11/8/81

THE BIOSTRATIGRAPHY AND PALAEONTOLOGY OF ARCHAEOCYATHA, (CAMBRIAN), SOUTH AUSTRALIA

by

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in fulfilment of the requirement for the
Degree of Doctor of Philosophy

Volume II
Text-figures, Tables and Photographic Plates

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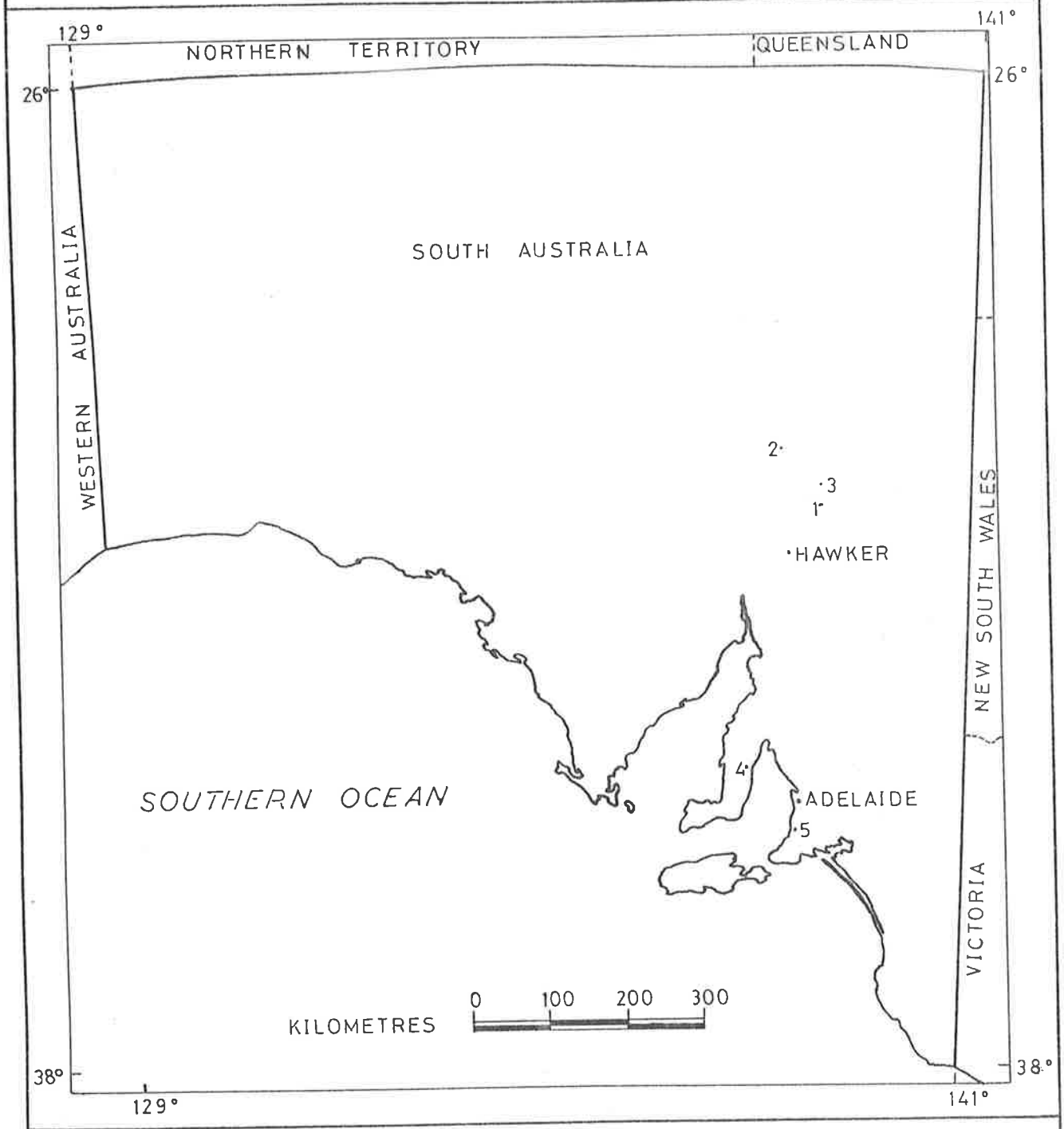
Text-figure 1.

Map showing most of the localities mentioned in the text. The Ajax Mine and "Paint" Mine localities (not shown on this scale) are 13km southeast of Mount Scott.

TEXT-FIGURE 1 LOCALITY MAP



KEY TO LOCALITIES

1 WILKAWILLINA GORGE

2 MOUNT SCOTT RANGE

3 WIRREALPA

4 ARDROSSAN

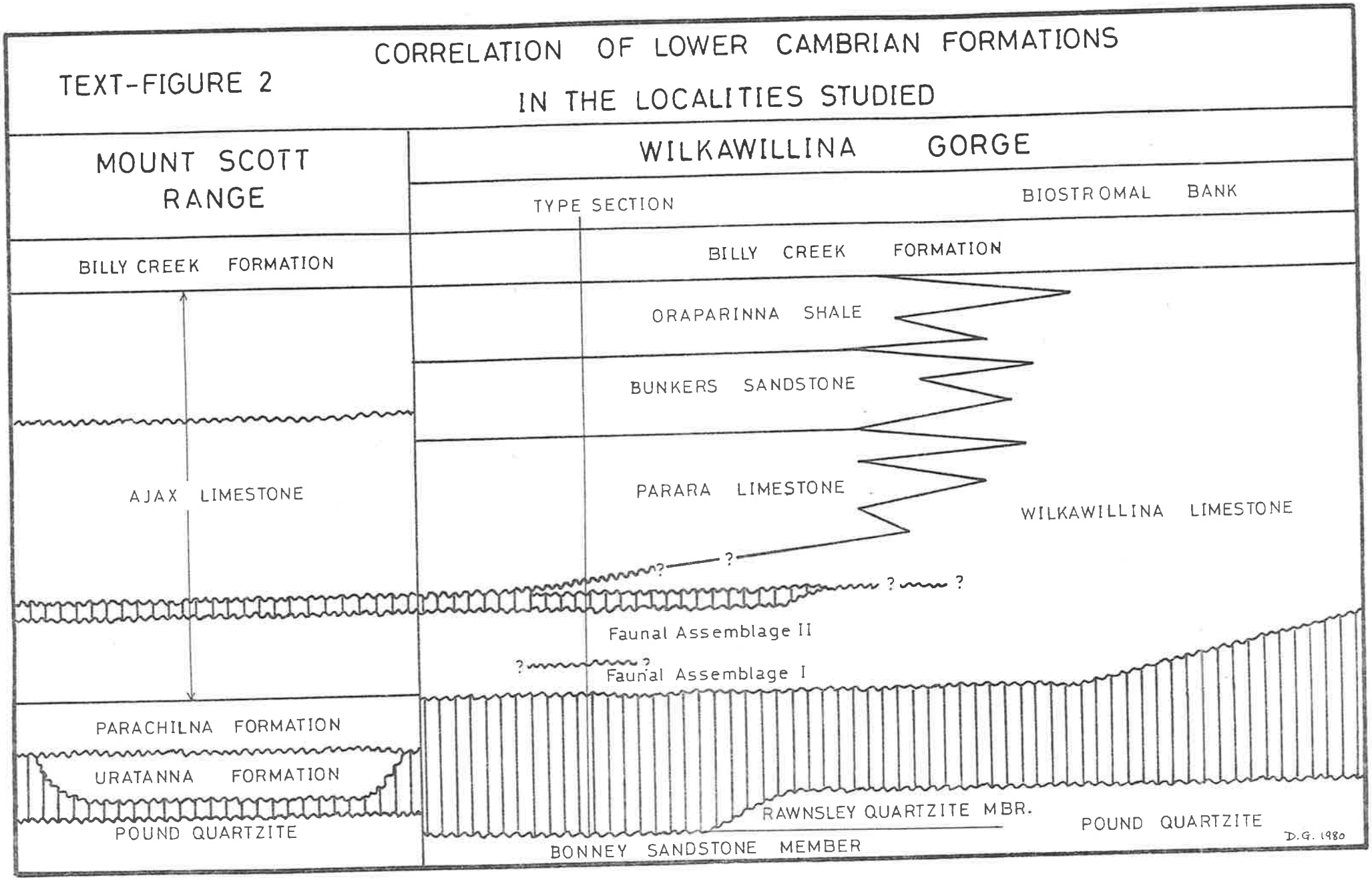
5 SELLICK HILL

Text-figure 2.

Correlation of the Lower Cambrian formations at Wilkawillina Gorge and the Mount Scott Range. At Wilkawillina Gorge in the vicinity of the biostromal bank, the Wilkawillina Limestone is faulted against Precambrian Pound Quartzite.

TEXT-FIGURE 2

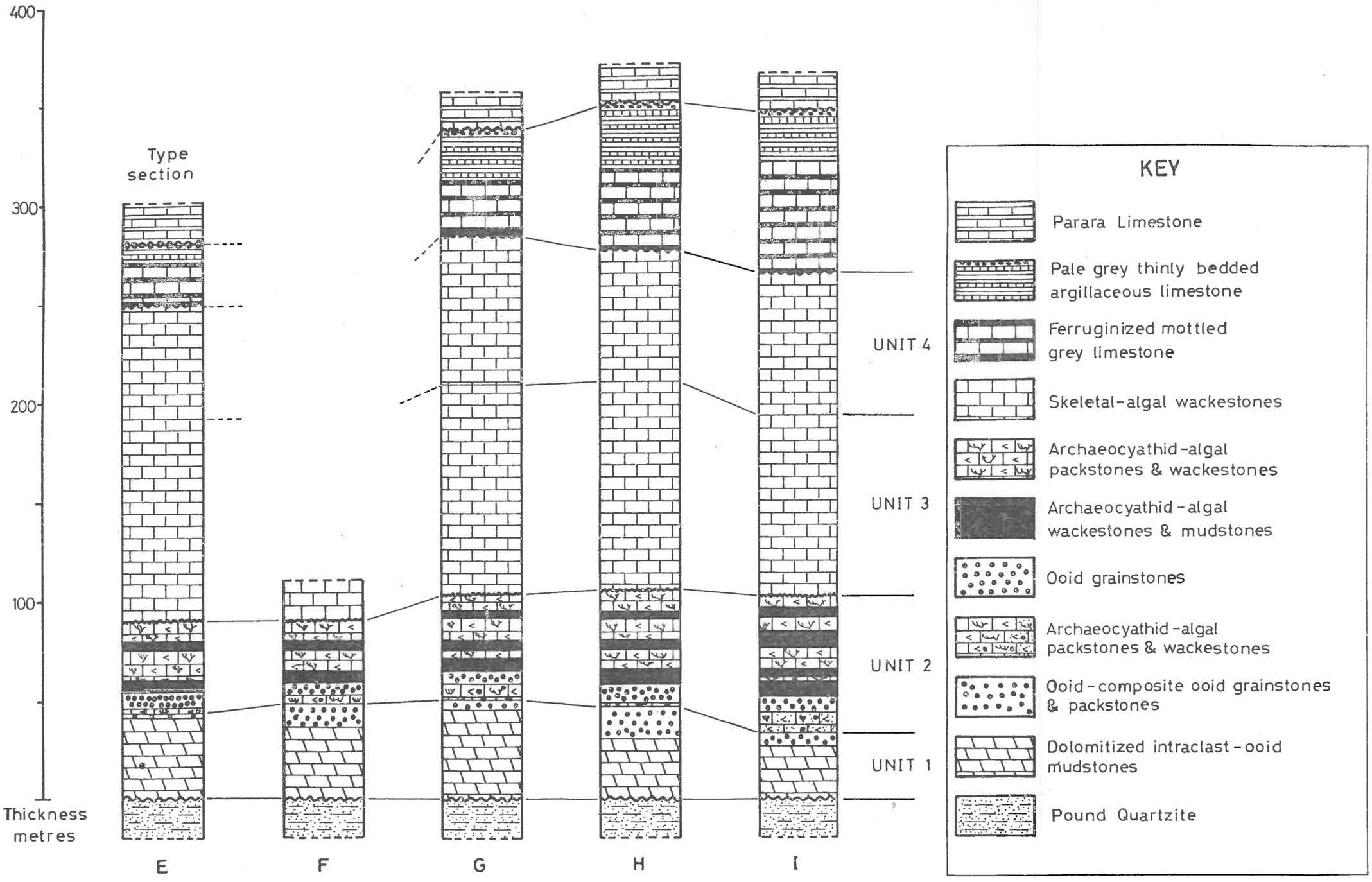
CORRELATION OF LOWER CAMBRIAN FORMATIONS IN THE LOCALITIES STUDIED



Text-figure 3.

Stratigraphic sections through the Wilkawillina Limestone at Wilkawillina Gorge, indicating facies changes described in the text. The horizontal distance between sections is not to scale.

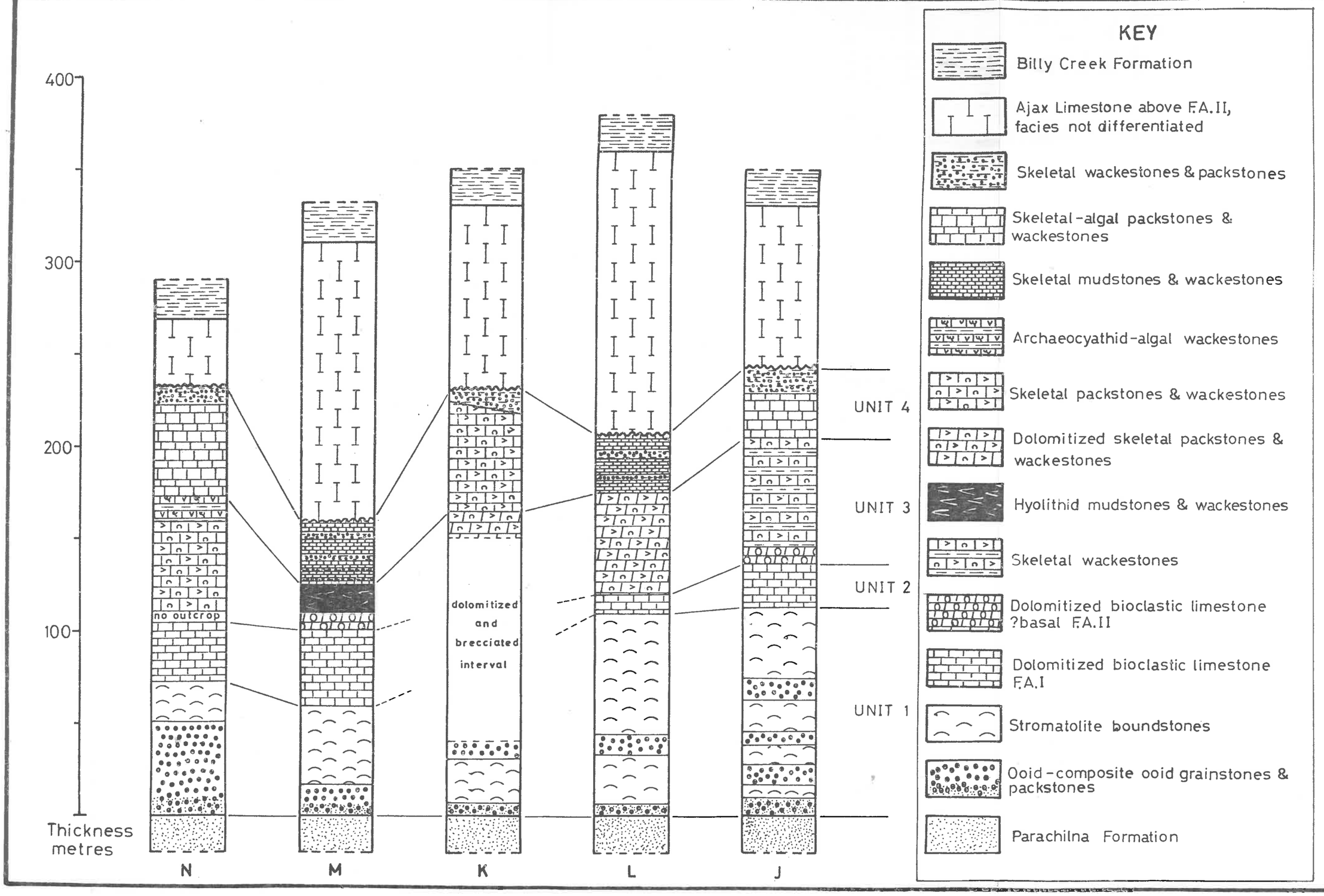
TEXT-FIGURE 3 WILKAWILLINA LIMESTONE, WILKAWILLINA GORGE, FACIES RELATIONSHIPS.



Text-figure 4.

Stratigraphic sections through the Ajax Limestone in the Mount Scott Range, indicating facies changes described in the text. The horizontal distance between sections is not to scale.

TEXT-FIGURE 4 AJAX LIMESTONE, MOUNT SCOTT RANGE, FACIES RELATIONSHIPS.

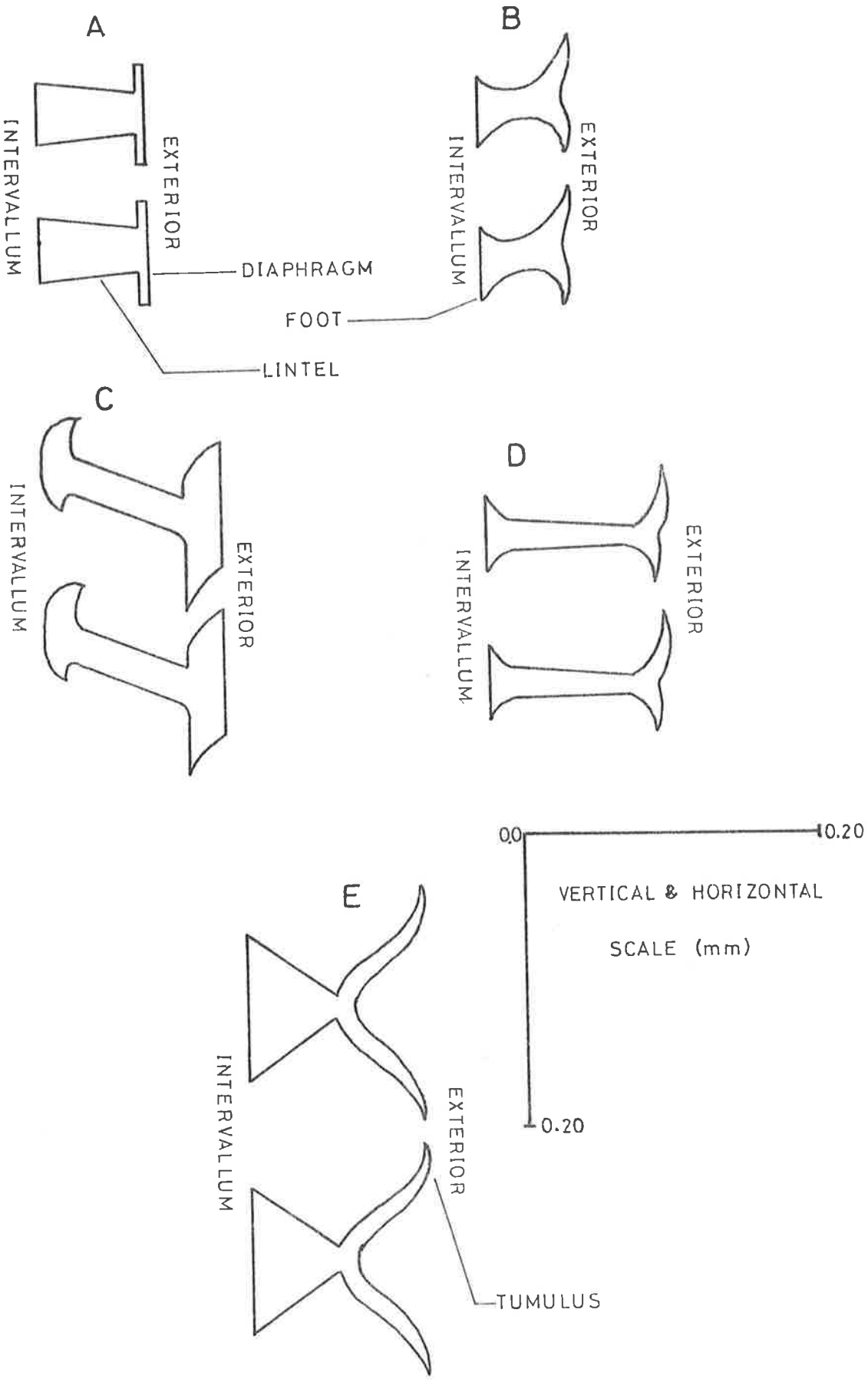


Text-figure 5.

Vertical cross-sections through different types of "flat" pore diaphragm compared with a cross-section through a "bulging" diaphragm or simple tumulus.

TEXT-FIGURE 5

PORE DIAPHRAGMS, SIMPLE TUMULI, LONGITUDINAL SECTION



Text-figure 6.

Sketch reconstructions, not to scale, of different types of microporous sheath.

A. Independent microporous sheath.

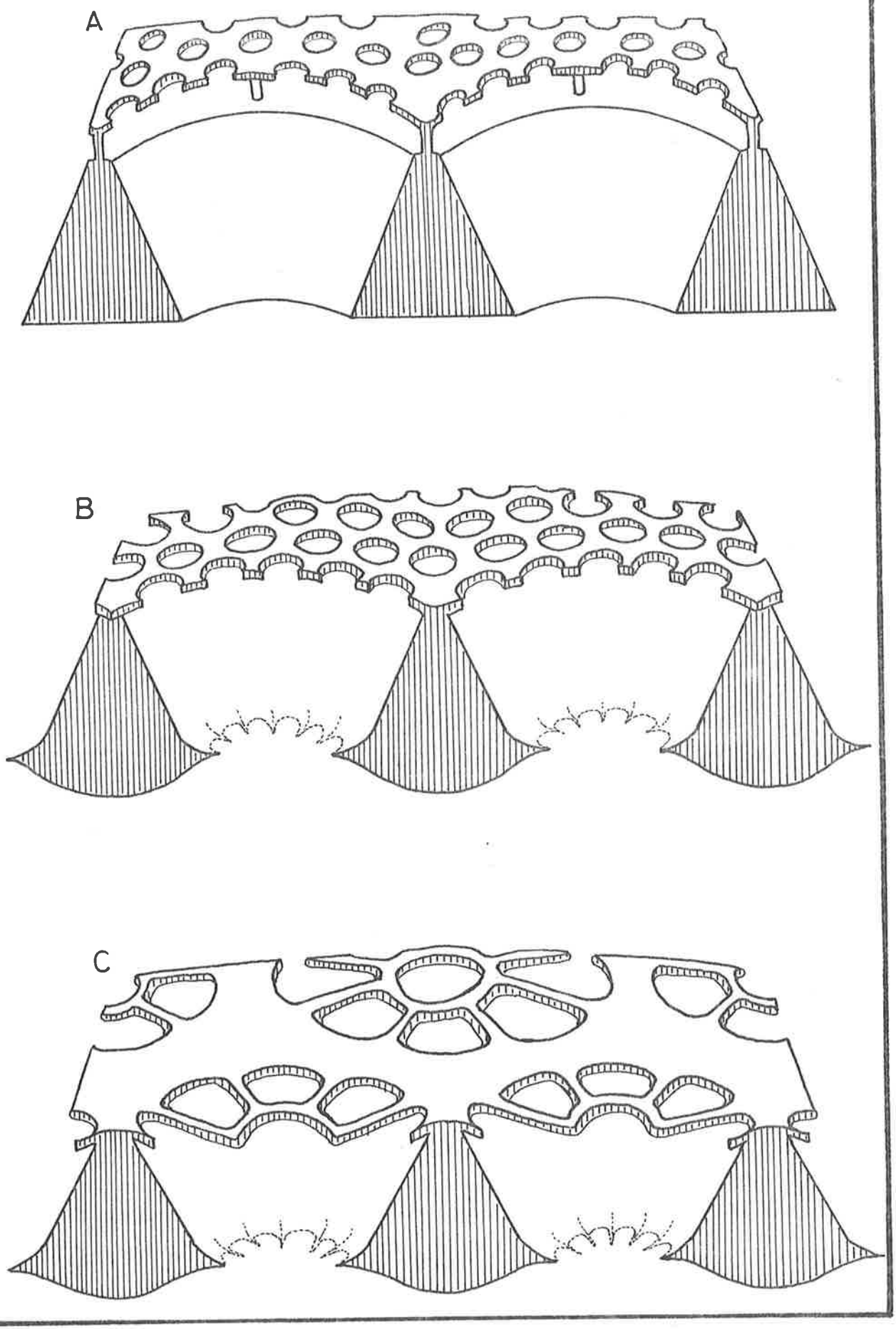
B. Non-independent, continuous microporous sheath.

C. Non-independent, discontinuous microporous sheath.

Note in B and C that the internal rim seen near the base of the outer wall carcass pores is represented as a series of inward pointing spines. The structure is shown by a broken line to indicate that its precise morphology is not known.

TEXT-FIGURE 6

OUTER WALL MICROPOROUS SHEATHS, CLASS REGULARES



Text-figure 7.

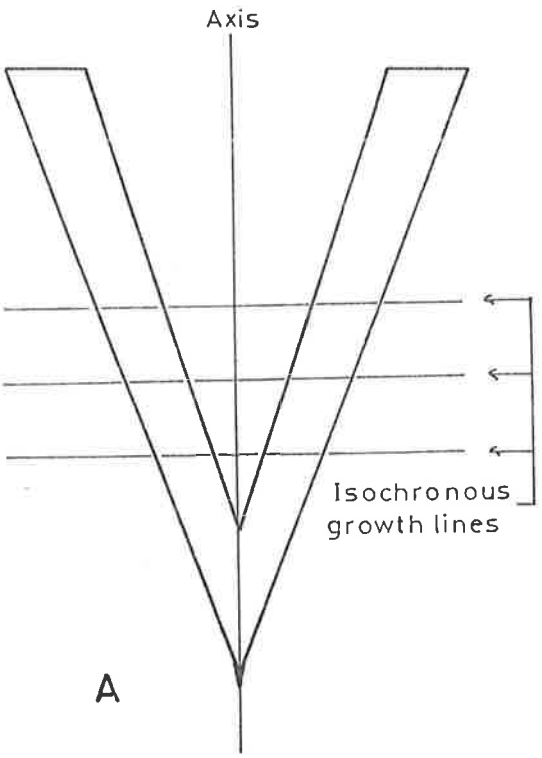
A. Diagram of a longitudinal section through an archaeocyathid cup showing isochronous growth planes represented in two dimensions by lines perpendicular to the cup axis.

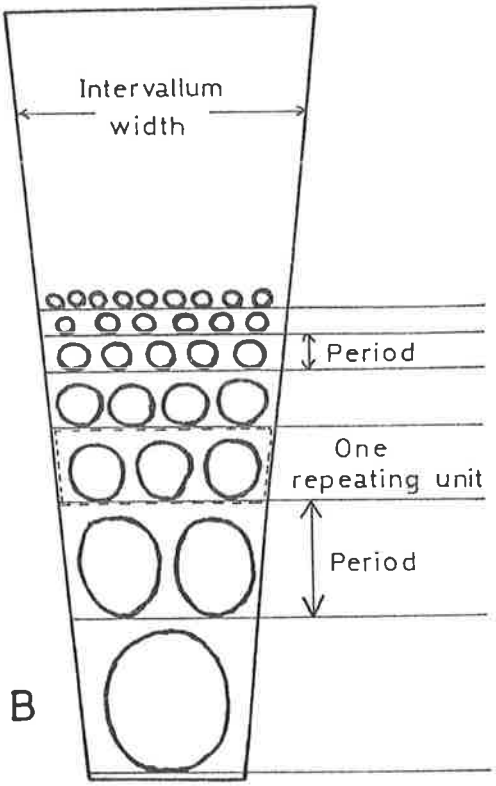
B. Diagram of a longitudinal section through a single septum showing the change in Period and intervallum width as the septum develops. A dashed line indicates the area enclosed within a single repeating unit.

