

# TREATISE ONLINE

Number 26

Part E, Revised, Volume 4, Chapter 16C:

Clathrodictyida

Heldur Nestor

2011

**KU** PALEONTOLOGICAL  
INSTITUTE

---

The University of Kansas

Lawrence, Kansas, USA  
ISSN 2153-4012 (online)  
[paleo.ku.edu/treatiseonline](http://paleo.ku.edu/treatiseonline)



# PART E, REVISED, VOLUME 4, CHAPTER 16C: CLATHRODICTYIDA

HELDUR NESTOR

[Institute of Geology, Tallinn University of Technology, hnestor@gi.ee]

## Order CLATHRODICTYIDA Bogoyavlenskaya, 1969

[Clathrodictyida BOGOYAVLENSKAYA, 1969, p. 17; *emend.*, NESTOR in STEARN & others, 1999, p. 23] [=Gerronostromatida BOGOYAVLENSKAYA, 1969, p. 19]

Skeleton consists of continuous, single-layer, inflected to planar laminae and short to superposed pillars; microstructure compact; interspaces are galleries. [Clathrodictyids were separated from actinostromatids by KÜHN (1939) as an independent family. BOGOYAVLENSKAYA (1969) elevated the group to the ordinal rank, defining it as being represented by stromatoporoids with inflected laminae and poorly differentiated pillars. The stromatoporoids with well-differentiated planar laminae and rod-shaped pillars were distinguished by her as the separate order Gerronostromatida. NESTOR in STEARN and others (1999) reclassified gerronostromatids as a family within the order Clathrodictyida.] *Upper Ordovician (Katian)–Lower Carboniferous (Serpukhovian)*.

### Family CLATHRODICTYIDAE Kühn, 1939

[*nom. correct.* LECOMPTE, 1956, p. 128, *pro* Clathrodictyonidae KÜHN, 1939, p. 340; *emend.*, BOGOYAVLENSKAYA, 1969, p. 17] [=Coenellostromatidae BOGOYAVLENSKAYA, 1977, p. 14]

Skeletal elements weakly differentiated; laminae irregularly inflected, bending down into short pillars; galleries open, lenticular or irregular in longitudinal section. [BOGOYAVLENSKAYA (1969) restricted the scope of Clathrodictyidae to the forms having inflected laminae. Later, BOGOYAVLENSKAYA (1977) established a new family Coenellostromatidae, merged with Clathrodictyidae by NESTOR in STEARN and others (1999).] *Upper Ordovician (Katian)–Lower Carboniferous (Serpukhovian)*.

*Clathrodictyon* NICHOLSON & MURIE, 1878, p. 220 [\**C. vesiculosum*; OD; holotype NHM P5495]. Growth

form domical to laminar; laminae irregularly wrinkled; pillars short, in many cases oblique or funnel shaped, rodlike at base; galleries lenticular or irregular in longitudinal section; astrorhizae common. *Upper Ordovician (Katian)–Middle Devonian*: Australia (New South Wales, Tasmania), Canada (Anticosti), China (Inner Mongolia, Guangxi, Shaanxi, Zhejiang), Estonia, Norway, *Katian–Hirnantian*; Canada (Anticosti, Arctic islands, Hudson Bay, eastern Quebec), central Asia (Tien Shan), China (Quzhou), Estonia, Greenland, Norway, Russia (Altai, Arctic islands, Siberian Platform, Tuva, western Urals), Ukraine (Podolia), United States (Missouri, Ohio), *Llandovery*; Canada (Arctic islands, Hudson Bay, Manitoba, Ontario, eastern Quebec), central Asia (Tien Shan), England, Estonia, Greenland, Norway, Russia (Altai, Pechora Basin, northeastern Siberia, Siberian Platform, Tuva), Sweden (Gotland), United States (Kentucky), *Wenlock*; Australia (New South Wales), Canada (Ontario), central Asia (Tien Shan), Estonia, Iran, Russia (Altai, Arctic islands, Pechora Basin, Siberian Platform, western Urals), Sweden (Gotland), Ukraine (Podolia), *Ludlow*; Canada (Arctic islands), *Emsian*; China (Yunnan), England, Russia (Urals, northeastern Siberia), United States (Ohio), *Middle Devonian*.—FIG. 1, 1*a–b*. \**C. vesiculosum*, Clinton, Llandovery, Yellow Springs, Ohio, United States, holotype NHM P5495; longitudinal and tangential sections, ×10 (new).

*Bullulodictyon* YAVORSKY, 1967, p. 17 [\**B. patokense*; OD; holotype CNIGR 7351/557]. Growth form laminar; laminae moderately inflected, zonally indefinite; pillars very weakly differentiated; galleries lenticular, of different sizes; astrorhizae large, frequent. *Upper Devonian (Frasnian)*: Russia (Pechora Basin).—FIG. 1, 2*a–b*. \**B. patokense*, River Bol'shoi Potok, holotype CNIGR 7351/557; longitudinal and tangential sections, ×10 (YAVORSKY, 1967, pl. 3,5,7).

*Coenellostroma* BOGOYAVLENSKAYA, 1977, p. 14 [\**C. kaljanum* BOGOYAVLENSKAYA, 1977, p. 15; OD; holotype UGM 1089/40]. Growth form domical; laminae wrinkled, inflected downward into funnel-shaped pillars; galleries arch shaped in longitudinal, meandroid or subhexagonal in tangential section; astrorhizae large, superposed, frequent. *Lower Devonian–Middle Devonian*: Russia (Eastern Urals).—FIG. 1, 3*a–b*. \**C. kaljanum*, Karpinskii Horizon, Middle Devonian, Kal'ia village, Severoural'skii District, holotype, UGM 1089/40a; longitudinal and tangential sections, ×10 (new).

*Kyklopora* BOGOYAVLENSKAYA, 1982, p. 37 [\**K. kalmiusensis*; OD; holotype UGM 15/57/103]. Growth form laminar; laminae abruptly wrinkled;

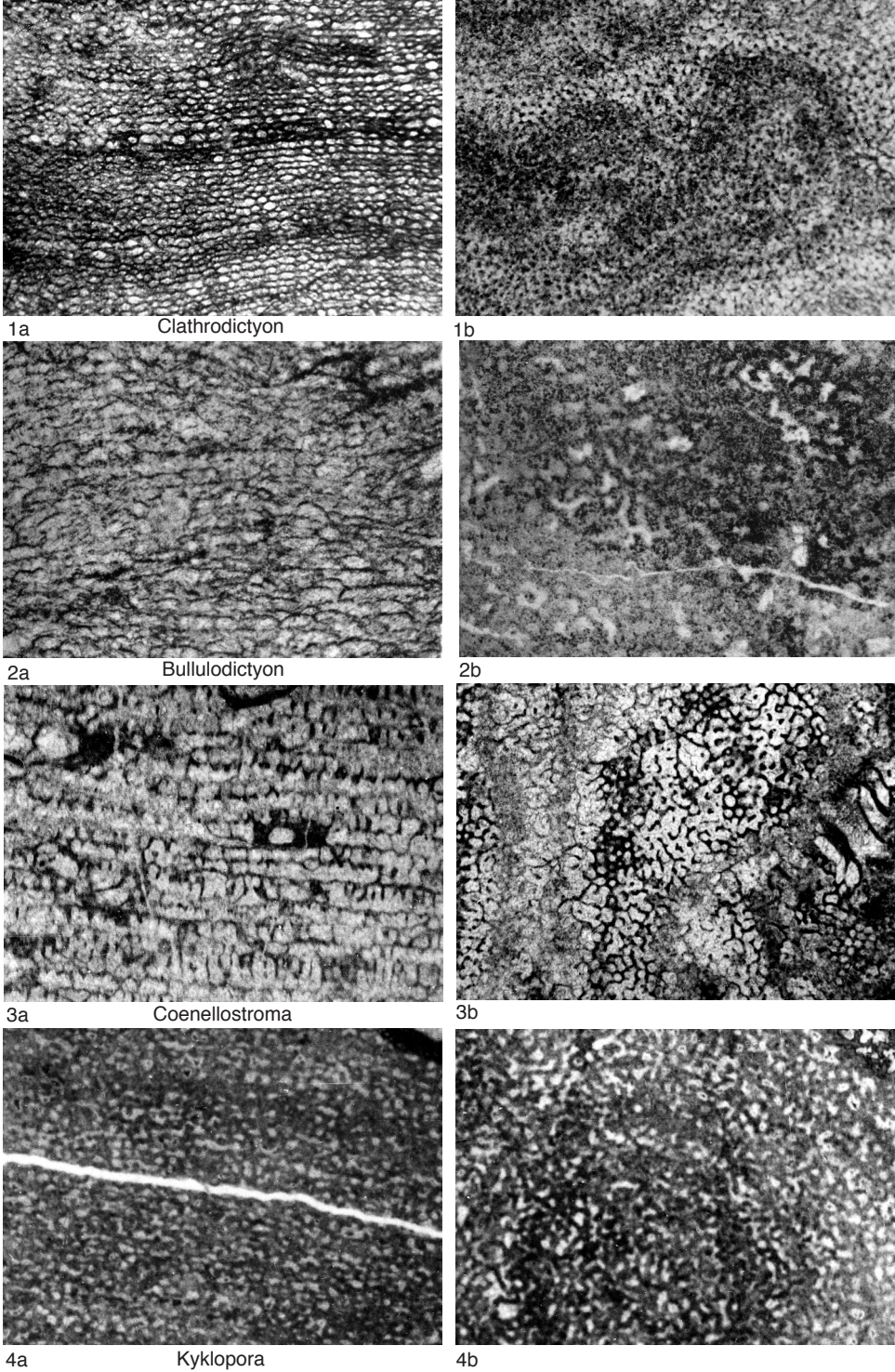


FIG. 1. Clathrodictyidae (p. 1–3).

