

## **DISTRIBUTION OF ALGAL PROTISTS IN THE LOWER SILURIAN FLUVIO-DELTAIC-MARINE SYSTEM OF SAUDI ARABIA**

LE HERISSE, A. CNRS, UMR 6538, Université de Bretagne Occidentale, Brest, France.

Palynoflora composed of acritarchs and other algal protists allied with the Chlorophyta, are among the most abundant components of organic residues of Lower Silurian of Saudi Arabia. They give us an indirect picture of the abundance and diversity of fresh-water and marine microbiotas in the Silurian Arabian sea. The complex Lower Silurian progradational sequence developed in the Qalibah Formation, which is an important hydrocarbon source rock, is particularly well suited for documenting the paleoecologic distribution of acritarchs and related forms, and to identify some species or morphological groups of great interest for interpreting the paleoenvironments. Extensive investigations carried out on subsurface material have shown from the base to the top of the Silurian series major changes in the composition and diversity of the assemblages : from marine to mixed palynoflora, and progressively dominated by fresh-water to continental palynomorphs. The variations are influenced by the regime of frequent terrestrial influx in the Lowermost Silurian Qusaiba Member and later by deltaic progradation characterizing the Sharawra Member of the Qalibah Formation. Correlations of assemblages from Qalibah Formation to equivalents in the Silurian sequences of the North Gondwanan margin and the Brazilian basins to the West are proposed.