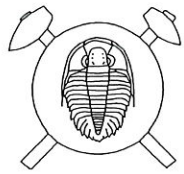
Kuzbassocrinus cf. *bystrowi* Yeltyschewa, 1957 (Crinoidea, col.) from the Lower Devonian Koněprusy Limestone of the Barrandian area (Czech Republic)



Kuzbassocrinus cf. *bystrowi* Yeltyschewa, 1957 (Crinoidea, col.) z koněpruských vápenců spodního devonu Barrandienu (Czech summary)

(1 plate)

RUDOLF J. PROKOP - VÁCLAV PETR

Department of Palaeontology, National Museum, 115 79 Praha 1, Czech Republic
Faculty of Science, Charles University, Viničná 7, 128 44 Praha 2, Czech Republic

In the Koněprusy Limestone (Pragian) of the quarries at "Zlatý kůň" hill near Koněprusy, pluricolumnals of the crinoid genus *Kuzbassocrinus* Yeltyschewa, 1957 have been found. Characteristic columnals of this artificial genus were already described from the Early and Middle Devonian of Russia, Kazakhstan and Poland. Reports from France and Germany are supposed to be questionable by the present authors.

Key words: Crinoidea, columnals, *Kuzbassocrinus*, Lower Devonian, Koněprusy Limestone, Barrandian area

Introduction

During the rescue research of the Devonian of the Koněprusy area also the Čertovy schody-West pit has been investigated. In weathered parts of the Koněprusy Limestone exposed at the northern wall of the 5. etage of the quarry a very rich fauna has been discovered. Isolated skeletal elements of echinoderms are most frequent, especially remains of crinoid calyx plates, brachials, columnals and pluricolumnals of the "natural" genera *Trybliocrinus, Perunocrinus, Hexacrinites, Lecanocrinus, Tiaracrinus, Eohalysiocrinus,* and *Pisocrinus*, including many other genera of the artificial classification of Moore et Jeffords (1968). Also morphologically characteristic and interesting pluricolumnals of the genus *Kuzbassocrinus* Yeltyschewa, 1957 have been found, previously unknown from the Czech Republic. This artificial genus was based on pluricolumnals described by Yeltyschewa from Lower Devonian rocks of the south-west margin of the Kuzbass Basin. The genus is represented by several artificial species coming from the Lower and Middle Devonian of Russia (its European as well as Asian portion), Kazakhstan and Poland. A morphologically very similar "biological" crinoid is the inadunate genus *Proctothylacocrinus* Kier, 1952 from the Middle Devonian of Ohio and of the New York state, U.S.A. (Kier 1952, Kesling 1965, 1968). Both the genera seem to be at least physiologically and ecologically related but they are not identical, and nothing is known about their phylogenetical relations (see also remarks below). The genus *Kuzbassocrinus* is classified herein within the Family Proctothylacocrinidae Kier, 1952 (according to the system of Moore et Jeffords 1968). The Family Decacrinidae Yeltyschewa, 1957 and Kuzbassocrinidae Stukalina, 1975 are supposed herein as synonymous.

Systematic part

Subclass Inadunata Wachsmuth et Springer, 1885
Order Cladida Moore et Laudon, 1943
Suborder Dendrocrinina Bather, 1899
Family Proctothylacocrinidae Kier, 1952
Kuzbassocrinus Yeltyschewa, 1957 (col.)

Type species: *Kuzbassocrinus bystrowi* Yeltyschewa, 1957, (col.), Lower Devonian, Kuzbass, Russia.

Remarks: Pluricolumnals of the artificial genus *Kuzbassocrinus* Yeltyschewa, 1957 differ from similar pluricolumnals of the "biological" genus *Proctothylacocrinus* Kier, 1952 in having a tiny, pentagonal lumen, and in that the particular petals of the areola are drop-shaped, expanded toward the lateral margin of the stem, with rounded distal end. On the contrary, the stem of *Proctothylacocrinus* bears wide, circular lumen and lancet-shaped petals with pointed distal ends.

Kuzbassocrinus cf. *bystrowi* Yeltyschewa, 1957 (col.)

