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VII SIMPOSIO ARGENTINO DEL PALEOZOICO SUPERIOR

VII SAPS

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massive, sandy mudstone in the basal part of the Guadalupian, Morro Pelado Member, Rio do Rasto Formation. The bivalves are associated with conchostraceans and are preserved both as molds of predominantly complete and disarticulated valves and as articulated, splayed shells. Therefore, they may provide evidence of a low energy lacustrine paleoenvironment. In total, 137 shells were studied, including *Terraia* sp. (67%), a new genus (10%), *Palaeomutela* sp. (4%), *Palaeomutela platinensis* Reed, 1935 (1%), and undetermined specimens (18%). *Terraia* sp. resembles closely other crassatellaceans from the Passa Dois Group, and the new genus is clearly a pachydomid. Both are endemic bivalves, unlike the two recorded species of *Palaeomutela* Amalitzky, 1892, which are similar to the abundant palaeomutelids of the lower Beaufort Group of Namibia (Huab region) and South Africa and of equivalent strata in Central Africa. Therefore, this assemblage marks a major faunal turnover in the molluscan assemblages of the Paraná Basin, not only due to the appearance of the first true freshwater bivalves in the basin, but also because of the unquestionable arrival of a cosmopolitan continental bivalve genus.

Revaluation of the phytostratigraphic framework in southern Paraná Basin based on U-Pb single-zircon CA-TIMS ages: implications for biostratigraphic correlations in Western Gondwana

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The long established ages for volcanoclastic deposits of the Rio Bonito Formation in the southernmost Brazilian portion of the Paraná Basin were recently reexamined using high-precision U-Pb single zircon crystal chemical abrasion–thermal ionization mass spectrometry (CA-TIMS) analysis. The CA-TIMS results address ambiguity in precision and accuracy of previous U-Pb ages and present a new chronostratigraphic framework where at least two distinct postglacial coal-bearing intervals named the lower and upper Rio Bonito Formation were separated by more than 10 Ma. This revised framework results in changes in positioning and correlation of some well-known phytofossiliferous outcrops establishing two well-defined floras. The lower flora, dated as Asselian in age, is characterized by abundance of *Phyllothea*-type leaf whorls and *Gangamopteris*-type leaves, but also by *Corycladus*-type leaf shoots, Lycopodiales and *Botrychiopsis*-type fronds. Still, there are few morphospecies of *Glossopteris*-type leaves and only glossopterid female fructifications of arberoid types were recorded in this flora. The upper flora, now considered Late Artinskian in age, is characterized by greater abundance and diversity of *Glossopteris*-type leaves coupled with the appearance of

dictyopterid-type glossopterid female fructifications. The fronds of ferns appear by first time in the associations while the *Botrychiopsis*-type disappears. This new chronostratigraphic arrangement of the phytofossiliferous horizons allows for a reappraisal of the stratigraphic range of the existing taxa, resulting in the proposal of two new phytozones based on the distribution of all existing taxa (ca. 50) in the Cisuralian strata from the southern basin. Considering the new geochronological calibration, it is possible to make some new considerations about the chronostratigraphic positioning of other phytozones that show similar floral composition existing in South America and other locations across Gondwana.

Preliminary sedimentological and stratigraphic analysis of the basal glacigenic Wynyard Formation (Wynyard, Tasmania, Australia)

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The Wynyard Formation (Permo-Carboniferous; Wynyard, Tasmania) was deposited during the Late Paleozoic Ice Age (LPIA) within the South Polar Circle. The emerging view of the LPIA attributes glaciation to regional-scale ice caps and ice sheets, rather than a single Gondwanan ice sheet. Therefore, characterizing regional glaciers is crucial to understanding the climatic significance of LPIA glaciation. Since the Wynyard Formation is unequivocally glacigenic, most previous work focused on describing ice flow directions, clast provenance, and age. This focus has led to depositional processes being proposed without a complete, detailed examination of the section's sedimentology and stratigraphy. We present preliminary results from a sedimentological analysis of the basal 400 m of the Wynyard Fm. These strata rest on an angular unconformity which, contrary to previous reports, bears no indication of subglacial erosion. The section is primarily massive to crudely-bedded sandy, clast-rich diamictites that frequently include discontinuous, 10 cm – 2 m thick bodies of coarse sandstones and conglomerates, suggestive of an ice-proximal environment. Mass transport deposits within the diamictites have a mean transport direction of 086°. Three boulder pavements with aligned striations, indicative of grounded ice, were identified throughout the measured section (mean striae trend 006°). One 16 m thick portion of the section contains laterally continuous cross bedded gravels, asymmetrically rippled sands, and thinly laminated to thinly bedded, alternating silt and clay with outsized clasts (mean paleocurrent direction of 000°). This succession represents at least one advance/ retreat cycle during a much longer “Wynyard” glaciation.