**LOWER DEVONIAN ACRITARCHS FROM BRAZIL: NEW TAXONOMIC AND BIOSTRATIGRAPHIC DATA**

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The depositional successions of the Ponta Grossa Formation (Paraná Basin, Brazil) correspond to a wave-dominated shallow-marine environment. The marine fraction of the palynological assemblages of the Jaciara section is composed of highly abundant and diverse organic-walled phytoplankton. The section yielded worth-noticing new phytoplankton species and novel biostratigraphic data for the Lower Devonian, especially of Gondwana. The genus *Pyloferites* was emended. A statistical analysis of the morphological variables allowed us to distinguish two species: *Pyloferites escobaides* emend. nov., and *Pyloferites paranaensis* sp. nov. *Pyloferites escobaides* emend. nov. displays a South American distribution from the middle–late Pragian to the Famennian, while it is constrained to the Lower Devonian in Spain. *Pyloferites paranaensis* sp. nov. shows a more restricted stratigraphical and geographical distribution, from the late Pragian to possibly the middle Emsian in the Paraná Basin. All species of the *Bimerga* genus are present in the section (*Bimerga* *acharii*, *Bimerga bensonii*, *Bimerga nuda*, and *Bimerga paula*), and are common in the lowermost samples. *Bimerga* is a biostratigraphical and palaeobiogeographical useful genus because it is restricted to the Devonian of Gondwana. *B. bensonii*, which is supposed to be younger, appears in the Pragian samples. Therefore, the finding of *B. bensonii* in the Ponta Grossa Formation reveals an older first appearance in the Early Devonian. The zygnemataceae species *Peltacystia* sp. was recorded throughout the section. The earliest *Peltacystia* record so far is from the upper Permian. Therefore, its presence in the Jaciara section constitutes the oldest worldwide occurrence of the genus. Specimens of *Schizocystia* are very frequent and denote great morphological variability, showing, in some cases, more prominent ornamentation and more processes than originally described. A new unidentified acritarch, globose or polygonal in shape and with striate wall, was recorded. It excystment is by a simple split of the vesicle in half. These forms are close to *Schizocystia,* but the species included in this genus have fewer processes, and mostly have a square vesicle shape. They are similar to *Pyloferites paranaensis* in general shape, number and type of processes, and ornamentation of the vesicle wall, but the excystment of the genus *Pyloferites* is by means of a pylome. The phytoplankton assemblage of the Jaciara section is the most diverse published so far for the Ponta Grossa Formation, and for the Devonian of Brazil, with remarkable preservation of the palynomorphs. This study adds new valuable information to the Devonian palynology of South America and Gondwana.

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