

# Tracking the Breistroffer interval (OAE1d) and the Albian/Cenomanian boundary events in Hungary: preliminary report on characterization and paleoenvironmental implications [844]

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The Cretaceous sedimentary system of Hungary was highly influenced by the Alpine orogenic movements. Three main sedimentary cycles can be observed on the surface and are also recorded by several boreholes in the Transdanubian Range (Jásd-42 and Jásd-36) and the Villány-Bihar Unit (Bóly-1 and Nagybaracska-28). The mid-Cretaceous sequence of Albian to early Cenomanian age consists of limestones and marl-siltstone complexes but originated from different paleogeographic units (Haas & Császár, 1997). Borehole sections of the European-originated but now southern Villány-Bihar Units contains turbidite intercalations while the Northern Calcareous Alpine-originated Transdanubian Range borehole sediments are purely deep-water dark-grey marls with sandstone intercalations and glauconitic intervals. Both successions contain an abundant in macro- and microfauna which have been fully investigated (Bodrogi, 1989; Bujtor, 1989; Horváth, 1985, 1989; Szives *et al.*, 2007).

All of the sediments are characterized by the high abundance of ammonoids and foraminiferids. The ammonoid assemblage shows a significantly high percentage of torticone ammonites in the Jásd-42 borehole that are concentrated in certain levels. These torticone levels probably indicate significant environmental changes. The main torticone level is just above the

*Planomalina buxtorfi* Subzone, which is almost synchronous with the torticone level of the Blieux section of the Vocontian Basin, SE France (Giraud *et al.*, 2003; Reboulet *et al.*, 2005). The sediments and the faunal and floral assemblages of the Blieux section are seems very similar to those reported here.

Age data are slightly contradictory, ammonites and palynomorphs indicates the late Albian *S. dispar* Zone (Szives *et al.*, 2007) while the planktic foraminiferal assemblage records the Late Albian and Early Cenomanian *R. appeninica* to *R. globotruncanoides* Zones (Bodrogi, 1989). The four boreholes mentioned above should contain the anoxic Breistroffer interval (OAE1d) on the basis of the revised ammonoid and foraminiferid, as well as the older nannofossil and palynomorph studies. However, due to the extended thickness of the borehole sediments, the characteristic broad, four-peaked Albian/ Cenomanian boundary  $\delta^{13}\text{C}$  isotopic excursion event is supposedly also detectable: isotopic studies of borehole samples are on-going.

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