Pl. I, figs 1-6

Material: 6 isolated pluricolumnals from the weathered parts of the Koněprusy Limestone, Pragian, Lower Devonian.

Description: Stem heteromorph, cyclic, subcircular in cross section. Nodals and internodals alternate regularly, internodals forming about 2/3 of the height of nodals. Symplectial articulation, lumen very small, pentagonal, areola petaloid, petals very long, bifurcated into 10 drop-shaped branches. The rounded distal ends of petals touch the lateral margin of the stem. Crenellae surrounding the petals distinct, short, simple. While nodals bear slender, flat epifacet, so that

their articular facets are circular and lateral walls straight, cylindrical, the internodals are low, star-shaped, with no epifacet, formed only of the bifurcated petals. The spaces between their distal ends represent 10 longitudinal rows of regular orifices in the lateral wall of the stem (see Pl. I, figs 3, 6)

Remarks: The Czech representatives of the genus *Kuzbassocrinus* are restricted as *Kuzbassocrinus* cf. *bystrowi* Yeltyschewa, 1957, especially because the present authors did not study the original comparative material and because the description and illustrations of the type-material in Yeltyschewa (1957) are not very comprehensive or unambiguous. Fragments of stems from the Koněprusy Limestone (Pragian, Barrandian area) seem to be, however, almost identical with those of the species *Kuzbassocrinus bystrowi* Yeltyschewa, 1957, described and illustrated by Dubatolowa (1964, p. 53, Pl. VI, fig. 7, Pl. VII, figs 2, 3a, 3b). The latter pluricolumnals come from Nizhnii Krekov Formation (Pragian), exposed in the quarries near Gurjevsko, which represents the typical region on the south-west margin of the Kuzbass Basin.

Dimensions (inmm.):	L 31826	L 31827	L 31828	L 31829
height of the pluricolumnal	15.0	10.0	3.0	2.0
width of the pluricolumnal	7.0	6.0	9.2	4.8

Occurrence in the Czech Republic: only in the type stratum and type locality.

Acknowledgements: We thank Dr. Radvan Horný, for the photographs presented herein on Pl. I, and for his most valuable comments on the manuscript.

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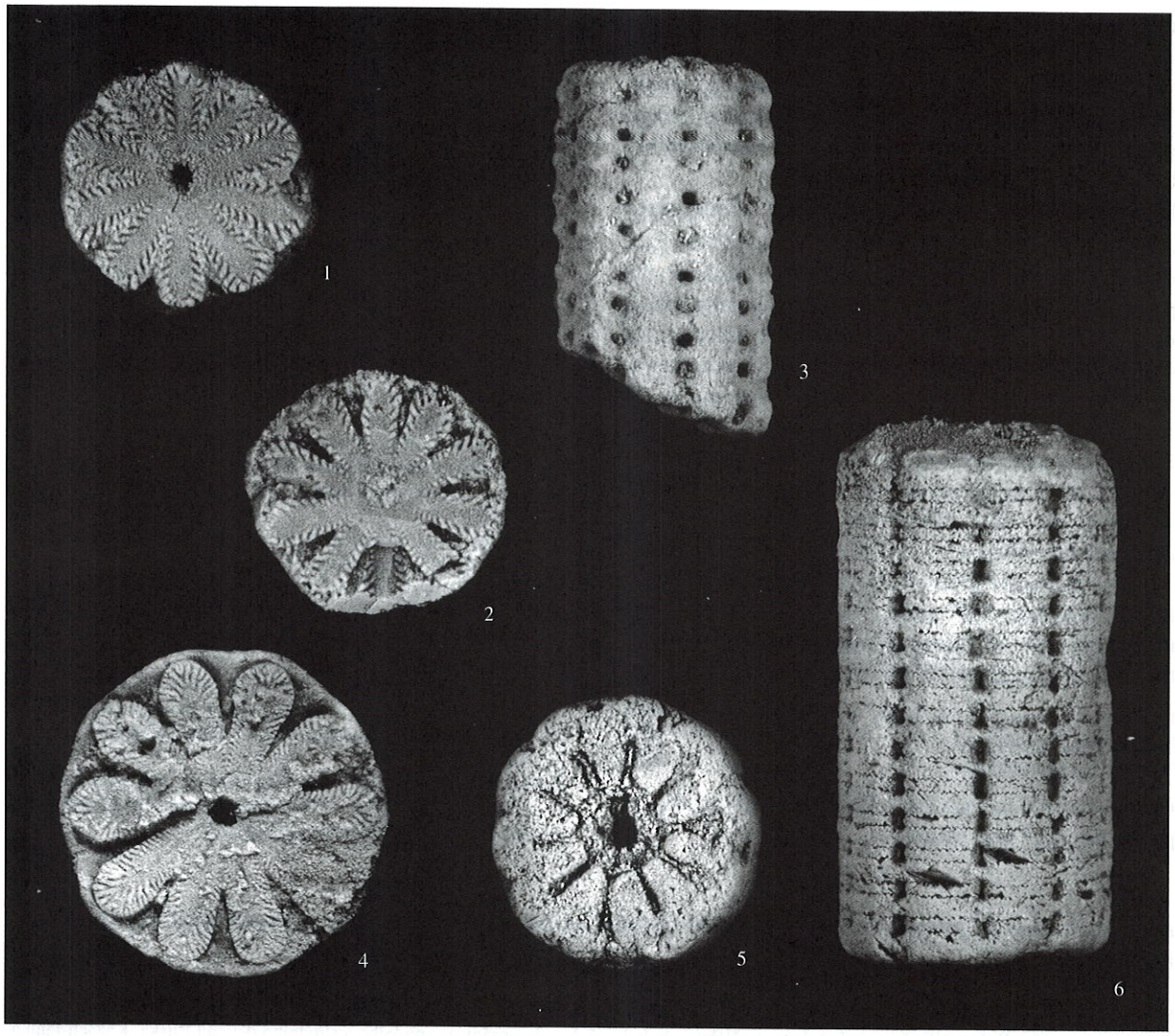
Kuzbassocrinus cf. *ystrowi* Yeltyschewa, 1957 (Crinoidea, col.) z koněpruských vápenců spodního devonu Barrandienu

