Palynostratigraphy and paleoenvironmental interpretation of the Dalichai Formation, at the Pol Dokhtar stratigraphic section, central Alborz

A. Dehbozorgi*[1], F. Hashemi Yazdi[2] and F. Sajjadi Hazaveh[3]

1-Dept., of Geology, Faculty of Science, Imam Khomeini International University, Ghazvin
2, 3- School of Geology, College of Science, University of Tehran, Tehran

* Dehbozorgi@SCI.ikiu.ac.ir

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Abstract

Diverse and well-preserved palynofloras dominated, by land-derived palynomorphs (miospores) in association with marine entities such as dinoflagellate cysts, scolecodonts, foraminiferal test linings, and acritarchs (*sensu lato*) occur in surface samples of the Dalichai Formation, at the Pol Dokhtar stratigraphic section, central Alborz. Stratigraphic distribution of the dinocysts at the Pol Dokhtar stratigraphic section lead to the introduction of three successive biozones i.e., *Cribroperidinium crispum* Total Range Biozone (late Bajocian), *Dichadogonyaulax sellwoodii* Interval Biozone (Bathonian to early Callovian), *Ctenididinium continuum* Interval Biozone (early to middle Callovian) and Subzone a (early to middle Bathonian). Furthermore, presence of such index late Bajocian species of dinoflagellate cysts as *Meiourogonyaulax valensii*, *Cribroperidinium crispum* in association with *Carpatodinium predae* (early to middle Bathonian) and *Ctenidodinium combazii* (Bathonian to early Callovian) suggests a Middle Jurassic (late Bajocian - Callovian) age for the host strata. Quantitative analysis of the palynological and palynofacies elements indicates low sedimentation rate in a relatively deep, low-oxygenated marine environment with decrease of the depth.

Keywords: palynomorph, palynostratigraphy, Dalichai Formation, Middle Jurassic, central Alborz