Hlásná Třebaň section, Czech Republic: A proposed global stratotype for the base of the Aeronian Stage

Petr Storch*[1], Štěpán Manda , Anthony Butcher , Jakub Vodička , Jiří Frýda , Zuzana Tasáryová , Leona Chadimova , and Michael J. Melchin

[1]Institute of Geology of the Czech Academy of Sciences, Rozvojová 269, 165 00, Praha 6 – Czech Republic

Abstract

The Hlásná Třebaň section, approximately 17 km southwest of Prague fulfils all formal requirements for stratotype of a chronostratigraphic unit, and should be considered as a candidate for the new Global Stratotype Section and Point (GSSP) of the Aeronian Stage (Llandovery Series, Silurian System). The structurally simple section is somewhat condensed but there is a uniform succession of black shale without any evidence of disconformity in the broad Rhuddanian/Aeronian boundary interval. An abundant, well-preserved, diverse graptolite fauna occurs through the section and allows precise correlation with other parts of the world. The section comprises the lower–middle Aeronian (*Dem. triangulatus–Lituigraptus convolutus* graptolite biozones) along with underlying Rhuddanian (*Akidograptus ascensus–Coronograptus cyphus* biozones) and Hirnantian strata. The lowest occurrence of the graptolite *Demirastrites triangulatus*, 1.38 m above the base of anoxic black shale succession of the Želkovice Formation is proposed to mark the base of the Aeronian Stage. Several graptolite genera of primary importance in global correlation (*Demirastrites*, *Petalolithus*, *Rastrites* and *Campograptus*) first appear in the lower part of the *triangulatus* Biozone. A chitinozoan assemblage indicating the *Spinachitina maennili* Biozone, spans the boundary interval. The C*org* isotope record exhibits a minor positive excursion just above the base of the *triangulatus* Biozone, whereas TOC and N isotope and elemental geochemical records provide evidence for uninterrupted sedimentation under stable, anoxic conditions.

Keywords: biostratigraphy, chronostratigraphy, geochemistry, graptolites, GSSP proposal, Silurian

*Speaker