

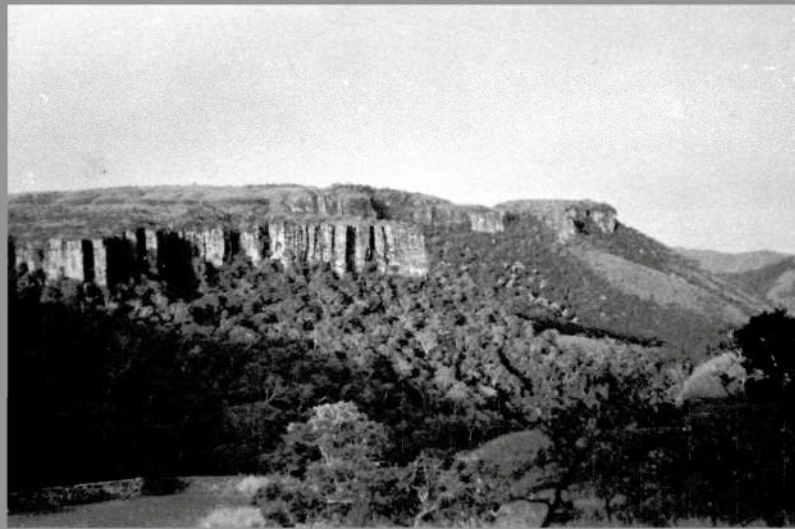
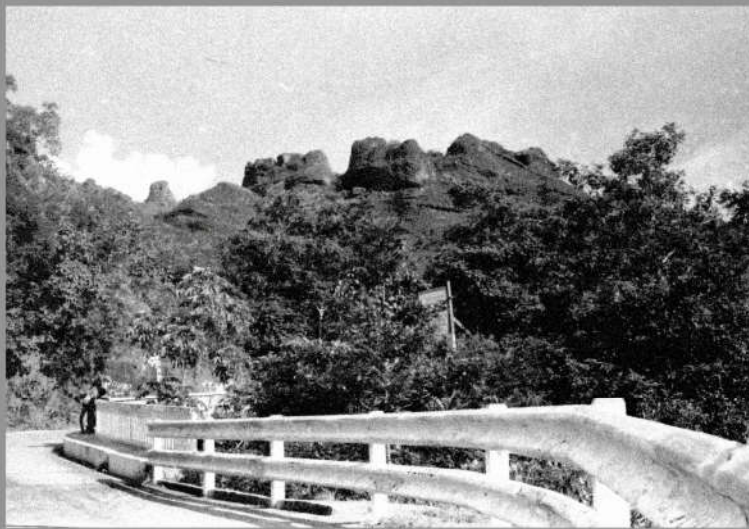
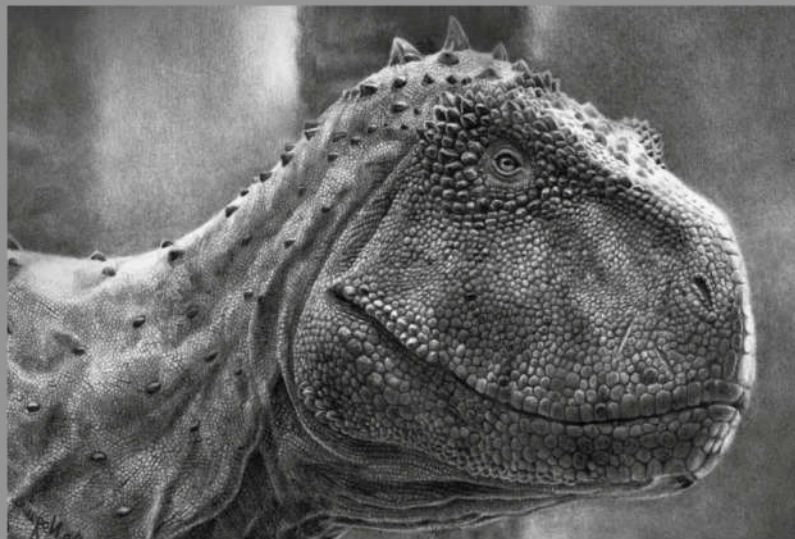
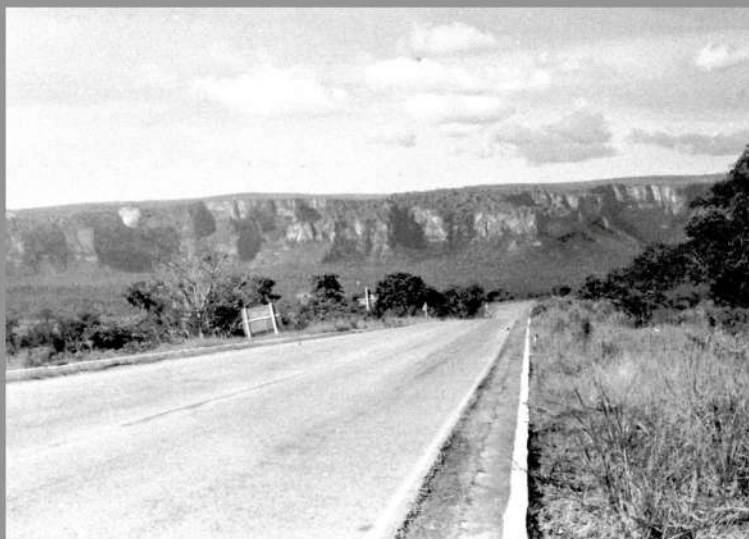
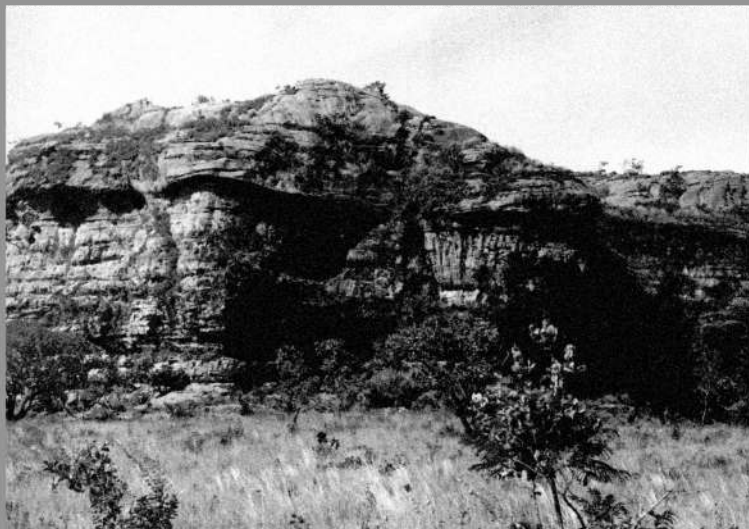


