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“Hacia nuevos desafíos”

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NUEVAS METODOLOGÍAS EN PALEOBOTÁNICA Y PALINOLOGÍA

SPOROMORPHS RICHNESS, EXTINCTION AND ORIGINATION DURING THE LATE PALEOZOIC OF ARGENTINA, BRAZIL, BOLIVIA AND URUGUAY

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Diversity patterns of Pennsylvanian-Lopingian sporomorph genera of the Paraná (Brazil and Uruguay), Parnaíba and Amazonas (Brazil), Tarija and Paganzo (Argentina) and Madre de Dios (Bolivia) basins were analyzed. The main aim of the present contribution was to address the effect of possible sampling biases over diversity estimations. We estimated sporomorphs richness and sampling using the recently developed TRIPS method and modeled origination, extinction and sampling rates with the implementation of Inverse Survivorship Models. Furthermore, we tested whether modeling different sampling rates across time and independent parameters for spores and pollen grains significantly improved model fit. Results showed highest richness during the Cisuralian, with origination peaking at the Asselian and extinction being highest during the Kungurian. Estimates of sampling rate were high for most time intervals and results showed that modelling different sampling rates across time did not improve model fit. On the other hand, modelling origination and extinction rates independently for spores and pollen grains significantly improved model fit, indicating different patterns of origination and extinction for spores and pollen grains. Overall, pollen grains showed higher origination rates than spores except during the Kasimovian, while spores exhibited higher extinction rates than pollen grains except during the Guadalupian. Changes in total sporomorphs diversity, as well as differences between spores and pollen grains, may be related to changing climatic conditions in Western Gondwana during the Late Paleozoic that could impact differently over plant communities.

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