8 Stromatolites and Thrombolites in Precambrian/Cambrian Boundary Beds of the Anti-Atlas, Morocco: Preliminary Results

M. SCHMITT and W. MONNINGER, Würzburg, W. Germany

8.1 Locality

The studied section comprising the "Adoudounien" and the Lower Cambrian "Série schisto-calcaire" crops out on the northern slope of the Anti-Atlas near Tiout, 25 km South of Taroudannt. The Anti-Atlas provided, mainly by the work of Choubert (e.g. Choubert, 1963), many contributions to the stratigraphy of the Precambrian/Cambrian boundary.

8.2 The Section

The uppermost 200 m of the "Calcaire inférieur" consist of dark gray dolostones with a few interbeds of dolomitic marls.

The overlying Série lie de vin has a thickness of nearly 1000 m and is divided into three sequences:
1. Lower sequence: predominance of reddish dolomitic marls, occasionally limestones and dolostones,
2. Middle sequence: predominance of limestones and dolostones, the interbeds are dolomitic marls,
3. Upper sequence: similar distribution of limestones and dolostones as in the Middle sequence, the interbeds consist of marlstones and partly of shales.

The Calcaire supérieur, with a total thickness of 300 m, consists mainly of dark and black limestones; dolostones and marls are very rare, strata with chert are abundant. The overlying Lower Cambrian "Série schisto-calcaire" is an alternating sequence of marly shales and black limestones containing trilobites and archeocyathids.

Age: according to Choubert et al. (1973), the Adoudoudien — especially the Série lie de vin — is counterpart of the tillites of the Taoudenni-Basin in West Africa. A radiometric age of 650–620 m.y. is proposed.

Plate 1/1a, b. (a) Thrombolitic bioherm of conical shape, Upper sequence of the Série lie de vin. (b) Slab cut from the top of the same bioherm showing a stromatolitic columnar arrangement with a weak lamination (scale in mm)
Plate 1/2, 3, 5. Relatively high-domed bioherms of stratiform thrombolites from the Middle sequence of the Série lie de vin (scale in cm)
Plate 1/4. Thrombolite from the same layer as shown in Plate 1/1a with thin incorporated tuffites (scale in cm)
Plate 1. Legend see opposite page