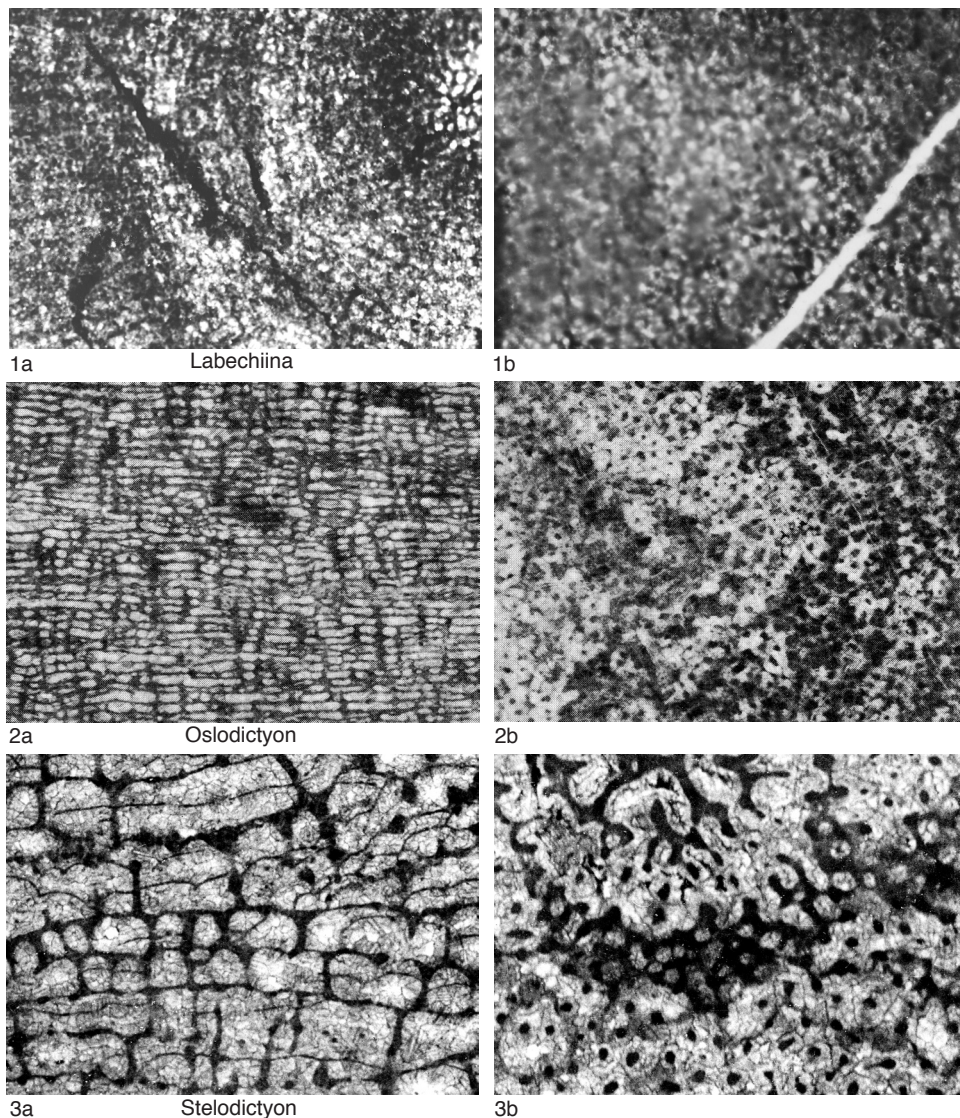


FIG. 2. Clathrodictyidae (p. 3–4).

pillars very weakly differentiated; galleries irregular; astrorhizae obscure. *Lower Carboniferous (Serpukhovian)*: Russia (Donetsk Basin).—FIG. 1, 4a–b. \**K. kal'miusensis*, Kal'mius River at Zhelvakovaia, holotype, UGM 15/57/103; longitudinal and tangential sections,  $\times 10$  (new).

**Labechiina** KHALFINA, 1961, p. 55 [\**L. cylindrica* KHALFINA, 1961, p. 56, holotype CSGM 401/50; OD]. Growth form columnar, without axial canal; laminae moderately wrinkled, thin, bending downward into short pillars; long, stout megapillars well developed, densely spaced. *Silurian–Lower Devonian*: Canada (Mackenzie District), *Silurian*;

Russia (Salaïr), *Lower Devonian*.—FIG. 2, 1a–b. \**L. cylindrica*, Sukhaia Suite, Lochkovian, Aleksandrovka, Salaïr, holotype CSGM 401/50; transverse and tangential sections,  $\times 10$  (new, courtesy of V. G. Khromykh).

**Oslodictyon** MORI, 1978, p. 134 [\**O. henningsmoeni* MORI, 1978, p. 135, holotype, PMO 45420; OD] [= *Distylostroma* KOSAREVA in BOGOYAVLENSKAYA & KHROMYKH, 1985, p. 75 (type, *D. crassum*, *nom. nud.*)]. Growth form domical to laminar; laminae moderately wrinkled, bending downward into short pillars; long, stout megapillars are present; astrorhizae obscure. *Silurian (Llandovery)–Middle*

*Devonian*: Canada (Anticosti), Estonia, Norway, *Llandovery*; Urals, *Silurian*; Canada (Arctic islands), Russia (northeastern Siberia), *Lower Devonian*; Russia (Salair), *Middle Devonian*.—FIG. 2, 2a–b. \**O. henningsmoeni*, Rytteråker Formation (7b), *Llandovery*, Vesleøya, Ringerike, Norway, holotype PMO 45420; longitudinal and tangential sections,  $\times 10$  (Mori, 1978, fig. 9A–B).

**Stelodictyon** BOGOYAVLENSKAYA, 1969, p. 17 [\**S. iniquum*; OD; holotype UGM 990/61a]. Growth form domical or laminar; laminae microundulate at junctions of funnel-shaped pillars, may be penetrated by pores; galleries arch shaped in longitudinal section, open in tangential section; astrorhizae rare, irregular. *Upper Ordovician (Hirnantian)–Lower Devonian (Lochkovian)*: Estonia, *Hirnantian*; Canada (Manitoba, Ontario), England, Russia (western Urals, Siberian Platform), Sweden (Gotland), Ukraine (Podolia), *Wenlock*; Russia (Urals), *Ludlow*; United States (New York), *Lochkovian*.—FIG. 2, 3a–b. \**S. iniquum*, Isovkaia Suite, Ludlow, Is River, Isovskoi District, Middle Urals, holotype UGM 990/61a; longitudinal and tangential sections,  $\times 10$  (new).

## Family ACTINODICTYIDAE

### Khalfina & Yavorsky, 1973

[Actinodictyidae KHALFINA & YAVORSKY, 1973, p. 26; *emend.*, NESTOR in STEARN & others, 1999, p. 25] [=Ecclimadictyidae STEARN, 1980, p. 890; =Plexodictyidae BOGOYAVLENSKAYA, 1981, p. 30]

Skeletal elements very weakly differentiated; laminae crumpled (zigzag), forming cassiculate network; pillars indistinct or oblique; galleries labyrinthine, subangular in longitudinal section; megapillars and paralaminae may be present. [KHALFINA and YAVORSKY (1973) restricted the family Actinostromatidae to the genera having long megapillars, in addition to crumpled laminae. BOGOYAVLENSKAYA (1981) erected a new family Plexodictyidae, based on the presence of crumpled laminae and paralaminae. STEARN (1980) treated the presence of megapillars and paralaminae as genus-level characters and combined all genera with crumpled laminae, including *Actinodictyon* and *Plexodictyon*, into the newly erected family Ecclimadictyidae, which by priority became a junior synonym of Actinodictyidae (NESTOR in STEARN & others, 1999).] *Upper Ordovician (Katian)–Lower Devonian (Emsian)*.

**Actinodictyon** PARKS, 1909, p. 30 [\**A. canadense* PARKS, 1909, p. 32; SD BASSLER, 1915, p. 15, holotype GSC 9123]. Growth form columnar; laminae

irregularly crumpled, fused with dissepiments, intersected by scattered, crooked megapillars; galleries very irregular, labyrinthine; astrorhizae obscure. *Silurian*: Russia (Pechora Basin); Canada (Hudson Bay), *Llandovery*; Australia (New South Wales), *Ludlow*.—FIG. 3, 1a–b. \**A. canadense*, lower Silurian, Southampton Island, Hudson Bay, holotype GSC 9123; transverse and tangential sections,  $\times 10$  (new).

**Ecclimadictyon** NESTOR, 1964, p. 60 [\**Clathrodiction fastigiatum* NICHOLSON, 1887, p. 8; OD; holotype NHM P5773]. Growth form laminar to domical; laminae crumpled, forming cassiculate network; pillars oblique or indistinct; galleries labyrinthine, subangular in longitudinal section; astrorhizae fasciculate, irregular. *Upper Ordovician (Katian)–Silurian*: Australia (New South Wales, Tasmania), China (Quinghai, Xinjiang, Zhejiang), Estonia, Kazakhstan, Russia (Urals, Altai, Gornaia Shoria), *Katian–Hirnantian*; Canada (Anticosti, Arctic islands, eastern Quebec), central Asia (Tien Shan), China (Guizhou, Hubei, Sichuan), Estonia, Greenland, Iran, Norway, Russia (Arctic islands), United States (Iowa, Michigan, Missouri, Ohio, Oklahoma), *Llandovery*; Australia (New South Wales), Canada (eastern Quebec, Ontario), central Asia (Tien Shan), England, Estonia, Norway, Russia (Altai, Arctic islands, Siberian Platform, Urals), Sweden (Gotland), Ukraine (Podolia), United States (Michigan), *Wenlock*; Canada (eastern Quebec, Ontario), China (Inner Mongolia), Norway, Russia (Arctic islands, Urals), Sweden (Gotland), *Ludlow*; Russia (Urals), *Pridoli*; Russia (Pechora Basin, northeastern Siberia, Tuva), *Silurian*.—FIG. 3, 2a–b. \**E. fastigiatum* (NICHOLSON), Much Wenlock Limestone Formation, Wenlock, Ironbridge, Shropshire, holotype NHM P5773; longitudinal and tangential sections,  $\times 10$  (new).

