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SUPPLEMENTARY ONLINE MATERIAL FOR

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

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Supplementary Online Material

SOM 1. Stratigraphic distribution of the chlorophytes, acritarchs, non-marine palynomorphs (NMP), trilete spores and cryptospores recorded from the Cerro La Chilca section.

SOM 2. Stratigraphic distribution of the chlorophytes, acritarchs, non-marine palynomorphs (NMP), trilete spores and cryptospores recorded from the Quebrada Ancha section section (lower part).

SOM 3. Stratigraphic distribution of the chlorophytes, acritarchs, trilete spores and cryptospores recorded from the Quebrada Ancha section (upper part).

SOM 1. Stratigraphic distribution of the chlorophytes, acritarchs, non-marine palynomorphs (NMP), trilete spores and cryptospores recorded from the Cerro La Chilca section, and the proposed ages for the unit. Black rectangles mean presence of the species, grey rectangles indicate doubtful classification. Species recorded for the first time in Gondwana are written in bold. (a) in Le Hérissé, 1989. Wen.?: Wenlock?; Home.?: Homerian?; Gorst.?: Gorstian?; Ludf.?: Ludfordian?

Species / Sample		Silurian					
		Wen.?	Ludlow				
		Home.?	Gorst.?	Ludf.?	Ludfordian		
		1-61065	2-61057	3-61058	4-61059	5-61060	6-61061
Chlorophytes	<i>Cymatiosphaera paucimembranae</i>						
	cf. <i>Melikeriopalla</i> sp.						
	<i>Cymatiosphaera</i> spp.						
	<i>Leiosphaeridia</i> sp.						
	<i>Baculatireticulatus baculatus</i>						
	<i>Dictyotidium faviforme</i>						
	<i>Dictyotidium alveolatum</i>						
	<i>Melikeriopalla polygonia</i>						
	<i>Dictyotidium</i> spp.						
	<i>Cymatiosphaera salopensis</i>						
	<i>Cymatiosphaera</i> cf. <i>multisepta</i>						
	<i>Cymatiosphaera octoplana</i>						
	<i>Cymatiosphaera</i> cf. <i>jardinei</i>						
	<i>Cymatiosphaera</i> cf. <i>lawsonii</i>						
	<i>Cymatiosphaera</i> cf. <i>mirabilis</i>						
	<i>Cymatiosphaera multicristata</i>						
	<i>Cymatiosphaera nimia</i>						
	<i>Duvernaysphaera aranaides</i>						
	<i>Pterospermella elliptica</i>						
	<i>Pterospermella martinii</i>						
<i>Polyedryxium wenlockium</i>							
<i>Dictyotidium tenuiomatum</i>							
<i>Dictyotidium stellatum</i>							
<i>Cymatiosphaera</i> cf. <i>ledburica</i>							
Acritarchs	<i>Nanocyclopa</i> spp.						
	<i>Veryhachium trispinosum</i> Group						
	<i>Ammonidium waldronense</i>						
	<i>Cymbosphaeridium</i> spp.						
	cf. <i>Schismatosphaeridium algerense</i>						
	<i>Eupoikilofusa striatifera</i>						
	<i>Multiplicisphaeridium</i> spp.						
	<i>Dorsennidium</i> spp.						
	<i>Leiofusa bernesgae</i>						
	<i>Leptobrachion</i> sp.						
	<i>Dactylofusa maranhensis</i>						
	<i>Dorsennidium europaeum</i>						
	<i>Fimbriaglomerella divisa</i>						
	<i>Gorgonisphaeridium</i> spp.						
	<i>Comasphaeridium brevispinosum</i>						
	cf. <i>Eisenackidium argentinum</i>						
	<i>Eupoikilofusa cantabrica</i>						
	cf. <i>Ammonidium</i> sp.						
	<i>Leiofusa estrecha</i>						
	<i>Lophosphaeridium magnum</i>						
	<i>Multiplicisphaeridium mingusi</i>						
	<i>Tylotopalla deerlijianum</i>						
	<i>Micrhystridium</i> spp.						
	<i>Ammonidium ludloviense</i>						
	<i>Oppilatala grahni</i>						
	<i>Ozotobrachion palidodigitatus</i>						
	<i>Dactylofusa</i> sp.						
	<i>Multiplicisphaeridium cladum</i>						
	<i>Ammonidium maravillosum</i>						
	<i>Buedingiisphaeridium lunatum</i>						
	<i>Dactylofusa</i> cf. <i>striatogranulata</i>						
	<i>Dateriocradus lindus</i>						
	<i>Diexallophasis remota</i> Group						
	<i>Estiatra barbata</i>						
	<i>Hoegklintia gogginensis</i>						
	<i>Onondagella asymmetrica</i>						
	<i>Oppilatala insolita</i>						
	cf. <i>Oppilatala frondis</i>						
	<i>Percultisphaera incompta</i>						
	<i>Neoverhachium carminae</i>						
<i>Salopidium</i> sp.							
<i>Villosacapsula</i> sp.							
cf. <i>Schismatosphaeridium</i> sp. B (a)							
NMP	<i>Quadrisporites</i> sp.						
	<i>Clypeolus tortugaides</i>						
Trilete spores	<i>Ambitisporites avitus-dilutus</i> Morphon						
	<i>Retusotriletes</i> spp.						
	cf. <i>Concentricosporites agradabilis</i>						
	<i>Emphanisporites</i> spp.						
	<i>Punctatisporites</i> sp.						
	<i>Emphanisporites?</i> <i>tenuis</i>						
	<i>Coronaspota</i> sp.						
	<i>Synorisporites verrucatus</i>						
	<i>Vermiverruspora rumneyi</i>						
	<i>Archeozonotriletes chulus</i>						
	<i>C. verrucata</i> var. <i>verrucata</i> Morphon						
	<i>Emphanisporites rotatus</i>						
	<i>Coronaspota cromatica</i>						
	<i>Chelinospota</i> cf. <i>cantabrica</i>						
<i>Chelinospota sanpetrensis</i>							
Cryptospores	<i>Gneudnaspota divellomedia</i>						
	<i>Tetrahedraletes medinensis</i>						
	<i>Hispanaediscus lamontii</i>						
	<i>Hispanaediscus wenlockensis</i>						