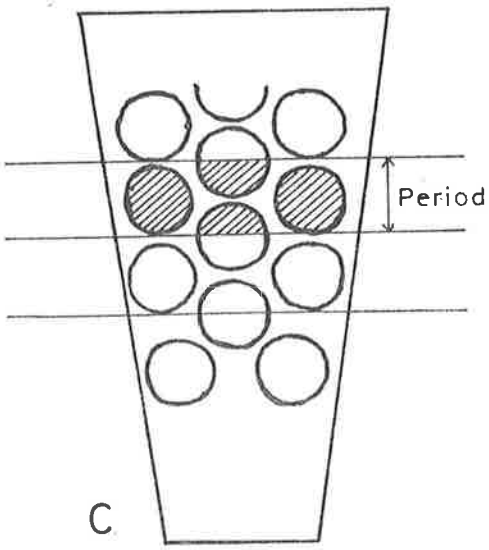
C. Diagram showing the Period and pore area measured on a portion of a septum with close packed circular pores in quincunx.

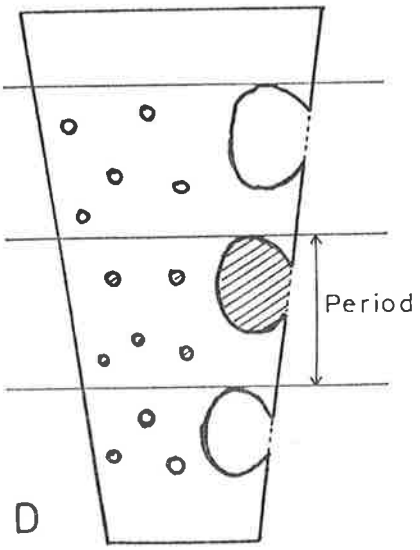
D. Diagram showing the Period and pore area measured on a portion of a septum with stirrup-pores and rare additional pores.

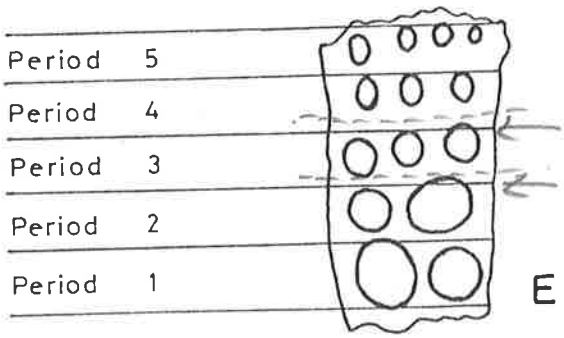
E. Portion of a septum of Aldanocyathus sunnaginicus (Zhuravleva) showing five Periods (repeating units). (Redrawn from Zhuravleva, 1960b, Text-fig. 19).











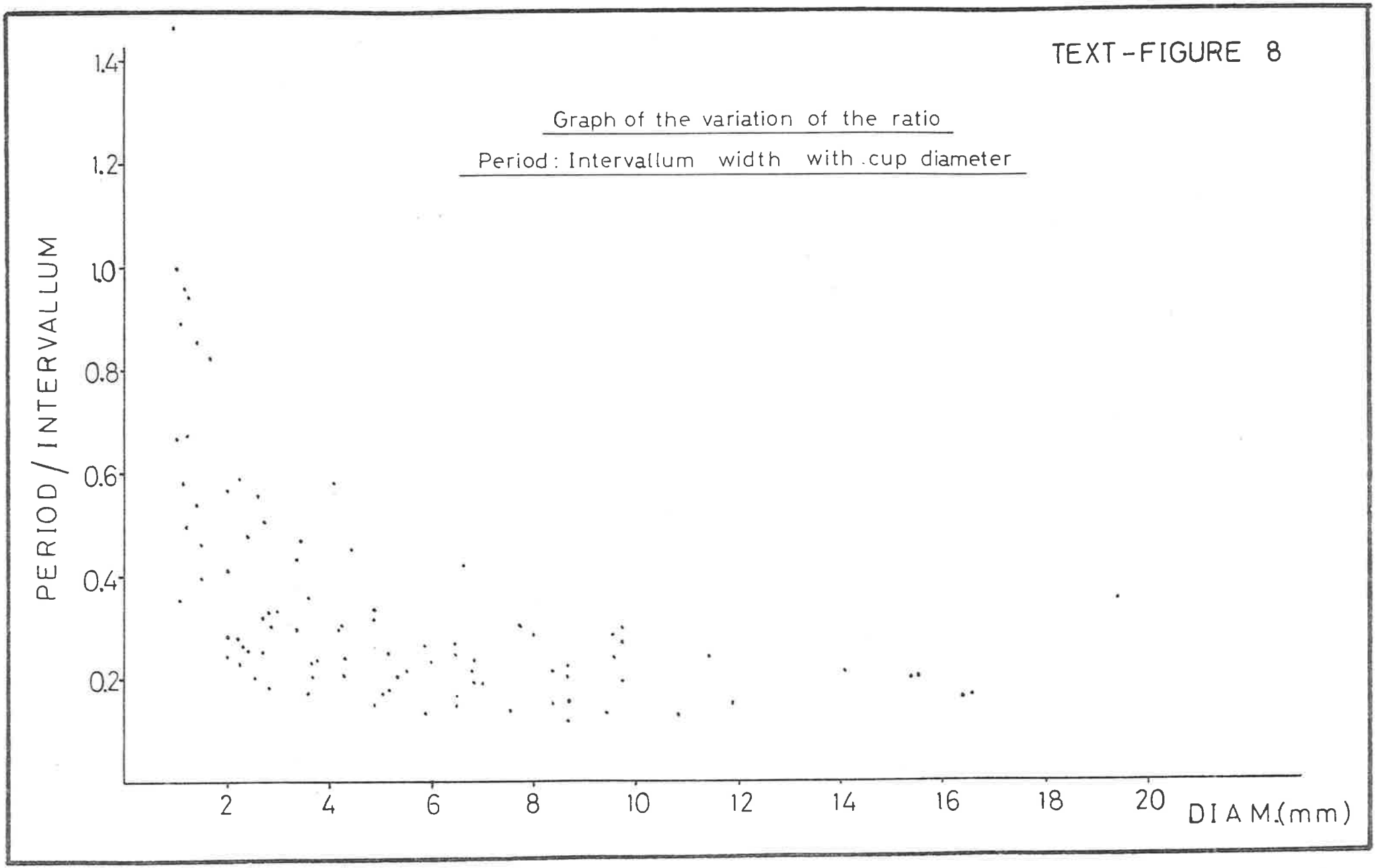
TEXT-FIGURE 7

(From Zhuravleva, I.T., 1960b, p.26)

Text-figure 8.

Graph of the variation of the ratio Period: Intervallum width with cup diameter, measured from a number of species of Regulares.

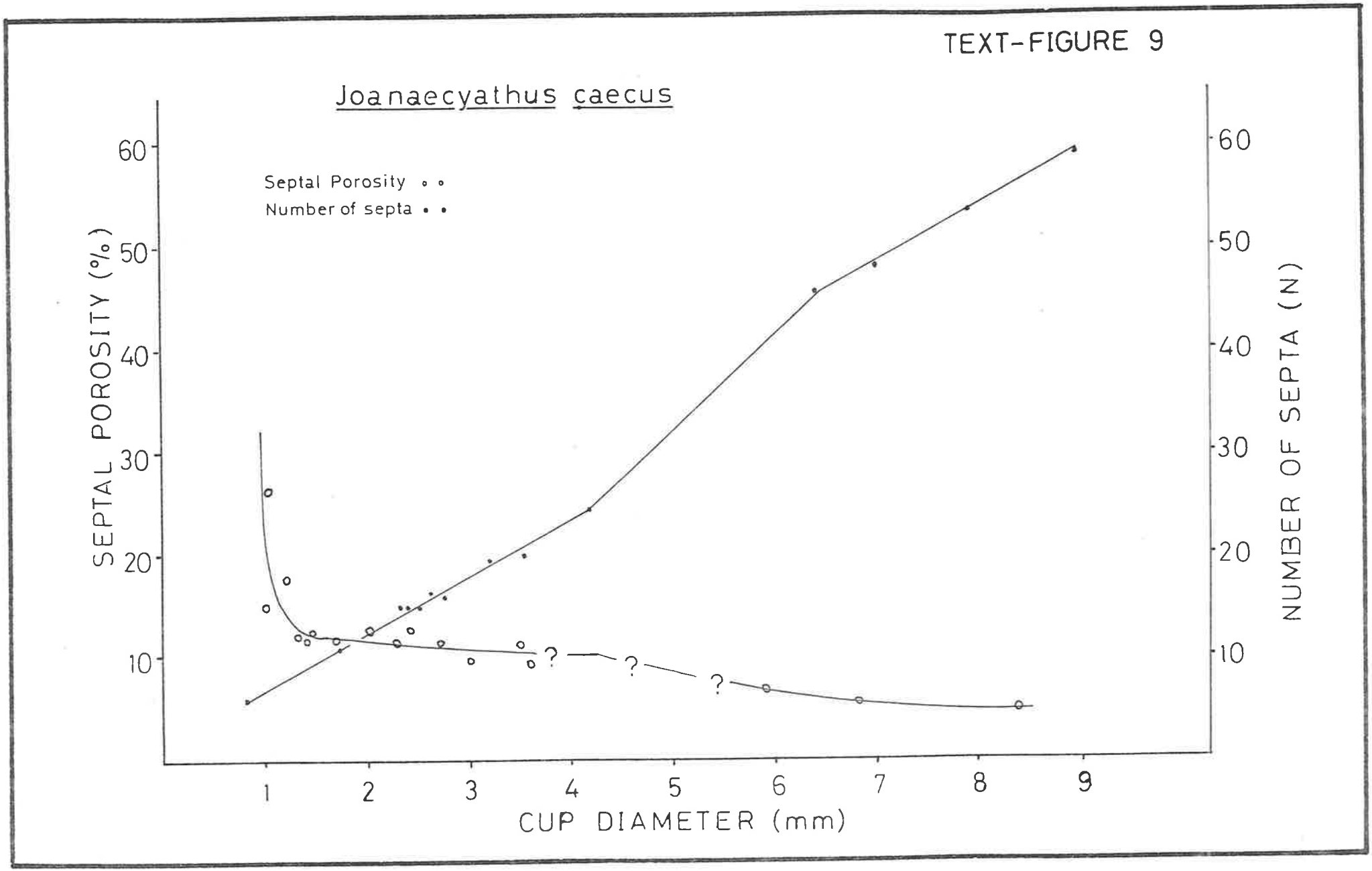
TEXT-FIGURE 8



Text-figure 9.

Variation of Septal Porosity and number of septa with cup growth for Joanaecyathus caecus gen.et sp.nov.

TEXT-FIGURE 9



Text-figure 10.

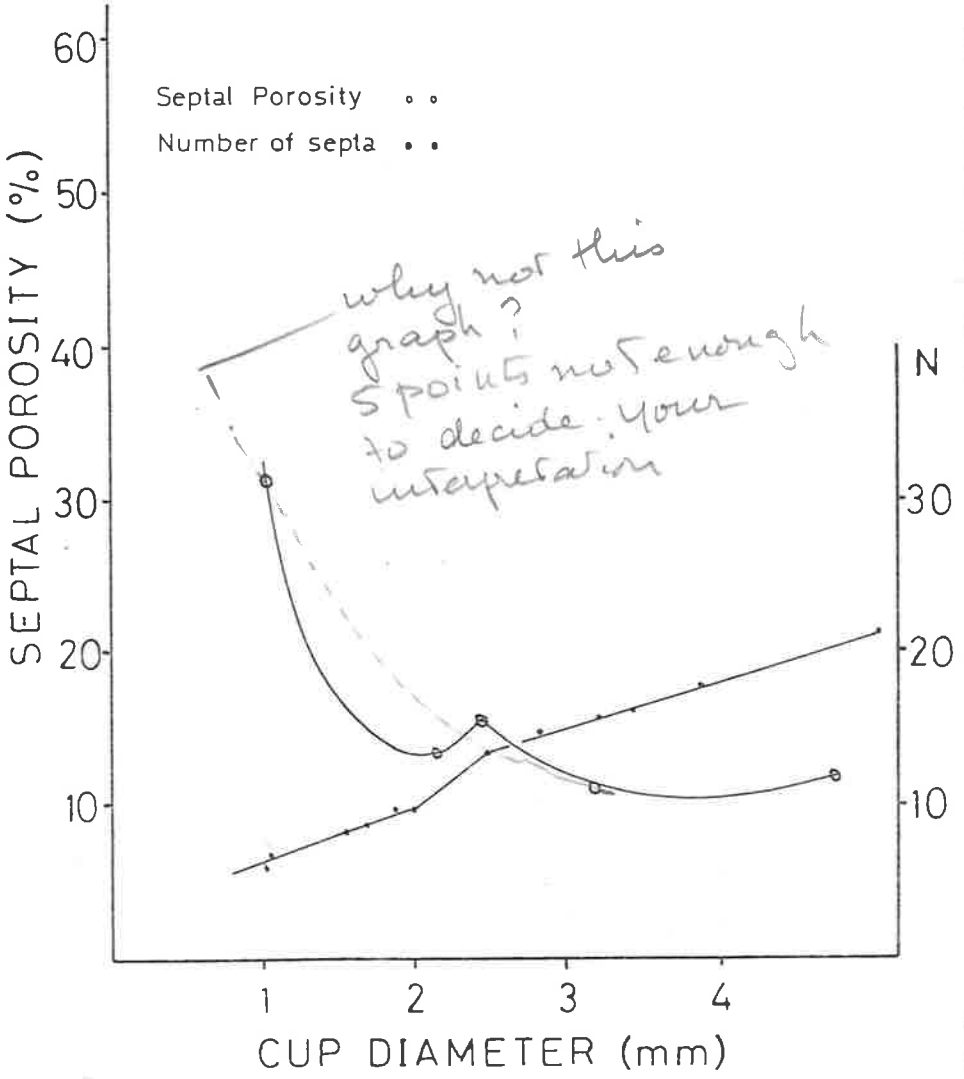
Variation of Septal Porosity and number of septa with cup growth for Joanaecyathus cyclopeus gen.et sp.nov.

Text-figure 11.

Variation of Septal Porosity and number of septa with cup growth for Joanaecyathus cupulosus gen.et sp.nov.

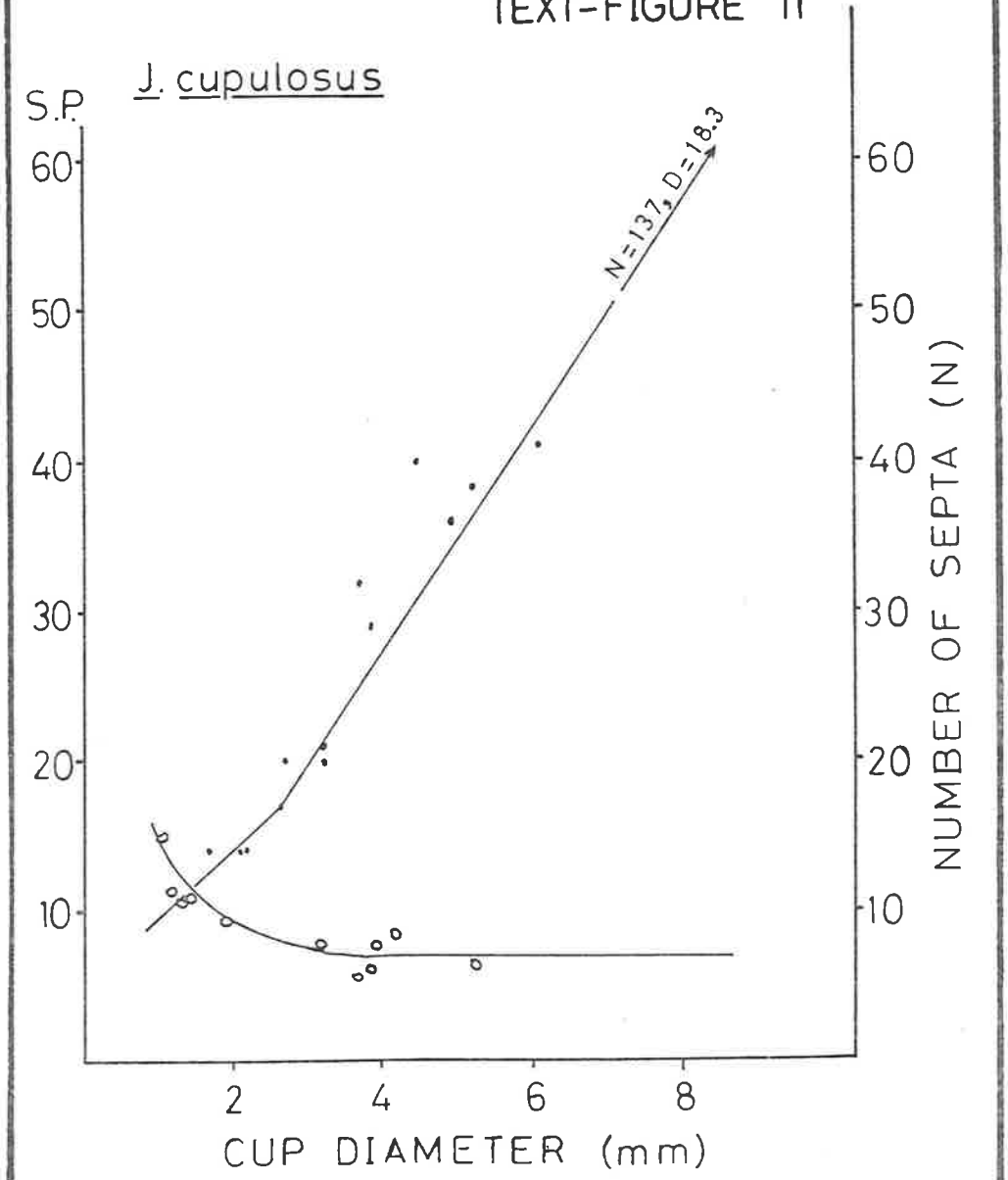
TEXT-FIGURE 10

Joanaecyathus cyclopeus



TEXT-FIGURE 11

J. cupulosus



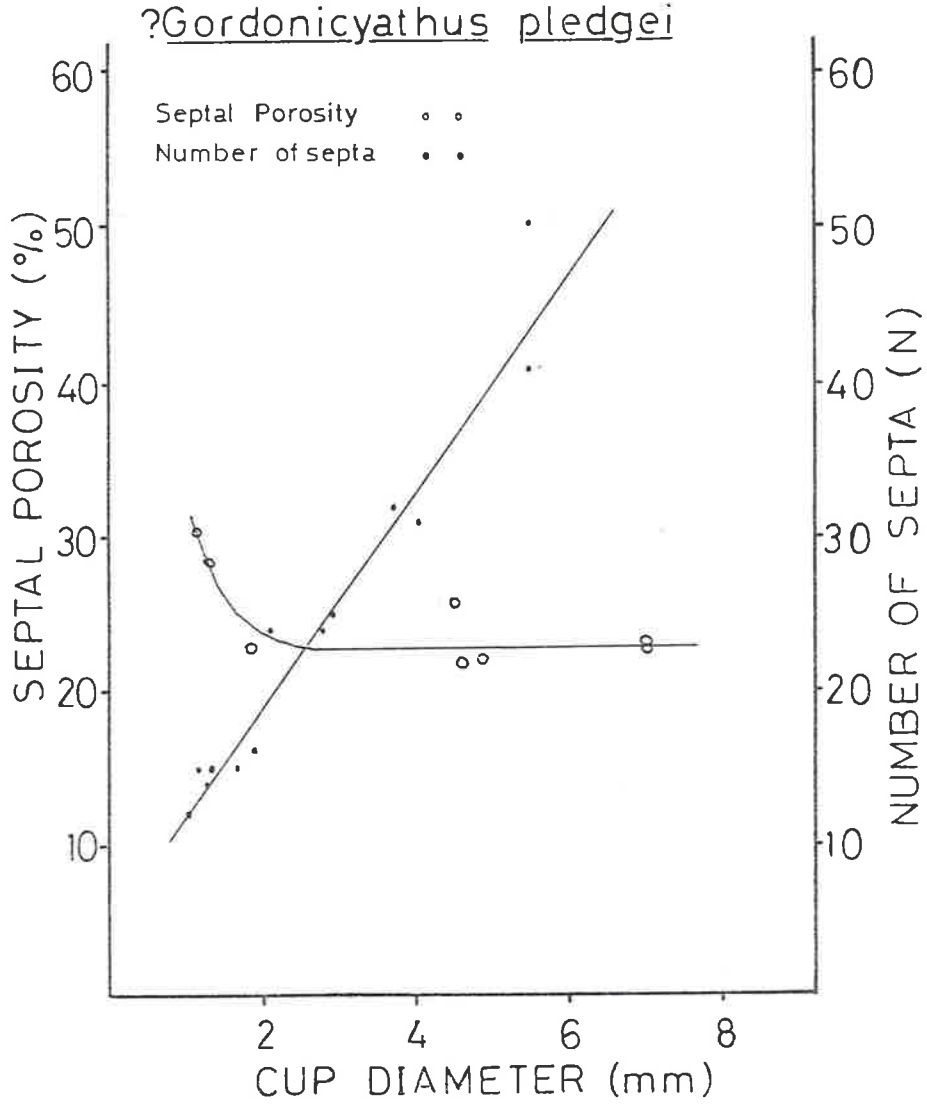
Text-figure 12.

Variation of Septal Porosity and number of septa with cup growth for ? Gordonicyathus pledgei sp.nov.

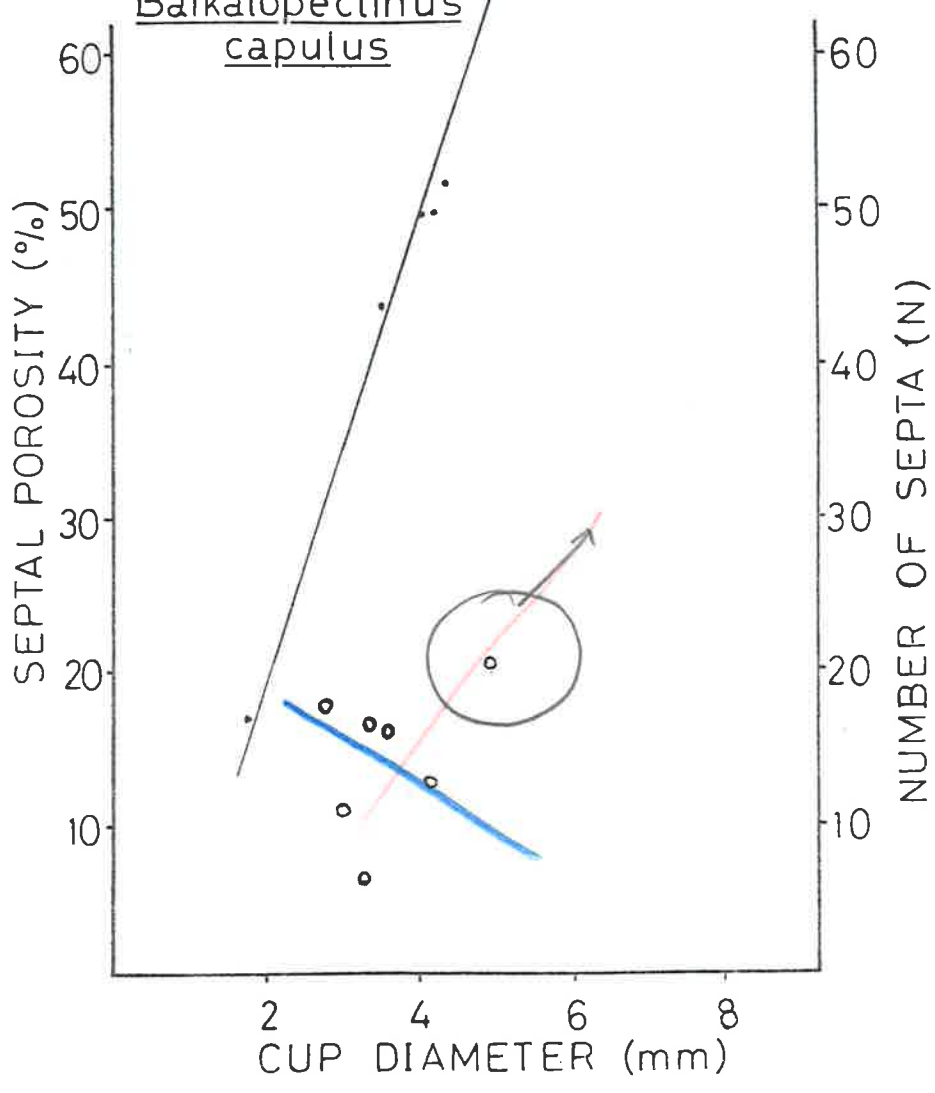
Text-figure 13.

Variation of Septal Porosity and number of septa with cup growth for Baikalopectinus capulus gen.et sp.nov.

TEXT-FIGURE 12



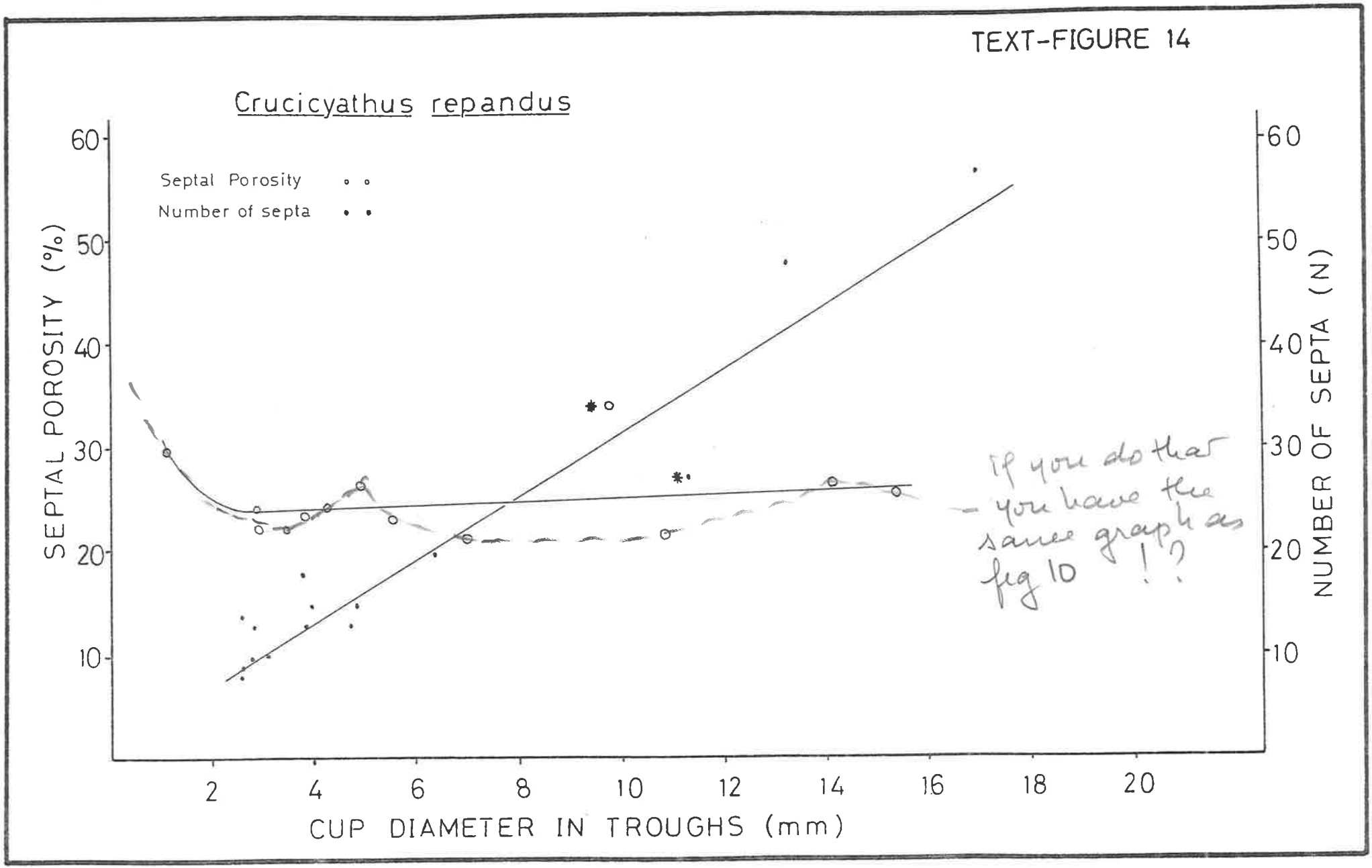
TEXT-FIGURE 13



Text-figure 14.

