.E. 1994. Pelecípodes da Formação Piauí (Pennsylvânico médio), Bacia do Parnaíba, Brasil. *São Paulo. Master Dissertation, Instituto de Geociências, USP*, (unpublished), 148 p.