

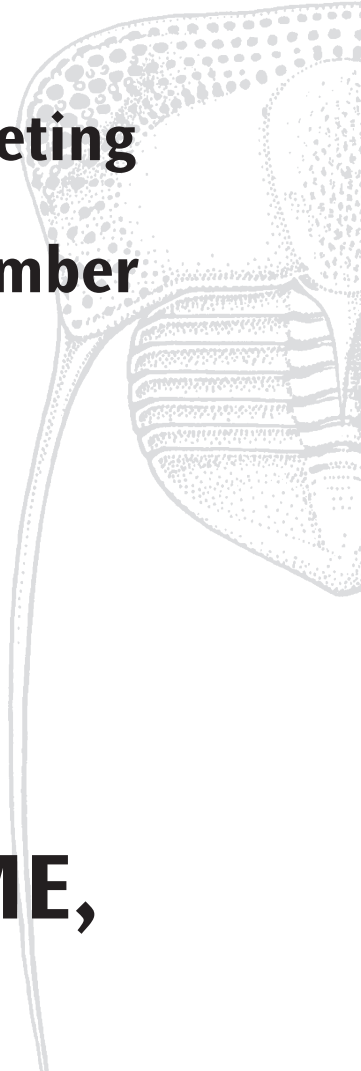
**The  
Palaeontological  
Association**

**60th Annual Meeting**

**14th–17th December  
2016**

*Université Claude  
Bernard Lyon 1  
Lyon, France*

**PROGRAMME,  
ABSTRACTS  
and AGM papers**





## Contributions to the ongoing work on the international chronostratigraphy of the Cambrian: preliminary data from the Terreneuvian of Iran and Series 2 of Mexico

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After several decades of intense research, the topic of the Cambrian explosion has fed an abundant literature focusing on its biodiversity and phylogenetic patterns. Our understanding of this is, however, limited by the lack of accurate dating of the fossil radiation and abiotic changes. Although efforts have been made to develop a refined timescale, the Cambrian remains one of the last systems for which series and stage boundaries have not yet been accurately defined. This can be ascribed in part to the paucity of comprehensive litho-, bio-, and chemostratigraphic studies of early-mid Cambrian successions from key regions, such as Sonora (Mexico) and Iran. Data from Sonora are essential for establishing the still incomplete although fundamental Cambrian chronostratigraphy of Laurentia, whereas Iranian Cambrian successions represent the best opportunity for correlations between the western Gondwana margin and the Yangtze Platform in South China. This study presents preliminary stratigraphic data from Sonora and Iran. Special attention has been given to the range of the abundant and widely-distributed polyphyletic small shelly fossils (SSFs) due to their high potential for the subdivision of the early Cambrian.

## Freshly-moulted trilobites from the Fezouata Lagerstätte of Morocco

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Trilobites, as arthropods, must periodically moult their protective hardened exoskeleton for growth, development, and repair. This complex process involves disassociating the epidermis and internal systems from the exoskeletal cuticle, secretion of new cuticle, and ecdysis of the old exoskeleton. Immediately post-moulting the new exoskeleton is soft and compressed (*i.e.*, the 'soft-shell stage'). This stage must necessarily be short-lived, as the individual is extremely vulnerable to predation at this time. The brevity of the stage is reflected in the paucity of soft-shelled specimens in the fossil record, accentuated by their reduced preservation potential. The few soft-shell post-moult trilobites described to date were identified based on the co-occurrence of wrinkling and flattening (indicating compressed, soft cuticle). However, preservational or tectonic deformation may also be responsible, and therefore freshly-moulted trilobites must be considered in context. We describe a rare example of soft-shell trilobite preservation from the exceptional Burgess Shale-type Lower Ordovician Fezouata Lagerstätte of Morocco. Nileid specimens illustrate