Variation of Septal Porosity and number of septa with cup growth for Crucicyathus repandus gen.et sp.nov.

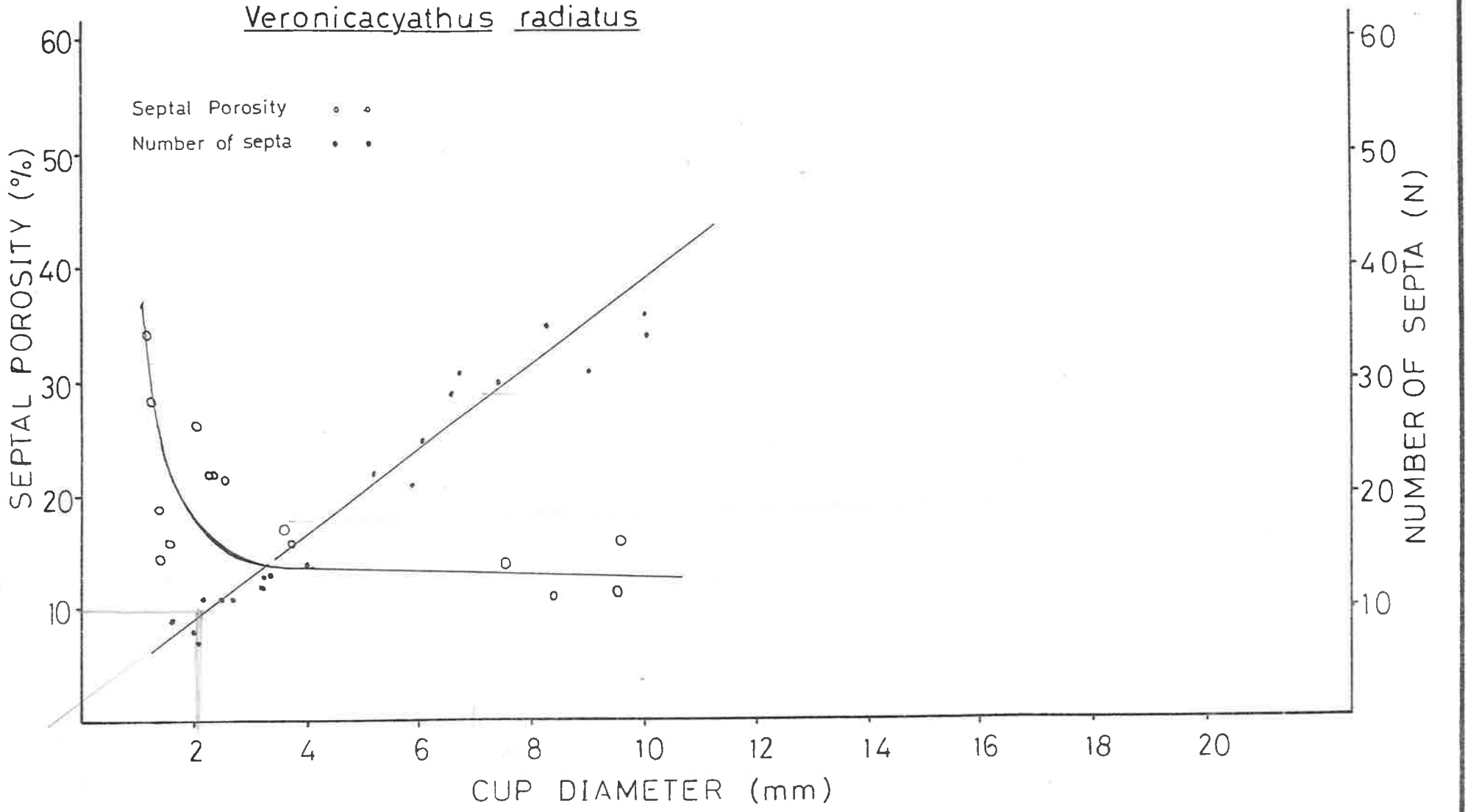
TEXT-FIGURE 14



Text-figure 15.

Variation of Septal Porosity and number of septa with cup growth for Veronicacyathus radiatus sp.nov.

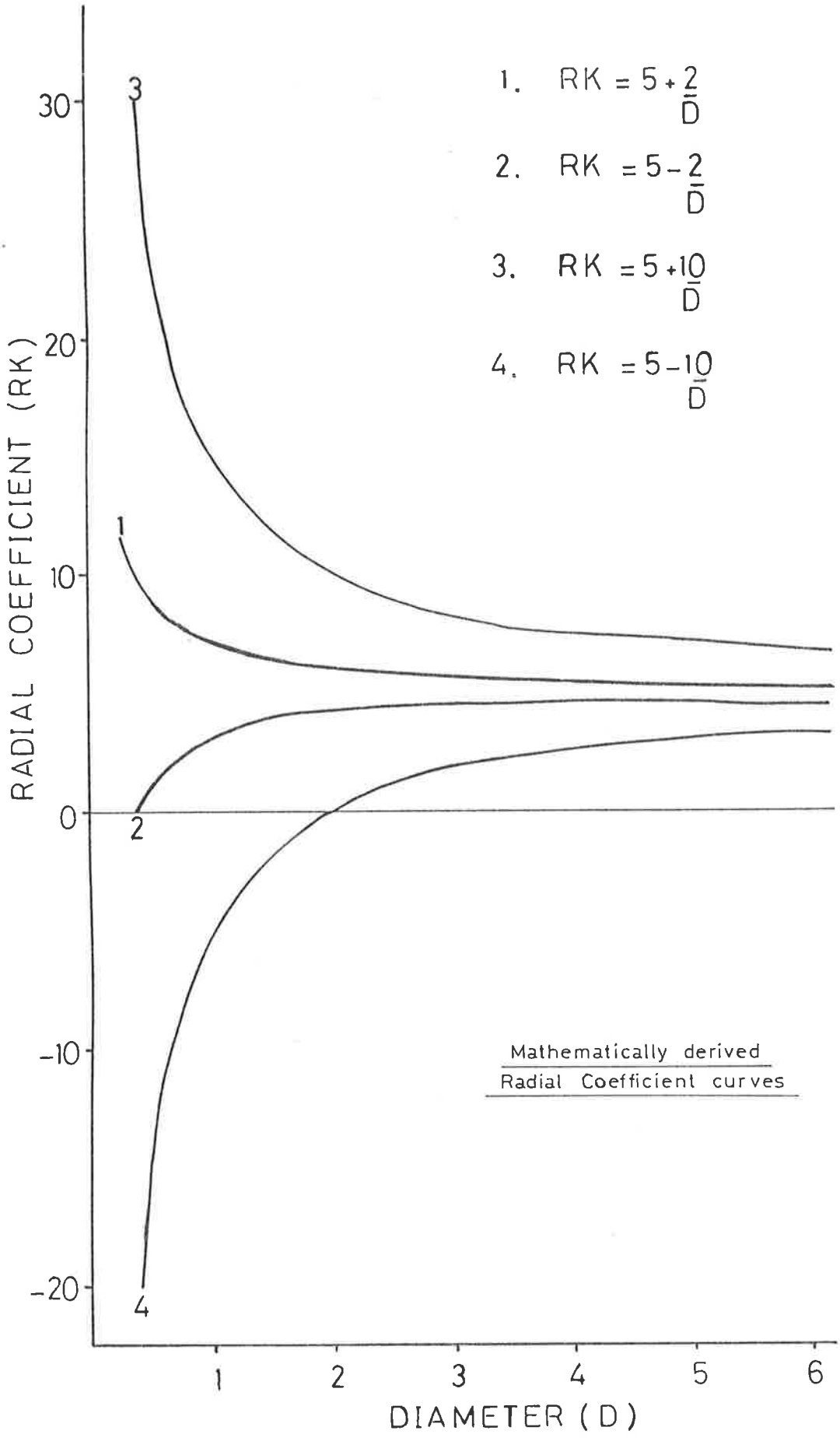
TEXT-FIGURE 15



Text-figure 16.

Mathematically derived curves representing variations in Radial Coefficient with cup diameter for four hypothetical cases.

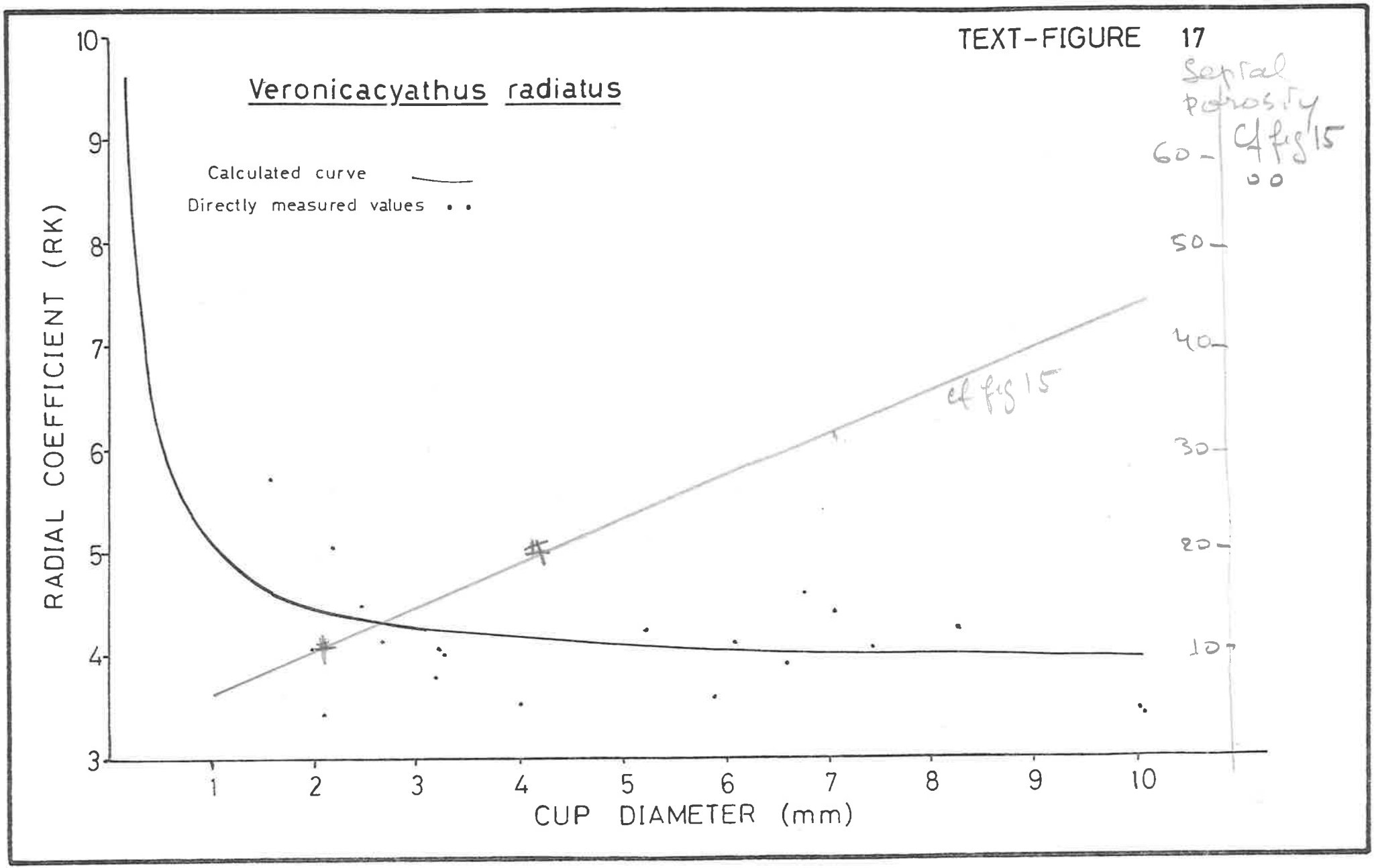
TEXT-FIGURE 16



Text-figure 17.

Variation of the Radial Coefficient with cup growth for *Veronicacyathus radiatus* sp.nov.

TEXT-FIGURE 17



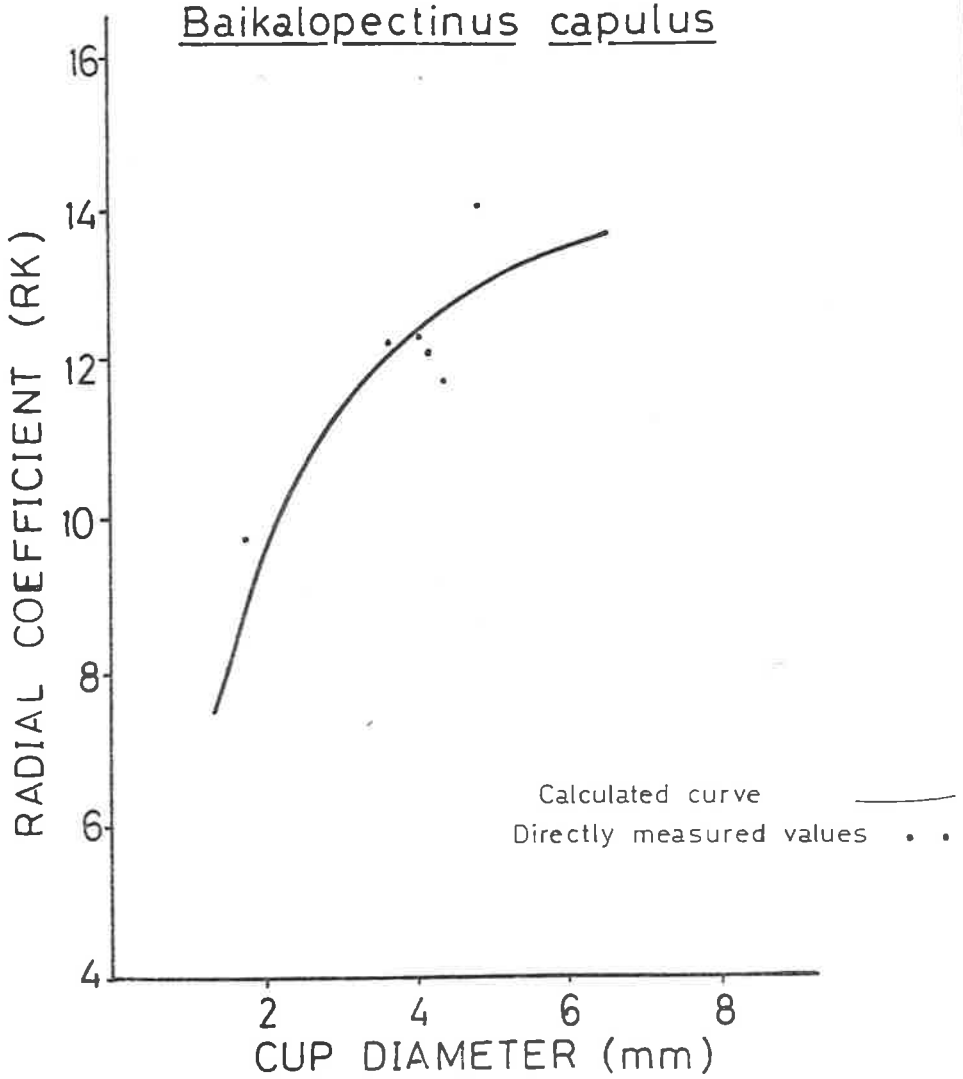
Text-figure 18.

Variation of the Radial Coefficient with cup growth for Baikalopectinus capulus gen.et sp.nov.

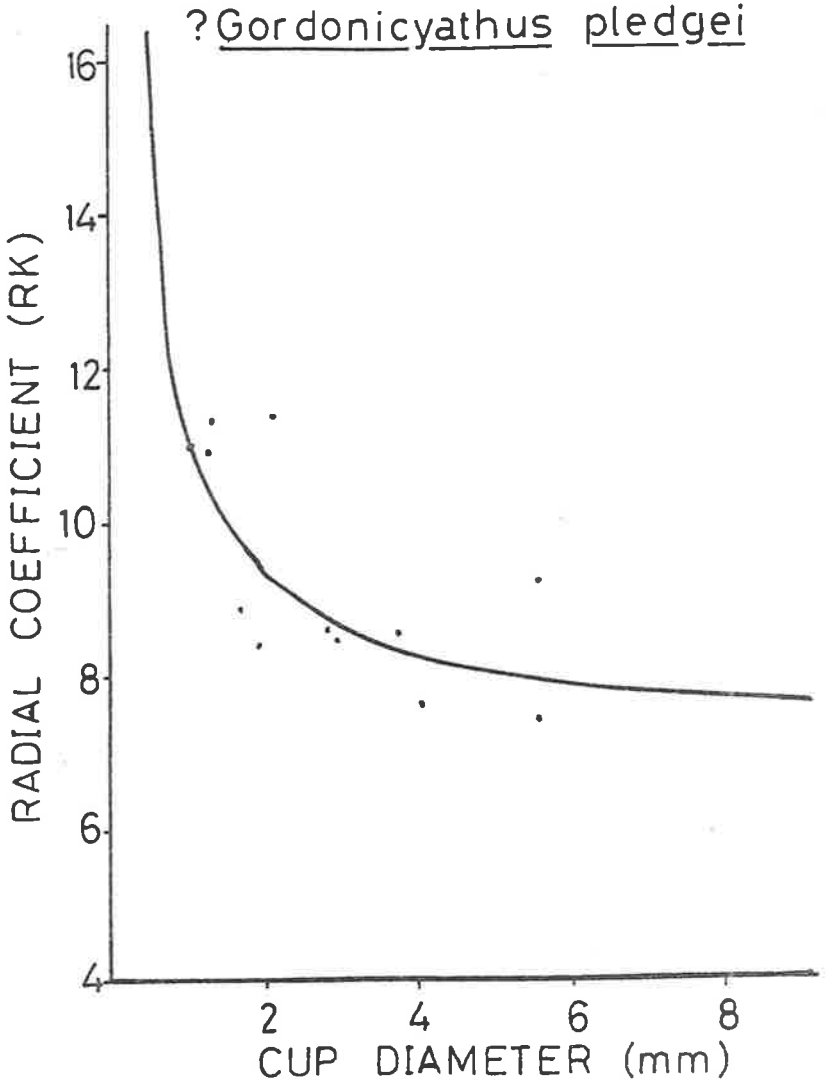
Text-figure 19.

Variation of the Radial Coefficient with cup growth for ? Gordonicyathus pledgei sp.nov.

TEXT-FIGURE 18



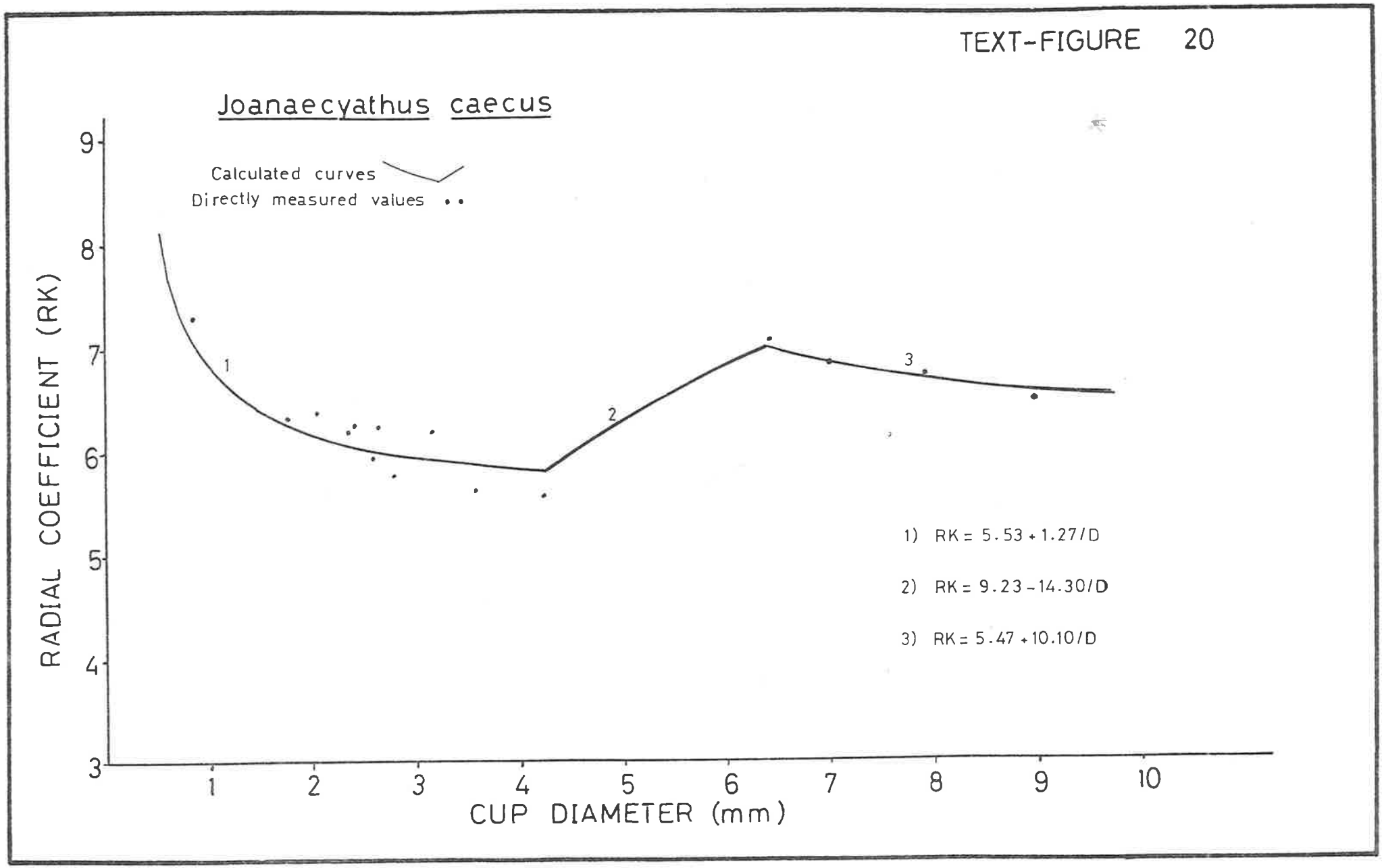
TEXT-FIGURE 19



Text-figure 20.

Variation of the Radial Coefficient with cup growth for Joanaecyathus caecus gen.et sp.nov.

TEXT-FIGURE 20



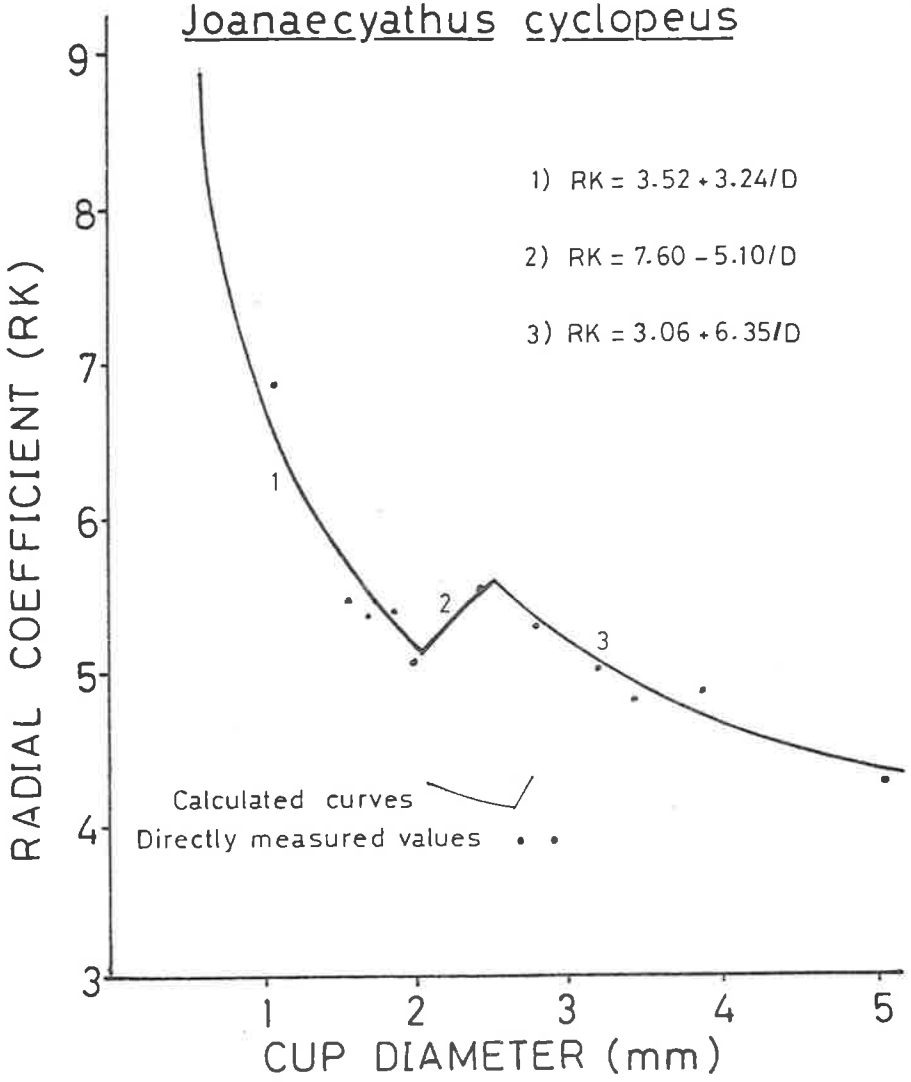
Text-figure 21.

Variation of the Radial Coefficient with cup growth for Joanaecyathus cyclopeus gen.et sp.nov.

