**Silurian palynomorphs from the Precordillera basin, western Argentina: biostratigraphy and diversity trends**

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The Silurian succession of the Precordillera, western Argentina, constitutes a typical foreland basin deposit. The Middle-Upper Silurian to Lower Devonian (Wenlock to Lochkovian) is represented in the Los Espejos Formation. It is composed of siliciclastic, mainly fine-grained shelf deposits, with a gradual upward thickening and coarsening and evidences of subaerial exposures in its upper part. It thickness diminishes from north to south,and the younger levels are only present in the northern outcrops.In this contribution the organic-walled phytoplankton and the miospores from two sections of the Los Espejos Formation, Quebrada Ancha and Cerro La Chilca, are presented. A total of 21 productive samples were obtained, where the marine palynomorphs show a clearly predominance in almost all the samples in both sections. Only the two uppermost productive samples of the upper Quebrada Ancha section evidenced a predominance of miospores over marine phytoplankton. F*imbriaglomerella divisa*, *Leiofusa bernesga*, *Melikeriopalla polygonia*, *Muraticavea wenlockia*, *Oppilatala ramusculosa*, *Ozotobrachion palidodigitatus*, *Pterospermella martini* and *Schismatosphaeridium perforatum* are among the most relevant phytoplankton species recorded in the Quebrada Ancha section. The phytoplankton species support a Gorstian?-Ludfordian to Pridoli age, for the whole section, based on the miospores. *Chelinospora poecilomorpha* var. *verucata* Morphon, *Stellatispora inframurinata* var. *inframurinata*, *Chelinospora* cf. *hemiesferica* in Richardson *et al.* (2001), *Synorisporites tripapillatus*, *Brochotriletes foveolatus*, *Leonispora argovejae* and *Amicosporites streelii* are the more biostratigraphically relevant miospores species recorded in this section. The Cerro La Chilca section contains a phytoplankton assemblage composed of species such as *Schismatosphaeridium algerense*, *Fimbriaglomerella divisa* and *Ozotobrachion palidodigitatus*. The stratigraphic range of the phytoplankton species support the Homerian?-Ludfordian age based on miospores such as the hilate cryptospore *Hispanaediscus lamontii*, and the trilete spores *Chelinospora* cf. *cantabrica* and C*helinospora sanpetrensis*. The phytoplankton diversity gradually increases from the base to the middle part of the stratigraphic unit in both sections. The lower part of the Los Espejos Formation, in both sections, displays the highest phytoplankton diversity and also the better preserved palynomorphs of the whole formation. This peak of diversity corresponds to the early Ludfordian and, consequently, it could indicate a particular favorable environmental condition for this time interval. The diversity tends to diminish towards the upper part of the formation, in agreement with the transition to a storm-dominated shelfand shoreface environments and subaerial exposures that probably prevent the preservation of palynomorphs.

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