The Phillipsastraeacea, characterized by a tendency to a vertical growth of septa and dissepimentarium, fan-like disposition of trabeculae and presence or absence of horse-shoes, comprise the following families:

1) The Macgeeidae (Różkowska, 1951, subfam.) Schouppé, 1958, with a type genus _Macgeea_ Webster, 1889, mostly singular, very seldom as massive colonies, similarly as in Marisastridae, have the epitheca and horse-shoes which are lacking in the new family;

2) The Phillipsastraeidae (Roemer, 1883) sensu Schouppé, 1958, includes forms with massive colonies and have the pseudotheca, which disappears in some places and, therefore, a tendency is here shown to integration of the colony. Two groups of species have been distinguished among them: a) genus _Phillipsastraea_ d’Orbigny, 1849 with its type species _Astraea hennahi_ Lonsdale, 1840, having the pseudotheca and horse-shoes, which are situated on the boundary between the tabularium and dissepimentarium, b) genus "_Phillipsastraea_" of most authors, including such species as _P. pentagona_ (Goldfuss) and _P. goldfussi_ (de Verneuil & Haime). This group has the pseudotheca, but has not the horse-shoes.

Accordingly, there is no family among the Phillipsastraeacea in which the new genus — _Marisastrum_ — with massive colonies, as well as singular forms, assigned to _Ceratophyllum_ Gürich, 1896, might be included.

Suborder **Phillipsastraeacea** Roemer, 1883

Family **Marisastridae** n.fam.

1948. _Disphyllidae_ Różkowska (subfam.), partim; M. Dembińska-Różkowska, _Korale dewońskie..._, p. 204.
1954. _Disphyllidae_ Moenke, partim; M. Moenke, _Rodzaj Hexagonaria..._, p. 452.
1954. _Neocampophyllidae_ Soschkina, partim; E. D. Soschkina, _Devonskie..._, p. 44.
1956. _Phillipsastraeidae_ Hill, partim; D. Hill, _Rugosa..._, p. 279.
Type genus: Marisastrum n.gen.

Diagnosis. — Phillipsastraeacea either compound, with massive colonies, or, less frequently, simple. Epithea distinct, septa fusiform, of two different lengths, tabulae compound. Horse-shoes lacking.

Discussion. — The new family is erected to include: Marisastrum n.gen. and Ceratophyllum Gürich, 1896, with its type-species C. typus Różkowska, 1954, non Gürich. In both genera the horse-shoes are lacking. Ceratophyllum, similarly as Marisastrum, has the epithea, trabecular fans, fairly broad dissepimentarium, compound tabulae and septa with two different lengths, fusiform on the boundary between the tabularium and dissepimentarium. This is a simple form, forming only a few peripheral buds.

Genus Marisastrum n.gen.

Type species: Cyathophyllum sedgwicki Edwards & Haime, 1853.

1826. Cyathophyllum Goldfuss; G. A. Goldfuss, Petrefacta..., p. 54.
1849. Phillipsastraea d'Orbigny; A. d'Orbigny, Notes..., p. 12.
1921. Spinophyllum Wedekind; R. Wedekind, Zur Kenntnis..., p. 3.

Derivation of name: Marisastrum — Lat. mare = sea, astrum = star.

Diagnosis. — Colonies massive, individuals multilateral and surrounded by a distinct epithea; septa smooth or carinate; dissepimentarium broad, convex; trabecular fans more or less symmetrical, tabularium compound, convex. Horse-shoes absent.

Distribution. — Species of this genus are known from the Frasnian. A single species from the Lower Famennian is mentioned by Bulvanker (1958).

Geographical range. — In Poland: Holy Cross Mountains (Góry Świętokrzyskie) and Sudeten Mountains. Besides: South England, France, Belgium, Western Germany, U.S.S.R. (Ural, Timan, Russian Plateau, Armenia) and North America.

Discussion. — In addition to the type species, the following ones are attributed to the new genus: Acervularia davidsoni Edwards & Haime, 1851, p. 428, Hexagonaria mirabilis Moenke, 1954, and H. sanctacrucensis Moenke, 1954. It is possible that also some American species of the genus Prismatophyllum, described by Smith (1945), should be assigned to Marisastrum.

Marisastrum sedgwicki (Edwards & Haime, 1853)
(Text-figs. 1, 2 a—b)

1954. *Hexagonaria sedgwicki* (Edwards & Haime); M. Moenke, *Hexagonaria...*, p. 465, Figs. 3—5, 7; Pl. 1, figs. 3—6, (cum syn.).


1958. *Phillipsastraea sedgwicki* (Edwards & Haime); E. Z. Bulvanker, *Devonskie...*, p. 119, Pl. 55, fig. 3; Pl. 56, figs. 1 a—b.

**Type specimen:** The specimen indentified by Edwards and Haime in 1853 as *Cyathophyllum sedgwicki* and figured by them (1853, Pl. 52, figs. 3 a—b) are refigured in the present paper in Text-fig. 1. British Museum (Natural History) No. 48451, labelled: Middle Devonian, Torquay. According to Mr Scrutton’s opinion (personal communication), the Middle Devonian age of this specimen “is probably unreliable”.

