

Chaetognath grasping spines from the Upper Mississippian of Arkansas (USA)

Larisa A. Doguzhaeva, Harry Mutvei, and Royal H. Mapes

Acta Palaeontologica Polonica 47 (3), 2002: 421-430

Previously unidentified tiny (about 0.5 mm in length), hollow, gently curved, serrated spines probably originally composed of horny, organic fibers from the Upper Mississippian (Middle Chesterian = Namurian A equivalent or lower Serpukhovian) of Arkansas (USA) are described, and their probable chaetognath affinities are discussed. The specimens are preserved in an oval accumulation (about 15 mm long and 6 mm wide) of approximately 200 specimens within a small (about 25 mm in length) phosphatic concretion. For comparison, the grasping spines of the Recent chaetognath *Eukrohnia hamata* were examined. The Arkansas specimens are named *Eoserratosagitta serrata* gen. et sp. nov., and this genus is assigned to the Phylum Chaetognatha. The Upper Mississippian spines are also compared with protoconodonts. This comparison supports the hypothesis that the chaetognaths may have existed in the Cambrian.

Key words: Chaetognatha, organic spines, protoconodonts, phosphatized fossils, Mississippian.

Larisa A. Doguzhaeva, [planetbond@mail.ru], Paleontological Institute of the Russian Academy of Sciences, Moscow, 123868, Russia; Harry Mutvei [harry.mutvei@nrm.se], Department of Palaeozoology, Swedish Museum of Natural History, SE-104 05, Stockholm, Sweden; Royal H. Mapes [mapes@ohiou.edu], Department of Geological Sciences, Ohio University, Athens 54701, USA.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

