

CLASSOPOLLIS PALEOGEOGRAPHY IN BRAZILIAN SEDIMENTARY BASINS DURING CRETACEOUS TIME

REGALI, M.S.P.

Laboratory of Biostratigraphy, Department of Geology, Institute of Geosciences of UFRJ, Brazil.

Classopollis (Pflug) and other related pollen genera belong to the Cheirolepidiceae family and became extinct in the Late Cretaceous in all sedimentary Brazilian basins. The genus also occurs in sediments of the Upper Jurassic. In Brazil, the distribution of *Classopollis* is contained between the Equator and to just beyond the Tropic of Capricorn. The data for this study are derived from some inner and marginal basins (from Santos to Ceará basins). In the older sections of the Recôncavo-Tucano-Jatobá basins (Neo-Jurassic–Hauterivian), smooth forms with thick exine are more frequent than the striate forms. The recorded species are *Circulina meyeriana*, *Circulina parva* and *Classopollis torosus*, which are represented by 30 to 50% in frequency. At that time, the paleoenvironment was fluvial/lacustrine. During the Lower Barremian, the frequency of the species decreases attaining 2 to 3% in the Upper Barremian. Species with smooth exine disappear, but they are not completely extinct, whereas striate species remain. During the Lower Aptian, the striate species became numerous while smooth forms become rare. Striate species seem to prefer more saline environments, while smooth species prefer freshwater, in a fluvial/lacustrine environment. These same species are present, and have the same age ranges, in the Araripe, Potiguar and Sergipe-Alagoas basins. In the Upper Aptian, striate species, such as *Classopollis classoides*, largely increase in frequency to 70-90% and diversity in the amounts of equatorial striae. *Classopollis alexi* has from 10 to 12 equatorial striae and is abundant in the Araripe and Sergipe basins. It is less frequent in the Espírito Santo basin in Upper Albian strata. It occurs in the Bragança-Viseu and Sao Luís basins in the Neo-Aptian/Albian with a strong reduction in the Cenomanian. *Classopollis brasiliensis* occurs at the same time as *C. alexi* and is similar to it, but bigger and is not frequent. Between the Aptian and the Albian times, regular species such as *Circulina parva* and *C. minima* are rare. During the lower part of the Upper Albian, *Classopollis echinatus*, an echinate species, appears and disappears. Such pollen is a guide species for the *Classopollis echinatus* palynological Zone and is excellent for inter-basin correlations. This species occurs in the Bragança-Viseu and Sao Luís basins in fluvial sediments. It is also present from the Barreirinhas, Pará-Maranhão, Ceará, Potiguar, Sergipe and to the south of the Recôncavo basins, but in marine deposits, where is often associated with the dinocyst *Ovoidinium diversum*. Other species such as *C. classoides* and *C. alexi* occur in lower frequencies within the Upper Albian, and become strongly reduced in the middle to upper part of the Cenomanian. The last species of the genus, *Classopollis major*, appears in the Cenomanian and generally attains a frequency of between 20 and 30% of the assemblage. A frequency as high as 69% has been recorded in the Potiguar basin. This species appears and disappears in the Neo-Cenomanian. It has a very thin exine with many striae and with operculum absent. In the basins of the Equatorial margins as far as Sergipe, the *Classopollis* genus becomes extinct at the end of the Late Cenomanian. However, in the Bahia Sul basins as far south as the Santos Basin, the genus occurs from the Aptian to the Maastrichtian. Percentages vary from 50-70% between the Aptian and Albian, from 30-40% between the Cenomanian to Early Campanian, and 1-10% from the upper part of the Campanian until the Late Maastrichtian. As a conclusion, it can be seen that the quantitative distributions of *Classopollis* in Brazilian basins are similar to those described from Russia and that this genus tends to be more abundant in saline sediments associated with sabka conditions or formation of evaporites.