



***Ammonicrinus bulbosus* sp. n. (col.) (Crinoidea, Flexibilia) from the Lower Devonian Koněprusy Limestone, Barrandian area (Czech Republic)**

Rudolf J. Prokop

Department of Palaeotology, National Museum, Václavské náměstí 68, CZ-115 79 Praha 1, Czech Republic; e-mail: rudolf.prokop@nm.cz.

ABSTRACT. Washings from the weathered Lower Devonian (Pragian) Koněprusy Limestone from the locality VLČS West quarry near Koněprusy yielded eight isolated columnals of a new species from the crinoid genus *Ammonicrinus* Springer, 1926. This species, which represents the stratigraphically oldest record of the genus *Ammonicrinus*, is described herein as *A. bulbosus* sp. n.

KEY-WORDS. Crinoidea, Flexibilia, *Ammonicrinus*, columnals, systematics, Lower Devonian, Pragian, Koněprusy Limestone, Barrandian area, Czech Republic

INTRODUCTION

During the systematic research of the Lower Devonian reef complex near Koněprusy, Czech Republic, carried out in the past two years, isolated columnals of the unique crinoid genus *Ammonicrinus* were found in the washings from the Koněprusy Limestone. These columnals represents a new species described here as *Ammonicrinus bulbosus* sp. n. (col.). In addition, it is a first find of the skeletal remains of *Ammonicrinus* in the Lower Devonian Pragian strata. Until now, the representatives of the genus *Ammonicrinus* were known only from the Upper Emsian and Middle Devonian layers of France, Germany, Poland and northern Spain (see e.g. Springer 1926, Krause 1927, Wolburg 1937, Ubaghs 1952, Kongiel 1958, Moore 1978, Le Menn & Jaouen 2003, Hauser 2005, Hauser & Savill 2008).

SYSTEMATIC PART

Subclass Flexibilia Zittel, 1895

Order Taxocrinida Springer, 1913

Family Calycocrinidae Moore et Strimple, 1973

***Ammonicrinus* Springer, 1926**

TYPE SPECIES: *Ammonicrinus wanneri* Springer, 1926. Middle Devonian, Eifel, Germany.

GEOGRAPHICAL DISTRIBUTION: Poland (Holy Cross Mountains), Germany (Sauerland and Eifel Hills), northern Spain (Cantabrian Mountains), France (Massif Armoricain), and Czech Republic (Barrandian area).

STRATIGRAPHICAL DISTRIBUTION: Lower Devonian (Pragian) to Middle Devonian (Upper Givetian).

***Ammonicrinus bulbosus* sp. n. (col.)**

HOLOTYPE: NM L40530, isolated columnal from the proximal part of stem, figured here on fig. 2A.

TYPE HORIZON: Lower Devonian, Pragian, Koněprusy Limestone.

TYPE LOCALITY: Koněprusy, “Zlatý kůň” hill, VLČS West quarry, the north wall of five bench.

DERIVATIO NOMINIS: From Latin *bulbosus* (bulbous), after bulbous protrusions on the dorsal surface of columnals.

MATERIAL: Besides holotype seven isolated columnals from washings of the weathered parts of Koněprusy limestones.

DESCRIPTION: Massive columnals, crescentic in outline, with nearly smooth surface of crenularium and long, solid lateral processes projecting from the horns of columnals and tapering to the points. Crenularium oval, narrow, with minute subcircular lumen, located centrally. Both external and internal muscular fossae are shallow and indistinct, similarly as the low rounded fulcrum. Dorsal surface of columnals conspicuous, bearing the numerous bulbous protrusions.

REMARKS: *Ammonicrinus bulbosus* sp. n. (col.) is a rare, but typical species for the paleo-community of sparitic bioclastic Koněprusy Limestones of the Pragian age, which represents both the coarse detrital reef flank and also, rarely, the organodetrital deposits sedimented by currents in the central part of the Koněprusy reef complex.

