

Palynofacies in a Sequence Stratigraphy Context: An Example of Almada Basin, Brazil.

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The integration of palynostratigraphy and quantitative analyses of organic matter has greatly enhanced the understanding of the depositional paleoenvironment in a sequence stratigraphy context of the upper Aptian section from the Almada Basin, a rift which has evolved to a passive margin during the separation of South America and Africa.

Based on palynological data the section was subdivided into six biozones: *Dicheiropollis etruscus*, *Sergipea variverrucata*, *Exesipollenites tumulus*, *Dejaspollenites microfoveolatus*, *Cardioangulina elongata* and an informal interval with a poor palynological assemblage, of the early Barremian-early Albian age. Three hiatus were recognized in the section.

The studied section represents a proximal restricted marine depositional environment. Palynostratigraphy and quantitative analyses of organic matter results allowed the subdivision of this section in two major third order and nine fourth order sequences. The lower third order sequence comprises siliciclastic and evaporitic sediments, representing restricted environment. This sequence is characterized by the abundance in *Classopollis*, a pollen that indicates semi-arid to arid climatic conditions. The upper third order sequence comprises only siliciclastic sediments deposited in a less restricted marine environment. There is a dominance of the continental over marine palynomorphs in all studied section, nevertheless the upper sequence is characterized by higher relative proportion of marine palynomorphs. These features associated with the decrease of *Classopollis* indicate higher humidity conditions interpreted as a transgression over the lower third order sequence.