# Paleodest

*Paleontologia em Destaque*

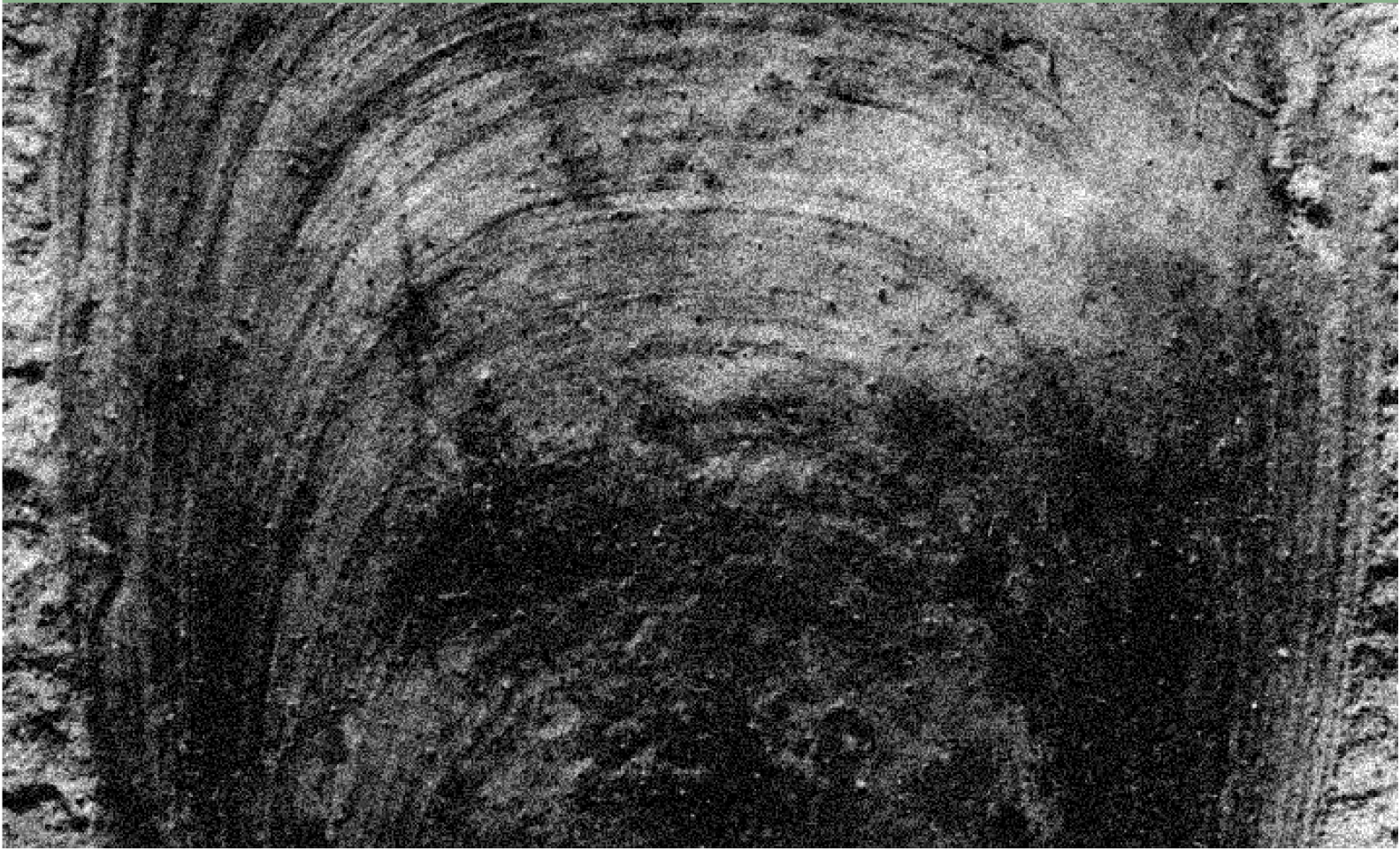
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# Simpósios