The new species differs from the other known ones in having long lateral processes and a bulbous-grained dorsal surface. Its columnals are as massive as the columnals of type-species *A. wanneri* Springer, 1926, but it differs from the latter species by in having vertical diameter narrower, as in the species *A. doliiformis* Wolburg, 1937. Only *A. sulcatus* Kongiel, 1958 (col.) from the Middle Devonian of Poland is similar to *A. bulbosus* sp. n. (col.), but the Polish species has a fine-grained dorsal surface of columnals and conspicuously shorter lateral processes.

OCCURENCE: *Ammonicrinus bulbosus* sp.n.. (col.) is known only from the type strata at the type locality, i.e. VLČS West quarry.

DIMENSIONS: See Tab. 1.

ACKNOWLEDGEMENTS

I am indebted to Vojtěch Turek for photos and to Martin Valent (National Museum) for technical help. The study was carried out within the framework of the contract between the Palaeontological Department of the National Museum and Management of the Čertovy schody Quarries (VLČS) (project MKOCEZ99FO201) and within the framework of grant No. DE06PO4OMG 009 of the Ministry of Culture, Czech Republic.

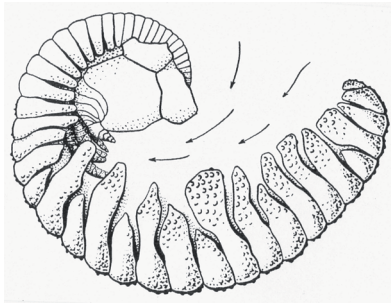


Fig. 1. *Ammoniacrinus wanneri* Springer, 1926 in living position. Left side view. After Ubaghs (1952).

