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Bourgueticrinus utriculatus (Valette) from the Senonian of the Cracow Upland

ABSTRACT: In the paper a description is given of a calyx of the so far unknown in Poland crinoid *Bourgueticrinus utriculatus* (Valette), collected in the Lower Campanian marls of the Cracow Upland.

INTRODUCTION

The calyx of the crinoid *Bourgueticrinus utriculatus* (Valette) described in the present contribution has been found in the western part of the Zabierzów quarry in the Cracow Upland (Fig. 1). The Cretaceous

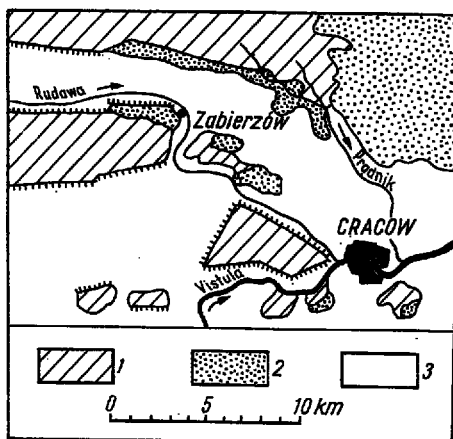


Fig. 1

Geological sketch map indicating the crinoid-bearing exposure of Lower Campanian marls at Zabierzów in the Cracow Upland

1 Upper Jurassic, 2 Upper Cretaceous, 3 Tertiary and Quaternary

sequence in the quarry is as follows: Upper Turonian compact, grey limestone overlies unconformably the Upper Jurassic one (Alexandrowicz 1954); higher up there are glauconitic marls of Santonian age with *Actinocamax verus* Miller passing upwards into the white ones containing

Actinocamax quadratus Blainville of the Lower Campanian in which the specimen was found. Both the upper part of the Jurassic limestone and the top of the Turonian one are cut by abrasion surfaces (in other part of the quarry there are two abrasion surfaces in the Turonian, cf. Alexandrowicz 1954, Fig. 8).

In the literature on the Cretaceous deposits of the Cracow Upland it was only Panow (1934) who noticed the occurrence of crinoid fragments out of which only separate plates of calyces of *Marsupites testudinarius* (Schlotheim) were determinable. The latter came from the glauconitic marls of Santonian age (*Actinocamax granulatus* Zone) of various localities, *i.a.* from Zabierzów.

SYSTEMATIC DESCRIPTION

(based on the taxonomy by Sieverts-Doreck, 1953)

Classis Crinoidea Müller, 1821

Subclassis Articulata Miller, 1821

Order Millericrinida Sieverts-Doreck, 1953

Suborder Bourgueticrinina Sieverts-Doreck, 1953

Family Bourgueticrinidae de Loriol, 1882

Genus *BOURGUETICRINUS* d'Orbigny, 1840

Bourgueticrinus utriculatus (Valette, 1917)

(Fig. 3a—c)

1961. *Bourgueticrinus utriculatus* (Valette, 1917); Wienberg Rasmussen, p. 199, Pl. 25, Figs 4—5.

Measurements in mm (cf. Fig. 2):

H	d	D	D _m
7.0	3.8	4.0	6.7

Description. — Calyx consisting of three belts (Fig. 2b and 3b). Strongly developed proximal segment (*P*) forms a basis. It attains half height of the calyx

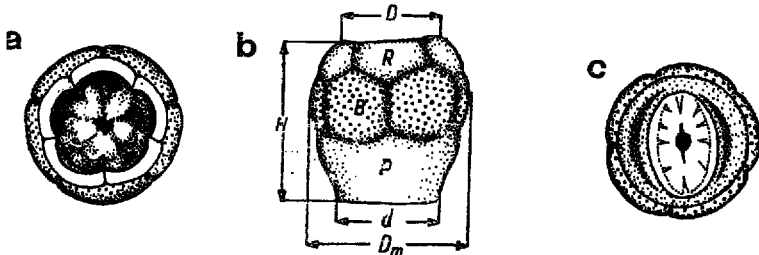


Fig. 2

Sketch drawing of the calyx of *Bourgueticrinus utriculatus* (Valette)
a top view, *b* side view (*P* proximale, *B* basals, *R* radials; other symbols explained in the text), *c* bottom view

(3.3 mm). A lumen is to be observed on the lower, slightly ellipsoidal surface of that segment (c in Figs 2 and 3). Badly developed crenellae may be seen under strong magnification: they are situated in marginal part of the surface. There are five basal plates (B) of subpentagonal shape over the proximal segment, with which they are connected by an arcuate suture. Maximal diameter of the calyx is approximately in the middle of the basal plates (D_m). Five radial plates (R) are somewhat smaller than the basal ones and superpose the latter. Basal and radial plates are similar, and connected by a zigzag suture. Upper surface of the calyx (a in Figs 2 and 3), is slightly concave, and its shape is that of pentapetal rosette. It results from a strong bending of radial plates in their upper part. Each petal of the rosette exhibits well developed articular processus, which form a kind of ornamentation of the upper part of the calyx.

Remarks. — The species *Bourgueticrinus utriculatus* (Valette) exhibits many common features with *B. ellipticus* (Miller). There are, however, differences which allow to make an easy distinction: radial plates in *B. ellipticus* (Miller) are of the same size as the basal ones, or are slightly larger than the latter and the maximal diameter of the calyx is at the suture connecting the proximal segment with basal plates, finally, upper surface is rather circular than rosette-like what was caused by a slighter bending of radial plates.