## 1st Gondwana Devonian Symposium



## PLANT DIVERSIFICATION THROUGH THE DEVONIAN IN BRAZIL

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Over the past 140 years, the search for new plant materials in Brazil, especially in Middle Devonian deposits stimulated the reconstruction of the terrestrial dynamic and land colonization processes associated to the evolution of fossil groups. Macroplants and palynofloras evolved and diversified rapidly being stratigraphically useful depending on their preservation, frequency and distribution of plant deposits through the Devonian time. Although we were able to scratch only a small part of this history, recent efforts in the Devonian of the Paraná Basin promoted the study of plant and palynological fossils from Furnas, Ponta Grossa and São Domingos Formation of the Paraná Basin, and allowed the comparison and correlation with floristic data from Parnaíba and Amazon basins, and discuss their paleobiogeographic significance. Therefore, the range of 25 genera of fossil plants distributed throughout the Lochkovian-Famennian interval allowed us to establish three stratigraphic intervals and floral stages identified and named *Cooksonia-Hostinella* (CH), *Haplostigma-Spongiophyton* (HS) and *Protosalvinia* (P). Floral stage CH from earliest Devonian (Lochkovian) is characterized by avascular (bryophyte) and vascular (tracheophyte) plants bearing simple and herbaceous organization, having leafless stems with dichotomous branching and terminal sporangia (polysporangiophytes). Some taxa (*Cooksonia*, *Aberlemnia*, *Hostinella*, *Pertonella*, *Psilophytites*, *Sporogonites*, *Tarrantia*, *Edwardsnella*, *Salopella* and *Sphaerullophyton*) documented in Argentina and Uruguay reinforce a Lohkovian-earliest Emsian age, also confirmed with Palynology in Brazil. The Floral stage HS spanning from Late Emsian to Early Frasnian, is characterized by vascular and avascular (thallophytes and nematophytes) plants, which present prostrate, decumbent or aerial stem, herbaceous or shrub-like habits, and stems bearing microphylls (i.e., lycopsids). From the taxa documented in this stage (*Spongiophyton*, *Haplostigma*, *Octaviona*, *Palaeostigma*, *Protolepidodendron* and *Archaeosigillaria*) *Haplostigma* is widely distributed in Gondwana with records in Argentina, Bolivia, Chile, South Africa, Antarctica and Australia. This stage is equivalent to the Brazilian Upper Ems to BPi Interval Palynozones, and correlatable to the Euramerican upper *Psilophyton* to lower *Archaeopteris* plant zones and upper PoW to BM Opper spore Zones. The Late Devonian *Protosalvinia* floral stage recognized in clastic deposits devoid of diamictites of the uppermost part of the Barreirinha (Amazon Basin) and Pimenteira (Parnaíba Basin) formations, contains a wide variety of *Protosalvinia* remains with clavate, bilobate, furcate or rounded shapes bearing rounded reproductive structures enclosing tetrads of spores. It is attributed to the late (not latest) Famennian *Rugospora radiata* (Rad) and *Vallatisporites hystricosus* (Hys) Interval Palynozones in Brazil. *Protosalvinia* is also recorded in eastern USA (Appalachian, Illinois and Michigan basins) ranging from Middle to Late Famennian VCo and VH Palynozones and uppermost marginifera to lower expansa conodont Zones. This floral stage is correlated to the Euramerican lower *Cyclostigma* and *Rhacophyton* plant zones. Finally, more palynological studies are needed in order to have a wider list of plant groups represented in these floral stages and a better constrain of their stratigraphic intervals, and verify their occurrences in not well explored Brazilian intracratonic basins, such as Parecis, Alto Tapajós and Jatoba. [Funding: PIP CONICET 0812 (2015-2017)].