**Neobeatricea** RUKHIN, 1938, p. 95 [\**Beatricea tenuitextilis* YAVORSKY, 1929, p. 92; OD; holotype CNIGR 2595/20]. Growth form columnar, without axial canal; laminae irregularly crumpled, intertwined with flat dissepiments; short pillars indistinguishable, megapillars absent; astrorhizae rare, with short unbranched canals. *Silurian*: Russia (Siberian Platform, Urals), *Wenlock*; Canada (Quebec), *Ludlow*; Russia (northeastern Siberia, Novaya Zemlya, Pechora Basin), *Silurian*.—FIG. 3, 3a–b. \**N. tenuitextilis* (YAVORSKY), Silurian, Rusanov valley, Novaya Zemlya, northern island, holotype CNIGR 2595/20; longitudinal and tangential sections,  $\times 10$  (new).

**Plexodictyon** NESTOR, 1966, p. 20 [\**P. katriense* NESTOR, 1966, p. 21; OD; holotype IGTUT 114-18 (Co 3132)]. Growth form laminar or domical; laminae crumpled, forming regular cassiculate network traversed by planar paralaminae; astrorhizae rare, tubular. [A few superficially similar species from the Upper Ordovician and *Llandovery* (Silurian) may represent another genus.] ?*Upper Ordovician, Silurian* (?*Llandovery, Ludlow–Pridoli*): Australia (New South Wales, Queensland), ?*Upper Ordovician*; China (Guizhou, Hubei), ?*Llandovery*;

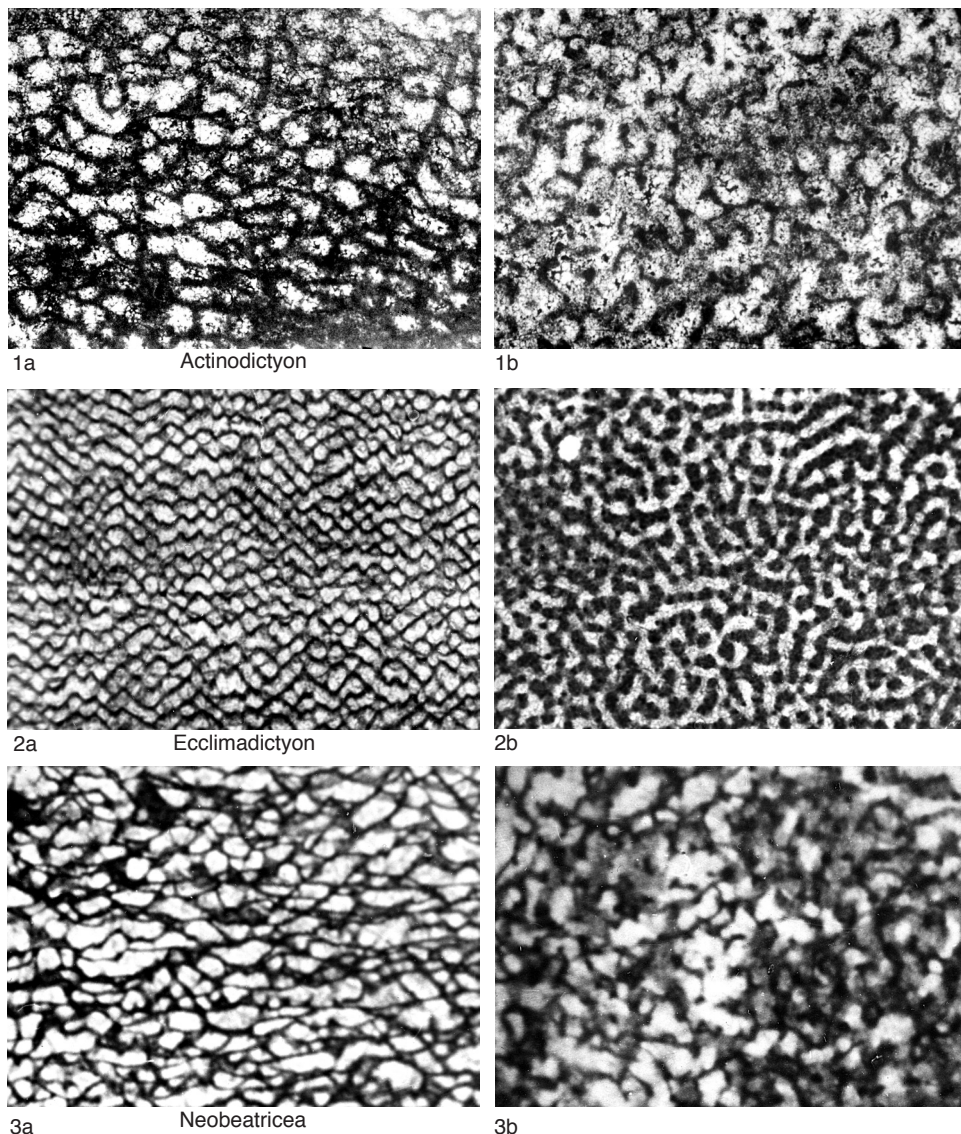


FIG. 3. Actinodictyidae (p. 4).

Australia (New South Wales, Queensland), Canada (Arctic islands), central Asia (Tien Shan), China (Inner Mongolia), Estonia, Sweden (Gotland, Scania), Russia (Arctic islands, northeastern Siberia, Pechora Basin, Urals), Ukraine (Podolia), United States (Michigan, Virginia), *Ludlow-Pridoli*.—FIG. 4, 1a–b. \**P. katriense*, Paadla Stage, Ludlow, Katri, Saaremaa Island, Estonia, holotype IGTUT 114-18 (Co 3132); longitudinal and tangential sections,  $\times 10$  (new).

**Yabeodictyon** MORI, 1968, p. 67 [\**Y. balticum* MORI, 1968, p. 68; OD; holotype SMNH Cn 68177

(GIK-35)] [= *Neoclathrodictyon* LESSOVAJA, 1971, p. 116 (type, *N. flexibilis*, OD)]. Growth form domical or laminar; laminae crumpled, intersected by long megapillars; galleries labyrinthine; astrorhizae common, small. [NESTOR (1976, p. 59) treated *Neoclathrodictyon* as a junior synonym of *Yabeodictyon*.] *Silurian (Llandovery)–Lower Devonian (Emsian)*: Canada (Arctic islands, eastern Quebec), Russia (Siberian Platform), Sweden (Gotland), *Wenlock*; Canada (Arctic islands), central Asia (Tien Shan), Russia (Urals, ?Salair), *Ludlow-Pridoli*; Canada (Hudson Bay), Russia (Pechora Basin),

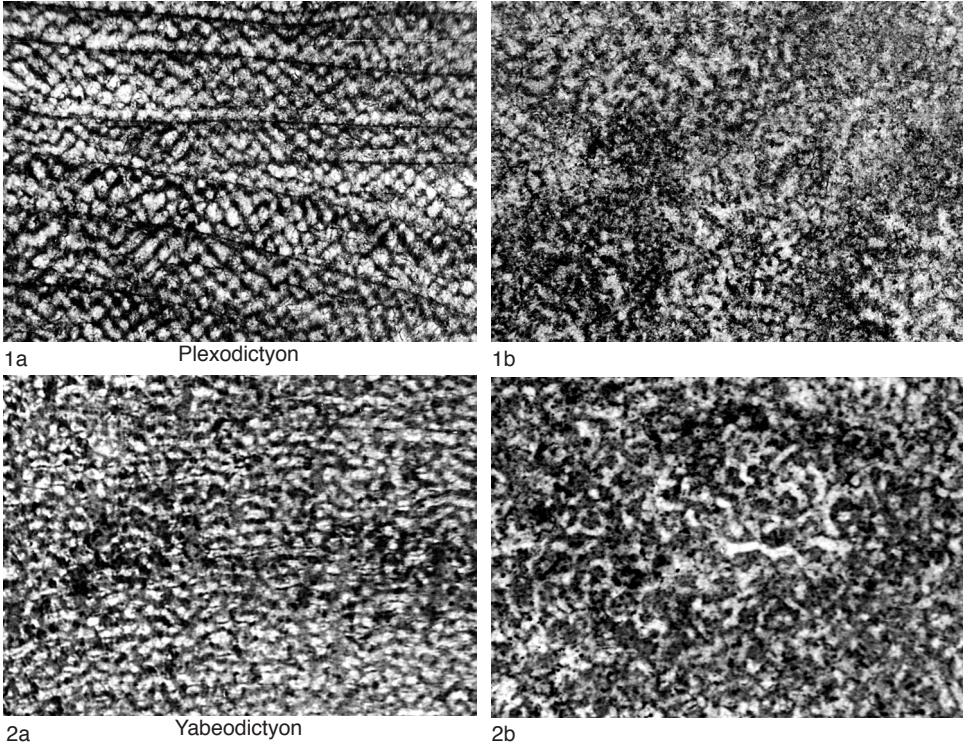


FIG. 4. Actinodictyidae (p. 4–6).

*Silurian*; central Asia (Tien Shan), *Emsian*.—FIG. 4, 2a–b. \**Y. balticum*, Slite Beds, Wenlock, Slite, Gotland, holotype SMNH Cn 68177 (GIK-35); longitudinal and tangential sections,  $\times 10$  (new).

#### Family GERRONOSTROMATIDAE Bogoyavlenskaya, 1969

[Gerronostromatidae BOGOYAVLENSKAYA, 1969, p. 19; *emend.*, NESTOR in STEARN & others, 1999, p. 28] [=Clathrostromatidae KHALFINA & YAVORSKY, 1971, p. 118]

Skeletal elements very well differentiated; laminae continuous, planar (straight); pillars simple, rodlike, short or long (superposed); galleries open, subrectangular in longitudinal section; astrorhizae rare, irregular. [BOGOYAVLENSKAYA (1969) originally incorporated stromatoporoids with single-layer and tripartite laminae both in the present family. STEARN (in STEARN & others, 1999) removed those with tripartite laminae into the family Stromatoporellidae and thus restricted the scope of Gerronostromatidae. KHALFINA and YAVORSKY (1971) established

a new family Clathrostromatidae, which differs from Gerronostromatidae by the presence of short pillars in addition to the long ones. This feature is not considered to be diagnostic of the family level by other investigators.] *Silurian* (*Llandovery*)–*Upper Devonian* (*upper Famennian*).

