A global review of the Serpukhovian ammonoid biostratigraphy

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with 7 figures and 1 table

Abstract. The stratigraphical range and the boundaries of the Serpukhovian (or lower Namurian) ammonoid Eumorphoceras Zone are reviewed, and the ammonoids indicating this interval are documented by their global distribution and biostratigraphy. The number of related genera and species increased at the beginning of the Serpukhovian stage, but showed a gradual decline in diversity until the Mid-Carboniferous boundary. The starting point of the Serpukhovian stage can not yet be correlated worldwide with certainty, but the basic layers of the related sections seem to be stratigraphically very close. The next higher Bashkirian stage is marked by the first occurrence of the ammonoid genus Isohomoceras. Aspects resulting from global comparisons of the Serpukhovian ammonoid faunas are discussed.

1 Introduction

Serpukhovian ammonoid biostratigraphy has been the subject of discussion for more than four decades. The best-studied sections of the stage (Fig. 1) are situated in Western and Central Europe, while the richest faunas are recorded from North America, the South Urals, Central Asia and China.

Several major biogeographical realms seem to have existed during the Serpukhovian. KORN et al. (1999) recognized four realms based on ammonoid genera: the Subvariscan realm (West and Central Europe), the Kazakhian realm (South Urals, Central Asia and China).