Back to the roots: basic biostratigraphy: Ordovician acritarchs from north-eastern Morocco and north-western Algeria

Mustapha Akodad*†[1], H.b. Benachour[2], and Thomas Servais[3]

[1]Faculté Pluridisciplinaire de Nador, Labo OLMAN-BGPE – Algeria
[2]Laboratory for the Sustainable Management of Natural Resources in Arid and Semi arid Zones – Algeria
[3]CNRS, Lille University, UMR 8198 Evo-Eco-Paleo – CNRS, Lille University, UMR 8198 Evo-Eco-Paleo – France

Abstract

Numerous early Palaeozoic sediments are poorly preserved, with metasedimentary sequences with no fossil preservation, except moderately to poorly preserved organic-walled microfossils. Acritarchs have often been the last chance to provide age indications, sometimes with little biostratigraphic precision, but nevertheless useful for first stratigraphical assignements.
A number of small tectonic inliers (traditionally named 'boutonnières') include Palaeozoic rocks in north-eastern Morocco and north-western Algeria. The area is commonly referred to as eastern Meseta by Moroccan geologists, or the Atlasic Domain ('domaine atlasique') by Algerian authors. The stratigraphical correlation of most units in the inliers remains problematical. The age of the inliers is very often uncertain, although Palaeozoic fossils have been recovered from several horizons. With the objective to provide better biostratigraphical information, a number of palynological studies have been carried out.
Our new investigations concern the Tazekka and Zekkara inliers in Morocco and the Tlemcen and Traras mountains in Algeria. Whereas the new investigations in the Zekkara inlier did not provide results, the 'Schistes de Tazekka' at the base of the succession (lower part of the Bou Chfâa Formation) of the Tazekka Inlier yielded an acritarch assemblage typical of the peri-Gondwanan margin, including the palaeobiogeographical index taxa Coryphidium and Striatotheca, pointing to a Floian age. Stratigraphically above these levels yielding Floian acritarchs, 'Llanvirn' graptolites were found in the upper part of the Bou Chfâa Formation. In Algeria, the investigations in the Tlemcen Inlier remained unsuccessful. However, the discovery of acritarchs in the 'Formation des Psammites bioturbés' provides a first stratigraphic attribution (Middle to Upper Ordovician) of the oldest sediments in the Traras Mountains.

Keywords: Acritarchs, Tazekka Inlier, Tlemcen Inlier, Ordovician, Peri, Gondwanan

*Speaker
†Corresponding author: akodadmfpn@hotmail.fr