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SYRINGELLA — A NEW GENUS OF THE FAMILY SYRINGOPORIDAE (TABULATA) FROM THE DEVONIAN OF POLAND

Abstract. — A new genus *Syringella* of the family Syringoporidae from the Devonian of Sowie Górki in the Holy Cross Mountains has been established and described on the basis of numerous vesicles in the walls of corallites, of a very thick-walled axial canal and of septal spines which occur in the walls of corallites and walls of axial canals.

INTRODUCTION

A new genus *Syringella*, assigned to the family Syringoporidae (Tabulata), is described in the present paper. The materials were collected in 1969 by Dr. J. Kaźmierczak (Polish Academy of Sciences, Institute of Palaeozology) from the Devonian deposits of the locality Sowie Górki near the village Miedzianka in the Holy Cross Mts. The age of these beds was determined by Dr. J. Kaźmierczak (personal communication) on the basis of the following stromatoporoids which occur in this locality: *Stromatopora minutitextum* (Lecompte), *Taleastroma confertum* Stearn and *Pseudoactinodictyon dartingtonense* (Carter). In addition, fairly numerous Chaetetida and very rare Cephalopoda occur in this outcrop.

The present writer extends his heartfelt thanks to Docent A. Stasińska (Polish Academy of Sciences, Institute of Palaeozoology) for her valuable advice and to Dr. J. Kaźmierczak for making materials available for studies. He also feels indebted to Miss M. Czarnocka for taking photographs and to Mrs M. Nowińska, both from the same Institute, for making thin sections.

The paper has been prepared at the Polish Academy of Sciences, Institute of Palaeozoology (abbr. Z. Pal.) at which the collection described is housed.

DESCRIPTION

Subclass **Tabulata**
Order **Syringoporida** Sokolov, 1962
Family **Syringoporidae** Nicholson, 1879
Genus *Syringella* n. gen.

Type species: *Syringella polonica* n. gen. n. sp., Sowie Górki, Holy Cross Mts., Poland, Devonian (?Frasnian).

Derivation of the name: *Syringella* — resembling the genus *Syringopora*.

Diagnosis. — Walls thick, with vesicles. Tabulae numerous, funnel shaped and vesiculate. Axial canal having a very thick wall. Septal spines arranged in vertical rows on inner surface of corallites and irregularly scattered on the walls of axial canal.

Remarks. — *Syringella* n. gen. most closely resembles the genus *Syringopora* Goldfuss, 1826 (cf. Goldfuss, 1826; Stumm & Hill, 1956; Lecompte, 1952; Sokolov, 1955 and 1962; Stasińska, 1967). Both genera are represented by bushy colonies, composed of cylindrical corallites, connected by short tubules. Tabulae are funnel-shaped and, sometimes, vesiculate. Short septal spines with trabecular structure are embedded in the sclerenchyme of wall and arranged in vertical rows. The microstructure of walls in both genera is concentrical. These characters allowed one to assign the new genus to the family Syringoporidae.

Syringella n. gen. differs from *Syringopora* Goldfuss in characteristic vesicles occurring in the walls of corallites (Pl. I, Figs. 2–4 and Pl. II, Fig. 3) and in the presence of a thick-walled axial canal with septal spines and tabulae (Pl. I, Fig. 1; Pl. II, Fig. 3, Text-fig. 1).

Syringella polonica n. sp.
(Pls. I, II, Text-figs. 1–3)

Type specimen: Z. Pal. T/V/1, Pl. II, Fig. 1.

Type horizon and locality: Devonian (?the Lowermost Frasnian), Sowie Górki hill near the village Miedzianka in the Holy Cross Mts.

Derivation of the name: *polonica* — found in Poland.

Diagnosis. — Corallite 4.5 to 8.0 mm in diameter, spaced at 0.5 to 3.0 cm. Thickness of walls 0.3 to 1.3 mm. Connecting tubules short, about 5 mm in diameter. Epitheca very thin. Tabulae funnel-shaped, sometimes wesiculate arranged on the walls of corallites at intervals of 0.5 to 1.5 mm. Axial canal having a very thick wall and 1.0 to 1.8 mm in internal diameter. Septal spines short, embedded in sclerenchyme of outer wall and in the wall of axial canal.