**Gerronostroma** NESTOR, *nom. nov.* herein (*Gerronostroma* YAVORSKY, 1931, p. 1392, *nom. nud.*) [\**Gerronostroma elegans* YAVORSKY, 1931, p. 1393; OD; holotype CNIGR 3338/3] [= *Clathrostroma* YAVORSKY, 1960, p. 132 (type, *C. stolbergense*, OD)]. Growth form domical or bulbous; laminae planar, continuous; pillars rodlike, mostly long or superposed; galleries rectangular in longitudinal section; astrorhizae rare, fasciculate. [YAVORSKY (1931) established a new genus *Gerronostroma* without designation of the type species, and therefore, according to the IZCN Code (1999), Article 13.3, its name is invalid and requires replacement. YAVORSKY (1960) established the new genus *Clathrostroma*, differing from *Gerronostroma* by the presence of both short and long (superposed) pillars. The presence of partly short and partly long pillars is not considered here to



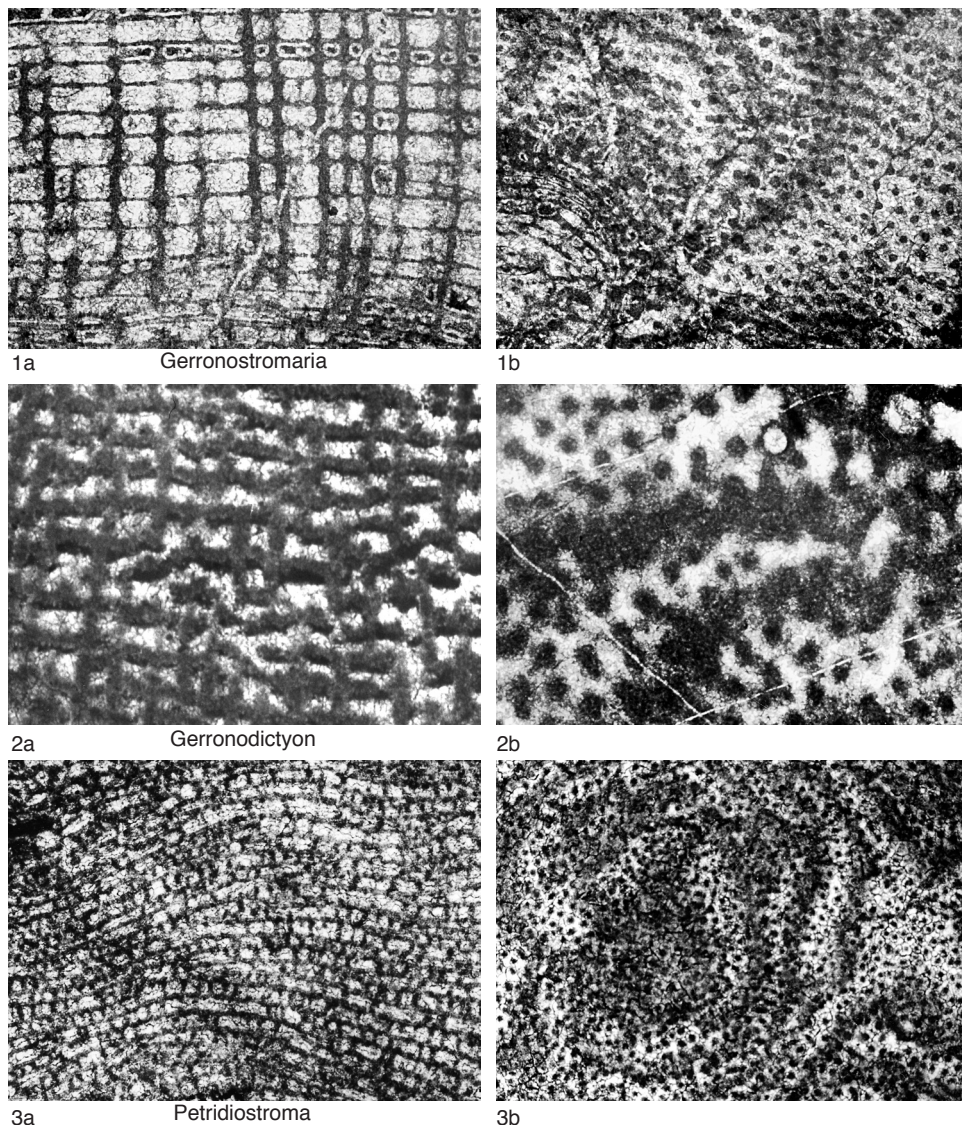


FIG. 5. Gerronostromatidae (p. 6–8).

be a generic character.] *Silurian* (*Llandovery*)–*Upper Devonian* (*upper Famennian*): Canada (Arctic islands), *Llandovery*; Canada (Quebec), Russia (Pechora Basin, Urals), *Ludlow–Pridoli*; Canada (Arctic islands), central Asia (Tien Shan), Russia (Kuznetsk Basin, northeastern Siberia, Urals), *Lower Devonian*; Afghanistan, Australia (Queensland, Victoria), central Asia (Tien Shan), Russia (Kuznetsk Basin, northeastern Siberia, Pechora Basin, Urals), United States (Indiana, Ohio), *Middle Devonian*; Canada (Alberta), Germany, Russia (Kuznetsk Basin, Russian

Platform), *Upper Devonian*; Germany, Russia (southern Urals), *upper Famennian*.—FIG. 5, 1a–b. \**G. elegans* (YAVORSKY), Middle Devonian, Bachat village, Kuznetsk Basin, holotype CNIGR 3338/3; longitudinal and tangential sections,  $\times 10$  (new).

**Gerronodictyon** BOGOYAVLENSKAYA, 1969, p. 20 [\**G. incisum*; OD; holotype UGM 990/189a]. Growth form domical or irregular; laminae thick, discontinuous; pillars rodlike, mostly superposed, unequally situated; astrorhizae rare, fasciculate. *Silurian* (*Wenlock*): Russia (Urals).—FIG. 5, 2a–b. \**G.*

*incisum*, Pavdinsk Horizon, Wenlock, Is River, Isovskoi District, Middle Urals, holotype UGM 990/189a; longitudinal and tangential sections,  $\times 10$  (new).

**Petridiostroma** STEARN, 1992, p. 531, *nom. nov. pro Petrostroma* STEARN, 1991, p. 617, *non* DÖDERLEIN, 1892 [\**Simplexodictyon simplex* NESTOR, 1966, p. 25; OD; holotype IGTUT 114-20 (Co3134)] [= *Faciledictyon* LESSOVAJA, 1991, p. 28 (type, *Simplexodictyon torosum* LESSOVAJA, 1972, p. 49, OD)]. Growth form laminar to domical; laminae planar, continuous; pillars short, rodlike to spool shaped; galleries open, rectangular, oval to arch-shaped in longitudinal section; astrorhizae rare, inconspicuous. [STEARN (1991) and LESSOVAJA (1991) in the same year published the morphologically identical genera *Petrostroma* and *Faciledictyon*. The former name has priority, as it was published in July, while the latter appeared in November.] *Silurian (Telychian)–Middle Devonian*: Estonia, Norway, Sweden (Gotland), Canada (Anticosti), *Telychian*; central Asia (Tien Shan), Estonia, Russia (Urals), Sweden (Gotland), United States (Kentucky), *Wenlock*; Russia (Pechora Basin, northeastern Siberia), *Silurian*; Australia (Victoria), Canada (Arctic islands), central Asia (Tien Shan), Czech Republic (Bohemia), Russia (northeastern Siberia, Salair, Urals), United States (New York), *Lower Devonian*; Canada (Ontario), central Asia (Tien Shan), Germany, Russia (Kuznetsk Basin, northeastern Siberia, Pechora Basin, Urals), United States (Ohio), *Middle Devonian*.—FIG. 5,3a–b. \**P. simplex* (NESTOR), Jaani Stage, Wenlock, Liiva, Saaremaa Island, Estonia, holotype IGTUT 114-20 (Co3134); longitudinal and tangential sections,  $\times 10$  (new).

### Family TIENODICTYIDAE Bogoyavlenskaya, 1965

[Tienodictyidae BOGOYAVLENSKAYA, 1965b, p. 37, *emend.*, STEARN, 1980, p. 890; NESTOR, 1997, p. 327; NESTOR in STEARN & others, 1999, p. 30; NESTOR, herein, p. 10] [= *Dualestromatidae* KHALFINA & YAVORSKY, 1973, p. 27]

Skeletal elements well differentiated; laminae continuous, planar; branching or oblique longitudinal skeletal elements, together with dissepiments, form tangled network in interlaminar space; galleries irregular, astrorhizae weakly developed. *Silurian (Llandovery)–Upper Devonian (Frasnian)*.

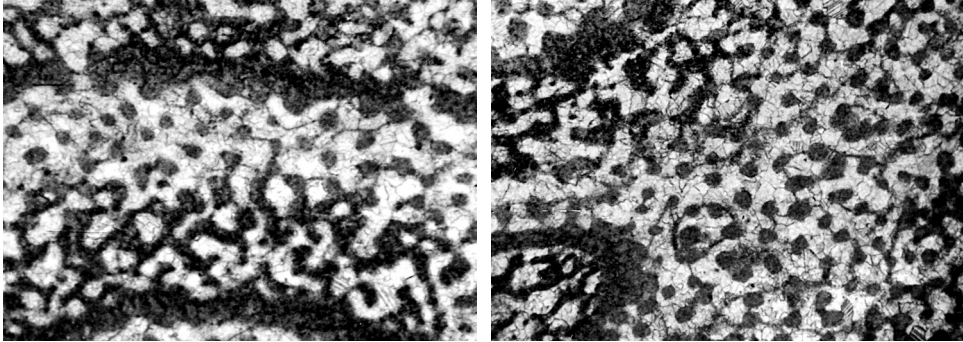
**Tienodictyon** YABE & SUGIYAMA, 1941, p. 139 [\**T. zonatum*; OD; holotype TUM 65229]. Growth form domical, structure laminate; laminae planar; interlaminar space divided into two zones, longitudinal skeletal elements in lower zone very irregular, connected with processes into tangled network, in upper zone, isolated pillars occur, circular in cross section; galleries irregular; dissepiments abun-

dant in upper zone; astrorhizae indistinct. *Lower Devonian–Upper Devonian (Frasnian)*: Australia (northern Queensland), Russia (northeastern Siberia), *Lower Devonian*; Australia (northern Queensland), Canada (Northwest Territories), China (Yunnan), Russia (eastern Urals, Kuznetsk Basin, Salair), *Middle Devonian*; Czech Republic (Moravia), *Frasnian*.—FIG. 6,1a–b. \**T. zonatum*, Middle Devonian, Nanshan, Paichiyang, eastern Yunnan, China, holotype TUM 65229; oblique longitudinal and tangential sections,  $\times 10$  (new).