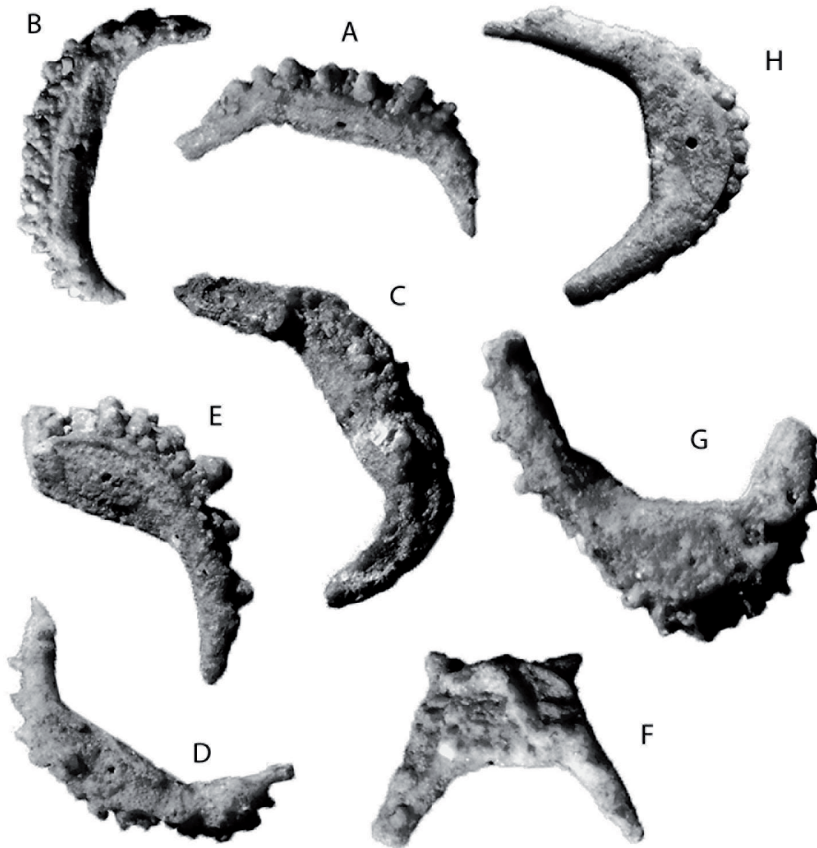


Fig. 2. *Ammoniacrinus bulbosus* sp. n. (col): Isolated columnals probably from the proximal (A-E) and distal (F-H) parts of the stem. Lower Devonian, Pragian, Koněprusy Limestone. Koněprusy, VLČS West quarry, north wall of the fifth bench. Magnification 7×. A – NMP L 40530 (holotype), B – NMP L 40525, C – NMP L 40527, D – NMP L 40529, E – NMP L 40526, F – NMP L 40524, G – NMP L 40523, H – NMP L 40528. All specimens are deposited in the collections of the Palaeontological Department of the National Museum in Prague, Czech Republic (abbrev. NMP), catalogue L. Photographs by V. Turek and R. J. Prokop.

Tab. 1. Dimensions of columnals [in mm] of the holotype (L 40530) and paratypes of *Ammonicrinus bulbosus* sp. n. (col). A – distance between lateral processes, B – width of crenularium, C – Maximum height of columnals. * marks approximate values.

	L 40523	L 40524	L 40525	L 40526	L 40527	L 40528	L 40529	L 40530
A	6.9*	5.2	5.8	7.2*	7.2	5.6	6.8	6.4
B	4.0	2.5	1.7	2.6	1.8	2.0	1.6	1.6
C	2.6	1.8	1.2	1.4	1.8	1.0	1.0	1.2

REFERENCES

- Hauser J., 2005: *Ammonicrinus* (Crinoidea, Flexibilia) aus dem Paläozoikum von Deutschland (Eifel, Sauerland) und dem Heilig-Kreuz-Gebirge (Polen). – Bonn 52 pp.
- Hauser J. & Savill J., 2008: *Ammonicrinus wanneri* Springer, 1926 (Crinoidea, Flexibilia) from the Portilla Formation, Givetian (Cantabrian Mountains, Province Leon, Northern Spain). – In: Crinoiden des Devon – URL: <http://www.devon-crinoiden.de/ammonicrinusportilla.pdf>
- Kongiel R., 1958: Nowy gatunek *Ammonicrinus* i jego występowanie w Polsce [New genus *Ammonicrinus* and its occurrence in Poland]. – Prace Museum Ziemi Instytutu Geologicznego 2: 31-40. [In Polish.]
- Krause P.G., 1927: Über *Ammonicrinus* aus den Mitteldevon der Eifel. – Zeitschrift der Deutschen Geologischen Gesellschaft 79: 448-456.
- Le Menn J. & Jaouen P.A., 2003: Nouvelles espèces d'*Ancyrocrinus* et d'*Ammonicrinus*, crinoïdes à pédouncule spécialisé du Devonien armoricain (Brest, France). – Comptes Rendus Palevol 2: 205-212.
- Moore R.C., 1978: Flexibilia. – In: Moore R.C. & Teichert C. (eds.): Treatise on invertebrate paleontology. Part T. Echinodermata 2, Vol. 2: T759-T812. Boulder, CO: Geological Society of America, & Lawrence, KS: Kansas University Press.
- Springer F., 1926: Unusual forms of fossil crinoids. – Proceedings of the United States National Museum 67(9): 1-137.
- Ubaghs G., 1952: *Ammonicrinus* Springer. Crinoidea Flexibilia du Dévonien moyen d'Allemagne. – Senckenbergiana 33: 203-226.
- Wolburg J., 1937: Bau und Biologie von *Ammonicrinus doliiformis* n. sp. – Jahrbuch der Preussischen Geologischen Landesanstalt 58: 230-241.

Erratum

The paper by R.J. Prokop & R. Slámová published in the Journal of the National Museum, Natural History Series 177/2008-2009 (pp. 37-47) includes two unfortunate errors: (1) The date of publication is 15 January 2009, not 2008 as printed. Accordingly, the copyright year should read 2009, not 2008. (2) Figure 2 (p. 40) shows *Bystrowcrinus vitiosus*, while Fig. 3 (p. 42) shows *Dimerocrinites lemenni*. In addition, the inventory number of the holotype of *Dimerocrinites lemenni* is NMP L 26545, not NMP L 256545 (p. 46). – Editor.