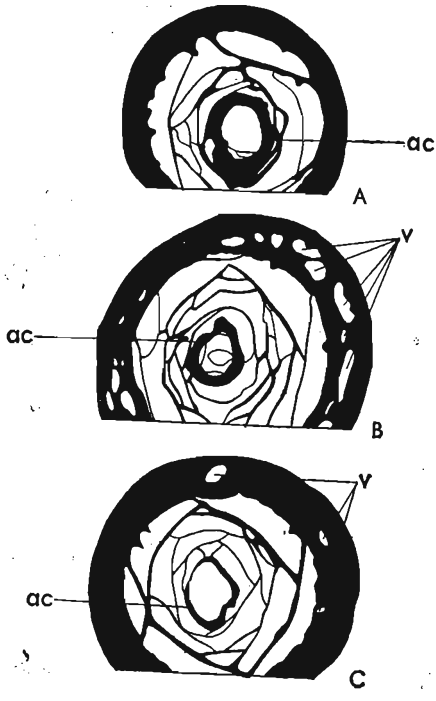

Fig. 1. *Syringella polonica* n. sp.: *A*—*C* serial transverse sections through a corallite; *ac* — axial canal, *v* — vesicles. ×5.

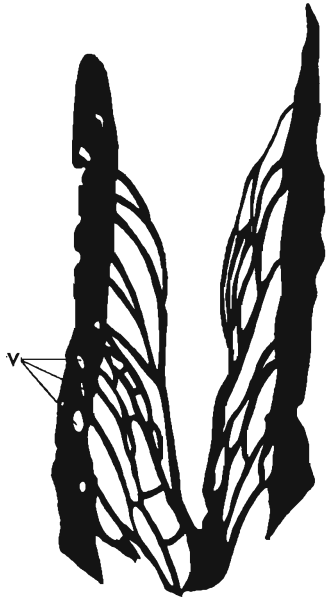

Fig. 2. *Syringella polonica* n. sp.; A longitudinal section through a calice of the corallite; *v* — vesicles. ×5.

Material. — A fragmentary colony, eight thin sections and eighty-five impressions on plastic plates.

Description. — Colony bushy, about 10 cm high. Corallites relatively large, cylindrical, strongly flexuous, 4.5 to 8.0 mm and mostly 6.0 to 7.0 mm in diameter. Corallites, irregularly spaced (0.5 to 3.0 cm). Calices deep, funnel-shaped about 12 mm in maximum depth (Text-fig. 2). Walls varying in thickness between 0.3 and 1.3 mm, mostly about 1.0 mm, with a very thin epitheca having fine growth striae. Microstructure of walls concentrical (Pl. II, Fig. 2).

Many oval or irregular, mostly elongate, vesicles occur in the walls of corallites (Pl. I, Figs. 2–4, Pl. II, Fig. 3). In longitudinal section, these vesicles are lenticulate. Longer axes of vesicles are on the whole in conformity with the direction of tabulae and their angle amounts to about 45° in relation to the longer axis of corallite. The length of vesicles, measured

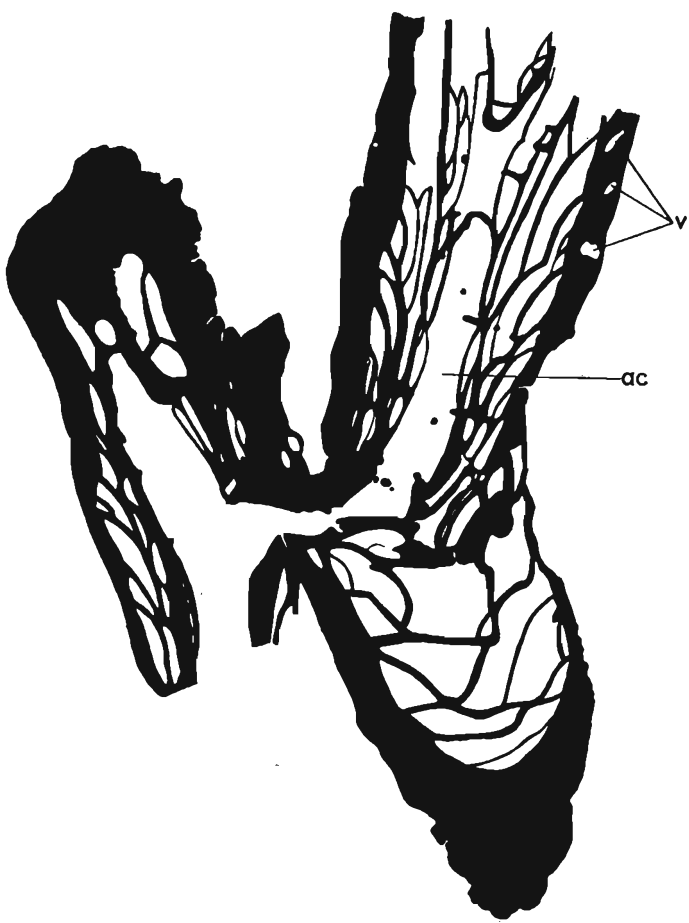

Fig. 3. *Syringella polonica* n. sp. A longitudinal section through the corallites with connecting tubule. ×5.