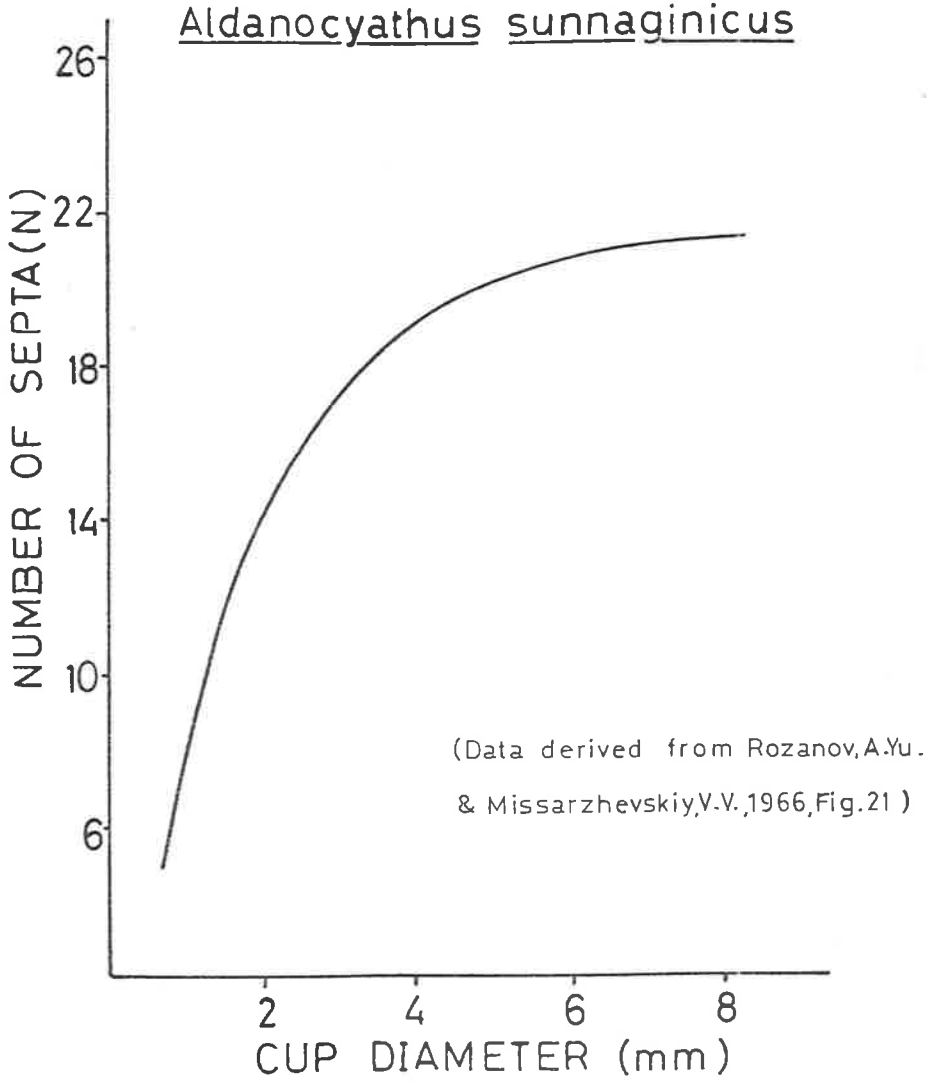
Text-figure 22.

Graph showing the non-linear relationship between the number of septa and cup diameter for Aldanocyathus sunnaginicus (Zhuravleva) (Data obtained from Rozanov and Missarzhevskiy (1966, Fig.21).)

TEXT-FIGURE 21



TEXT-FIGURE 22



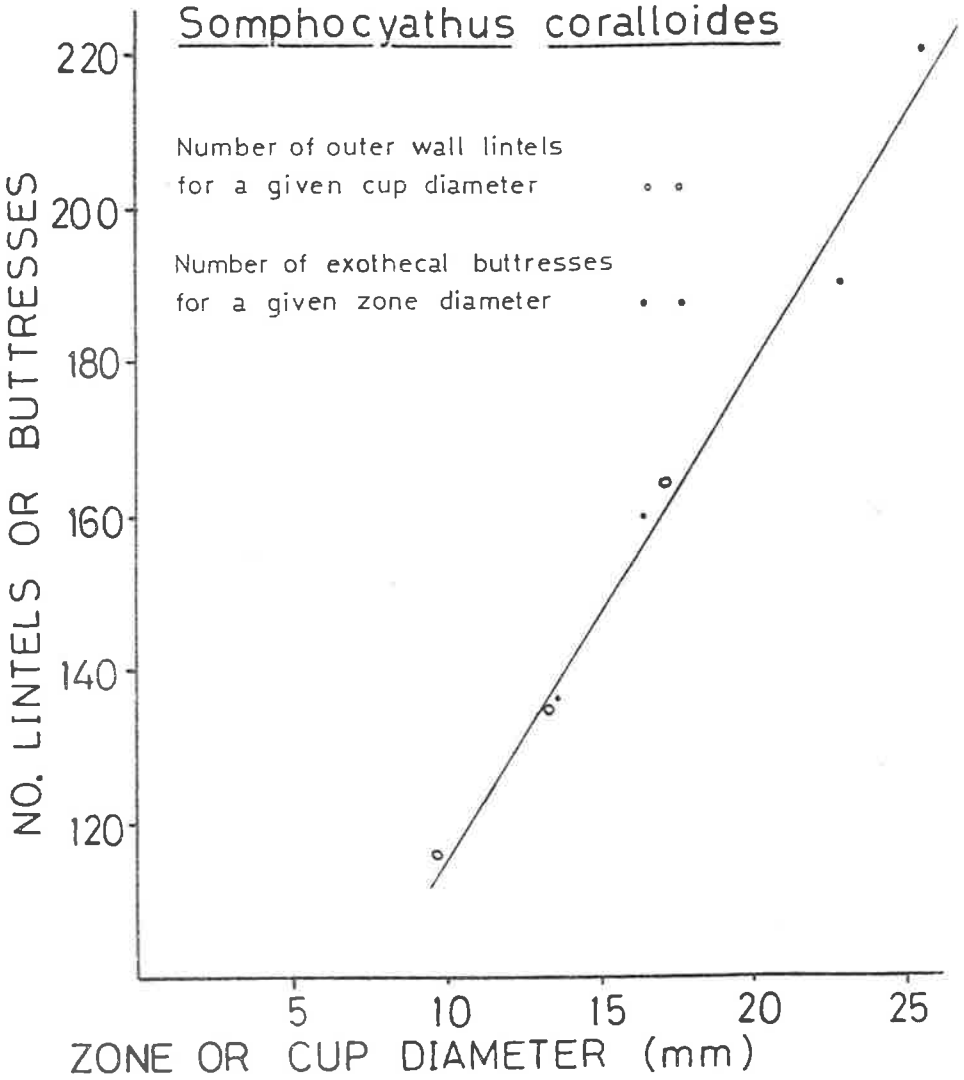
Text-figure 23.

Graph showing the linear relationship between the number of outer wall lintels and cup diameter, and the collinear relationship between the number of exothecal buttresses and zone diameter, for Somphocyathus coralloides Taylor.

Text-figure 24.

Graph of the variation in intervallum width with cup diameter for four species of colonial tabulate Regulares. Note the markedly greater intervallum width of Polycoscinus contortus Bedford R. and J., and of a fragment of an indeterminable colonial form from Lower Faunal Assemblage II at Wilkawillina Gorge.

TEXT-FIGURE 23



TEXT-FIGURE 24

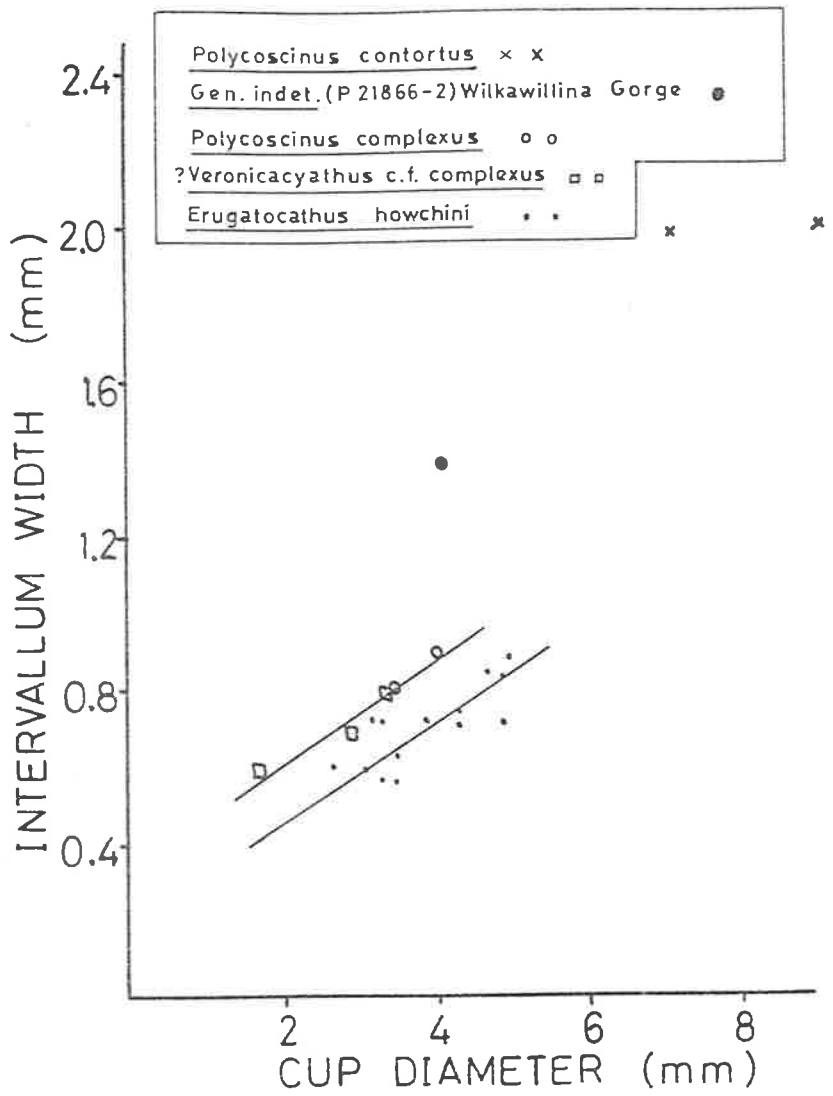
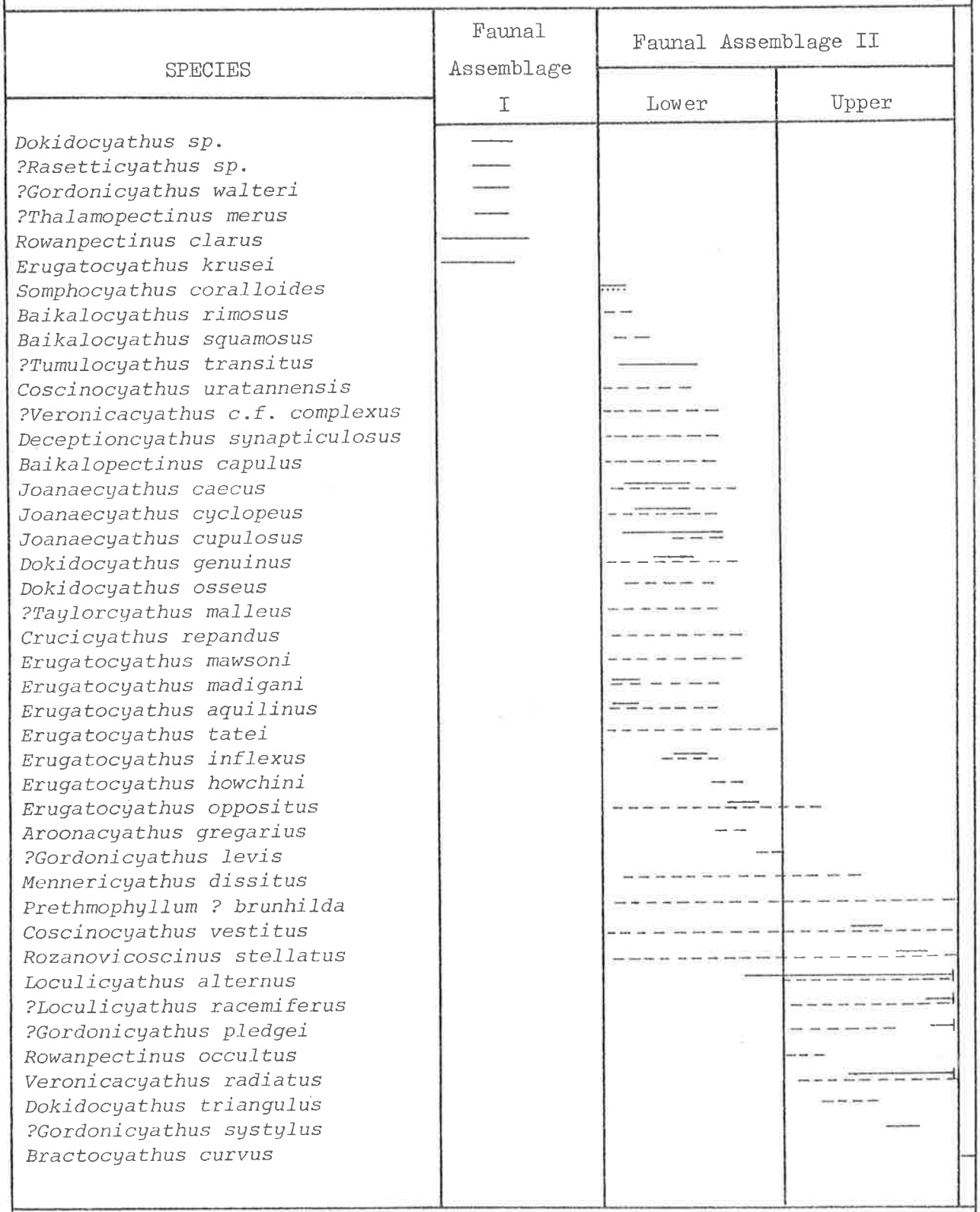
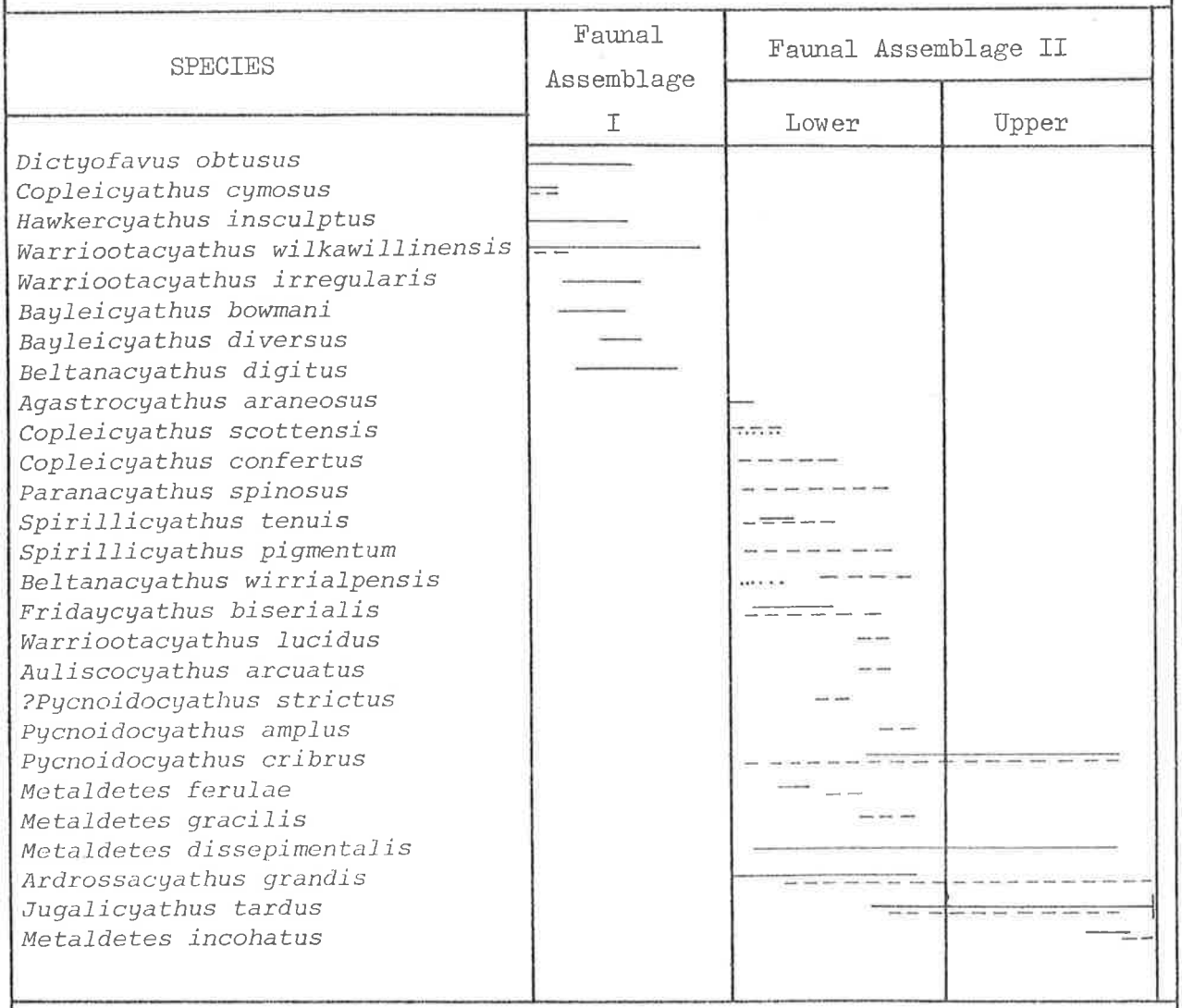


TABLE 1. THE STRATIGRAPHIC DISTRIBUTION OF SPECIES OF REGULAR ARCHAEOCYATHA FROM SOUTH AUSTRALIA.



FOR KEY TO SYMBOLS SEE TABLE 2.

TABLE 2. THE STRATIGRAPHIC DISTRIBUTION OF SPECIES OF IRREGULAR ARCHAEOCYATHA FROM SOUTH AUSTRALIA.



KEY TO SYMBOLS.

SOLID LINE: ——— WILKAWILLINA LIMESTONE, WILKAWILLINA GORGE

DASHED LINE: - - - - AJAX LIMESTONE, MOUNT SCOTT RANGE

DOTTED LINE: ..... WILKAWILLINA LIMESTONE, NEAR OLD WIRREALPA MINE

TABLE 3 — STRATIGRAPHIC RANGES OF GENERA FROM FAUNAL ASSEMBLAGES I AND II, SOUTH AUSTRALIA IN TERMS OF THE USSR STRATIGRAPHIC SCHEME, WITH SUGGESTED POSITIONS OF SOME OF THE FAUNAL ASSEMBLAGES OF DAILY (1956).

SERIES	LOWER CAMBRIAN																	
STAGE	TOMMOTIAN			ATDABANIAN				BOTOMIAN				LENIAN						
HORIZON	Sunnaginian	Kenyadian		Lower		Upper		Tarynian		Sinsko-Kutorginian		Elankian						
Siberian Platform (———)	Aldanocyathus sunnaginicus Zone	Dokidocyathus regularis Zone	Dokidocyathus lenaicus Zone	Leptosocyathus polyseptus - Retecoscinus zegebarti Zone	Porocyathus pinus Zone	Nochoroicyathus kokoulini Zone	Fansycyathus lermontovae Zone	Botomocyathus zelenovi - Porocyathus squamosus Zone	Zones not differentiated			Claruscyathus solidus Zone	Irinaecyathus ratus - Retecyathus kuzmini Zone					
HORIZON				Bazaikhian		Kameshkian		Sanashtykgolian				Obruchevian						
Altai-Sayan Fold Belt (– – – – –)				Nochoroicyathus mariinskii Zone	Thalamocyathus howelli Zone	Porocyathellus cyroflexus Zone	Torosocyathellus torosus Zone	Clathricoscinus Zone	Tercyathellus altaicus Zone	Syringocyathus Zone		Claruscyathus solidus Zone	Irinaecyathus ratus - Retecyathus kuzmini Zone	Erbocyathus heterovallum - Alexandricyathus edelsteini Zone				
Loculicyathus																		
Baikalocyathus																		
Gordonicyathus																		
Taylorcyathus																		
Thalamopectinus																		
Mennericyathus																		
Proposed stratigraphic position of Faunal Assemblage I & II and suggested relative positions of some younger Faunal Assemblages of Daily, (1956).					F.A. I / F.A. II				F.A. III / F.A. IX					F.A. X				

D.G. 1980

TABLE 4

CLASSIFICATION OF SOME NON TABULATE IRREGULARES FROM SOUTH AUSTRALIA.

CLASS IRREGULARES Vologdin, 1937.
ORDER ARCHAEOCYATHIDA Okulitch, 1935.
SUBORDER ARCHAEOCYATHINA Okulitch, 1935.

FAMILY DICTYOCYATHIDAE Taylor, 1910.

Genera. Auliscocyathus Debrenne, 1974; Agastrocyathus Debrenne, 1964; Dictyofavus gen.nov.

SUPERFAMILY METACYATHACEA superfam.nov.
FAMILY GRAPHOSCYPHIDAE Debrenne, 1974.

Genus. Graphoscyphia Debrenne, 1974.

FAMILY METACYATHIDAE Bedford R. and W.R., 1934.

Genera. Metacyathus Bedford R. and W.R., 1934; Metafungia Bedford R. and W.R., 1934; Paranacyathus Bedford R. and J., 1937; Copleicyathus Bedford R. and J., 1937; Metaldetes Taylor, 1910.

FAMILY ARDROSSACYATHIDAE fam.nov.

Genus. Ardrossacyathus Bedford R. and J., 1937.

SUPERFAMILY SPIRILLICYATHACEA superfam.nov.
FAMILY SPIRILLICYATHIDAE fam.nov.

Genus. Spirillicyathus Bedford R. and J., 1937.

FAMILY JUGALICYATHIDAE fam.nov.

Genus. Jugalicyathus gen.nov.

SUPERFAMILY FLINDERSICYATHACEA superfam.nov.
FAMILY HAWKERCYATHIDAE fam.nov.

Genus. Hawkercyathus gen.nov.

FAMILY FLINDERSICYATHIDAE Bedford R. and J., 1939.

Genus. Pycnoidocyathus Taylor, 1910.

SUPERFAMILY BELTANACYATHACEA superfam.nov.
FAMILY BELTANACYATHIDAE Debrenne, 1970.

Genera. Beltanacyathus Bedford R. and J., 1937; Fridaycyathus gen.nov.; Bayleicyathus gen.nov.; Warriootacyathus gen.nov.

PLATE 1

Figure 1. Unit 1. Ooid-composite ooid grainstone and packstone facies. Wilkawillina Gorge, section I. X3

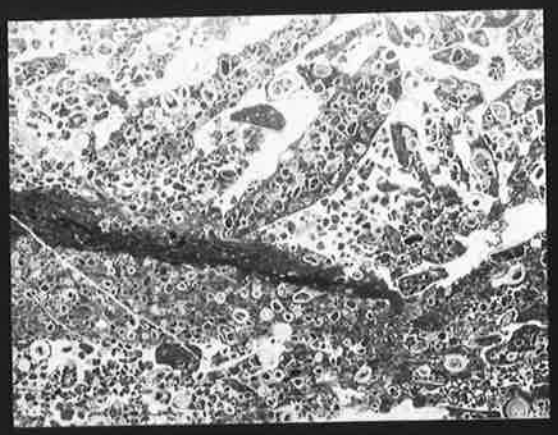
Figure 2. Unit 1. Ooid-composite ooid grainstone and packstone facies, with reworked stromatolitic clasts. Mount Scott Range, section L. X2

Figure 3. Unit 2. Archaeocyathid-algal packstone and wackestone facies. Renalcis Vologdin. Wilkawillina Gorge, section F. X6

Figure 4. Unit 2. Archaeocyathid-algal packstone and wackestone facies. A small specimen of Hawkercyathus insculptus gen.et sp.nov. (Paratype P21775) and other small Archaeocyatha, with Renalcis Vologdin. Wilkawillina Gorge, section F. X3

Figure 5. Unit 2. Unfossiliferous ooid grainstone. Wilkawillina Gorge, section E. X5

1



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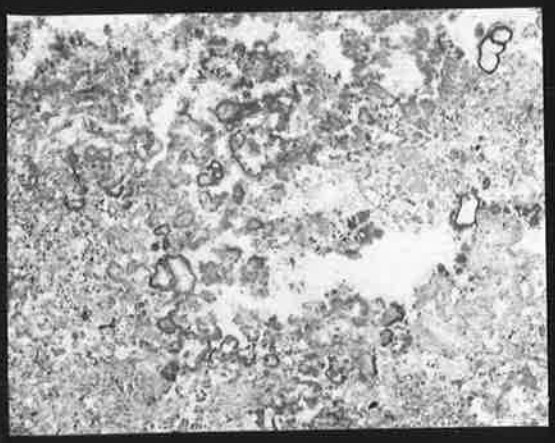
2



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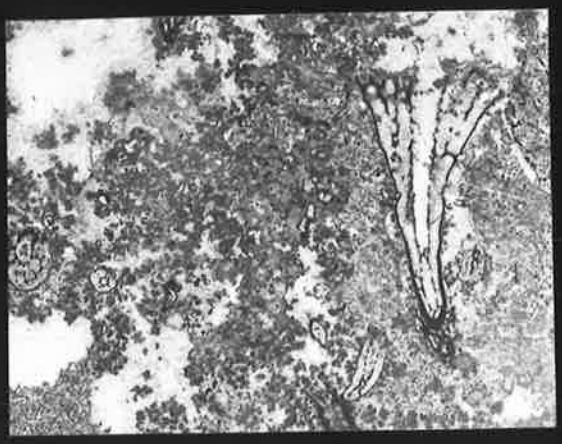

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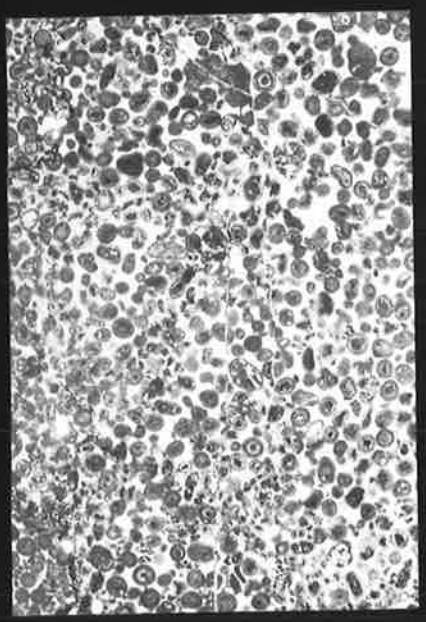


5

PLATE 2

Figure 1. Unit 2. Archaeocyathid-algal packstone and wackestone facies. Abraded cup in a matrix of skeletal debris. Wilkawillina Gorge, section I. X2

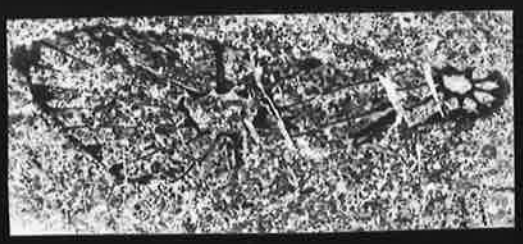
Figure 2. Unit 2. Archaeocyathid-algal wackestone and mudstone facies. Transverse section through silicified algal form. Wilkawillina Gorge, section H. X10

Figure 3. Unit 2. Archaeocyathid-algal wackestone and mudstone facies. Etched specimens of silicified algal-like forms in growth position. Wilkawillina Gorge, section F. X2

Figure 4. Unit 2. Relict fabric on weathered surface of dolomitized limestone containing small Archaeocyatha from Faunal Assemblage I. Mount Scott Range, section M.

