



Palynostratigraphy and miospore biodiversity dynamics across the Silurian-Devonian boundary in North Africa (Ghadamis Basin, southern Tunisia)

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Well preserved and diversified palynological assemblages throughout the Silurian-Devonian boundary have been documented from borehole MG-1 in the northern part of Ghadamis Basin, in southern Tunisia. The sequence studied consists of Early Devonian beds of the Tadrart Formation transgressing onto the Silurian beds of the upper part of the "Alternances Argilo-Gréseuses" Formation. Over 50 species of cryptospores and trilete spores have been identified. Trilete spores of simple morphology such as *Ambitisporites* spp. constitute the dominant component of the palynological spectrum in almost all the studied levels. In the lower part of the succession, trilete spores such as *Emphanisporites* spp., *Archaeozonotriletes chulus*, *Synorisporites verrucatus* and *Lophozonotriletes* sp. occur in association with a relatively well diversified cryptospore assemblage, consisting of *Tetrahedraletes medinensis*, *Dyadospora murusdensa/murusattenuata*, *Artemopyra brevicosta*, *Quadrisporites variabilis* and *Laevolancis divellomedium*. Going upward along the succession, the relative abundance of trilete spores increases relatively to cryptospore abundance: the taxa *Apicularetusispora spicula*, *Retusotriletes* spp., *Stellatispora multicostata* have been documented. The increase in trilete spore abundance is accompanied by an increase in diversity. The recognized miospore assemblages can be correlated with miospore zonal schemes defined in the type sequences of the Welsh Borderland (Great Britain) and those described in the literature from North Africa, and permit to assign the studied succession to the Ludlow (Ludfordian, late Silurian) – Lochkovian (Early

Devonian) stratigraphic interval. These results are discussed in terms of their importance relatively to the identification of the Silurian-Devonian boundary in the study area, and to their bearing on the analysis of patterns of colonization of terrestrial environments by the early land plants.