in longitudinal sections of corallites, vary between 0.3 and 1.2 mm, mostly 0.8 and 0.9 mm. Vesicles are irregularly scattered in the walls of coralits. They were probably formed as a result of a gradual absorption of small tabulae, shaped like dissepiments, by the thickening wall of corallite (Pl. I, Fig. 3).

Connecting tubules very short, about 5 mm in diameter, widely spaced (Pl. I, Fig. 4; Text-fig. 3). Tabulae mostly funnel-shaped and vesiculate, frequently obliquely truncate at distances of 0.5 to 1.5 mm measured near the inner wall of corallite (Pl. I, Fig. 3; Pl. II, Fig. 3). Zones of condensation of tabulae are observed sometimes.

Axial canal with a very thick wall (0.3 to 0.7 mm), round or oval in outline as seen in transverse sections (Pl. I, Fig. 1; Pl. II, Fig. 3). Canal lumen 1.0 to 1.8 mm. Thin, funnel-shaped or, less frequently, vesiculate tabulae often occur inside the axial canal. Axial canal does not run along the entire corallite, but it appears and abruptly terminates at a certain height (Pl. II, Fig. 3). In the case in which connecting tubules occur nearby, the axial canal runs through the tubule and joins the axial canal of another, neighbouring individual. Microstructure of the wall of axial canal is similar to that of the wall of corallite.

Septal spines short and arranged in vertical rows (Pl. II, Fig. 1). They occur on inner walls of corallites and in the walls of axial canal (Pl. II, Fig. 3). They have a trabecular structure with distinct centres of calcification. Very short spines also occur on tabulae (Pl. II, Fig. 1).

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SYRINGELLA — NOWY RODZAJ RODZINY SYRINGOPORIDAE (TABULATA) Z DEWONU POLSKI

Streszczenie

W pracy przedstawiono wyniki badań nad nowym rodzajem *Syringella*, zaliczonym do rodziny Syringoporidae. Materiały zebrane z dewonu (?najniższego franu) wzgórza Sowie Górki w okolicy wsi Miedzianka (Góry Świętokrzyskie). Analiza morfologiczna i porównanie z innymi rodzajami rodziny Syringoporidae doprowadziły autora do wniosku, że nowy rodzaj *Syringella* zbliża się najbardziej do rodzaju *Syringopora* Goldfuss, 1826. Podstawą do utworzenia nowego rodzaju były licznie występujące pęcherzyki w ściankach koralitów *Syringella* n. gen. oraz obecność kanału osiowego o bardzo grubych ściankach z kolcami septalnymi i denkami. Cech tych nie spotyka się u żadnego z rodzajów rodziny Syringoporidae.

АЛЕКСАНДЭР НОВИЊЬСКИ

SYRINGELLA — НОВЫЙ РОД СЕМЕЙСТВА SYRINGOPORIDAE (TABULATA) ИЗ ДЕВОНА ПОЛЬШИ

Резюме

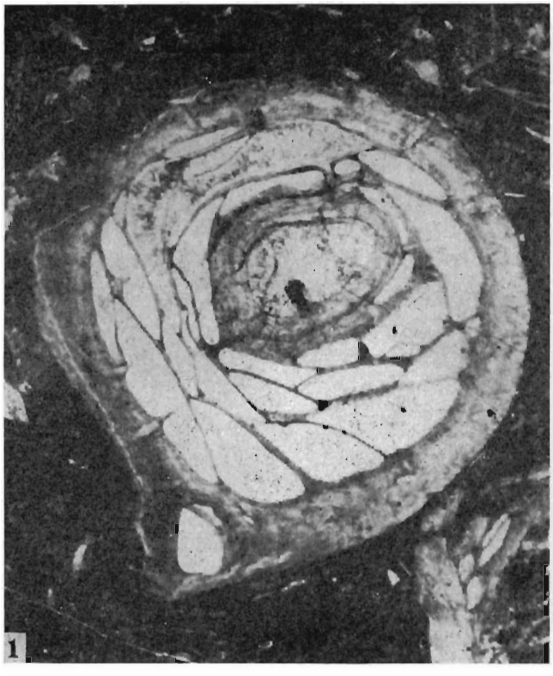
В работе изложены результаты исследования нового рода *Syringella*, отнесенного к семейству Syringoporidae. Материал был собран из девонских отложений (?самой низкой части франского яруса) холма Сове Гурки в окрестности деревии Медзянка (Свентокшиске Горы). Морфологический анализ и сравнение с другими родами семейства Syringoporidae привело автора к выводу, что новый род *Syringella* наиболее близок к роду *Syringopora* Goldfuss, 1826. Основными признаками *Syringella* n. gen. является присутствие многочисленных пузырьков в стенках кораллитов, а также наличие осевого канала с очень толстыми стенками, септальными шипиками и днищами. Эти признаки не встречаются ни у одного из родов семейства Syringoporidae.

