

Hyoliths and small shelly fossils from the Lower Cambrian of North-East Greenland

John M. Malinky and Christian B. Skovsted Acta Palaeontologica Polonica 49 (4), 2004: 551-578

The hyolith assemblage from the Lower Cambrian Bastion Formation of North-East Greenland is significant in that it contains several hyolith taxa that possess traits of both orders Hyolithida and Orthothecida. They possess morphological traits that seem to be characteristic of the ancestral forms of both groups. In addition, many hyolith taxa from this interval are globally distributed, supporting the notion that these fossils have potential as stratigraphic indicators. This assemblage contains genera and/or species seen in Australia, North America, the Siberian Platform, and South China. Hyoliths identified include the hyolithids Parkula bounites, Hyptiotheca karraculum, Microcornus eximius, M. petilus, Paracornus poulseni gen. et sp. nov., as well as Similotheca similis?, S. bastionensis sp. nov., and S. groenlandica sp. nov.; two opercula remain in open nomenclature. Orthothecids from this assemblage are one unnamed species each of Contitheca and Gracilitheca. Large, macro-sized hyoliths from the same formation described by Poulsen (1932) are mostly unidentifiable, although an operculum formerly identified as Hyolithes (Orthotheca) communis is reassigned to Hyptiotheca. Problematic organisms of uncertain affinity include Cupitheca holocyclata , Conotheca australiensis, an unnamed species of Coleolus, and the cap-shaped Cassitella baculata gen. et sp. nov. that may be an operculum of some as yet unknown organism. Missarzhevsky (1969) used Hyolithes (Orthotheca) bayonet var. groelandicus and H. (O.) bayonet var. longus as the basis for *Lenatheca*, but the specimens on which that genus is based are too poorly known for a proper diagnosis of Lenatheca.

Key words: Hyolitha, Hyolithida, Orthothecida, Botomian, Lower Cambrian, Bastion Formation, Greenland.

John M. Malinky [jmalinky@myrealbox.com], Geologisch–Paläontologishes Institut, Ruprecht–Karls Universität, Im Neuenheimer Feld, 234, D–69120, Heidelberg, Germany; Christian B. Skovsted [christian.skovsted@geo.uu.se], Uppsala University, Department of Earth Science, Program for Palaeobiology, Norbyvägen 22, SE–752 36 Uppsala, Sweden. This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see <u>creativecommons.org</u>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