**Hammatostroma** STEARN, 1961, p. 939 [\**H. albertense* STEARN, 1961, p. 940; OD; holotype GSC 15318]. Growth form domical to laminar; laminae planar or irregularly wavy, transversely fibrous; interlaminar spaces occupied by tangled, irregular structure, forming discontinuous, crumpled additional laminae in the middle part; galleries irregular; astrorhizae inconspicuous. *Lower Devonian–Upper Devonian (Frasnian)*: Austria (Carnic Alps), *Lower Devonian*; China (Guangxi), *Givetian*; Canada (Alberta, Saskatchewan), China (Guangxi), Czech Republic (Moravia), Poland, Russia (Arctic islands, Timan, Urals), United States (Iowa), *Frasnian*.—FIG. 6,2a–b. \**H. albertense*, Cairn Formation, Frasnian, Isaac Creek, Rocky Mountains, Alberta, holotype GSC 15318; longitudinal and tangential sections,  $\times 10$  (new, courtesy of T. E. Bolton).

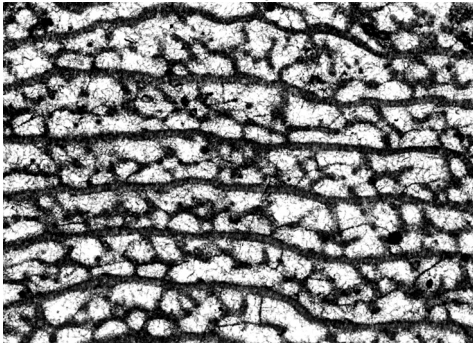
**Intexodictyides** NESTOR, *nom. nov.* herein [*Intexodictyon* YAVORSKY, 1963, p. 34, *nom. nud.*] [\**Intexodictyon perplexum* YAVORSKY, 1963, p. 36; OD; lectotype CNIGR 7351/469]. Growth form domical; laminae thin, planar; longitudinal skeletal elements (pillars) thin, irregularly branching, forming a fine tangled network in interlaminar space; additional inflected lamina locally developed in interlaminar space or below the planar lamina. [YAVORSKY (1963) erected the new genus *Intexodictyon* without designation of the type species, and therefore, according to the IZCN Code (1999), Article 13.3, its name is invalid and requires replacement.] *Silurian (Llandovery)–Lower Devonian*: Canada (Arctic islands, eastern Quebec), China (Quizhou), Estonia, United States (northern Michigan), *Llandovery*; Russia (northeastern Siberia, Pechora Basin, Tuva), *Silurian*; China (Inner Mongolia), Russia (Kuznetsk Basin), *Lower Devonian*.—FIG. 6,3a–b. \**I. perplexum* (YAVORSKY), upper Silurian, R. Iblagas, Magadan, northeastern Siberia; lectotype CNIGR 7351/469; longitudinal and tangential sections,  $\times 16$  (new).

**Pseudoactinodictyon** FLÜGEL, 1958, p. 137 [\**P. juxi*; OD; holotype SMF XXV-1184] [= *Dualestroma* KHALFINA, 1968b, p. 61 (type, *Stromatoporella dualis* KHALFINA, 1961, p. 332, OD); = *Intexodictyonella* YAVORSKY, 1969, p. 102 (type, *Stromatoporella undata* YAVORSKY, 1950, p. 258, OD)]. Growth form laminar to domical; laminae planar; pillars short, partly superposed, locally crooked or oblique, expanding at tops; wide interlaminar spaces filled with abundant convex dissepiments; astrorhizae irregular. [FLÜGEL (1958) originally published negative prints of *Pseudoactinodictyon* with low magnification that complicated identification

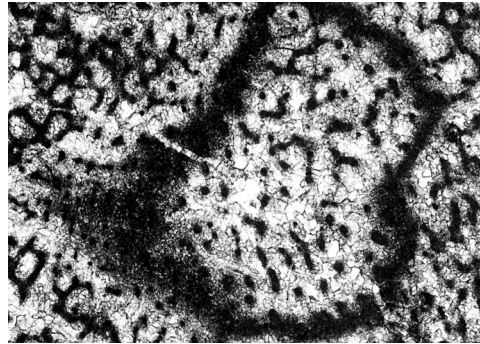


1a Tienodictyon

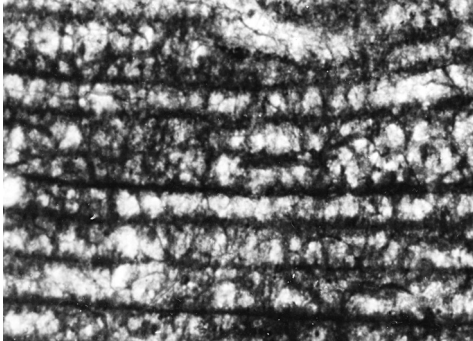
1b



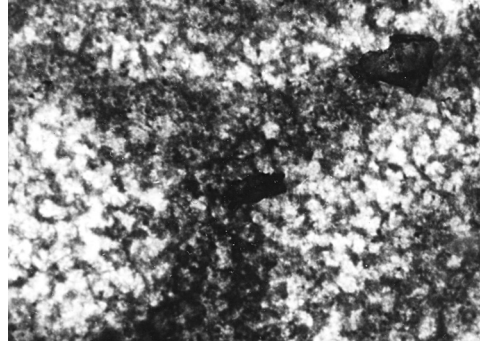
2a Hammatostroma



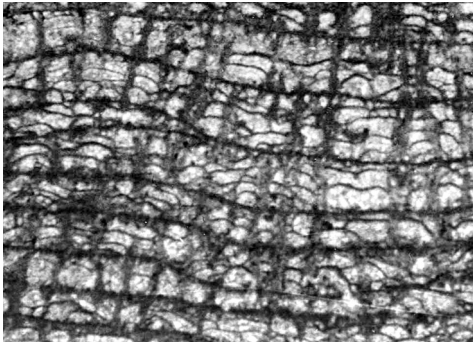
2b



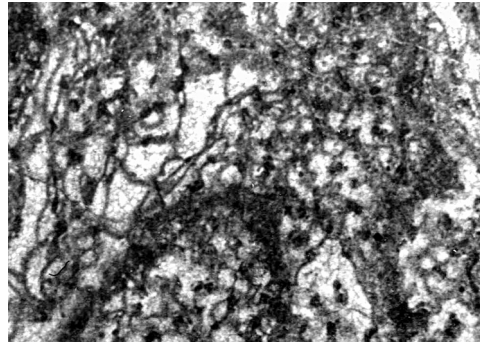
3a Intexodictyides



3b



4a Pseudoactinodictyon



4b

FIG. 6. Tienodictyidae (p. 8–10).

of the genus. Therefore, the species *Stromatoporella dualis* KHALFINA, 1961, and *Stromatoporella undata* YAVORSKY, 1950, were distinguished as new genera *Dualestroma* and *Intexodictyonella*, respectively]. *Lower Devonian (Pragian)–Upper Devonian (Frasnian)*: Australia (Victoria), United States (?Michigan), *Pragian*; Australia (northern Queensland), Canada (Alberta, Ontario), China (Yunnan), Czech Republic (Moravia), England, France (Boulonnais), Germany (Sauerland), Poland, Russia (Kuznetsk Basin, southern Urals), United States (Ohio), *Middle Devonian*; Belgium, Canada (Alberta, Arctic islands), China (Guangxi), Germany (Sauerland), Russia (Russian Platform), *Frasnian*.—FIG. 6,4a–b. \**P. juxi*, holotype SMF XXV-1184, “Massenkalk,” Givetian, Delsten-Milchenbach, Sauerland, Germany; longitudinal and tangential sections,  $\times 10$  (new, by courtesy of E. Schindler).

### Family ANOSTYLOSTROMATIDAE Nestor, new family

[Anostylostromatidae NESTOR, herein] [type genus, *Anostylostroma* PARKS, 1936, p. 44]

Skeletal elements well differentiated; laminae continuous, planar; pillars expanding and branching at tops. [The genera included herein in the family Anostylostromatidae were formerly included in the family Tienodictyidae (STEARNS & others, 1999).] *Silurian (Ludlow)–Upper Devonian (upper Famennian)*.

*Anostylostroma* PARKS, 1936, p. 44 [\**A. hamiltonense* PARKS, 1936, p. 46; OD; *emend.*, STEARN, 1991, p. 612, holotype ROM 16536 (2240)]. Growth form laminar to domical; laminae thin, planar, penetrated by scattered pores; pillars thick, expanding and branching at tops, oblong to vermiform in tangential section; galleries irregular; dissepiments common; astrorhizae rare, small. *Middle Devonian–Upper Devonian (upper Famennian)*: Canada (Arctic islands), China (Guangxi), Russia (eastern Urals, Kuznetsk Basin), United States (Indiana, Missouri), *Middle Devonian*; Kazakhstan, Russia (Pechora Basin), *Frasnian*; China (Guangxi), France, Germany (Aachen), Russia (Pechora Basin), *upper Famennian*.—FIG. 7,1a–b. \**A. hamiltonense*, Long Lake, Alpena, Michigan, Hamilton Formation, holotype ROM 16536 (2240); longitudinal and tangential sections,  $\times 10$  (new).

*Belemnostroma* STEARN, 1990, p. 504 [\**B. bastatum* STEARN, 1990, p. 505; OD; holotype GSC 95772]. Growth form laminar to domical; laminae planar, inflected upward at megapillars; ordinary, short pillars expanding and branching at top; thicker megapillars, circular in cross section, penetrate through several laminae; astrorhizae inconspicuous. *Lower Devonian (Lochkovian)*: Canada (Arctic Islands).—FIG. 7,2a–b. \**B. bastatum*, Loc. B24A

near Polar Bear Pass, Bathurst Island, Stuart Bay Formation, holotype GSC 95772; longitudinal and tangential sections,  $\times 10$  (new, by courtesy of C. W. Stearn).