SOM 2. Stratigraphic distribution of the chlorophytes, acritarchs, non-marine palynomorphs (NMP), trilete spores and cryptospores recorded from the Quebrada Ancha section (lower part), and the proposed ages for the unit. Black rectangles mean presence of the species, grey rectangles indicate doubtful classification. Species recorded for the first time in Gondwana are written in bold. (a) in Le Hérissé, 2000, (b) in Mullin, 2001, (c) in Le Hérissé, 1989, (d) in Richardson et al., 2001. Gorst.?: Gorstian?

SOM 3. Stratigraphic distribution of the chlorophytes, acritarchs, trilete spores and cryptospores recorded from the Quebrada Ancha section (upper part), and the proposed age for the unit. Black rectangles mean presence of the species, grey rectangles indicate doubtful classification. Species recorded for the first time in Gondwana are written in bold. (a) in Le Hérissé, 1989.

	Species	Sample	Silurian			
			Přidolí			
			11-61020	12-60986	13-60984	14-60982
Chlorophytes	<i>Cymatiosphaera jardinei</i>					
	<i>Cymatiosphaera salopensis</i>					
	<i>Leiosphaeridia</i> spp.					
	<i>Melikeriopalla polygonia</i>					
	<i>Dictyotidium</i> spp.					
	<i>Polyedryxium</i> spp.					
	<i>Dictyotidium dictyotidium</i>					
	<i>Helios aranaides</i>					
	<i>Quadraditum fantasticum</i>					
Acritarchs	<i>Micrhystridium</i> spp.					
	<i>Veryhachium trispinosum</i> Group					
	<i>Dorsennidium europaeum</i>					
	<i>Eupoikilofusa striatifera</i>					
	<i>Schismatosphaeridium longhopense</i>					
	<i>Leiofusa bernesgae</i>					
	<i>Leptobrachion</i> sp.					
	<i>Multiplicisphaeridium</i> spp.					
	<i>Cymbosphaeridium</i> sp.					
	<i>Eupoikilofusa cantabrica</i>					
	<i>Fimbriaglomerella divisa</i>					
	<i>Oppilatala</i> sp.					
	<i>Ozotobrachion</i> sp.					
	<i>Schismatosphaeridium</i> sp. B (a)					
	<i>Veryachium lairdii</i> Group					
	<i>Cymbosphaeridium pilar</i>					
<i>Gorgonisphaeridium</i> sp.						
<i>Neoveryhachium carminae</i>						
<i>Tylotopalla caelamenicutis</i>						
Trilete spores	<i>Emphanisporites neglectus</i>					
	<i>Coronaspora cromatica</i>					
	<i>C. verrucata</i> var. <i>verrucata</i> Morphon					
	<i>Archeozonotriletes chulus</i>					
	<i>Emphanisporites?</i> <i>tenuis</i>					
	<i>Synorisporites verrucatus</i>					
	<i>Amicosporites</i> spp.					
	<i>Emphanisporites rotatus</i>					
	<i>Emphanisporites</i> spp.					
	<i>Retusotriletes</i> cf. <i>maccullockii</i>					
	<i>Emphanisporites protophanus</i>					
	<i>Chelinospora obscura</i>					
	<i>Retusotriletes</i> spp.					
	<i>Synorisporites</i> sp.					
	<i>Scylaspora vetusta</i>					
	<i>Amicosporites streelii</i>					
cf. <i>Concentricosisporites sagittarius</i>						
<i>Emphanisporites</i> cf. <i>splendens</i>						
<i>Retusotriletes</i> cf. <i>warringtoni</i>						
Cryptospores	<i>Gneudnaspora divellomedia</i>					
	<i>Hispanaediscus verrucatus</i>					
	<i>Imperfectotriletes</i> cf. <i>patinatus</i>					
	<i>D. murusat./murusdensa</i> Morphon					
	<i>Pseudodyadospora petasus</i>					
	<i>Tetrahedraletes medinensis</i>					
	<i>Sphaerassacus glabellus</i>					
	<i>Rugosphaera</i> sp.					
<i>Imperfectotriletes</i> sp.						