Figure 5. Unit 2. Thin section of chert nodule with preserved archaeocyathid-ooid grainstone facies. Mount Scott Range, approximately 6km northwest of section N. X5

2



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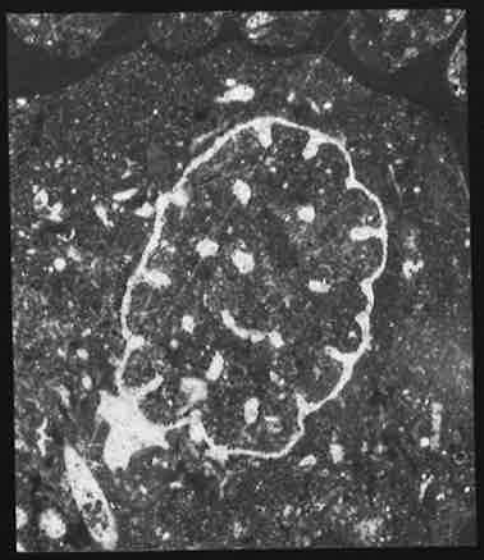

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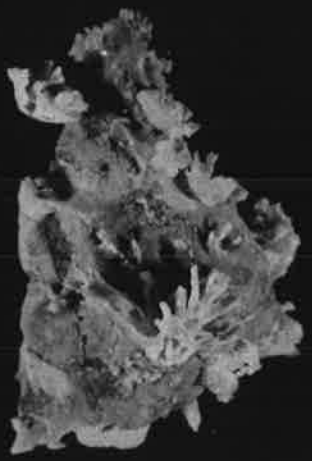

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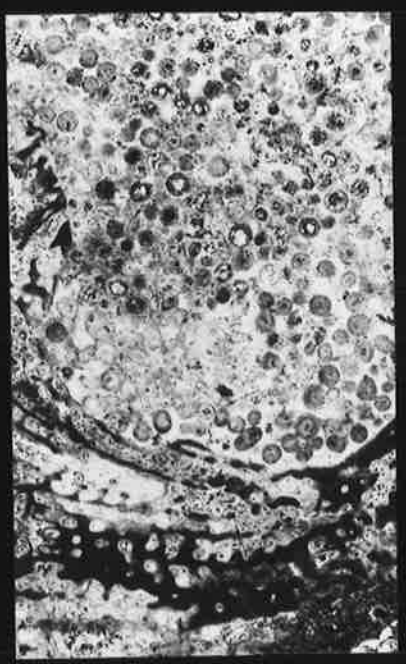

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PLATE 3

Figure 1. Unit 3. Archaeocyathid-algal wackestone facies. Epiphyton Bornemann growing on the outer surface of a specimen of Ardrossacyathus grandis sp.nov.
Mount Scott Range, section N. X3

Figure 2. Unit 4. Skeletal wackestone and packstone facies. Richly fossiliferous bioclastic limestone. Mount Scott Range, 100m southeast of section K. X4

Figure 3. Unit 4. Skeletal wackestone and packstone facies. Bioturbated sediment beneath inverted cup of Metaldetes incohatus sp.nov. (Holotype P21710).
Mount Scott Range, section N. X2

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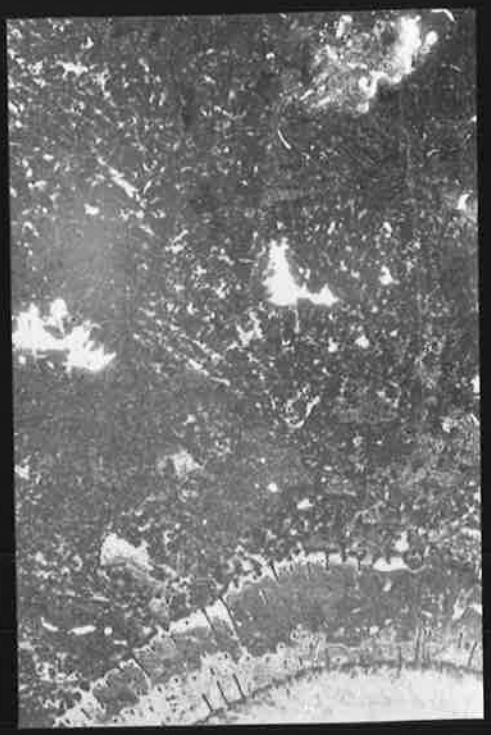

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PLATE 4

Figure 1. Unit 4. Skeletal wackestone and packstone facies. Micro-boring in archaeocyathid cup. Mount Scott Range, 100m southeast of section K. X20

Figure 2. Calcrete surface on hand specimen from Wirrealpa.

Figure 3. Detail of disconformity surface capped by calcrete. Wilkawillina Gorge, section H. X4

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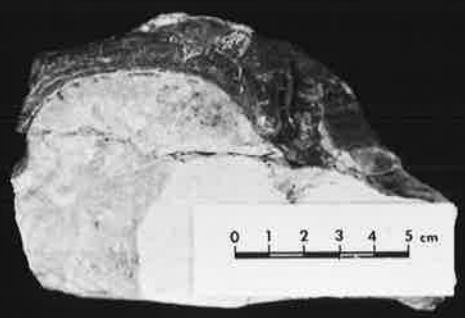

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PLATE 5

Figure 1. Thalamocyathus trachealis (Taylor). T1581A. Partial longitudinal section. X10

Figure 2. Thalamocyathus trachealis (Taylor). T1581C. External view of outer wall showing pore diaphragms pierced by pores varying in shape from circular to slit-like. X10

Figure 3. ? Gordonicyathus levis sp.nov. Holotype P21517. Portion of longitudinal section, showing flat outer wall pore diaphragms. X40

Figure 4. ? Gordonicyathus levis sp.nov. Holotype P21517. Tangential section grazing outer wall, showing rounded carcass pores (lower), covered by diaphragms pierced by smaller circular pores (top). X40

Figure 5. Rowanpectinus occultus gen.et sp.nov. Paratype P21455-2. Portion of longitudinal section, showing flat outer wall pore diaphragms. X40

Figure 6. Rowanpectinus occultus gen.et sp.nov. Paratype P21564. Tangential section grazing outer wall, showing circular carcass pores covered by diaphragms pierced by smaller circular pores. X40

Figure 7. Rowanpectinus clarus gen.et sp.nov. Holotype P21560. Portion of longitudinal section, showing flat pore diaphragms. X40

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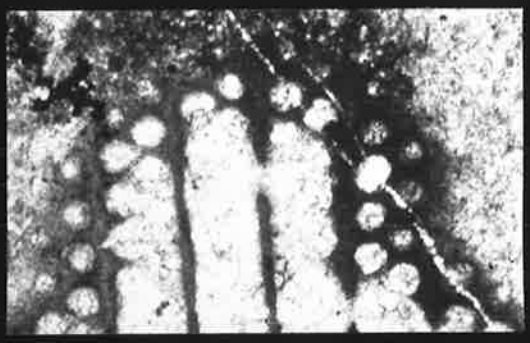

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PLATE 6

Figure 1. Baikalocyathus squamosus sp.nov. Holotype P21509-1. Portion of longitudinal section, showing pore diaphragms on the outer wall, and downward inclined inner wall pore-tubes with attached plate. X40

Figure 2. Baikalocyathus rimosus sp.nov. Holotype P21511-1. Portion of longitudinal section, showing similar features to those described above for B.squamosus. X40

Figure 3. ? Taylorcyathus malleus sp.nov. Paratype P21507-2. Portion of longitudinal section, showing outer wall pore diaphragms (not clear), and S-shaped annuli on inner wall. X40

Figure 4. Baikalopectinus capulus gen.et sp.nov. P21556. Portion of longitudinal section showing outer wall pore diaphragms (right), and downward inclined inner wall pore tubes. The plate attached to the pore tubes is not clearly shown. X40

Figure 5. ? Thalamocyathus sp. P21468. Portion of longitudinal section, showing downward inclined outer wall pore tubes, covered by a thick diaphragm. Sparsely porous septa and inner wall annuli are also shown. X20

Figure 6. ? Thalamocyathus sp. P21468. Enlarged portion of outer wall of same section, showing downward inclined pore tubes covered by a thick diaphragm pierced by an upward inclined pore to the exterior, and an asymmetric foot at the base of the lintel. X40

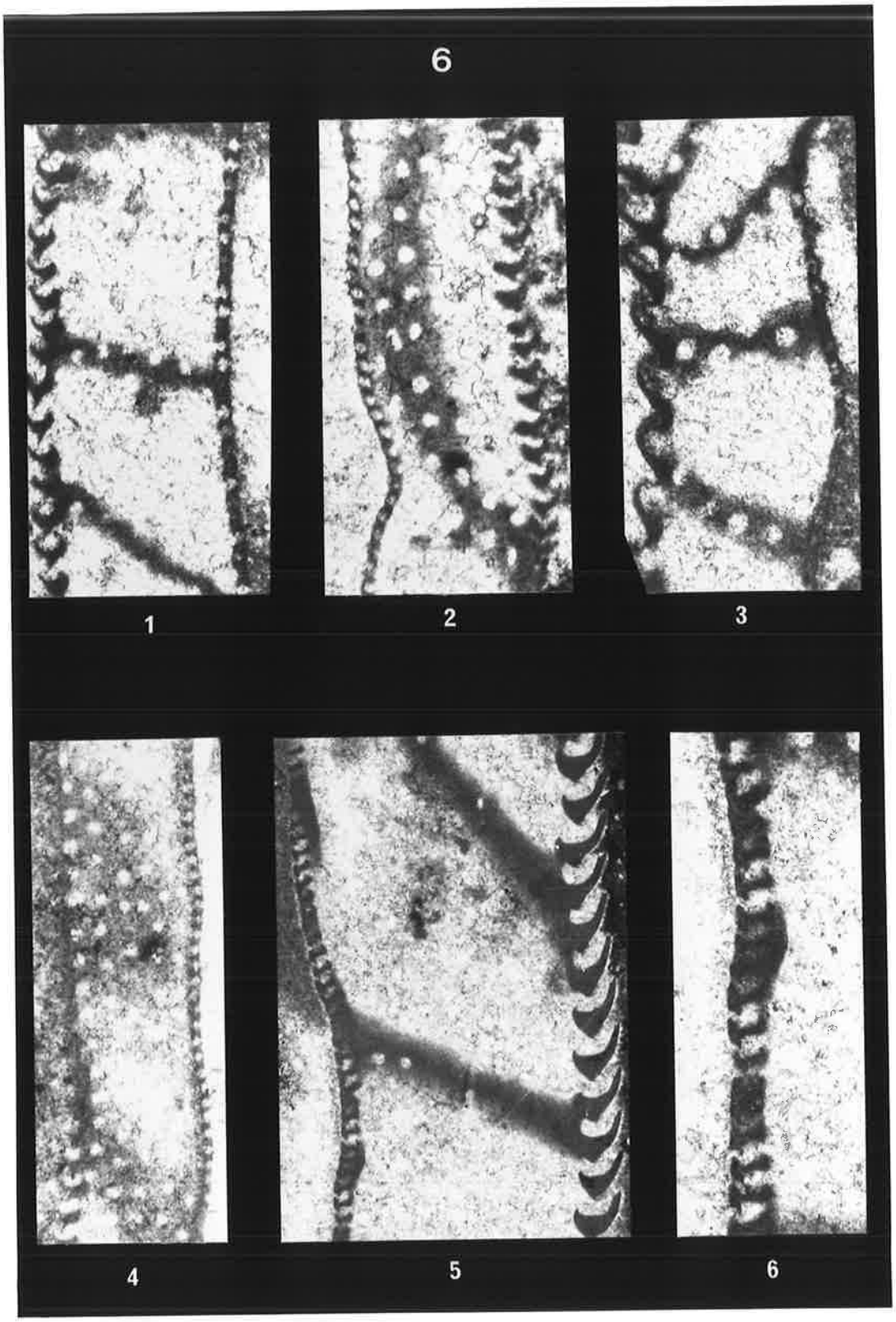
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PLATE 7

Figure 1. Cyathocricus sp. 461-C82-6 (Gravestock collection, Geology Dept. Univ. of Adelaide). Portion of transverse section, showing cogged annuli and slightly bulging outer wall diaphragms. X20

Figure 2. Cyathocricus sp. 461-C82-6. Portion of longitudinal section of same specimen, showing outer wall pore-tubes covered by slightly bulging diaphragms (poorly preserved). X20

Figure 3. Cyathocricus sp. 461-C82-6. Detail of same section, showing outer wall pore-tubes with slightly bulging diaphragms. X40

Figure 4. Thalamocyathus tectus Debrenne. P958-102 (Bedford collection). External view of outer wall tumuli. X10

Figure 5. Thalamocyathus tectus Debrenne. P958-102 (Bedford collection). Partial transverse section. X10

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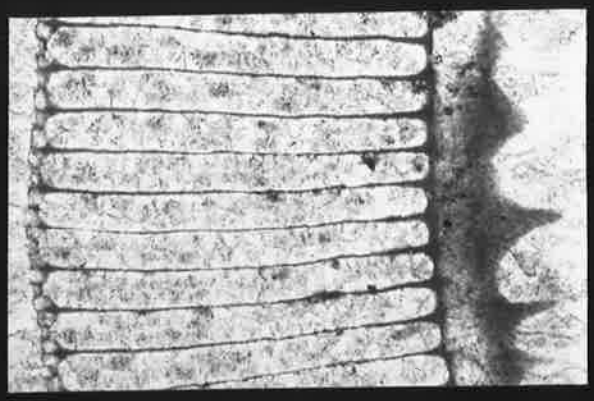

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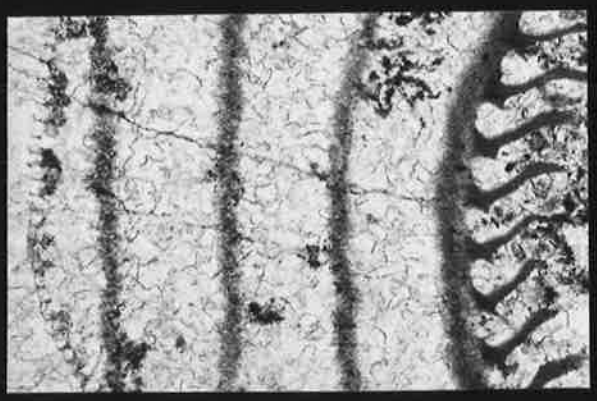

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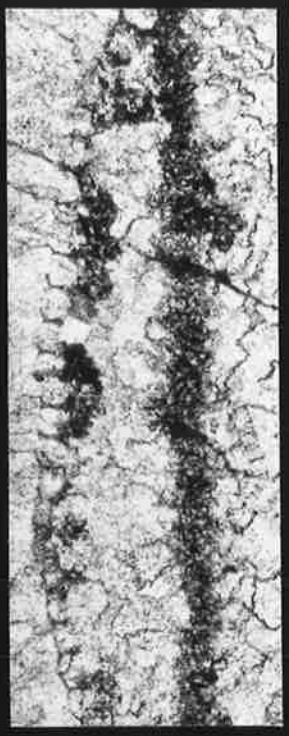

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PLATE 8

Figure 1. Thalamocyathus c.f. tectus. 461-C72-6 (Gravestock collection, Geology Dept., Univ. of Adelaide). Portion of transverse section, showing tumuli on outer wall. X40

Figure 2. Thalamocyathus c.f. tectus. 461-C72-6. Portion of longitudinal section of same specimen, showing tumuli fixed to triangular lintels. X40

Figure 3. Thalamocyathus c.f. tectus. 461-C68-1 (Gravestock collection, Geology Dept., Univ. of Adelaide). Tangential section grazing outer wall. Note small circular pore (upper left) at the summit of each tumulus. X40

Figure 4. Thalamocyathus c.f. tectus. 461-C82-10 (Gravestock collection, Geology Dept., Univ. of Adelaide). Oblique section of small cup. Note tumuli forming slightly before annuli. X20

Figure 5. Mennericyathus dissitus Kruse (in prep.). P21505-4. Tangential section grazing outer wall, showing rod-like supports around each carcass pore, which attach the independent microporous sheath to the carcass.

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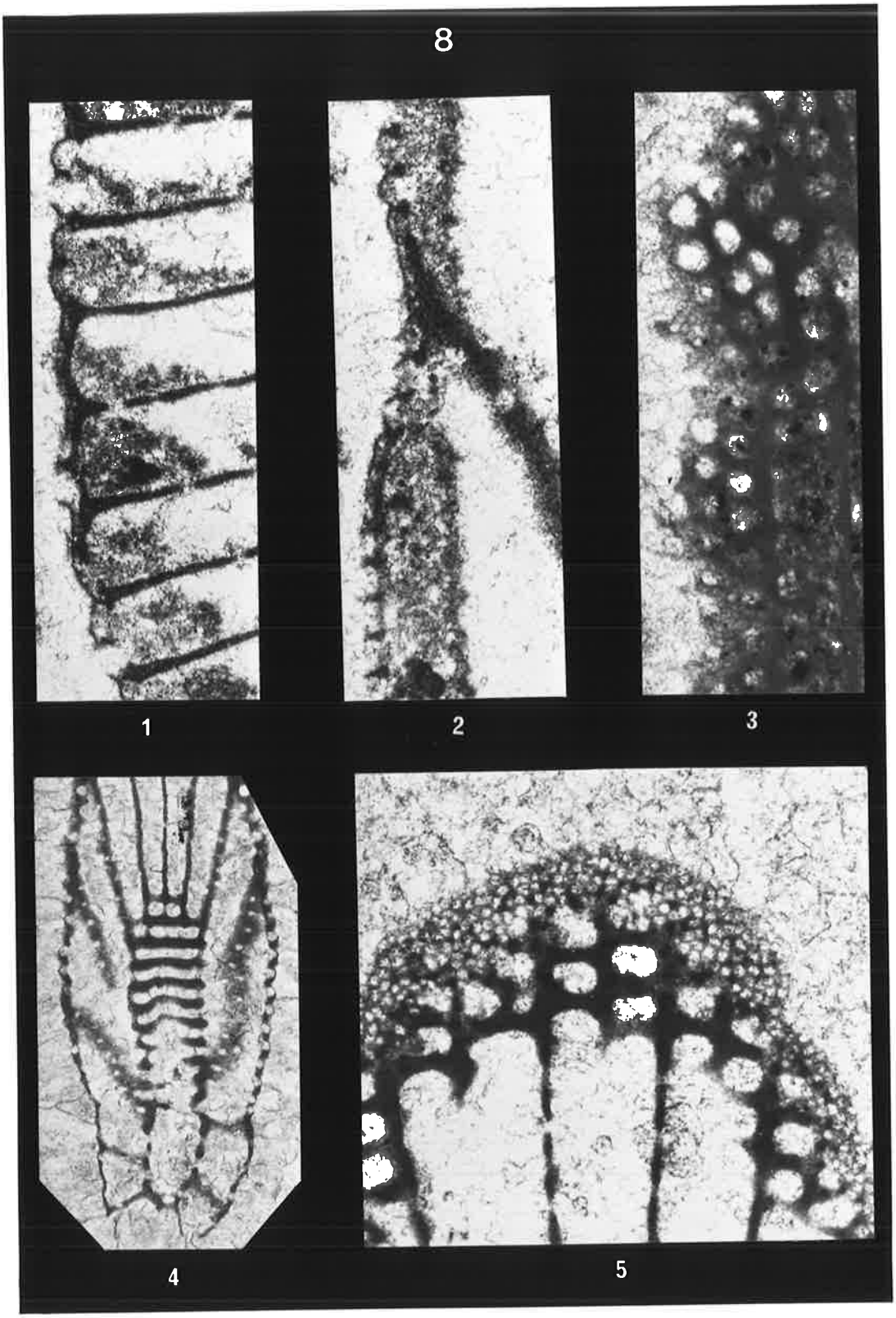

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PLATE 9

Figure 1. Mennericyathus dissitus Kruse (in prep.). P21593. Portion of transverse section, showing independent microporous sheath attached to short rod-like supports from the underlying lintels. X20

Figure 2. Mennericyathus dissitus Kruse (in prep.). P21594. Oblique section grazing outer wall. X40

Figure 3. Erugatocyathus krusei sp.nov. Holotype P21599. Tangential section, grazing outer wall, showing non-independent, continuous microporous sheath on a portion of the outer wall without exothecal tissue. X40

Figure 4. Erugatocyathus howchini sp.nov. Paratype P21630. Tangential section grazing outer wall, showing non-independent, continuous microporous sheath. X40

Figure 5. Erugatocyathus howchini sp.nov. Holotype P21590-1. Oblique section grazing outer wall, showing participation of lintels in sheath formation. X40

Figure 6. Erugatocyathus howchini sp.nov. Holotype P21590-1. Portion of longitudinal section, showing superficial similarity of the sheath to one of independent type. X40

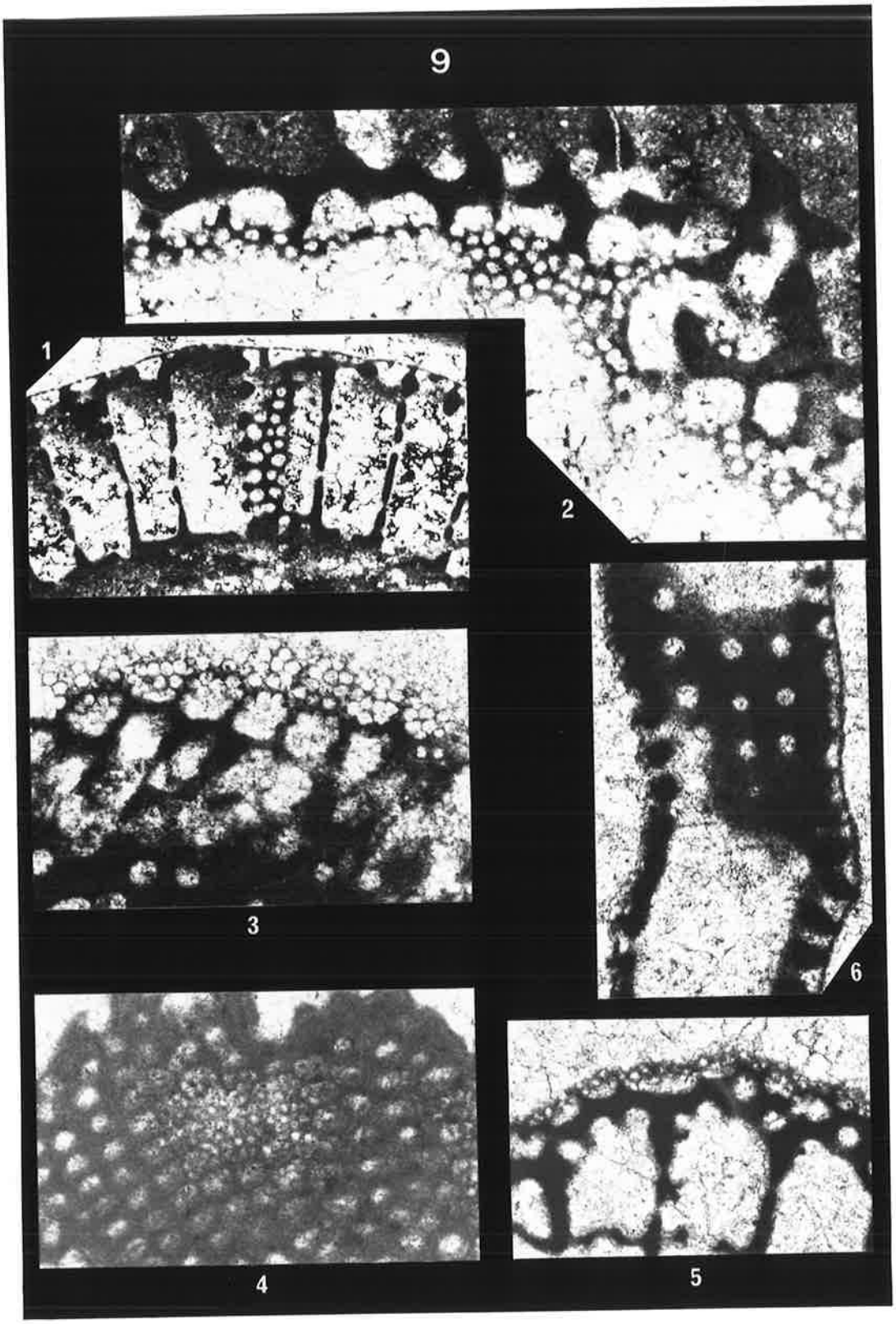
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PLATE 10

Figure 1. Erugatocyathus mawsoni sp.nov. Paratype P21474-2. Portion of transverse section, showing isosceles-triangular lintels with bulbous base, spinose microporous sheath, and slightly bulging internal flange or rim within carcass pores. X40

Figure 2. Erugatocyathus mawsoni sp.nov. Paratype P21473-2. Tangential section grazing outer wall, showing continuous non-independent microporous sheath. X40

Figure 3. Erugatocyathus mawsoni sp.nov. Paratype P21466-2. Tangential section grazing outer wall, showing microporous sheath. Note partial discontinuity where underlying carcass pores are relatively small. X40

Figure 4. Erugatocyathus tatei sp.nov. Holotype P21607. Tangential section grazing outer wall, showing predominantly discontinuous non-independent microporous sheath with petaloid micropores. X40

Figure 5. Erugatocyathus aquilinus sp.nov. Holotype P21535-2. Oblique section grazing outer wall, showing non-independent, discontinuous microporous sheath. Note variation in micropore size. X40

Figure 6. Erugatocyathus aquilinus sp.nov. Paratype P21552-4. Portion of longitudinal section, showing almost triangular lintels, microporous sheath, and fragments of an inner flange or rim, within the carcass pores. X40

Figure 7. Erugatocyathus madigani sp.nov. Paratype P21604. Tangential section grazing outer wall, showing non-independent microporous sheath, restricted to carcass pore openings by exothecal tissue. X40