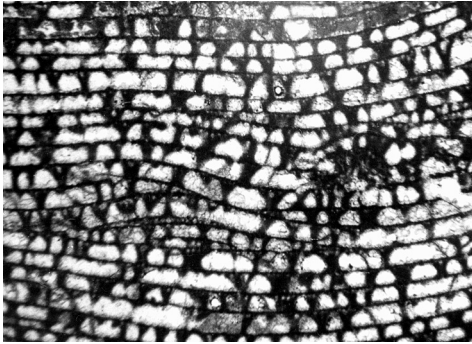
*Nexililamina* MALLETT, 1971, p. 241 [\**N. dipcreekensis*; OD; *emend.*, WEBBY & ZHEN, 1997, p. 35, holotype UQF 47608]. Growth form laminar to domical; laminae planar with few pores; pillars of two types: superposed, long, spool-shaped (megapillars) and simple, short, rodlike, expanding and branching at top, rounded to angular in cross section; dissepiments scattered; astrorhizae apparently lacking. *Lower Devonian (Emsian)–Middle Devonian (Eifelian)*: Australia (northern Queensland).—FIG. 7,3a–b. \**N. dipcreekensis*, Martins Well, Broken River, Dip Creek Limestone, holotype, UQF 47608; longitudinal and tangential sections,  $\times 10$  (new, courtesy of B. D. Webby).

*Schistodictyon* LESSOVAJA in LESSOVAJA & ZAKHAROVA, 1970, p. 47 [\**S. posterium*; OD; holotype GMU 240/2-9/74]. Growth form domical; laminae thin, planar; pillars upward forking or funnel shaped, branching in longitudinal section once or twice before reaching overlying lamina, pillars vermicular, irregular to circular in cross section; galleries irregular; astrorhizae rare. *Silurian (Ludlow)–Upper Devonian (Frasnian)*: Australia (New South Wales, northern Queensland), central Asia (Tien Shan), *Ludlow–Pridoli*; Australia (New South Wales, northern Queensland), Russia (Kuznetsk Basin), *Lower Devonian*; Belgium, Canada (Ontario), United States (Michigan, Missouri, Ohio), Russia (southern Urals, Kuznetsk Basin), *Middle Devonian*; Canada (Arctic islands), Russia (Kuznetsk Basin), Turkey, *Frasnian*.—FIG. 7,4a–b. \**S. posterium*, Isfara River, Tien Shan, Isfarinsk Horizon, Pridoli, holotype GMU 240/2-9/74; longitudinal and tangential sections,  $\times 10$  (new).

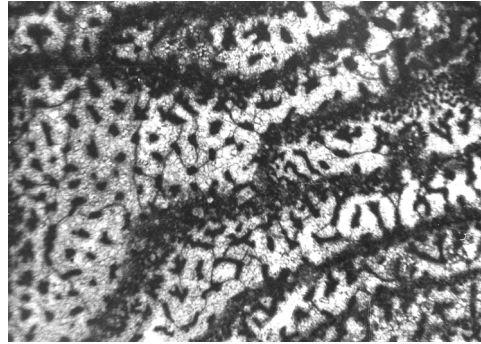
### Family ATELODICTYIDAE Khalina, 1968

[Atelodictyidae KHALFINA, 1968a, p. 148; *emend.*, STEARN & others, 1999, p. 29] [=Aculatostromatidae KHALFINA & YAVORSKY, 1973, p. 27]

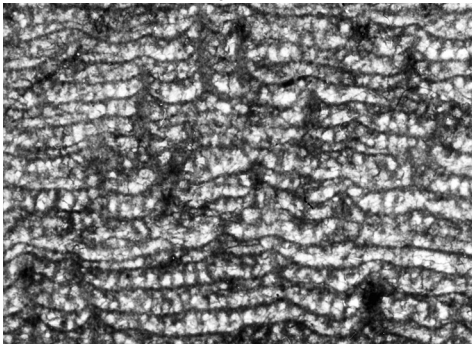
Skeletal elements well differentiated; laminae continuous, planar; pillars blade shaped, laterally joined in chains or walls; galleries labyrinthine in tangential section, subrectangular in longitudinal section; astrorhizae rare. [STEARNS (1991) transferred the genus *Atelodictyon* from Actinostromatida to Clathrodactyloida, as it has continuous and not colliculate laminae. The so-called hexactinellid structure occurs in the interlaminar space of *Atelodictyon* and not at the level of lamina, as in actinostromatids. The representatives of the family Aculatostromatidae KHALFINA & YAVORSKY, 1973, have quite analogous interlaminar structure and



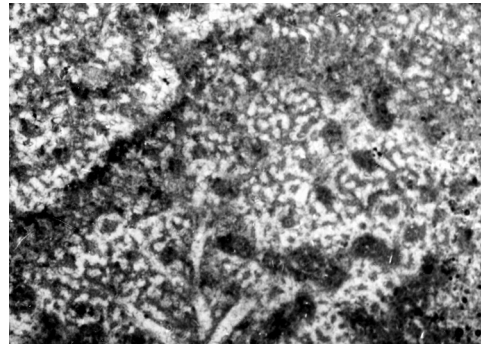
1a Anostylostroma



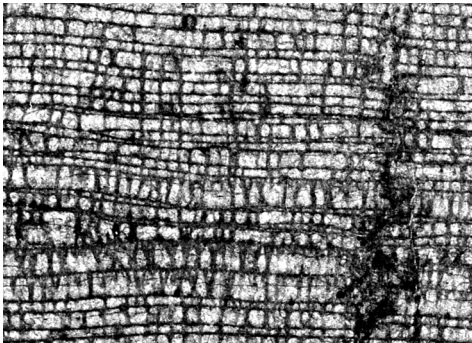
1b



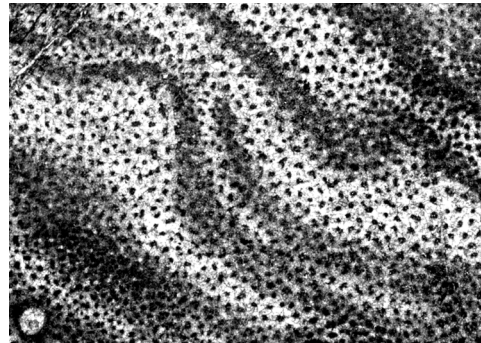
2a Belemnostroma



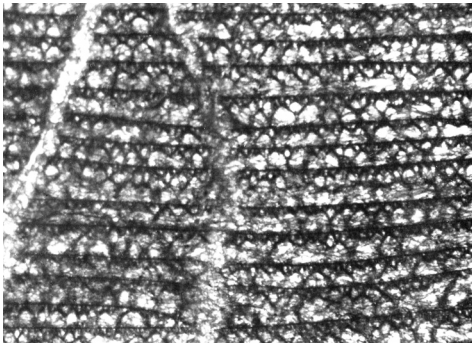
2b



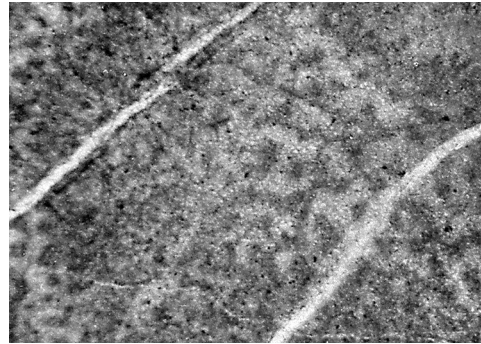
3a Nexilamina



3b



4a Schistodictyon



4b

FIG. 7. Anostylostomatidae (p. 10).

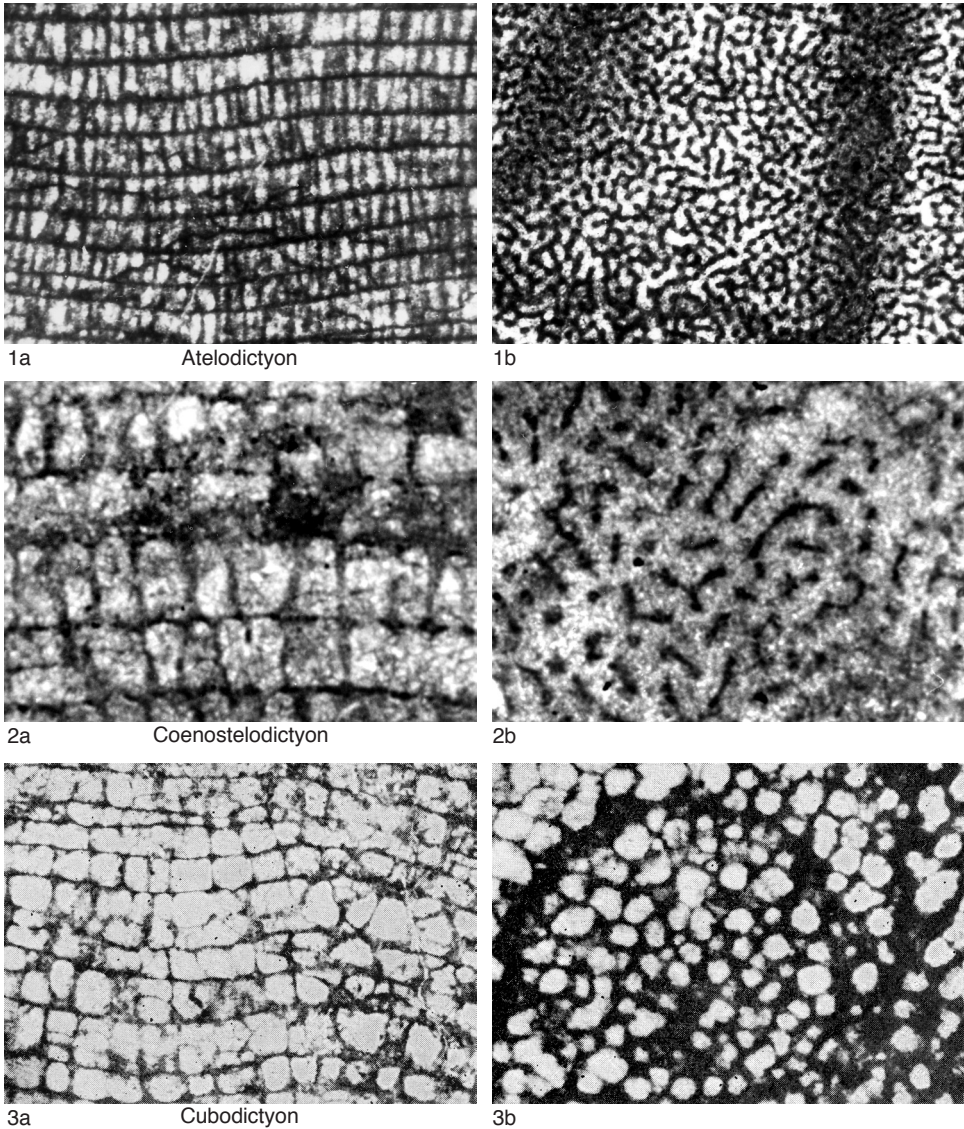


FIG. 8. Atelodictyidae (p. 10–13).

continuous laminae. Therefore, the latter family is synonymous with Atelodictyidae.] *Lower Devonian–Upper Devonian (upper Famennian)*.

