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Evidence for Badenian marine transgression in Belgrade (Serbia)

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The only true marine depositional environment in the Serbian part of the Central Paratethys belongs to the Badenian stage. Belgrade is located on the southern rim of the Pannonian Basin (Marović et al, 2007). Badenian sediments in the Belgrade area are represented by four facies: Rakovica clastics, Tašmajdan limestones, Višnjica clays and Konjarnik schlier (Anđelković M., 1987; Anđelković, M.&Anđelković, J., 1997; Anđelković F. & Radivojević, 2018). Of these, clastics (conglomerates, sands and sandstones) and limestones (mostly subreefal) have the greatest extent and palaeogeographic significance.

The onset of transgression is well-marked by the occurrence of typical basal conglomerates at several locations in the city area, especially at Kalemegdan fortress and Rakovica stream. These conglomerates contain rich marine mollusc fauna, belonging to the *Ostrea* order, which are not found in the underlying bedrock. The transgression is further represented by a thick layer of sands and sandstones, showing a near-shore environment. This sandy level is overlain by subreefal limestones of "Leitha type", which indicate a slightly deeper depositional environment.

All of these palaeogeographical changes were enabled by the general connection between the Central Paratethys and the Mediterranean, which definitely existed during the early and middle Badenian (Rögl, 1999).

The overlying Sarmatian sediments, on the other hand, are represented by mostly brackish depositional environment (Anđelković M., 1987), except in its lowest part. The severing of connections with the Mediterranean is the cause for the partial isolation and fall of salinity (Rögl, 1999).

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