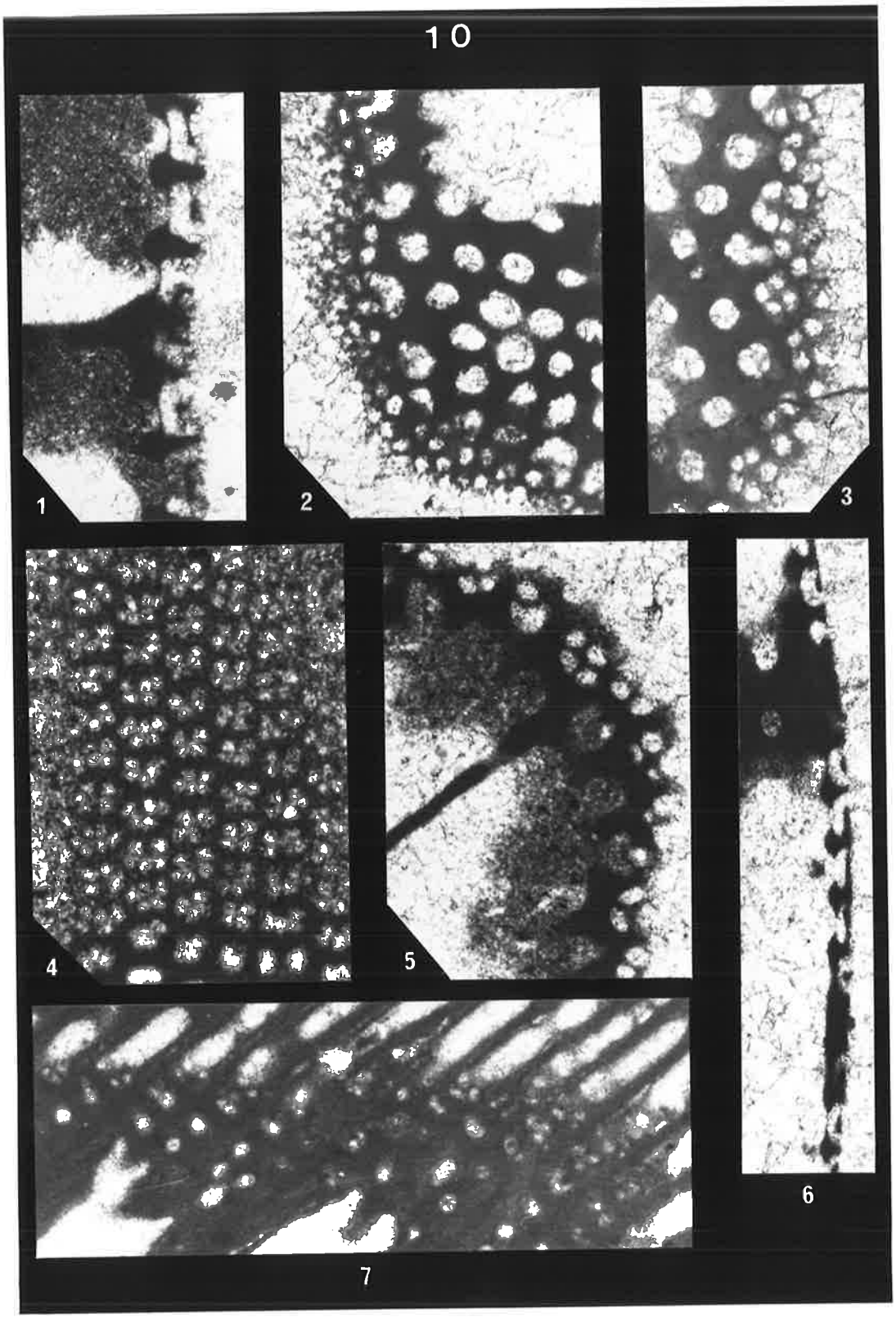
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PLATE 11

Figure 1. Somphocyathus coralloides Taylor. Holotype T1554.
Oblique section grazing outer wall, showing non-independent microporous sheath restricted to carcass pore openings by buttresses of exothecal tissue. X20

Figure 2. Somphocyathus coralloides Taylor. P21596.
Tangential section grazing outer wall of specimen from Wilkawillina Gorge. The non-independent microporous sheath is restricted to carcass pore openings by the exothecal tissue. X20

Figure 3. Erugatocyathus inflexus sp.nov. Paratype P21620.
Tangential section grazing outer wall, showing non-independent, discontinuous microporous sheath. X40

Figure 4. Erugatocyathus inflexus sp.nov. Paratype P21620.
Additional view of same specimen. X40

Figure 5. Veronicacyathus radiatus sp.nov. P21633-2.
Tangential section grazing outer wall, showing non-independent, discontinuous microporous sheath. Note a partial degree of continuity, where carcass pores are close together (top left hand side). X40

Figure 6. Erugatocyathus oppositus sp.nov. P21615-3.
Tangential section grazing outer wall, showing partly discontinuous to partly continuous, non-independent microporous sheath. X40

Figure 7. Coscinoptycta convoluta (Taylor). Holotype T1594-5.
Portion of transverse section, showing multiperforate tumuli on outer wall. X20

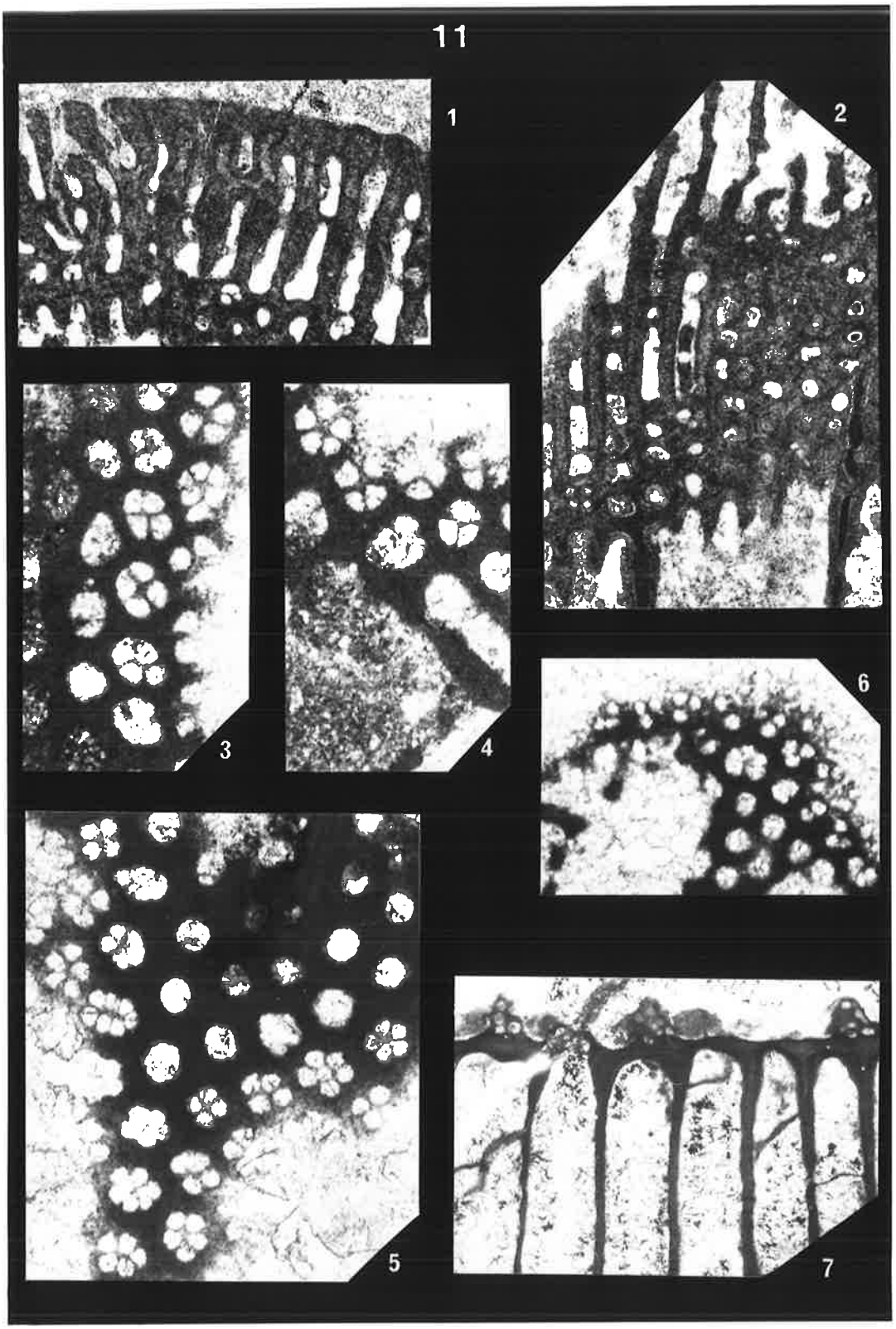
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PLATE 12

Figure 1. Veronicacyathus radiatus sp.nov. Paratype P21636. Longitudinal section through base of small cup, showing downward inclined lintels on outer wall, preceding growth of the microporous sheath. X20

Figure 2. Veronicacyathus radiatus sp.nov. Paratype P21634-5. Longitudinal section near base of cup, showing downward inclined lintels on outer wall, preceding growth of the microporous sheath. X20

Figure 3. Anaptyctocyathidae gen.et sp.indet. P21712-2. Longitudinal section near base of cup, showing downward inclined outer wall lintels, followed by a microporous sheath. X20

Figure 4. Anaptyctocyathidae gen.et sp.indet. P21453-4. Partial longitudinal section, showing downward inclined outer wall lintels followed by growth of a microporous sheath. X15

Figure 5. Bractocyathus projectus sp.nov. Holotype P21655. Portion of transverse section, showing microporous sheath fixed to outer wall carcass pores and rising to meet extensions to septa. X40

Figure 6. Bractocyathus projectus sp.nov. Holotype P21655. Tangential section grazing outer wall, showing sheath micropores notched into the lintels surrounding the carcass pores in the mid part of the intersept. X40

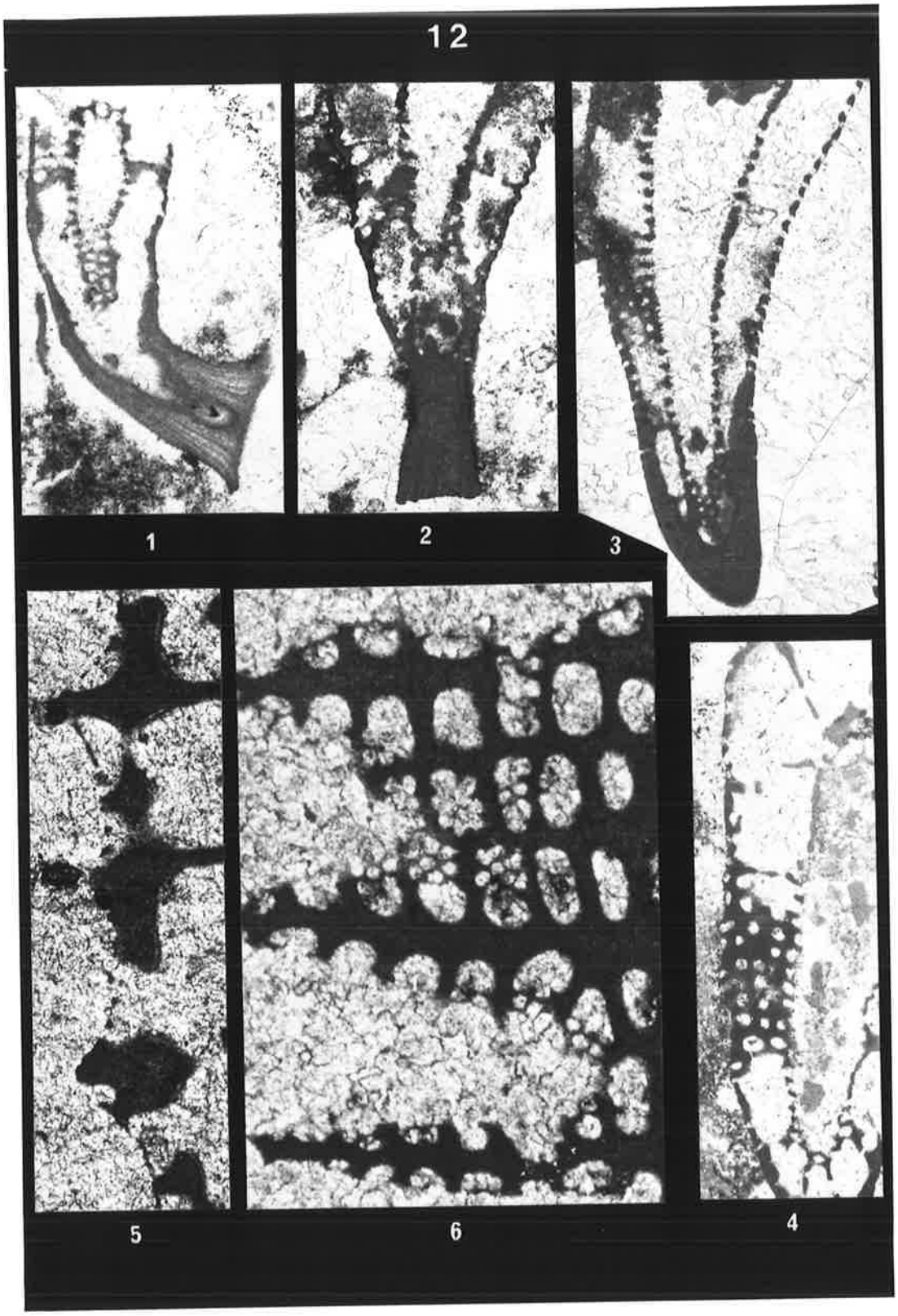
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PLATE 13

Figure 1. Auliscocyathus arcuatus sp.nov. Holotype P21539-3. Portion of transverse section, showing termination of rod lattice at the outer surface, constituting a rudimentary outer wall. X10

Figure 2. Auliscocyathus arcuatus sp.nov. Holotype P21539-3. Portion of longitudinal section, showing arched lattice in the intervallum. Rudimentary outer wall on right. X10

Figure 3. Auliscocyathus arcuatus sp.nov. Holotype P21539-3. Tangential section grazing outer wall from exterior, showing quadrate lattice openings communicating directly with the exterior. X10

Figure 4. Paranacyathus spinosus sp.nov. Paratype P21466-4. Oblique section, showing thick basic outer wall with one vertical row of pores per intersept. X10

Figure 5. Paranacyathus spinosus sp.nov. Holotype P21552-5. Tangential section grazing outer wall, showing basic outer wall consisting of one or two rows of pores per intersept. X10

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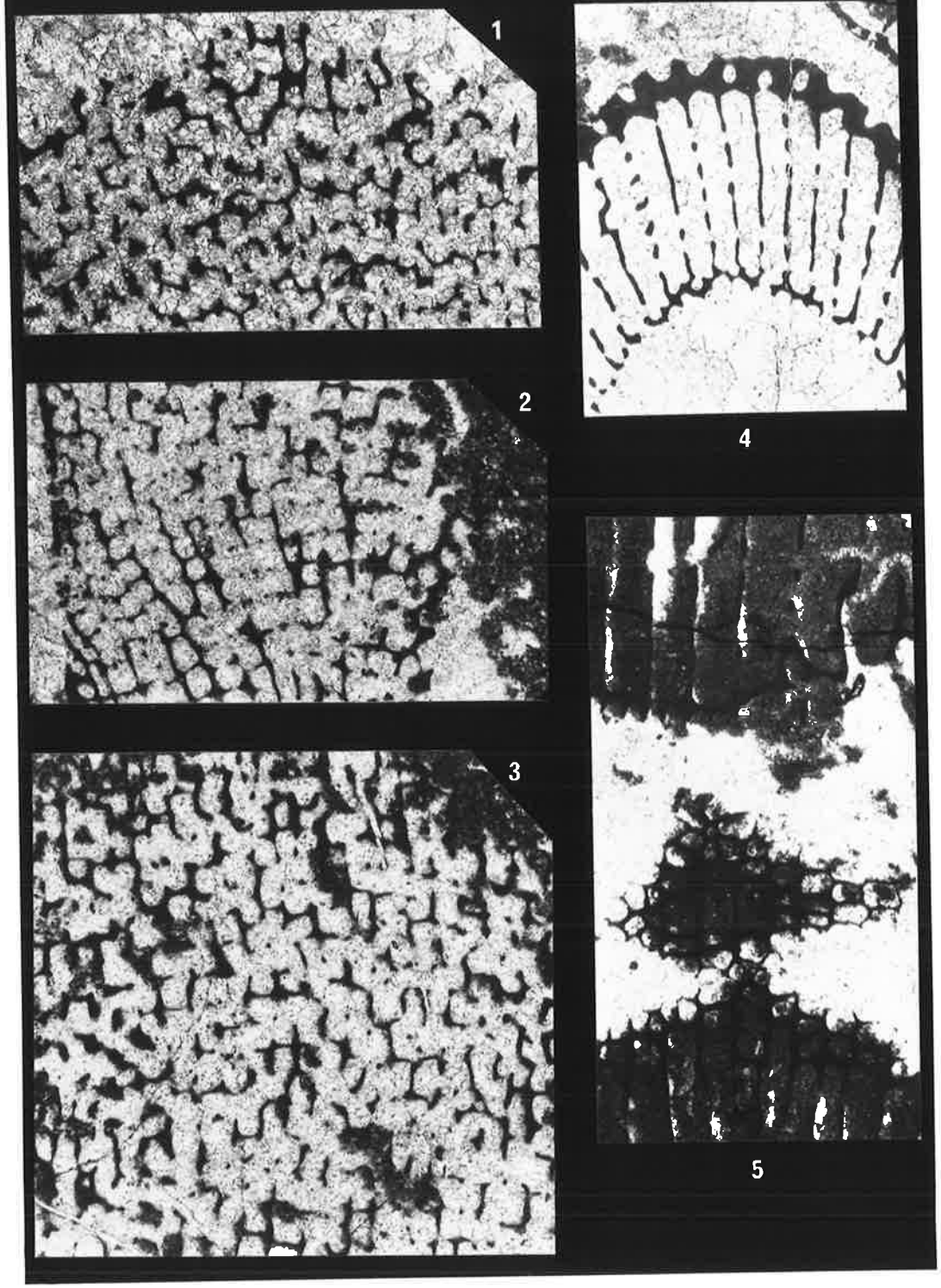

PLATE 14

Figure 1. Graphoscyphia graphica (Bedford R. and W.R.) 461-C74-30 (Gravestock collection, Geology Dept., Univ. of Adelaide). Oblique section grazing outer wall, showing basic carcass with vertical rows of simple pores. X15

Figure 2. Ardrossacyathus grandis sp.nov. Paratype P21720. Tangential section grazing outer wall, showing basic outer wall with anastomosing vertical rows of pores. X10

Figure 3. Warriootacyathus wilkawillinensis gen.et sp.nov. P21807. Tangential section grazing outer wall, showing a complete lack of protruding skeletal material across pore-tube openings. Concentric infilling by secondary skeletal material is visible. X10

Figure 4. Hawkercyathus insculptus gen.et sp.nov. Paratype P21774. Portion of transverse section through shallow depression which is formed above the apparently imperforate stage. Note the membrane of circular pores notched into the surrounding lintels. X20

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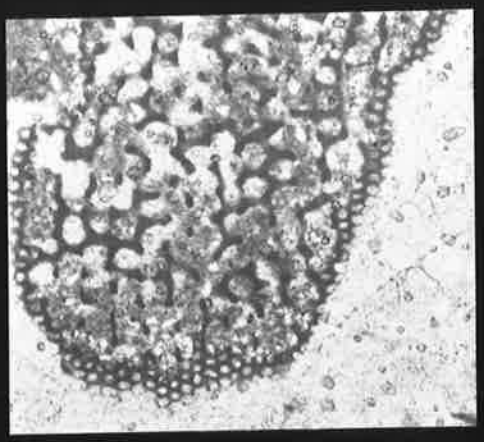

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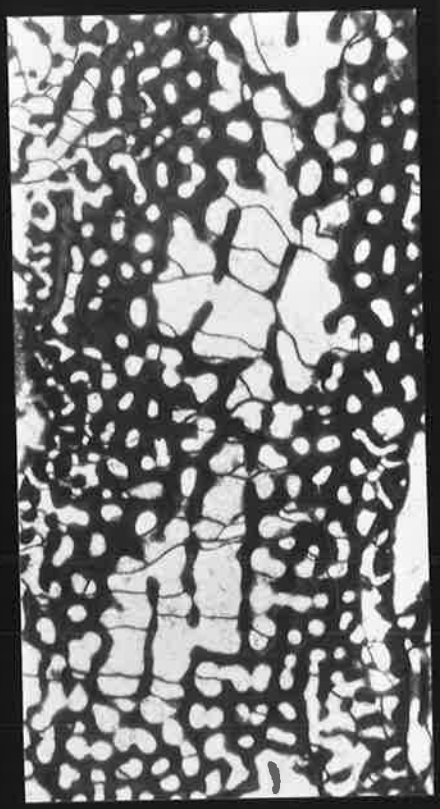

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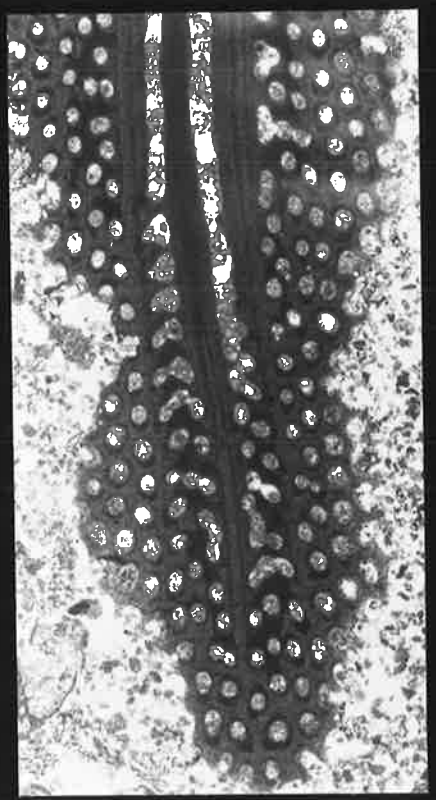

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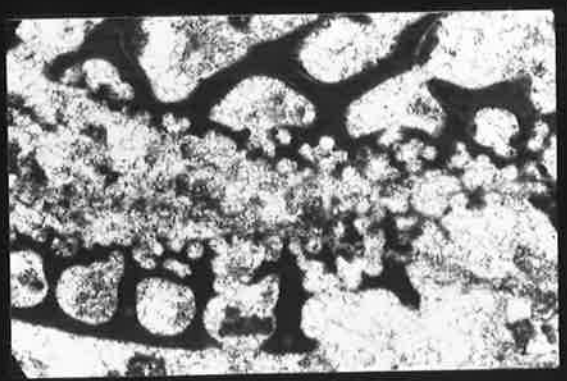

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PLATE 15

Figure 1. Hawkercyathus insculptus gen.et sp.nov. P21788. Tangential section grazing outer wall of small fragment, showing peripheral pores notched into the surrounding lintels. X20

Figure 2. Pycnoidocyathus cribrus sp.nov. Holotype P21794-1. Tangential section grazing outer wall, showing peripheral pore distribution. X20

Figure 3. ? Pycnoidocyathus strictus sp.nov. Holotype P21799. Tangential section grazing outer wall, showing possibly partly subdivided outer wall carcass pores. X20

Figure 4. Metaldetes incohatus sp.nov. Holotype P21710. Tangential section grazing outer wall, showing partly subdivided pores. X20

Figure 5. Beltanacyathus wirrialpensis (Taylor). Holotype T1581E. Tangential section grazing outer wall, showing partly subdivided pore-tube openings. X10

Figure 6. Beltanacyathus wirrialpensis (Taylor). P21476-1. Tangential section grazing outer wall of a specimen from the Mount Scott Range. Note the similarity with the holotype. X10

Figure 7. Beltanacyathus digitus sp.nov. Holotype P21823. Oblique section grazing outer wall, showing partly subdivided pore-tube openings. X10

Figure 8. Fridaycyathus biserialis gen.et sp.nov. Paratype P21826. Tangential section grazing outer wall, showing partly subdivided pore-tube openings. X20

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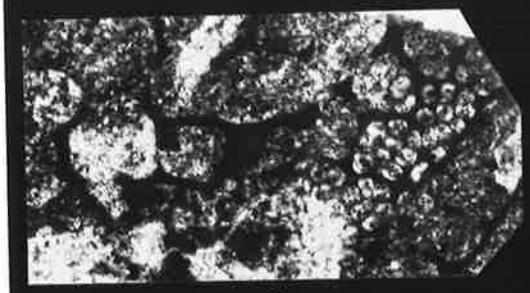

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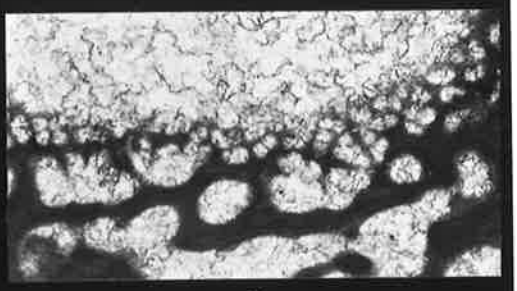

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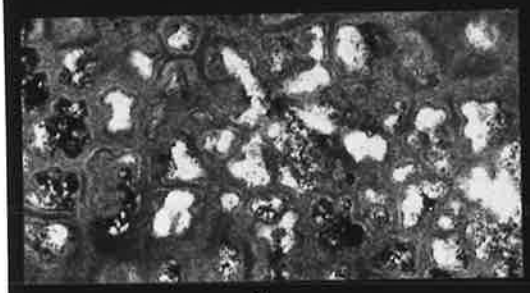

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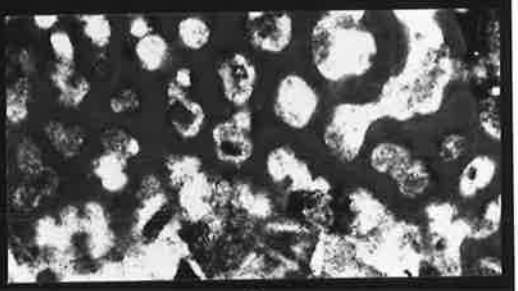

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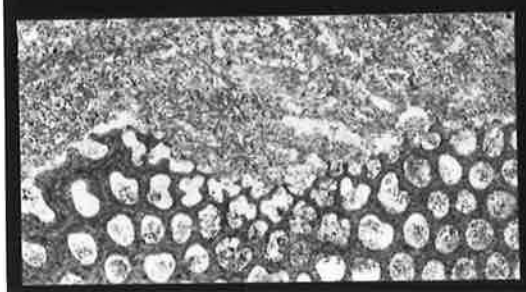

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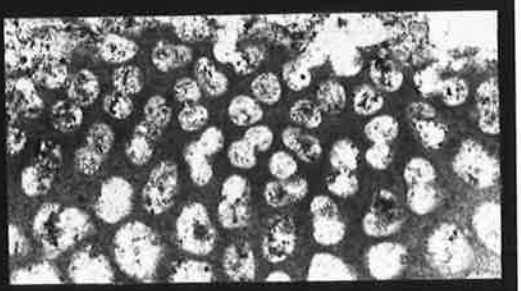

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PLATE 16

Figure 1. Metaldetes dissepimentalis (Taylor). P21702-2.
Tangential section grazing outer wall. X20

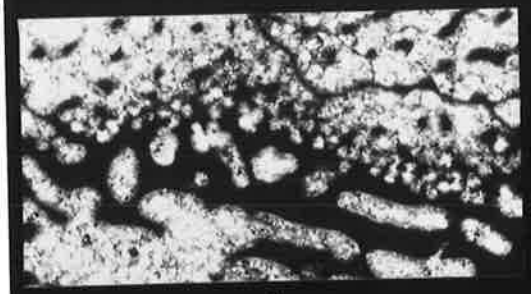
Figure 2. Spirillicyathus pigmentum Bedford R. and J. P21743.
Tangential section grazing outer wall. X10

Figure 3. Spirillicyathus pigmentum Bedford R. and J. P21743.
Tangential section grazing outer wall. X10

Figure 4. Spirillicyathus pigmentum Bedford R. and J. P21423-2.
Partial transverse section, showing attachment of septa to the outer wall by means of paired oblique struts. Note infilling at the inner wall (bottom) is geopetal micrite.

