



Ammonites from hydrocarbon seep carbonate bodies from the uppermost Jurassic – lowermost Cretaceous of Spitsbergen and their biostratigraphical importance

Andrzej Wierzbowski, Krzysztof Hryniewicz, Øyvind Hammer, Hans Arne Nakrem and Crispin T.S. Little

With 9 figures

WIERZBOWSKI, A., HRYNIEWICZ, K., HAMMER, Ø., NAKREM, H.A. & LITTLE, C.T.S. (2011): Ammonites from hydrocarbon seep carbonate bodies from the uppermost Jurassic – lowermost Cretaceous of Spitsbergen and their biostratigraphical importance. – N. Jb. Geol. Paläont. Abh., **262**: 267–288; Stuttgart.

Abstract: A collection of 55 well preserved ammonite specimens from hydrocarbon seep carbonate bodies from the Slotsmøya Member, Agardhfjellet Formation, in the Sassenfjorden area, Spitsbergen, is described and used as a basis for a chronostratigraphical interpretation of the seep deposits. The ammonites enable us to give a detailed biostratigraphical framework for the carbonates, showing that they range through the Upper Volgian Substage (Okensis Zone), and the Upper Ryazanian (the Analogus, Tzikwinianus and Tolli zones). The stratigraphical interval from the topmost part of the Upper Volgian (Taimyrensis Zone) to Lower Ryazanian (Kochi Zone) is very poorly represented. This absence may correspond to non deposition at the time or erosion by tsunami waves from the Mjølnir meteorite impact. The ammonites described include several genera and species that have not previously been reported from Spitsbergen, and provide new constraints on the timing of hydrocarbon seepage through the latest Jurassic – earliest Cretaceous time interval in Spitsbergen.

Key words: Ammonites, Craspeditinae, Tollinae, biostratigraphy, Volgian, Ryazanian, Spitsbergen, hydrocarbon seeps, Boreal Realm.

We are not allowed to give open access to this publication.
Contact me for a copy: h.a.nakrem@nhm.uio.no