V koněpruských vápencích pragu v lomech na „Zlatém koni" u Koněprus byly nalezeny plurikolumnálie krinoidů rodu *Kuzbassocrinus* Yeltyschewa, 1957. Kolumnálie řazené do tohoto umělého rodu byly až dosud popsány ze spodního a středního devonu Ruska, Kazachstánu a Polska. Nálezy z Francie a Německa jsou problematické. Kalich ani ramena nejsou u rodu *Kuzbassocrinus* známy, ale soudě podle morfologie stonků, z přirozených, „biologických" rodů je mu nejbližší inadunátní *Proctothylacocrinus* Kier, 1952 ze středního devonu USA. Oba rody však nejsou totožné; kolumnálie krinoidů rodu *Proctothylacocrinus* mají široký kruhovitý lumen a petaly artikulačních ploch lancetovitého tvaru se zašpičatělým distálním vrcholem. *Kuzbassocrinus* má stonek s úzkým, pentagonálním lumenem a petaly artikulačních ploch, které se k obvodu kolumnálie kapkovitě rozšiřují až k obloukovitému distálnímu vrcholu.



R. J. Prokop - V. Petr: *Kuzbassocrinus* cf. *bystrowi* Yeltyschewa, 1957 (Crinoidea, col.) from the Lower Devonian Koněprusy Limestone of the Barrandian area (Pl. I)

1-6: *Kuzbassocrinus* cf. *bystrowi* Yeltyschewa, 1957 (col.); 1, 2: L 31829, 1 - articular facet of the nodal, x7.7, 2 - dtto, articular facet of the internodal, x7.7. 3: L 31827, slightly weathered pluricolumnal, in lateral view, x5. 4: L 31828, articular facet of the internodal, x.4.9. 5, 6: L 31826, 5 - westhred articular facet of the internodal, x5.4, 6 - dtto, lateral surface of the pluricolumnal, x5.3. All specimens figured herein come from the quarry Čertovy schody-West, 5. etage, northern wall, Koněprusy. Lower Devonian, Pragian, Koněprusy Limestone. Photographs by R. Horný, whitened with NH_4Cl before photographing