

Palynostratigraphy of the Triassic-Jurassic of the Silves Group, Lusitanian Basin, Portugal

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We studied the miospore assemblage from an Upper Triassic to Lower Jurassic succession of the Silves Group near Coimbra, Portugal. The latter consists of, from base to top, the Conraria, Penela, Castelo Viegas, and the Pereiros formations. The palynological assemblages allowed establishing an informal palynozonation and providing new biostratigraphic that helped constrain the age attribution to the Silves Group formations.

Accordingly, the main results of this study are the presence of a palynological assemblage referable to the *Classopollis meyerianus* - *Granuloperculatipollis rudis* (CG) palynozone that allowed to date the Norian, to possibly earliest Rhaetian, for the Conraria Formation at the base of the Silves Group. The palynological content of the Pereiros Formation, at the top of the Silves Group, allowed us to distinguish two informal palynozones: *Ischyosporites variegatus* - *Kraeuselisporites reissingeri* (IK), and *Pinuspollenites minimus* (Pm). The palynozones date the latter formation as upper Rhaetian to early Hettangian. Therefore, the Triassic-Jurassic Boundary should lie in the lower Pereiros Formation, within the *Ischyosporites variegatus* - *Kraeuselisporites reissingeri* (IK) palynozone. Lastly, the lack of palynological data from the Penela and Castelo Viegas formations, due to unsuitable lithologies, did not allow a palynostratigraphic revision for the entire Silves Group. However, their stratigraphic position is sandwiched between the underlying Conraria Formation (Norian-earliest Rhaetian?) and the overlying Pereiros Formation (uppermost Rhaetian to Hettangian age); thus, a Rhaetian age is the most likely. The presence of an hiatus between the underlying Castelo Viegas and the overlying Pereiros formations did not allow the identification of the lower boundary of the IK palynozone.

The microflora assemblages from the Lusitanian Basin recorded along the Late Triassic to Early Jurassic times might shed new light on future palaeogeographic and palaeoclimatic reconstructions of this sector of the Tethys realm. The close affinity of these assemblages with those of Western Europe and Tethys basins should suggest general homogenous climate conditions (warm and humid) caused both by intense monsoonal activity.