**Atelodictyon** LECOMPTE, 1951, p. 124 [\**A. fallax* LECOMPTE, 1951, p. 125; OD; holotype IRScNB 7411] [= *Aculatostroma* KHALFINA, 1968b, p. 62 (type, *Syringostroma verrucosum* KHALFINA, 1961, p. 342, OD)]. Growth form laminar or domical; laminae continuous, planar, thin; pillars bladeliike,

laterally joined in chains, short to superposed; galleries labyrinthine in tangential section, rectangular in longitudinal section; astrorhizae rare. [The original figures of *Syringostroma verrucosum* (KHALFINA, 1961, pl. D13, 3a–b), designated as the type species of the genus *Aculatostroma* KHALFINA, 1968b, clearly demonstrate that it has continuous laminae and so-called hexactinellid structure in the interlaminar space. Therefore, *Aculatostroma* is treated as a junior synonym of *Atelodictyon*.] *Lower Devonian–Upper Devonian (upper Famennian)*: Australia (northern Queensland, Victoria), central

- Asia (Tien Shan), Russia (Kuznetsk Basin, north-eastern Siberia), *Lower Devonian*; Afghanistan, Austria, Belgium, China (Quizhou), France (Boulnais), Poland, Russia (Kuznetsk Basin, north-eastern Siberia, Urals), United States (Indiana), *Middle Devonian*; Canada (Alberta), Czech Republic (Moravia), Poland, Russia (Kuznetsk Basin, northeastern Siberia, Russian Platform), United States (Iowa), *Upper Devonian*; Belgium, Germany, Kazakhstan, *Srunician*.—FIG. 8, 1a–b.
- \**A. fallax*, Couvianian, Eifelian, Dinant Basin, Belgium, holotype IRScNB 7411; longitudinal and tangential sections,  $\times 10$  (new, courtesy of C. W. Stearn).
- Coenostelodictyon** YAVORSKY in KHALFINA & YAVORSKY, 1971, p. 118 [\**Clathrodictyon krekovi* YAVORSKY, 1955, p. 50; OD; holotype CNIGR 7351/62]. Growth form laminar; laminae thin, planar, slightly inflected at the junctions with pillars; pillars blade-like, circular at base, mainly isolated but laterally joined in chains at top; galleries open in tangential section, subrectangular in longitudinal section; astrophorites unknown. *Lower Devonian (Pragian)–Middle Devonian (Eifelian)*: Russia (Kuznetsk Basin), *Pragian*; China (Yunnan), *Eifelian*.—FIG. 8, 2a–b. \**C. krekovi* (YAVORSKY), Krekov Horizon, *Pragian*, River Chernovoï Bachat, Kuznetsk Basin, holotype CNIGR 7351/62; longitudinal and tangential sections,  $\times 20$  (new).
- ?**Cubodictyon** YANG & DONG, 1979, p. 45 [88] [\**C. sinense*; OD; holotype NIGP Bd 644-4]. Growth form domical or irregular; laminae thin, continuous, wrinkled on a small scale; longitudinal elements, walls of subhexagonal chambers; astrophorites unknown. [The presence of chamberlike structures in interlaminae spaces shows that the relationship of the genus with stromatoporoids is problematic.] *Middle Devonian (Eifelian)*: China (Guangxi).—FIG. 8, 3a–b. \**C. sinense*, Beiliu Formation, holotype NIGP Bd 644-4; longitudinal and tangential sections,  $\times 10$  (Yang & Dong, 1979, pl. 20, 5–6).
- ## REFERENCES
- Bassler, R. S. 1915. Bibliographic index of American Ordovician and Silurian Fossils. Smithsonian Institute U.S. National Museum 92(1):1–718.
- Bogoyavlenskaya, O. V. 1965a. Predstaviteli stromatoporidov iz Clathrodictyidae i Actinostromatidae v silure i devone Urala [Representatives of stromatoporoids Clathrodictyidae and Actinostromatidae from the Silurian and Devonian of the Urals]. *Paleontologicheskii Zhurnal* [Paleontological Journal] 1965(1):39–43, pl. 1, 1 table.
- Bogoyavlenskaya, O. V. 1965b. Rod *Tienodictyon* iz Devona Urala [The genus *Tienodictyon* from the Devonian of the Urals]. *Paleontologicheskii Zhurnal* [Paleontological Journal] 1965(3):33–39, 1 fig., pl. 4.
- Bogoyavlenskaya, O. V. 1969. K postroeniui klassifikatsii stromatoporoidov [On constructing the classification of the stromatoporoids]. *Paleontologicheskii Zhurnal* [Paleontological Journal] 1969(4):12–27, 1 fig., pl. 3–4.
- Bogoyavlenskaya, O. V. 1977. Novye stromatoporaty rannego i srednego devona vostochnogo sklona Urala [New stromatoporates of Early and Middle Devonian from the eastern slope of Urals]. *In* I. E. Zanina, ed., *Novye vidy drevnikh rastenii i bespozvonochnykh SSSR*, 4 [New species of ancient plants and invertebrates of the U.S.S.R., 4]. Izdatel'stvo "Nauka." Moscow. p. 14–18, pl. 4–5.
- Bogoyavlenskaya, O. V. 1981. Rasprostraneniye przhidol'skikh stromatoporat v nekotorykh raionakh SSSR [Distribution of Pridolian stromatoporates in some districts of the U.S.S.R.]. *In* V. P. Sapel'nikov & B. I. Chuvashov, eds., *Biostratigrafiya i fauna srednego paleozoya Urala* [Biostratigraphy and fauna of middle Paleozoic of the Urals]. Ural'skii Nauchnyi Tsentr. Sverdlovsk. p. 27–35.
- Bogoyavlenskaya, O. V. 1982. Stromatoporaty pozdnego devona—rannego karbona [Stromatoporates of the Late Devonian and Early Carboniferous]. *Paleontologicheskii Zhurnal* [Paleontological Journal] 1982(1):33–38, pl. 4, 2 tables.
- Bogoyavlenskaya, O. V., & V. G. Khromykh. 1985. Ukazatel' rodov i vidov stromatoporat [Catalog of genera and species of stromatoporates]. *Akademiya Nauk SSSR, Sibirskoe Otdeleniye, Trudy Instituta Geologii i Geofiziki* 545:1–98, 16 pl.
- Flügel, Erik. 1958. *Pseudoactinodictyon* n. gen. and *Actinodictyon* Parks (Stromatoporoidea). *Senckenbergiana Lethaea* 39(3/4):135–151, 1 fig., pl. 1–2, 3 tables.
- Galloway, J. J. 1957. Structure and classification of the Stromatoporoidea. *Bulletins of American Paleontology* 37(164):345–480, 1 fig., pl. 31–37.
- ICZN (International Code of Zoological Nomenclature). 1999. International Code of Zoological Nomenclature, 4th ed. International Trust for Zoological Nomenclature. London. 306 p.
- KhalFINA, V. K. 1961. Otriad Stromatoporoidea. Stromatoporoidei [Order Stromatoporoidea. Stromatoporooids]. *In* L. L. KhalFINA, ed., *Biostratigrafiya paleozoya Saiano-Altayskoi Gornoï oblasti* [Biostratigraphy of Saian-Altai mountainland]. *Trudy Sibirskogo Nauchno-Issledovatel'skogo Instituta Geologii, Geofiziki i Mineral'nogo Syria (SNIIG-GIMS)* 20:44–56, pl. S1–S8 (Silurian System); p. 323–349, pl. D1–D16 (Devonian System).
- KhalFINA, V. K. 1968a. O novykh rodakh stromatoporoidov iz devonskikh orlozhenii iugozapadnoi ukrainy Kuzbassa i Altaia [On the new genera of stromatoporoids from the Devonian deposits of southwestern margin of Kuznetsk Basin and Altai]. *Trudy Tomskogo Gosudarstvennogo Universiteta, Seriya Geologicheskaya* 202:147–152, pl. 1–2.
- KhalFINA, V. K. 1968b. Obzor kompleksov stromatoporoidov nizhnego i srednego devona Salaira [Survey of the stromatoporooid complexes of the Lower and Middle Devonian of Salair]. *In* L. L. KhalFINA, ed., *Materialy po regional'noi geologii Sibiri (Soveschanie po stratigrafii devona Sibiri. Novosibirsk, 1967)* [Contributions to the regional geology of Siberia (Conference on Devonian Stratigraphy