PLATES

Plate I

Syringella polonica n. sp.
Sowie Górki, Devonian (Frasnian)

Fig. 1. Transverse section through a coralite with the axial canal, ×10.
Fig. 2. Transverse section through a coralite with the vesicles, ×10.
Fig. 3. Longitudinal section through a coralite with the calice and with the zone of origin of the vesicles, ×5.
Fig. 4. Longitudinal section through a coralite with the vesicles and the partial of the connecting tubule, ×5.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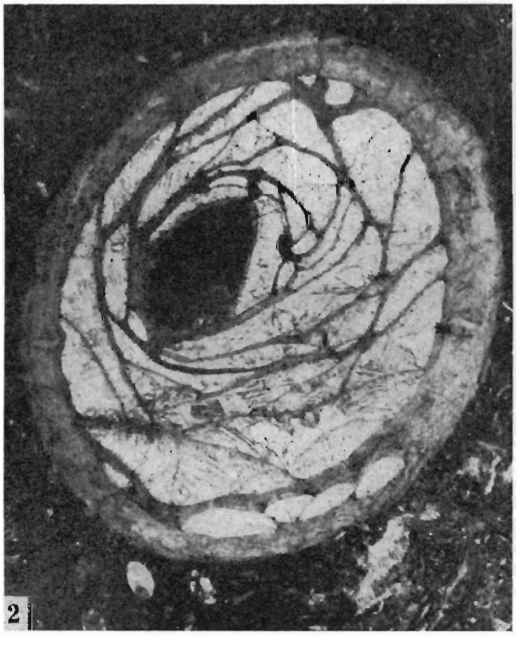
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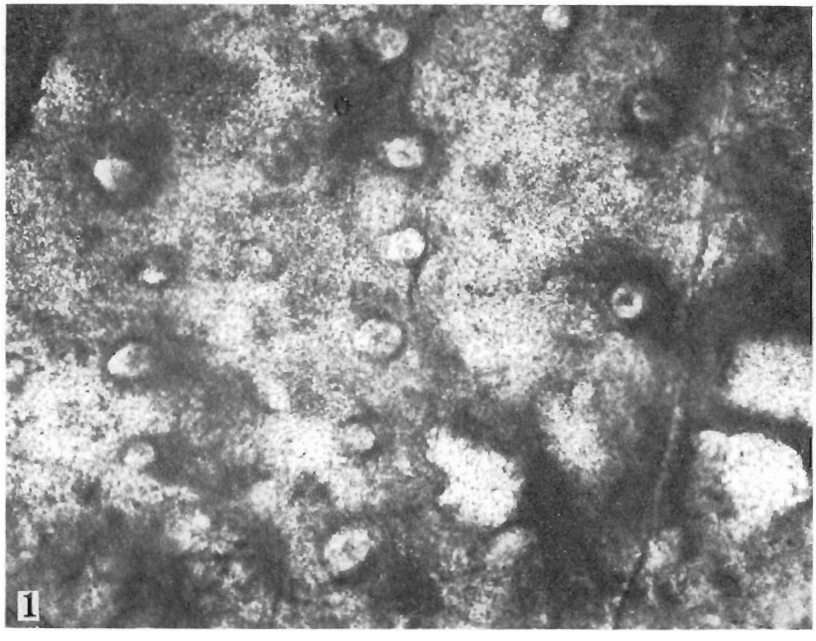
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Plate II

Syringella polonica n. sp.
Sowie Górki, Devonian (Frasnian)

Fig. 1. Transverse section through the septal spines with the centres of calcification, ×30.

Fig. 2. Transverse section through the wall of a coralite with concentrical microstructure and the septal spines, ×30.

Fig. 3. Longitudinal section through a coralite with the axial canal and the vesicles in wall, ×5.