

Introduction

One of the most important peaks of diversity in the history of the Triassic ammonoids is recorded in the Late Anisian (TOZER 1981, BRAYARD et al. 2009) and this diversity bloom is especially remarkable in the Alpine–Mediterranean region (VÖRÖS 2014). It was obviously not by pure chance that the Anisian/Ladinian boundary was aimed to be drawn within this stratigraphical interval of the extremely rich ammonoid faunas, and that it was attempted powerfully from the time of MOJSISOVICS (1882) and BITTNER (1892) to the recent (BRACK et al. 2003, MIETTO et al. 2003a, VÖRÖS et al. 2003b).

The continuous international attention forced us to increase our efforts to collect more and more ammonoids from measured sections of the Balaton Highland what has been a key region of Middle Triassic ammonoid stratigraphy since the time of BÖCKH (1872, 1873a, 1874) and MOJSISOVICS (1882). The first extensive excavations and voluminous collections, conducted by our late colleague Imre SZABÓ in the 1960's, resulted in a mass of ammonoids but without strict stratigraphical dating. From the 1980's the Geological Institute of Hungary performed a detailed geological mapping of the Balaton Highland (BUDAI et al. 1999) and some adjoining parts of the Southern and Eastern Bakony Mts (BUDAI et al. 2001a, b). This activity was accompanied by systematic, bed-by-bed collection of fossils all over this wider area.

In the last decades of the last century, dozens of artificial trenches were excavated on the vegetation- and soil-covered hillsides and plateaus of that area, and bed-by-bed collection of fossils was made by well-trained teams, involving palaeontologists. Great amount of new stratigraphical data from the Balaton Highland appeared in important contributions on the Lower Triassic (BROGLIO LORIGA et al. 1990) and in a monograph with re-definition of the Pelsonian Substage (VÖRÖS et al. 2003a). As the result of geological mapping and detailed stratigraphic logs in sections we outlined the Triassic palaeogeography and evolution of the Balaton Highland (BUDAI & VÖRÖS 1992, 1993, 2007; BUDAI & HAAS 1997; HAAS & BUDAI 1995; VÖRÖS et al. 1997). The palaeoecological, and palaeobiogeographical aspects of the diverse ammonoid fauna were also published (VÖRÖS 1992, 1996, 2001, 2002) and some general aspects of extinctions and diversity changes of the Triassic Ammonoidea were also discussed (VÖRÖS 2010b, 2014), always with regard to the Balaton Highland fauna.

However, the centre of attention remained at the ammonoids of the Upper Anisian formations, including the “*Trachyceras Reitzi* horizon” whose stratigraphical importance and curious ammonoids have been famous since the magnificent pioneering works by BÖCKH (1873a) and MOJSISOVICS (1882). The last decades saw the “Quest for the Golden Spike”, intended to designate the GSSP (Global Stratotype Section and Point) of the Ladinian Stage. Due to the traditions and the excellent new results at the Balaton Highland, we believed our region (namely the Felsőörs section) as a strong candidate for the Ladinian GSSP. In spite of our best efforts (SZABÓ et al. 1980; VÖRÖS & PÁLFI 1989; KOVÁCS et al. 1990; VÖRÖS 1993, 1995; VÖRÖS et al. 1996, 2003b; MÁRTON et al. 1998; PÁLFI et al. 2003), after repeated international ballots, the GSSP of the Ladinian Stage was defined elsewhere. Nevertheless, the two decades resurgence in the fieldwork and in the labs resulted in thousands of ammonoid specimens collected from well-dated Triassic sections of the Balaton Highland. The especially diverse Anisian and Ladinian ammonoid faunas were illustrated in a comprehensive volume (VÖRÖS 1998) published in Hungarian language. The detailed and illustrated monographic description of the Middle Anisian (Pelsonian) fauna was published soon after (VÖRÖS 2003). Due to its very high diversity, classical reputation and prime importance in stratigraphy, the Upper Anisian ammonoid fauna of the Balaton Highland, with the focus on faunas of the “*Trachyceras Reitzi* horizon”, was considered a highly valuable subject which deserves a full palaeontological documentation. The present volume is dedicated to the systematic description of this extremely diverse fauna. The systematic description is accompanied with an introduction to the Middle Triassic stratigraphy of the area, and short discussions and evaluations of diverse aspects of the ammonoid fauna.