- of Siberia. Novosibirsk, 1967)]. Seriya regional'naya geologii. SNIIGGIMS. Novosibirsk. p. 57–69.
- Khalifina, V. K., & V. I. Yavorsky. 1971. Novaia gruppya stromatoporoidei [A new group of stromatoporoids]. Geologiya i geofizika 1971(8):118–120.
- Khalifina, V. K., & V. I. Yavorsky. 1973. Klassifikatsiya stromatoporoidei [Classification of stromatoporoids]. Paleontologicheskii Zhurnal [Paleontological Journal] 1973(2):19–34.
- Kühn, Otomar. 1939. Eine neue Familie der Stromatoporen. Zentralblatt für Mineralogie, Geologie und Paläontologie, Stuttgart 1939:338–345, 3 fig.
- Lecompte, Marius. 1951. Les Stromatoporoides du Dévonien moyen et supérieur du Bassin de Dinant, première partie. Mémoire de l'Institut Royal des Sciences Naturelles de Belgique 116:1–218, 35 pl.
- Lecompte, Marius. 1956. Stromatoporoidea. In R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part F, Coelenterata. Geological Society of America & University of Kansas Paleontological Institute. New York & Lawrence, Kansas. p. 107–144, pl. 86–114.
- Lessovaja, A. I. 1971. Stromatoporoidei pogranichnykh sloev silura i devona Zheravshanskogo khrebtta [Stromatoporoids of the Silurian and Devonian boundary beds of Zheravshan range]. In A. B. Ivanovski, ed., Rugozy i stromatoporoidei paleozoya SSSR. Trudy 2 Vsesoiuznogo simposiuma po izucheniiu iskopayemykh korallov SSSR, 2 [Paleozoic Rugosa and Stromatoporoidea of the USSR. Papers of 2 All-Union Symposium of fossil corals of the USSR]. Izdatel'stvo Nauka. Moscow. p. 112–125, pl. 29–38, 2 tables.
- Lessovaja, A. I. 1972. Novye siluriiskie i nizhnedevonskie stromatoporoidei iuzhnogo Tian-Shania [New Silurian and Early Devonian stromatoporoids of the southern Tian Shan]. In A. S. Masumov & R. N. Abdullaev, eds., Novye dannye po faune paleozoya i mezozoya Uzbekistana [New data on Paleozoic and Mesozoic of Uzbekistan]. Izdatel'stvo FAN. Tashkent. p. 46–52, pl. 24–28.
- Lessovaja, A. I. 1991. Novye siluriiskie stromatoporaty severnogo Nuratau iuzhnogo Tian-Shania [New Silurian stromatoporoids from northern Nuratau of the southern Tien Shan]. Paleontologicheskii Zhurnal [Paleontological Journal] 1991(4):26–31, 1 fig., pl. 2.
- Lessovaja, A. I., & V. M. Zakharova. 1970. Novye stromatoporoidei iz verkhnego silura Turkestanskogo khrebtta [New stromatoporoids from the upper Silurian of the Turkestan range]. Paleontologicheskii Zhurnal [Paleontological Journal] 1970(2):47–51, pl. 5–6.
- Mallett, C. W. 1971. The stromatopoid genera *Actinostroma* Nicholson and *Nexililamina* gen. nov. from the Devonian Broken River Formation, North Queensland. Proceedings of the Royal Society of Victoria 84:235–244, 4 fig., pl. 13–14.
- Mori, Kei. 1968. Stromatoporoids of Gotland. Part 1. Acta Universitatis Stockholmiensis, Stockholm Contributions in Geology 19:100 p., 10 fig., 24 pl., 2 tables.
- Mori, Kei. 1978. Stromatoporoids from the Silurian of the Oslo Region, Norway. Norsk Geologisk Tidsskrift 58:121–144, 5 fig., 6 pl., 1 table.
- Nestor, H. E. 1964. Stromatoporoidea ordovika i llando-veri Estonii [Ordovician and Silurian Stromatoporoidea of Estonia]. Akademiia Nauk Estonskoi SSR. Tallinn. 112 p., 38 fig., 32 pl., 5 tables.
- Nestor, H. E. 1966. Stromatoporoidea venloka i ludlova Estonii [Wenlockian and Ludlovian Stromatoporoidea of Estonia]. Valgus. Tallinn. 87 p., 18 fig., 24 pl., 7 tables.
- Nestor, H. E. 1976. Rannepaleozoiskie stromatoporoidei basseina reki Moiero (sever Sibirskoi platformy [Early Paleozoic stromatoporoids from the Moiero River (north of the Siberian Platform)]. Valgus. Tallinn. 95 p., 19 fig., 18 pl.
- Nestor, H. 1997. Evolutionary history of the single-layered, laminate, clathrodictyid stromatoporoids. Boletín Real Sociedad Española de Historia Natural, Sección Geológica 91(1–4):319–328, 2 fig., 2 pl.
- Nicholson, H. A. 1886. A Monograph of the British Stromatoporoids, Part 1. Palaeontographical Society, London 39:1–130, fig. 1–17, pl. 1–11.
- Nicholson, H. A. 1887. On some new or imperfectly known species of stromatoporoids, Part 3. The Annals and Magazine of Natural History (series 5) 19(109):1–17, pl. 1–3.
- Nicholson, H. A., & J. Murie. 1878. On the minute structure of *Stromatopora* and its allies. Journal of the Linnean Society, Zoology 14:187–246, 5 fig., 4 pl.
- Parks, W. A. 1909. Silurian stromatoporoids of America (exclusive of Niagara and Guelph). University of Toronto Studies Geological Series 6:52 p., pl. 16–20.
- Parks, W. A. 1936. Devonian stromatoporoids of North America, Part 1. University of Toronto Studies Geological Series 39:1–125, 19 pl.
- Rukhin, L. B. 1938. Nizhnepaleozoiskie korally i stromatoporoidei verkhnei chasti basseina r. Kolymy [The lower Paleozoic corals and stromatoporoids of the upper reaches of the Kolyma river basin]. Materialy po izucheniiu Kolymsko-Indigirskogo kraia. Seriya 2. Geologiya i geomorfologiya [Contributions to the knowledge of the Kolyma-Indigirka land. Series 2. Geology and Geomorphology] 10:1–119, 28 pl.
- Stearn, C. W. 1961. Devonian stromatoporoids from the Canadian Rocky Mountains. Journal of Paleontology 35(5):932–948, 3 fig., pl. 105–107.
- Stearn, C. W. 1980. Classification of the Paleozoic stromatoporoids. Journal of Paleontology 54(5):881–902, 5 fig.
- Stearn, C. W. 1990. Stromatoporoids from the allochthonous reef facies of the Stuart Bay Formation (Lower Devonian), Bathurst Island, Arctic Canada. Journal of Paleontology 64(4):493–510, 8 fig.
- Stearn, C. W. 1991. A revision of *Anostylostroma*, *Atelodictyon*, and related genera (Paleozoic Stromatoporoidea). Journal of Paleontology 65(4):611–622, 6 fig.
- Stearn, C. W. 1992. *Petridiostroma*, a new name for *Petrostroma* Stearn, 1991, not *Petrostroma* Döderlein, 1892. Journal of Paleontology 66:531.
- Stearn, C. W., B. D. Webby, H. Nestor, & C. W. Stock. 1999. Revised classification and terminology of Paleozoic stromatoporoids. Acta Palaeontologica Polonica 44(1):1–70, 8 fig.
- Webby, B. D., & Y. Y. Zhen. 1997. Silurian and Devonian clathrodictyids and other stromatoporoids



- from the Broken River region, north Queensland. *Alcheringa* 21:1–56, 19 fig.
- Yabe, H., & T. Sugiyama. 1941. *Tienodictyon zonatum*, a new stromatoporoid from Eastern Yunnan, China. Proceedings of the Imperial Academy, Tokyo 17:139–141, 6 fig.
- Yang Jing-zhi, & Dong De-yuan. 1979. Devonian stromatoporoids from central and eastern parts of Guangxi, China. *Palaeontologica Sinica* (new series B) 157(14):1–89, 46 pl.
- Yavorsky, V. I. 1929. Silurijskie Stromatoporoidea [Silurian Stromatoporoidea]. *Izvestiia Geologicheskogo Komiteta* 48(1):77–114, pl. 5–12.
- Yavorsky, V. I. 1931. Nekotorye devonskie Stromatoporoidea iz okrain Kuznetskogo basseina, Urala i drugikh mest [Some Devonian stromatoporoids from the margins of the Kuznetsk Basin, the Urals, and other localities]. *Izvestiia Vsesoiuznogo Geologorazvedochnogo Ob'edineniia* 50(94):1387–1415, pl. 1–5.
- Yavorsky, V. I. 1950. Devonskie *Stromatoporella* i ikh znachenie dlia stratigrafii [The Devonian *Stromatoporella* and their stratigraphic significance]. Leningrad Gosudarstvennyi Universitet, *Voprosy Paleontologii* 1:243–263, pl. 1–7.
- Yavorsky, V. I. 1955. Stromatoporoidea Sovetskogo Soiuz. Chast' pervaiia [Stromatoporoidea of the Soviet Union. Part 1]. *Trudy Vsesoiuznogo Nauchno-Issledovatel'skogo Geologicheskogo Instituta (VSEGEI), Novaia Seriiia* 8:1–173, 11 fig., 89 pl.
- Yavorsky, V. I. 1960. Novyi vid nizhnecamennougol'noi stromatoporoidei [A new species of lower Carboniferous stromatoporoid]. *Paleontologicheskii Zhurnal* [Paleontological Journal] 1960(4):123–133, pl. 13.
- Yavorsky, V. I. 1963. Stromatoporoidea Sovetskogo Soiuz. Chast' chetvertaia [Stromatoporoidea of the Soviet Union. Part 4]. *Trudy Vsesoiuznogo Nauchno-Issledovatel'skogo Geologicheskogo Instituta (VSEGEI), Novaia Seriiia* 87:1–94 p., 31 pl.
- Yavorsky, V. I. 1967. Stromatoporoidea Sovetskogo Soiuz. Chast' piataia [Stromatoporoidea of the Soviet Union. Part 5]. *Trudy Vsesoiuznogo Nauchno-Issledovatel'skogo Geologicheskogo Instituta (VSEGEI), Novaia Seriiia* 148:1–56, 1 fig., 29 pl.
- Yavorsky, V. I. 1969. Novyi rod *Intexodictyonella* iz srednego devona Kuznetskogo basseina [A new genus *Intexodictyonella* from the Middle Devonian of the Kuznetsk Basin]. *Paleontologicheskii Zhurnal* [Paleontological Journal] 1969(4):102–104.