The calyx here described is most related to one of the specimens illustrated by Wienberg Rasmussen (1961, Pl. 25, Fig. 5); it differs however from his other specimen (*ibidem*, Pl. 25, Fig. 4) in larger proximal segment.

Occurrence. — The specimen from Zabierzów is the first find of the genus *Bourgueticrinus* in Poland, which was determined specifically; this genus has previously been known only from the Upper Maastrichtian of the Puławy area, but entirely as stem segments (Kongiel 1937).

In other European countries, the calyces of *Bourgueticrinus utriculatus* (Valette) are recorded in the Santonian and Campanian of England, France and Germany (Wienberg Rasmussen 1961).

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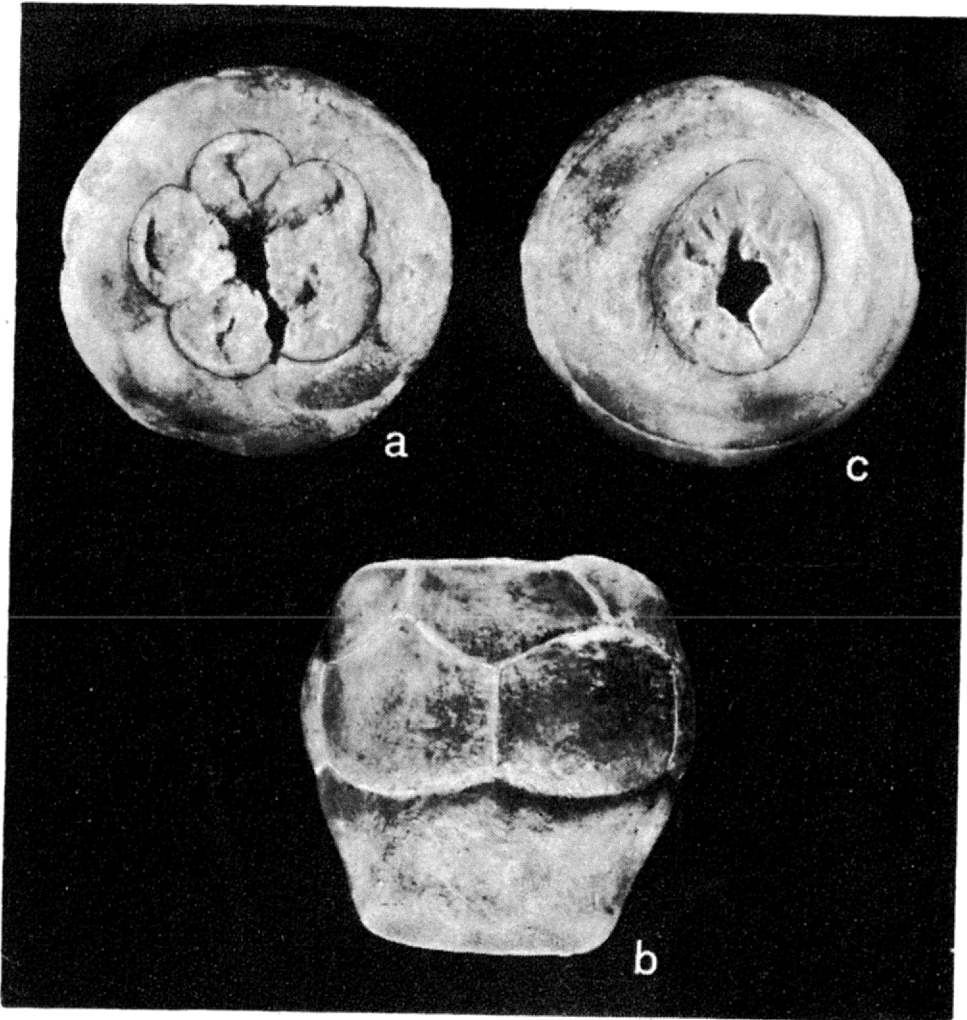
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**BOURGUETICRINUS UTRICULATUS (VALETTE)
Z SENONU WYŻYNY KRAKOWSKIEJ**

(Streszczenie)

Przedmiotem pracy jest opis kielicha liliowca z gatunku *Bourgueticrinus utriculatus* (Valette), który znaleziony został w marglach dolnego kampanu w Zabierzowie k. Krakowa (*vide* fig. 1). Gatunek ten (*vide* fig. 2—3), dotychczas nie znany z kredy Polski, jest stosunkowo często spotykany w santonie i kampanie Anglii, Francji i Niemiec (*por.* Wienberg Rasmussen 1961). Z terenu Polski notowano poprzednio jedynie nieoznaczalne gatunkowo człony łodyg z rodzaju *Bourgueticrinus*, które znajdowane były w piaskowcach glaukonitowych najwyższego mastrychtu okolic Puław (Kongiel 1937).

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Calyx of *Ourgueticrinus utriculatus* (Valette); Zabierzów,
Lower Campanian
(*Actinocamax quadratus* Zone)

a top view, b side view, c bottom view

All photos $\times 7.5$; taken by B. Drozd, M. Sc.