



Exceptional fossils from the Lower Ordovician of Morocco

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In recent years, the Lower Ordovician deposits to the north of Zagora, southeastern Morocco have been shown to represent an important source of exceptionally preserved fossils. Exceptional preservation in the area is not limited to discrete stratigraphic levels, but rather occurs in spatially limited "Konservat-Lagerstätten pockets" which are distributed from the top of the Lower Fezouata Formation (upper Tremadocian) throughout the entire Upper Fezouata Formation (lower - upper Floian). Exceptional fossils recovered from the area so far include Burgess Shale-type sponges, palaeoscolecid and other vermiform organisms and various unmineralised arthropods including marrellomorphs and cheloniellids. The most celebrated fossil to be collected from the area to date, however, is that of the first machaeridian with preserved soft tissues, providing unequivocal proof of the annelid affinities of the Machaeridia. Co-occurring classical skeletal fossils indicate that the assemblages represent normal, open marine biotas. These Early Ordovician biotas are of particular interest because they document the onset of the Great Ordovician Biodiversification Event and the resulting transition from the Cambrian Evolutionary Fauna to the Palaeozoic Evolutionary Fauna. So far, this major evolutionary radiation has been studied almost exclusively on the basis of skeletal fossils alone.