Figure 5. Anaptyctocyathidae gen.et sp.indet. P21413-3.
Longitudinal section, showing early stages of septal pore development. X15

Figure 6. Anaptyctocyathidae gen.et sp.indet. P21472-1.
Oblique longitudinal section, showing early stages of septal pore development and initial stage with bars crossing the intervallum. X15



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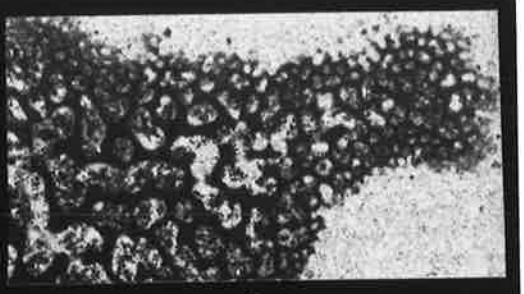

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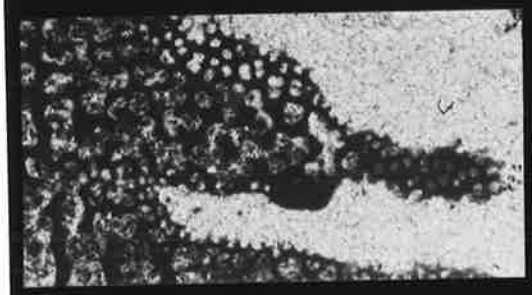

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PLATE 17

Figure 1. Anaptyctocyathidae gen.et sp.indet. P21473-4. Longitudinal section near base, showing early development of septal pores. X15

Figure 2. Joanaecyathus caecus gen.et sp.nov. Paratype P21481. Longitudinal section through small cup. Note early formed septal pores within the intervallum, and subsequently formed stirrup-pores. X15

Figure 3. Dokidocyathus genuinus sp.nov. Holotype P21411-1. Transverse section. X4

Figure 4. Dokidocyathus genuinus sp.nov. Holotype P21411-1. Partial longitudinal section near base of cup. X4

Figure 5. Dokidocyathus genuinus sp.nov. Holotype P21411-1. Tangential section grazing outer wall. X8

Figure 6. Dokidocyathus genuinus sp.nov. Holotype P21411-1. Oblique section showing inner wall pores and vertical pillars. X8

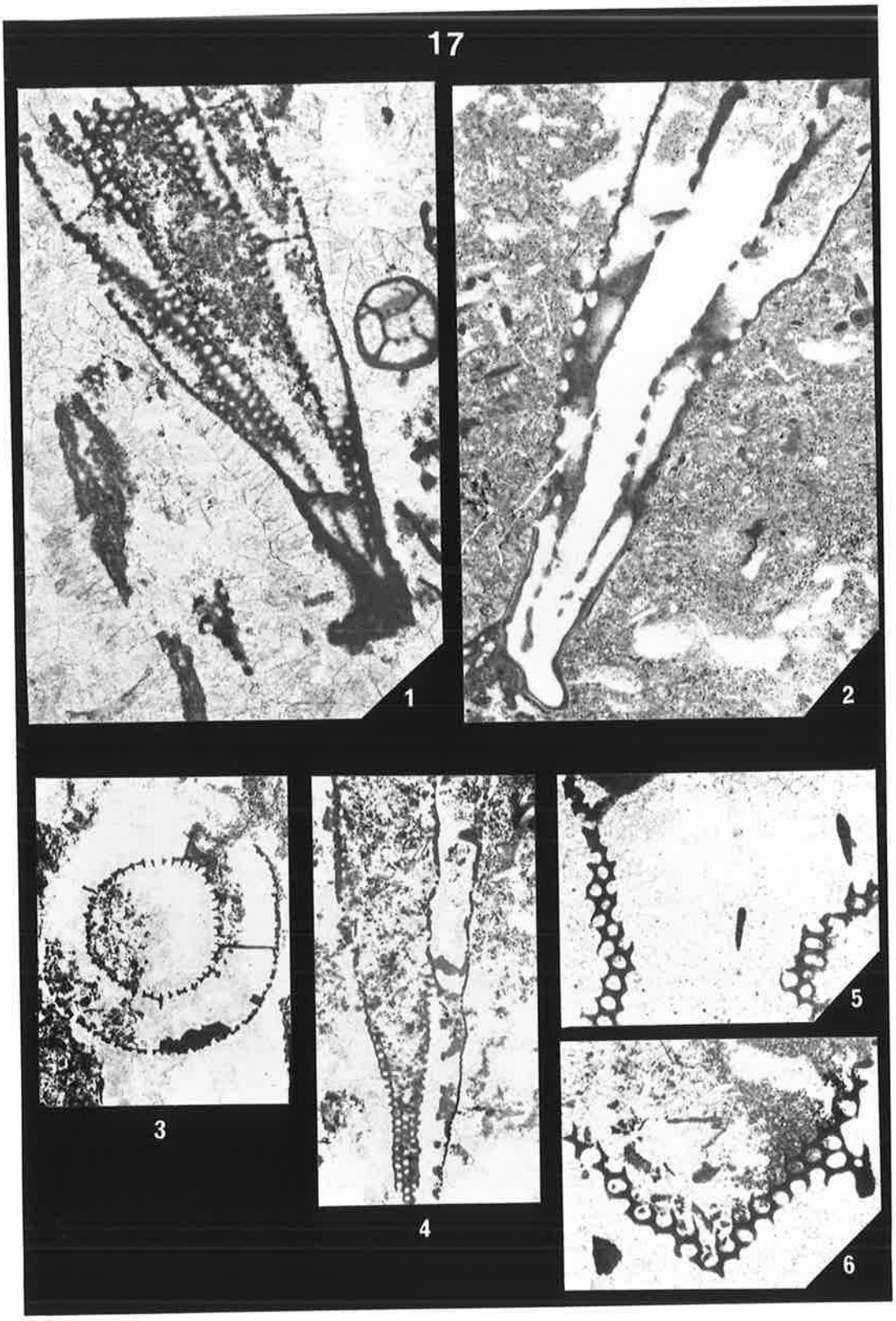
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PLATE 18

Figure 1. Dokidocyathus osseus sp.nov. Holotype P21416-1.
Transverse section. X6

Figure 2. Dokidocyathus osseus sp.nov. Paratype P21417-1.
Longitudinal section. X3

Figure 3. Dokidocyathus osseus sp.nov. Holotype P21416-1.
Oblique section. X3

Figure 4. Dokidocyathus osseus sp.nov. Paratype P21417-1.
Detail of bars in intervallum. Note that the seam of dark material following the outer wall (left) is inorganic. X20

Figure 5. Dokidocyathus osseus sp.nov. Paratype P21418-1.
Oblique longitudinal section through small cup. X8

Figure 6. Dokidocyathus triangulus sp.nov. Paratype P21427-1.
Transverse section. X8

Figure 7. Dokidocyathus triangulus sp.nov. Holotype P21426.
Tangential section grazing outer wall. Pores are rounded on the intervallum side (bottom), and hexagonal on the outer surface (top). X20

Figure 8. Dokidocyathus triangulus sp.nov. Holotype P21426.
Portion of longitudinal section. Outer wall on right.
X20

Figure 9. Dokidocyathus sp. P21429-1.
Oblique section. X6

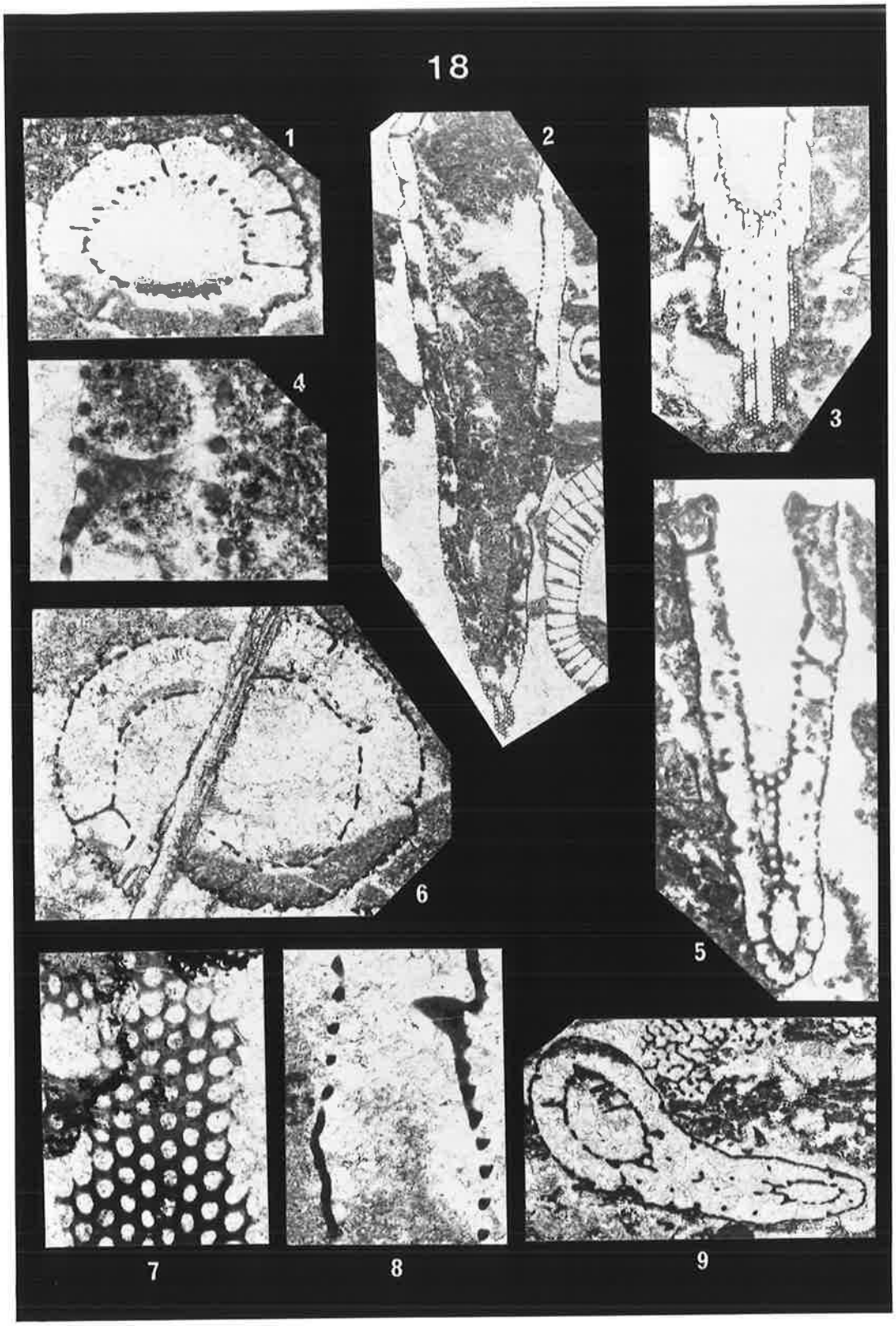
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PLATE 19

Figure 1. Dokidocyathus triangulus sp.nov. Paratype P21427-1. Tangential section grazing inner wall. X8

Figure 2. Aroonacyathus gregarius gen.et sp.nov. Paratype P21430-1. Oblique to longitudinal section through colony. X3

Figure 3. Aroonacyathus gregarius gen.et sp.nov. Holotype P21417-4. Transverse section. X6

Figure 4. Aroonacyathus gregarius gen.et sp.nov. Holotype P21417-4. Portion of longitudinal section, showing bars in the intervallum. Outer wall on right. X10

Figure 5. Aroonacyathus gregarius gen.et sp.nov. Holotype P21417-4. Oblique section, showing details of tumuli. X15

Figure 6. Aroonacyathus gregarius gen.et sp.nov. Holotype P21417-4. Portion of oblique section, showing tumulose outer wall and simple inner wall. X15

Figure 7. Aroonacyathus gregarius gen.et sp.nov. Holotype P21417-4. Oblique section through colony. X3

Figure 8. Aroonacyathus gregarius gen.et sp.nov. Holotype P21417-4. Detail of inner wall pores. X10

Figure 9. Aroonacyathus gregarius gen.et sp.nov. Paratype P21432. Oblique section through branching cups. X3

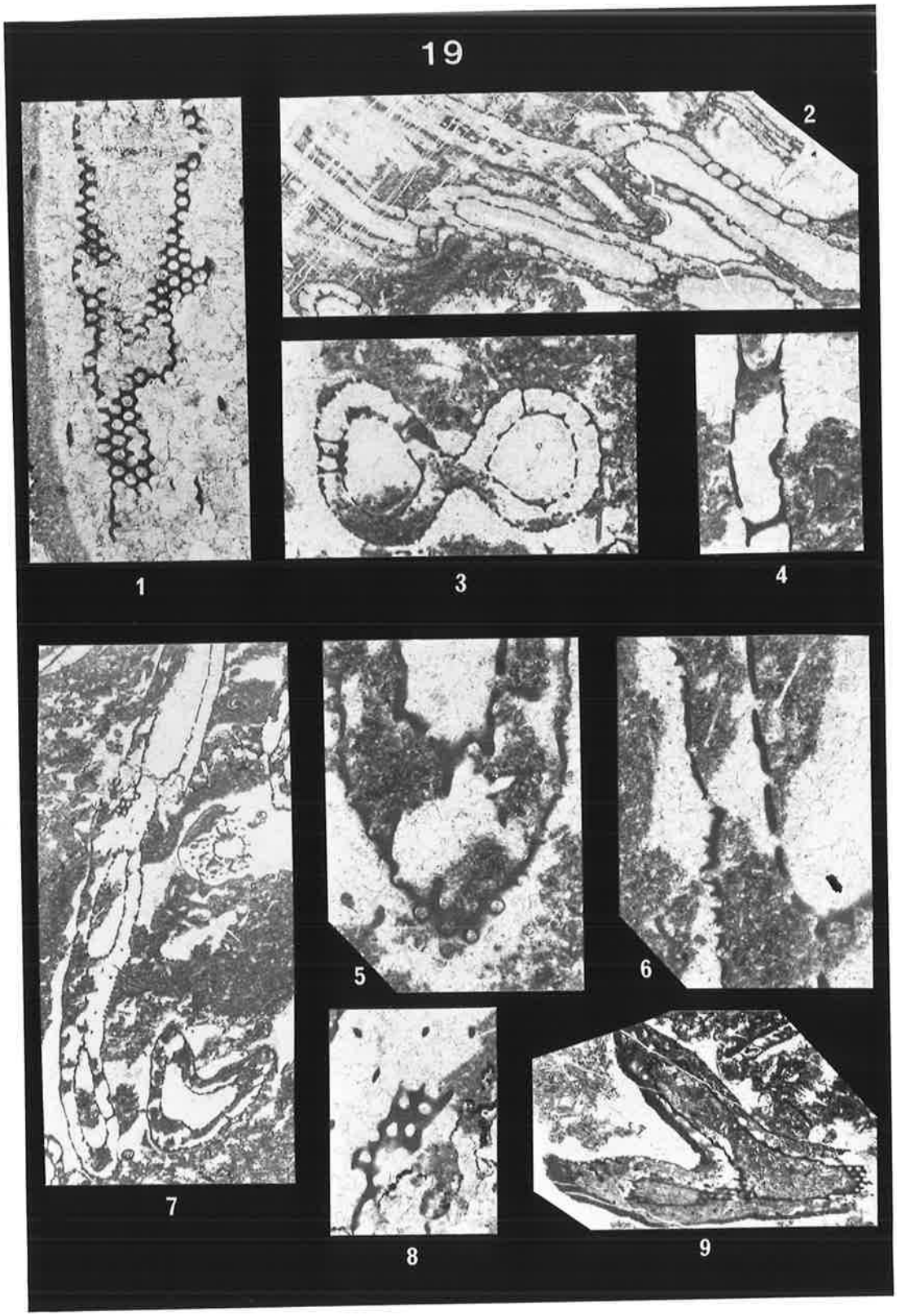
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PLATE 20

Figure 1. Loculicyathus alternus sp.nov. Paratype P21439. Transverse section. X5

Figure 2. Loculicyathus alternus sp.nov. Holotype P21437. Tangential section grazing outer wall. X15

Figure 3. Loculicyathus alternus sp.nov. Holotype P21437. Oblique longitudinal section. X3

Figure 4. Loculicyathus alternus sp.nov. Paratype P21438. Oblique section. X6

Figure 5. Loculicyathus alternus sp.nov. Holotype P21437. Oblique section grazing inner wall. X3

Figure 6. Loculicyathus alternus sp.nov. Paratype P21440-1. Portion of longitudinal section. Outer wall on right. X10

Figure 7. Loculicyathus alternus sp.nov. Holotype P21437. Oblique section near base of cup. X10

Figure 8. ? Loculicyathus racemiferus sp.nov. Holotype P21452. Transverse section. X4

Figure 9. ? Loculicyathus racemiferus sp.nov. Holotype P21452. Portion of same section showing clustered outer wall pores. X15

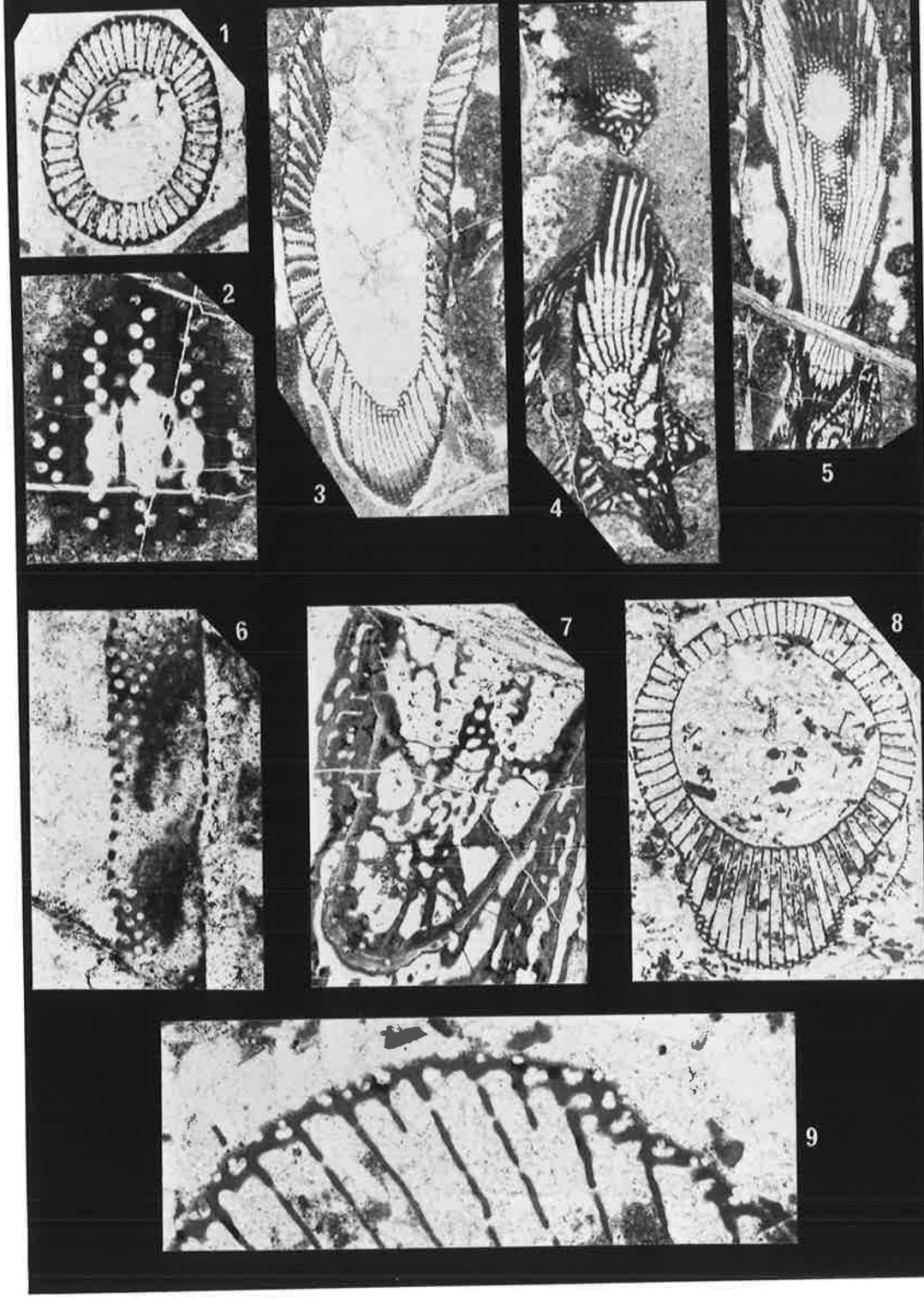
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PLATE 21

Figure 1. ? Loculicyathus racemiferus sp.nov. Holotype P21452. Partial longitudinal section. X10

Figure 2. ? Loculicyathus racemiferus sp.nov. Paratype P21453-1. Oblique section. X3

Figure 3. ? Loculicyathus racemiferus sp.nov. Paratype P21453-1. Portion of longitudinal section, outer wall on left. X8

Figure 4. ? Loculicyathus racemiferus sp.nov. Paratype P21453-1. Oblique section grazing both walls. X10

Figure 5. ? Loculicyathus racemiferus sp.nov. P21455-1. Tangential section grazing outer wall of large fragment. X15

Figure 6. ? Loculicyathus racemiferus sp.nov. Paratype P21454. Oblique section. X4

Figure 7. ? Loculicyathus racemiferus sp.nov. Paratype P21453-1. Tangential section grazing outer wall, showing attached growth of Epiphyton Bornemann. X20

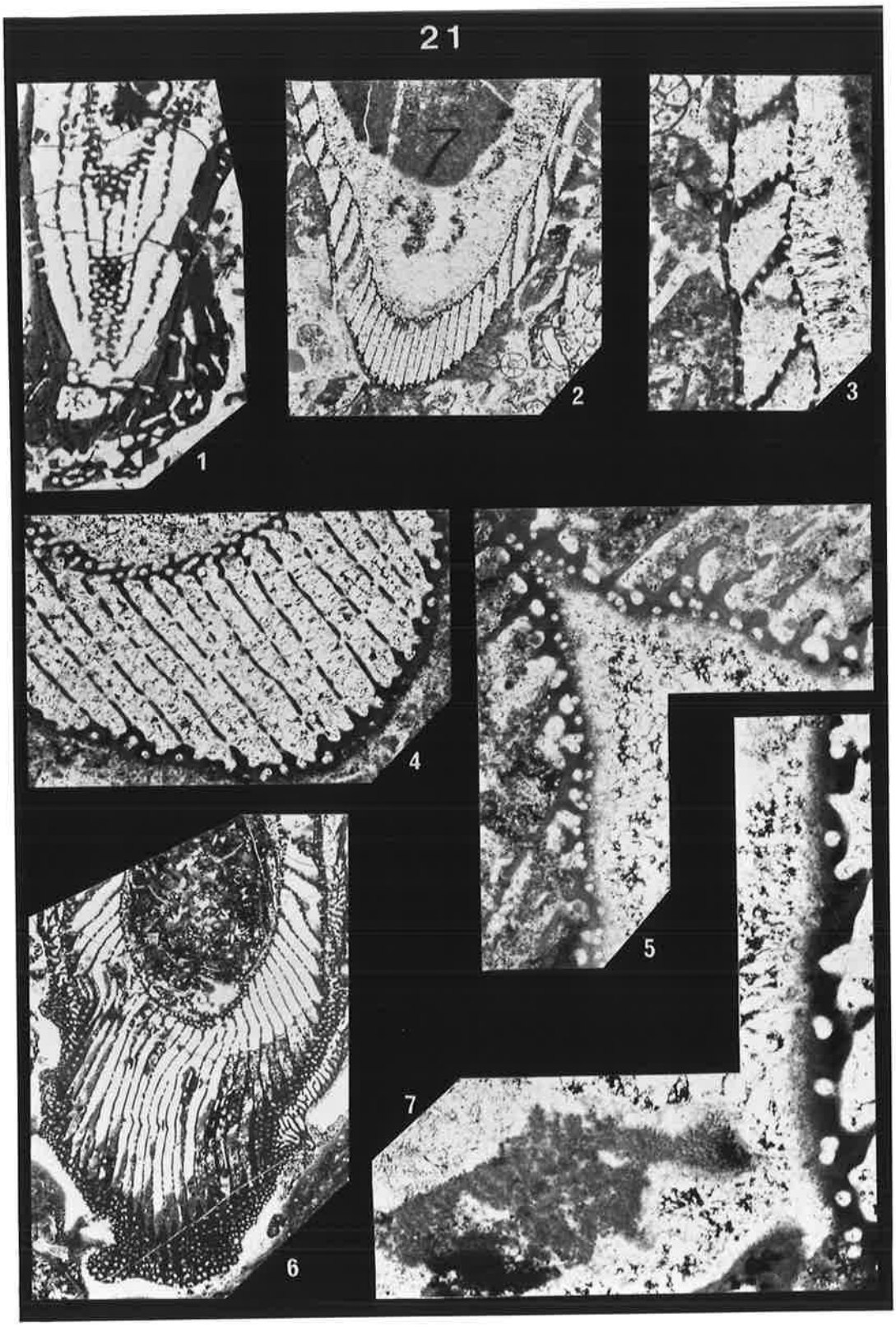
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PLATE 22

Figure 1. Prethmophyllum ? brunhilda (Bedford R. and J.). P21460. Oblique transverse section. X2

Figure 2. Prethmophyllum ? brunhilda (Bedford R. and J.). P21460 Tangential section grazing outer wall. X6

Figure 3. Prethmophyllum ? brunhilda (Bedford R. and J.). P21464. Tangential section grazing outer wall. X15

Figure 4. Prethmophyllum ? brunhilda (Bedford R. and J.). P21435-2. Oblique section grazing inner wall. X6

Figure 5. Prethmophyllum ? brunhilda (Bedford R. and J.). P21460. Portion of longitudinal section, outer wall on left. X8

Figure 6. Joanaecyathus caecus gen.et sp.nov. Holotype P21466-1. Partial transverse section. X4

Figure 7. Joanaecyathus caecus gen.et sp.nov. Holotype P21466-1. Partial longitudinal section. X4

Figure 8. Joanaecyathus caecus gen.et sp.nov. Paratype P21424-3. Oblique longitudinal section. X6

Figure 9. Joanaecyathus caecus gen.et sp.nov. Holotype P21466-1. Tangential section grazing outer wall. X10

Figure 10. Joanaecyathus caecus gen.et sp.nov. Holotype P21466-1. Portion of transverse section. X10

Figure 11. Joanaecyathus caecus gen.et sp.nov. P21482-2. Transverse section of very small cup. X20

