Upper Jurassic (Kimmeridgian)–Upper Cretaceous (Cenomanian) foraminifer assemblages within the sequence stratigraphic framework of subtidal to peritidal carbonate deposits controlled by a long-term lithospheric flexure (Western Taurides, Turkey)

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In the peritidal carbonate deposits of the Taurus carbonate platform, the boundaries of major second-order sequences consisting of several third-order sequences and numerous meter-scale cycles, coincide with important foraminiferal faunal extinctions, proliferations and changes. These boundaries, easily recognizable as distinct karst breccia levels in the field, correspond to the Kimmeridgian-Tithonian boundary, mid-Early Valanginian, mid-Early Aptian and mid-Cenomanian horizons. One of the foraminiferal faunal changes corresponds to the disappearance of some complex and large Textulariata (*Kurnubia plexus* including *Conicokurnubia, Neokilianina* and related forms) at the Kimmeridgian-Tithonian boundary. The overlying major second-order sequence, representing the Tithonian to lowermost Valanginian interval is characterized by the very rare occurrence of foraminifera which have probably been affected by the frequency of important sea level falls during this time interval. After the mid-Early Valanginian sea level fall foraminiferal fauna proliferated in the succeeding major second-order cycle, spanning the Early Valanginian–Early Aptian interval. This cycle is easily marked by the entry of several genera including *Montsalevia, Vercorsella, Campanellula* and *Voloshinoides*. Although they are not recorded from the western Taurides, orbitolinids sporadically invaded the peritidal domain in the eastern Taurides displaying their evolutionary trends for a short interval of time in the Early Aptian. A major crisis in the foraminiferal fauna occurred in the Aptian, coinciding with the mid-Early Aptian sea level fall. Several foraminiferal taxa including *Debarina, Vercorsella scarsellai, Voloshinoides murgensis* became extinct at this boundary. With the following sea level rise, the platform was again invaded, this time, by porcelaneous and agglutinated wall-bearing foraminifera belonging to miliolids, nezzazatids, cuneolines and chrysalidines typical for the recognition of the major second-order sequence deposited within the mid-Early Aptian–mid-Cenomanian interval.

Kimmeridigian–Cenomanian meter-scale cycles in the western Taurides consist mainly of four types. Subtidal cycles are distinguished as submerged subtidal and exposed subtidal cycles whereas peritidal cycles are recognized based on the presence of fenestrate limestones or tidal-flat laminites capping the cycle tops. When the distribution of dominant cycle types is documented their organization appears to follow in chronostratigraphic order within the Kimmeridgian–Cenomanian interval. Subtidal cycles occur dominantly in the Kimmeridgian–Tithonian, peritidal cycles in the Cretaceous. Peritidal cycles capped by laminites occur exclusively in the Upper Hauterivian–Cenomanian interval. The formation of such cycles could be explained by a long-term allocyclic, most probably a tectonic, event. A discrete flexure in the lithosphere should have caused the generation of peritidal cycles capped by stromatolites in the platform interior. Despite the long-term tectonic control on the structure of meter-scale cycles, vertical distribution of foraminiferal assemblages in the subtidal facies of cycles do not seem to have been controlled by any marked facies change.