**Type horizon and locality:** probably Frasnian, Torquay.

**Fig. 1.** — *Marisastrum sedgwicki* (Edwards & Haime), drawn from a photographed peel of British Museum (Nat. Hist.), specimen No. 15269, labelled: Middle Devonian, Torquay (topotype); × 5.

**Fig. 2.** — *Marisastrum sedgwicki* (Edwards & Haime), from figures 4 (a) and 5 (b) of Moenke (1954), No. 181a, Wietrznia quarry, Lower Frasnian

**Diagnosis.** — Cerioid tetracorals with peripheral buds. The epitheca is thin, straight or slightly zigzag. The septa are radially arranged and differentiated into two orders. In transverse section they are carinate. They are thin to moderately thick in outer and middle parts of the dis-
septimentarium and become fusiform at the inner dissepimentarium. The major septa alone extend into the tabularium where they are attenuate, smooth and withdrawn from the axis. The dissepimentarium consists of upward convex dissepiments with a vertical growth tendency. There are no horse-shoe dissepiments. The trabeculae have a fan-shaped arrangement and occasionally a symmetric disposition. The longitudinal section shows compound tabulae with distinctly differentiated axial series split up and developing additional tabellae. A periaxial series consists of flat, concave or convex plates.

**Distribution.** — *Marisastrum sedgwicki* (Edwards & Haime), in addition to the above occurrences, has been identified in the Frasnian of Western Europe, U.S.S.R. and Asia.

**Discussion.** — The species *C. sedgwicki* was introduced by Edwards and Haime (1853) for specimens from the Torquay Devonian. Mr C. T. Scrutton has informed me by letter that "the original of Edwards and Haime, 1853, Pl. 52, figs. 3, 3a, is in the British Museum collection (No. 48451). There is no doubt of its identity as it can be matched exactly with their figures. Dr. H. D. Thomas has kindly tried to make a peel of the back of the specimen but as it is very thin he could not risk breaking it. Moreover, the specimen is too thin to provide a longitudinal section".

Therefore Dr. Thomas allowed Mr. Scrutton to select a conspecific and topotypic (from Torquay) specimen from the British Museum collections (No. 15269) and to make a peel of it. Its inner structure is like that in the specimens from the Frasnian of the Holy Cross Mountains and is conspecific with them.

*Cyathophyllum sedgwicki* Edwards & Haime is frequent in bioherms and reefs of Frasnian deposits. It has been referred to various genera. Simpson (1900, p. 218) introduced *Prismatophyllum* with the type species *Cyathophyllum rugosum* Edwards & Haime (1851, p. 387, Pl. 12, figs. 1, 1a), non *Astraea rugosa* Hall, 1843. Lang and Smith (1935, p. 558), therefore, renamed Edwards and Haime's species as *Prismatophyllum prisma*. The latter is, however, congeneric with *Cyathophyllum hexagonum* Goldfuss, 1826, the genolectotype of *Hexagonaria* Gürich, 1896, of which *Prismatophyllum* is thus a synonym. The species *sedgwicki*, however, has fan-shaped trabecular arrangement like the representatives of the suborder Phillipsastraeacea Roemer, 1883, in Schouppé (1958, p. 217), and not parallel trabeculae as in the disphylloid genera.

Soshkina (1954, p. 102, Pl. 41) referred the species *sedgwicki* to the genus *Phillipsastraea* d'Orbigny, 1849. But Schouppé (1958, p. 235) proved that its type species *Astraea hennahi* Lonsdale has a fan-shaped trabecular arrangement and a row of horse-shoe dissepiments, whilst *sedgwicki*, although having fan-shaped trabeculae, has no horse-shoes.
The author is most grateful to Dr H. D. Thomas, British Museum (Natural History), London, and to Mr C. T. Scrutton, Oxford, University Museum, for their kind endeavours.

_Palaeozoological Institute of the Polish Academy of Sciences Poznań Branch Poznań, October 1964_

**REFERENCES**


GOLDFUSS, G. A. 1826. Petrefacta Germaniae. 1, 1—76, Düsseldorf.


MARIA ROZKOWSKA

MARISASTRIDAE N.FAM. I MARISASTRUM N.GEN. (KORALE DEWOŃSKIE)

Streszczenie

W obrębie podrzędu Phillipsastraeacea autorka ustanawia nową rodzinę Mari­sastridae, obejmującą formy kolonijne o masywnych koloniach, bądź formy osobnicze. Cechą charakterystyczną nowej rodziny jest obecność wyraźnej epiteki, wrzecionowatych septów dwojakiej długości, złożonych tabul oraz brak podkówek.

Do nowej rodziny zaliczono Marisastrum n.gen. i Ceratophyllum Gürich, 1896.

МАРИЯ РУЖКОВСКА

MARISASTRIDAE N. FAM. И MARISASTRUM N. GEN.
(ДЕВОНСКИЕ КОРАЛЛЫ)

Резюме

В пределах подотряда Phillipsastraeacea автор устанавливает новое семейство Marisastridae, включающее колониальные формы с массивными колониями, либо формы единочные. Характерной чертой нового семейства является присутствие четкой эпитеки, веретенообразных септ двоякой длины, сложных днищ и отсутствие подковок.

К новому семейству причислено Marisastrum n. gen. и Ceratophyllum Gü­rich, 1896.