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Late Silurian palynomorphs from the Precordillera of San Juan, Argentina: Diversity, palaeoenvironmental, and palaeogeographic significance

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The palynological content from the Cerro La Chilca and Quebrada Ancha sections of the Wenlock? to Přídolí Los Espejos Formation, in the Argentinean Precordillera is studied. The marine palynomorphs exhibit higher relative abundance and diversity in almost all the productive samples, except for the uppermost ones from both sections, in coincidence with the shift towards more proximal facies in this part. The Los Espejos Formation yielded a total of 114 species of marine organic walled-phytoplankton, 52 species of miospores and two non-marine phytoplankton species. The lower part of the Los Espejos Formation, dated as Ludfordian, displays the highest phytoplankton diversity and the better-preserved palynomorphs of the studied samples in both sections. Diversity tends to diminish towards the upper part of the Los Espejos Formation, dated as late Ludfordian–Přídolí, in coincidence with the transition to storm-dominated shelf and shoreface environments and subaerial exposures that probably hinder the preservation of palynomorphs. Comparisons with coeval phytoplankton assemblages from Gondwana and other palaeoplates such as Laurentia, Baltica, and Avalonia result in strong similarities, which suggest a cosmopolitan distribution pattern during the Ludlow and the Přídolí. Conversely, the trilete spores display more similarities with those from Gondwana and thus suggest a lesser dispersive potential in comparison to phytoplankton. A new trilete spore species *Emphanisporites* ? *tenuis* is described.

Key words: Organic walled-phytoplankton, miospores, abundance, diversity, palaeoenvironment, palaeobiogeography, Silurian, Argentina.

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