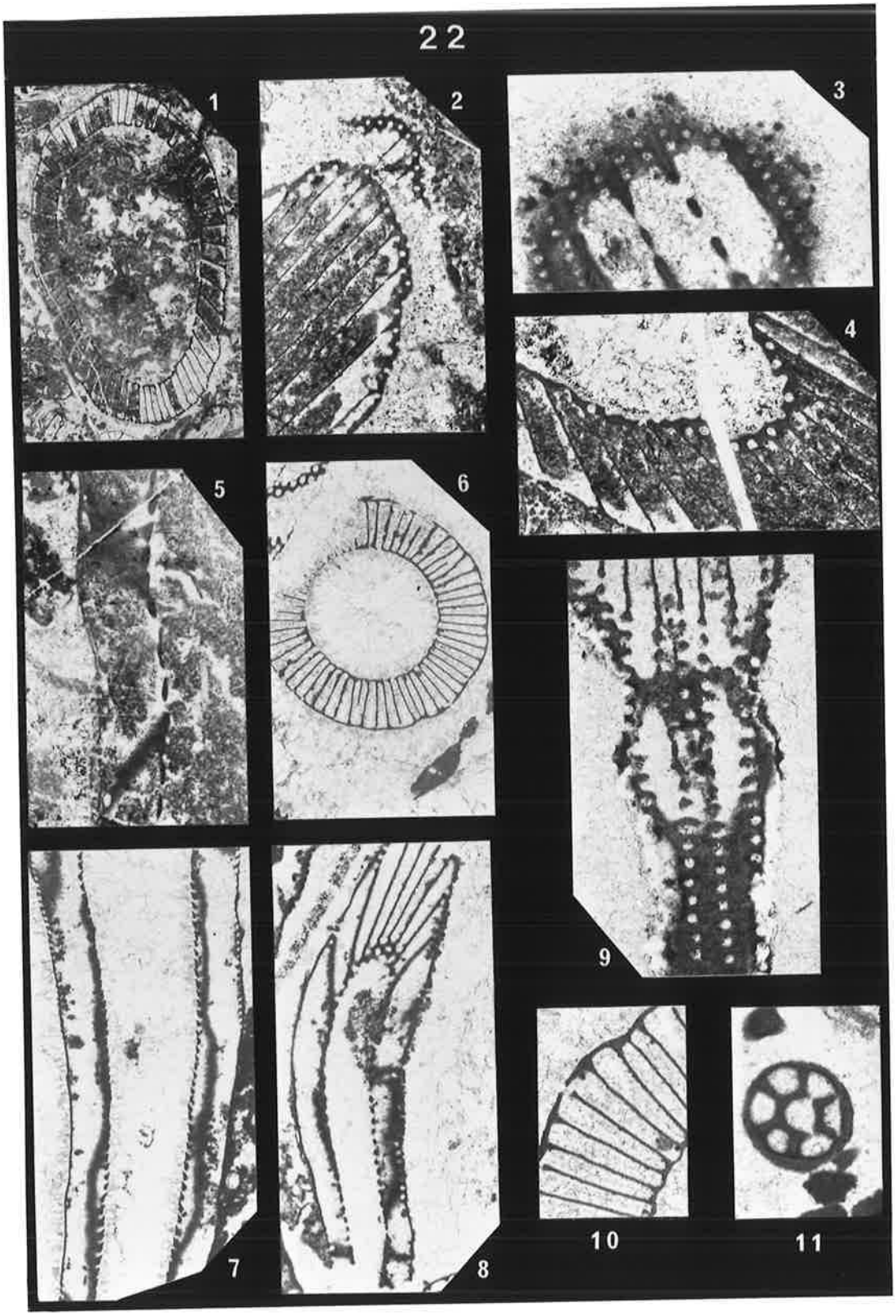
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PLATE 23

Figure 1. Joanaecyathus cyclopeus gen.et sp.nov. Holotype P21484-1. Transverse section. X6

Figure 2. Joanaecyathus cyclopeus gen.et sp.nov. P21489-2. Transverse section of small cup. X20

Figure 3. Joanaecyathus cyclopeus gen.et sp.nov. P21487. Transverse section of very small cup. X20

Figure 4. Joanaecyathus cyclopeus gen.et sp.nov. Holotype P21484-1. Oblique longitudinal section. X4

Figure 5. Joanaecyathus cyclopeus gen.et sp.nov. Holotype P21484-1. Oblique section. Note false impression of stirrup-pores at the inner wall, caused by undulations of septa in a vertical plane. X6

Figure 6. Joanaecyathus cupulosus gen.et sp.nov. Holotype P21490. Transverse section. X3

Figure 7. Joanaecyathus cupulosus gen.et sp.nov. Paratype P21491. Partial longitudinal section (outer wall on left). X6

Figure 8. Joanaecyathus cupulosus gen.et sp.nov. Holotype P21490. Portion of longitudinal section, showing septal pores in one row close to the outer wall, and inner wall bracts. X15

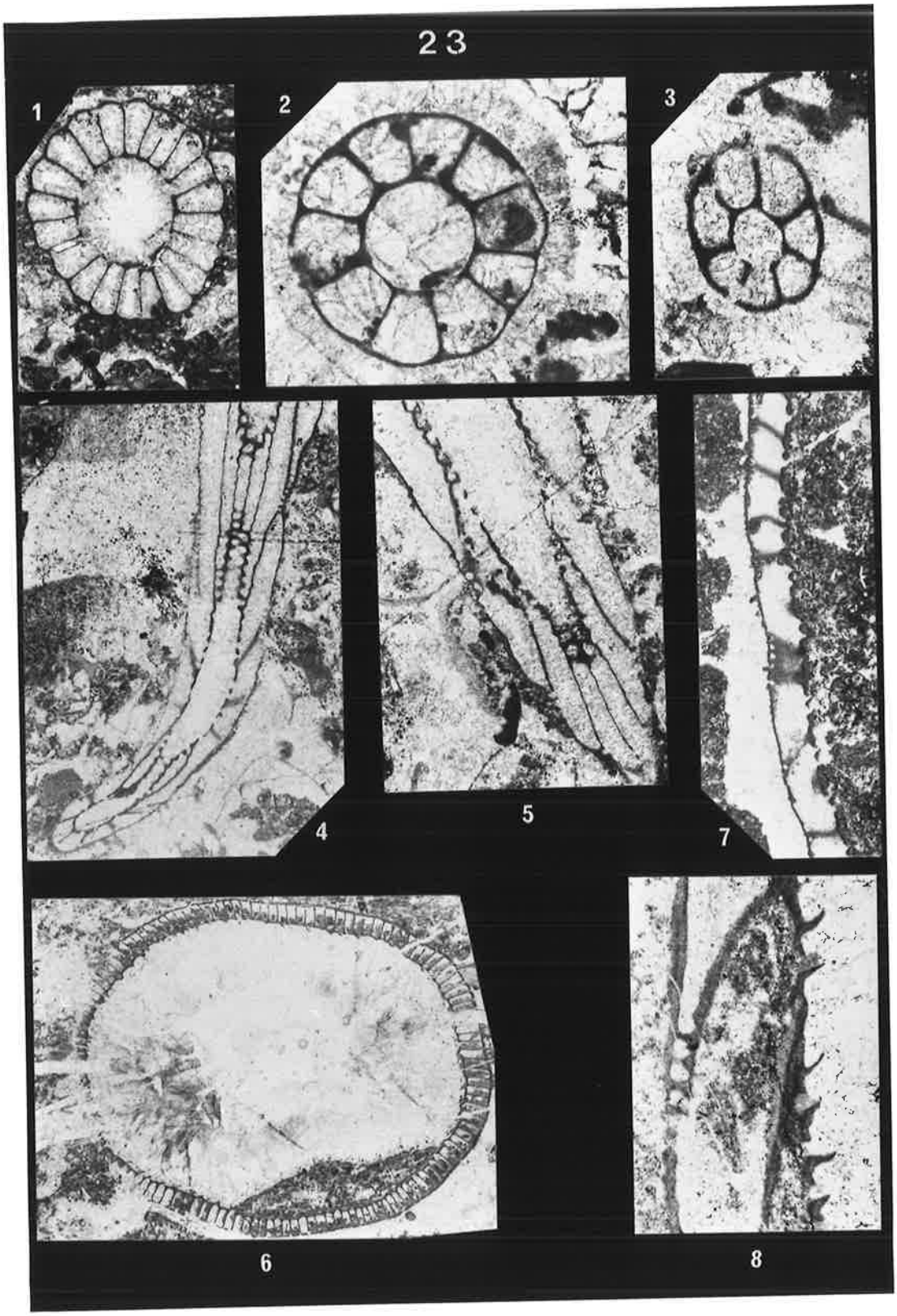
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PLATE 24

Figure 1. Joanaecyathus cupulosus gen.et sp.nov. Paratype P21491. Tangential section grazing outer and inner walls. X4

Figure 2. Joanaecyathus cupulosus gen.et sp.nov. Paratype P21491. Detail of same section, showing outer wall pores. X10

Figure 3. Joanaecyathus cupulosus gen.et sp.nov. Paratype P21492. Partial transverse section. X8

Figure 4. Joanaecyathus cupulosus gen.et sp.nov. Paratype P21494. Oblique longitudinal section. X4

Figure 5. Joanaecyathus cupulosus gen.et sp.nov. Paratype P21492. Oblique longitudinal section near base of cup. X16

Figure 6. Deceptioncyathus synapticulosus gen.et sp.nov. Holotype P21504-1. Transverse section. X2

Figure 7. Deceptioncyathus synapticulosus gen.et sp.nov. Holotype P21504-1. Oblique longitudinal section. X2

Figure 8. Deceptioncyathus synapticulosus gen.et sp.nov. Holotype P21504-1. Oblique section grazing outer wall. X4

Figure 9. Deceptioncyathus synapticulosus gen.et sp.nov. Paratype P21506. Tangential section grazing outer wall. X6

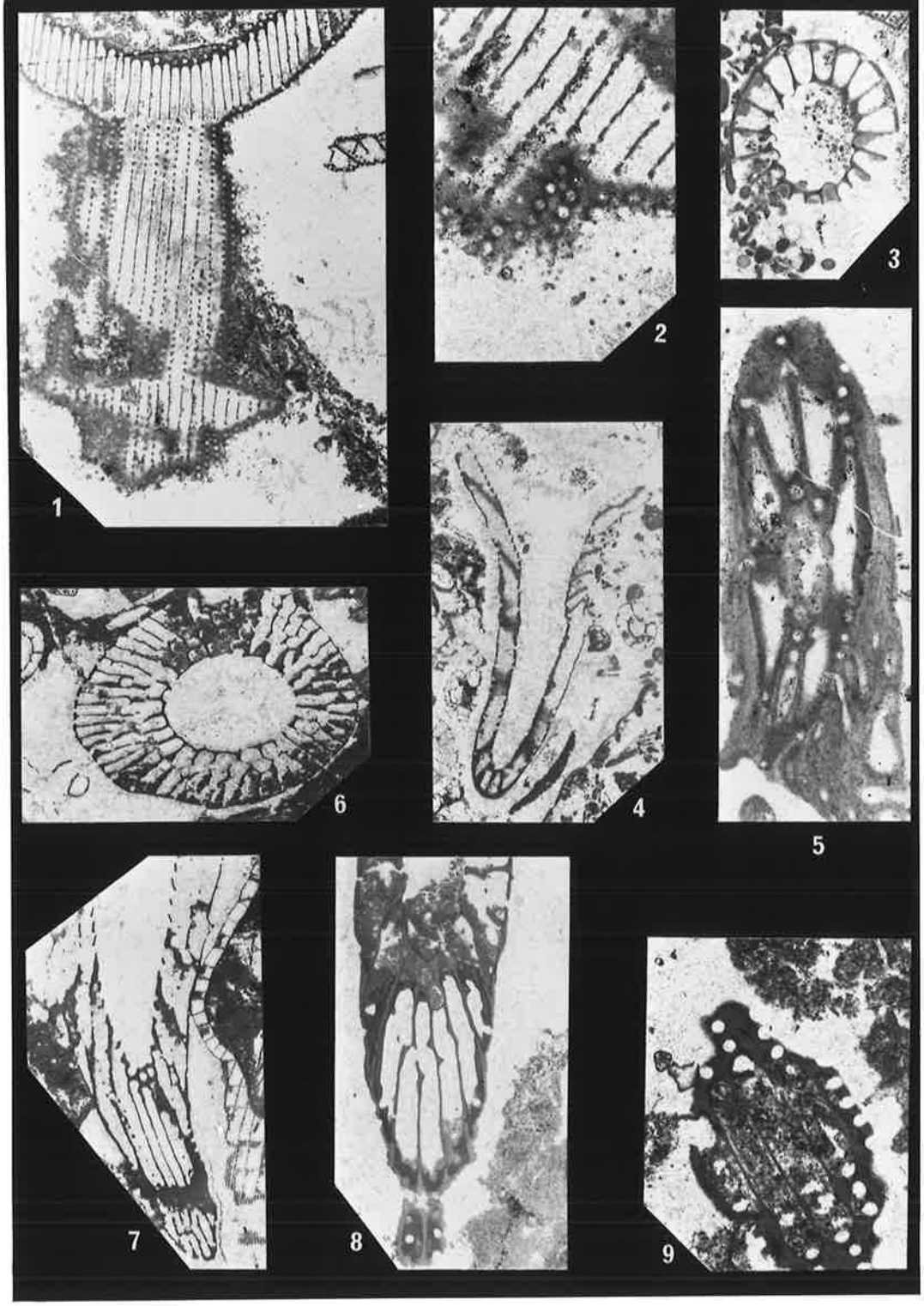
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PLATE 25

Figure 1. Baikalocyathus squamosus sp.nov. Holotype P21509-1. Oblique section. X6

Figure 2. Baikalocyathus squamosus sp.nov. Holotype P21509-1. Detail of lower part of same section. X20

Figure 3. Baikalocyathus squamosus sp.nov. Holotype P21509-1. Tangential section grazing inner wall. X30

Figure 4. Baikalocyathus squamosus sp.nov. Holotype P21509-1. Tangential section grazing outer wall, showing carcass pores and smaller diaphragm pores. X40

Figure 5. Baikalocyathus rimosus sp.nov. Holotype P21511-1. Transverse section. X6

Figure 6. Baikalocyathus rimosus sp.nov. Holotype P21511-1. Partial longitudinal section. X6

Figure 7. Baikalocyathus rimosus sp.nov. Holotype P21511-1. Detail of portion of transverse section. Note that the minute circular bodies in and around some carcass pores are calcite crystals and not micropores. X40

Figure 8. Baikalocyathus rimosus sp.nov. Holotype P21511-1. Tangential section grazing inner wall. X30

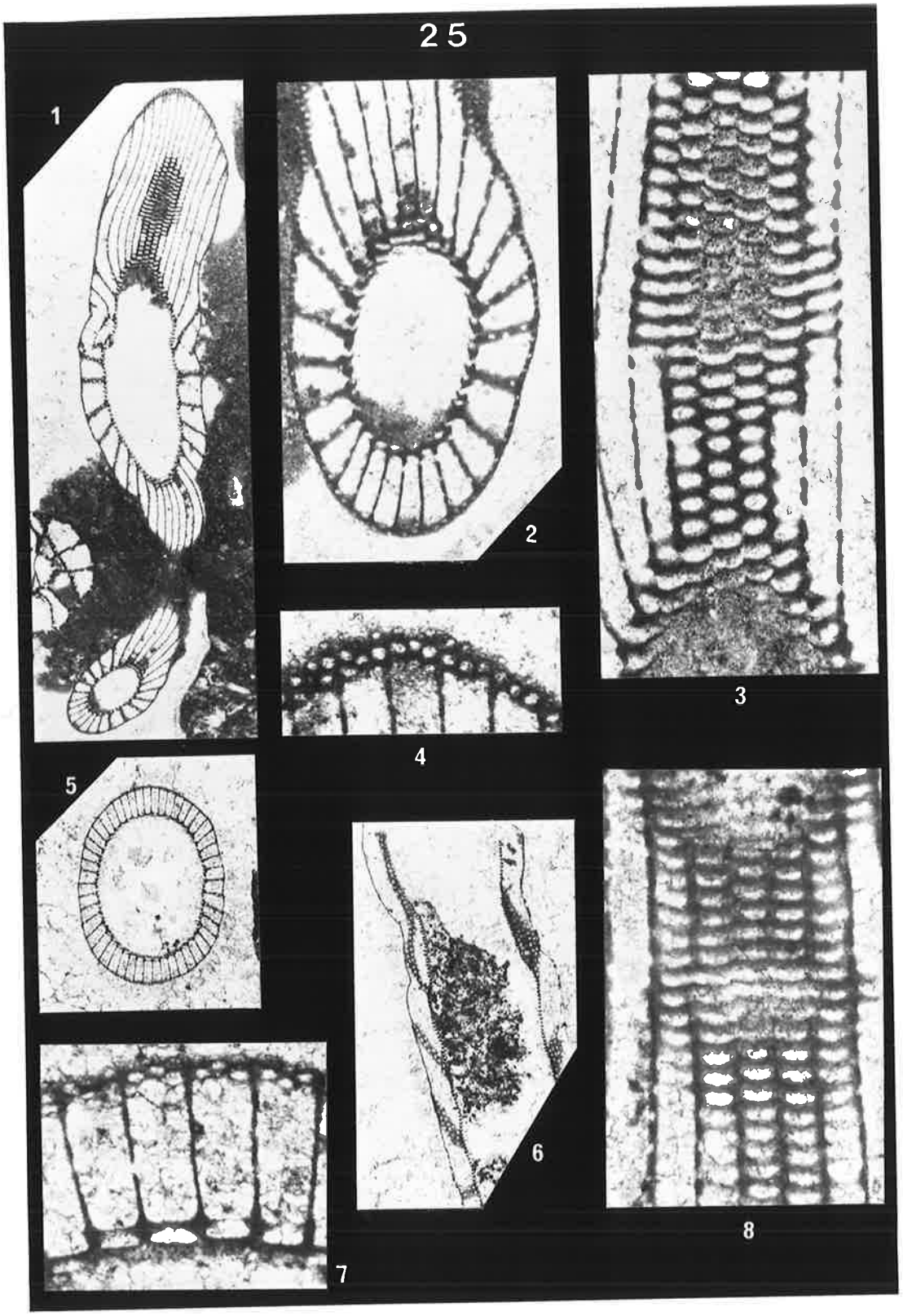
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PLATE 26

Figure 1. Baikalocyathus rimosus sp.nov. Holotype P21509-1.
Oblique longitudinal section grazing inner wall. X6

Figure 2. ? Rasetticyathus sp. P21429-2.
Oblique transverse section. X15

Figure 3. ? Rasetticyathus sp. P21512.
Oblique longitudinal section. X20

Figure 4. ? Gordonicyathus walteri sp.nov. Paratype P21514.
Transverse section. X6

Figure 5. ? Gordonicyathus walteri sp.nov. Holotype P21515-5.
Oblique longitudinal section. X6

Figure 6. ? Gordonicyathus walteri sp.nov. Holotype P21515-5.
Portion of same section in greater detail. Outer wall pore diaphragms (right are visible. X20

Figure 7. ? Gordonicyathus systylus sp.nov. Holotype P21516.
Partial transverse section. X8

Figure 8. ? Gordonicyathus systylus sp.nov. Holotype P21516.
Oblique section grazing outer wall, showing pillars in the middle of each intersept. Pore diaphragms not preserved. X20

Figure 9. ? Gordonicyathus systylus sp.nov. Holotype P21516.
Oblique section. X4

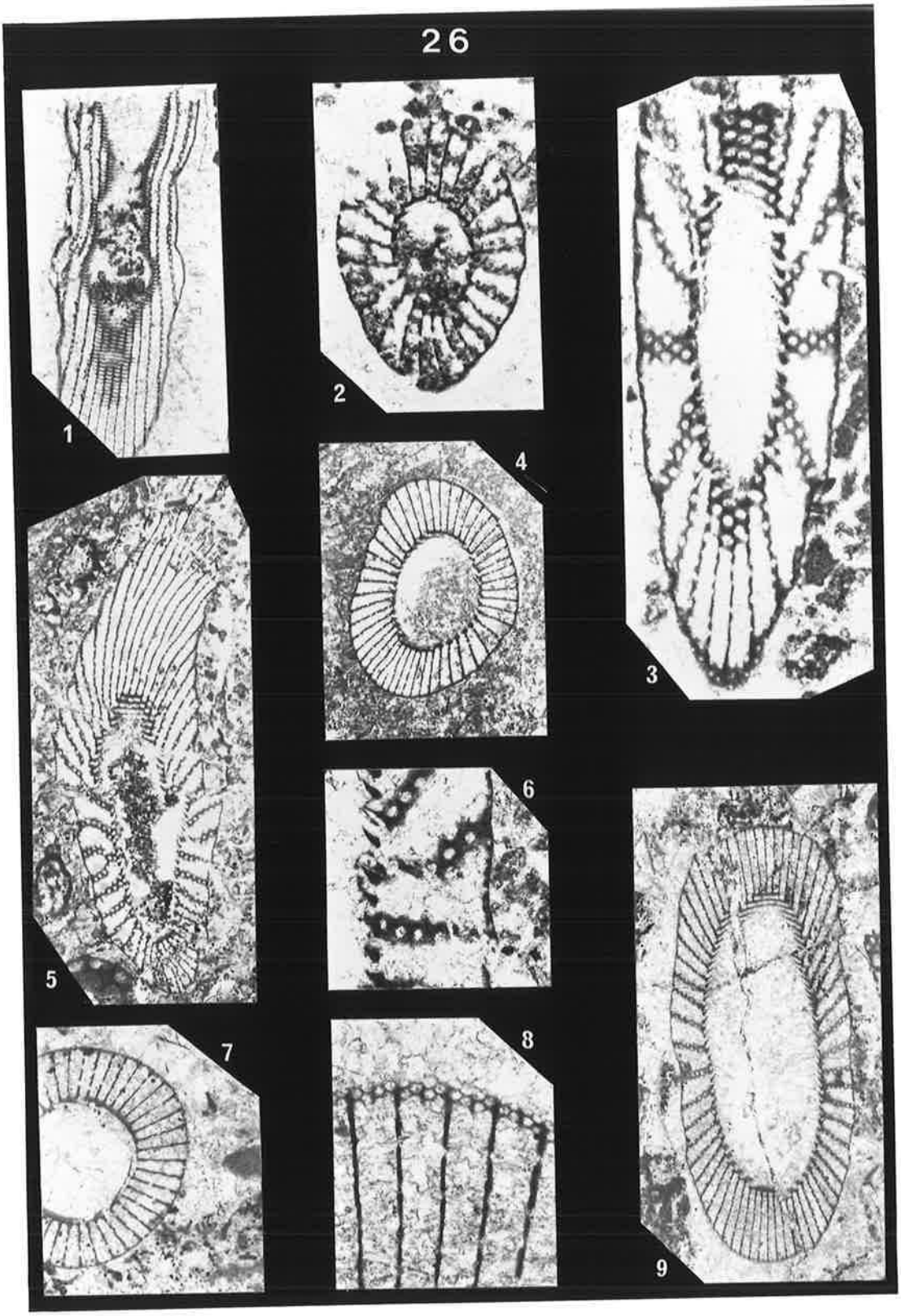
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PLATE 27

Figure 1. ? Gordonicyathus systylus sp.nov. Holotype P21516. Partial longitudinal section. X6

Figure 2. ? Gordonicyathus systylus sp.nov. Holotype P21516. Portion of longitudinal section showing septal pores and annuli. Outer wall pore diaphragms (left)are not well preserved. X20

Figure 3. ? Gordonicyathus levis sp.nov. Paratype P21519. Slightly oblique transverse section. X4

Figure 4. ? Gordonicyathus levis sp.nov. Paratype P21518. Transverse section. X4

Figure 5. ? Gordonicyathus levis sp.nov. Paratype P21518. Oblique longitudinal section. X4

Figure 6. ? Gordonicyathus levis sp.nov. Paratype P21520-1. Tangential section grazing inner wall. X20

Figure 7. ? Gordonicyathus levis sp.nov. Paratype P21518. Portion of longitudinal section. Outer wall pore diaphragms (left) are clearly visible. X20

Figure 8. ? Gordonicyathus pledgei sp.nov. Holotype P21528. Partial transverse section. X6

Figure 9. ? Gordonicyathus pledgei sp.nov. Paratype P21529. Transverse section of small cup. X15

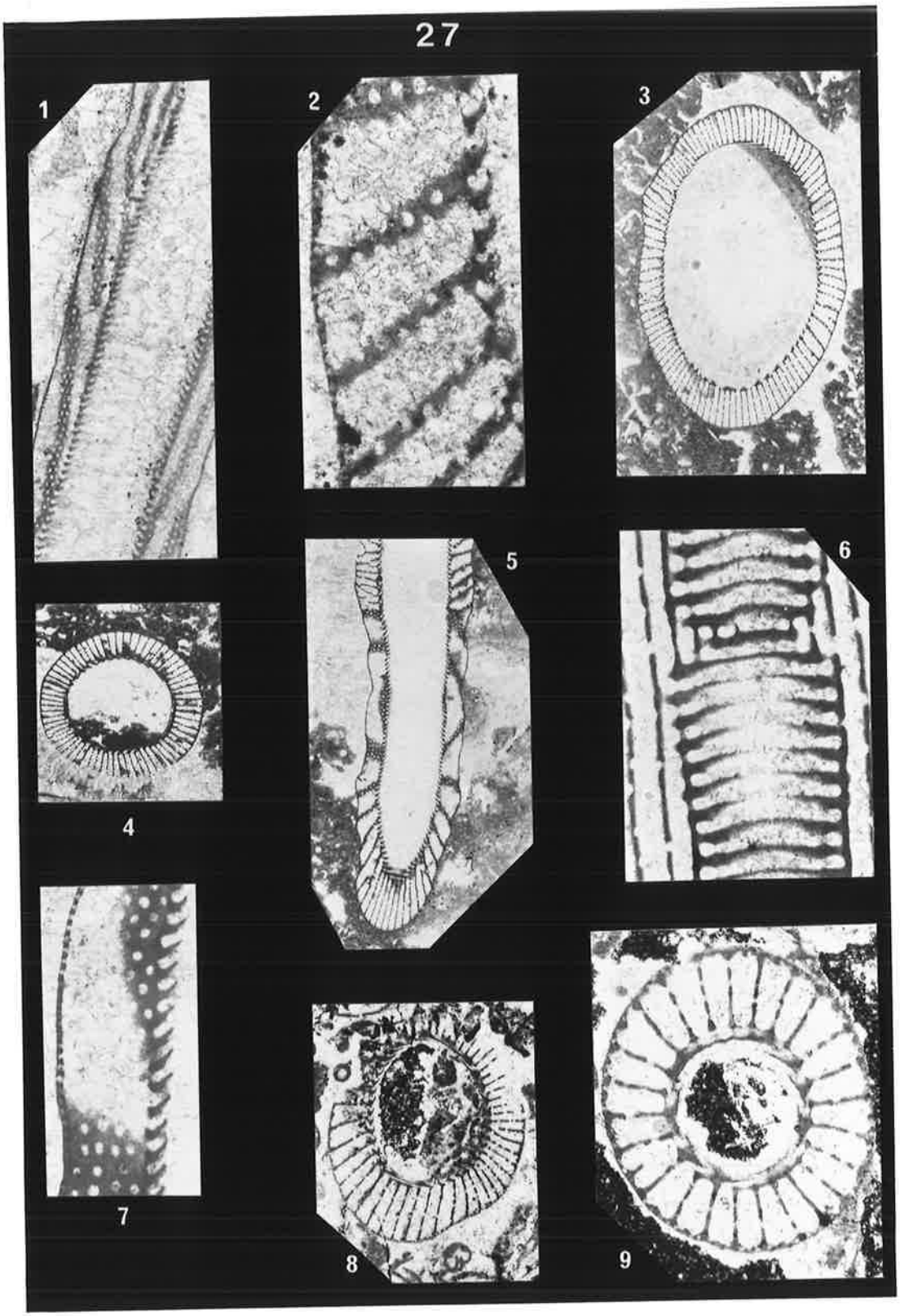
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PLATE 28

Figure 1. ? Gordonicyathus pledgei sp.nov. Holotype P21528.
Oblique longitudinal section. X4

Figure 2. ? Gordonicyathus pledgei sp.nov. Paratype P21440-2.
Portion of longitudinal section showing septal pores and annuli. X20

Figure 3. ? Gordonicyathus pledgei sp.nov. Paratype P21529.
Oblique section through small cup. X15

Figure 4. ? Gordonicyathus pledgei sp.nov. P21533-3.
Slightly oblique transverse section, showing first formation of annuli on the inner wall. Outer wall pore diaphragms are present but not clearly shown. X20

Figure 5. ? Taylorcyathus malleus sp.nov. Holotype P21535-1.
Transverse section. X6

Figure 6. ? Taylorcyathus malleus sp.nov. Holotype P21535-1.
Oblique longitudinal section. X6

Figure 7. ? Taylorcyathus malleus sp.nov. Paratype P21537-1.
Oblique section. X6

Figure 8. ? Taylorcyathus malleus sp.nov. Paratype P21424-5.
Oblique longitudinal section of small cup. X15

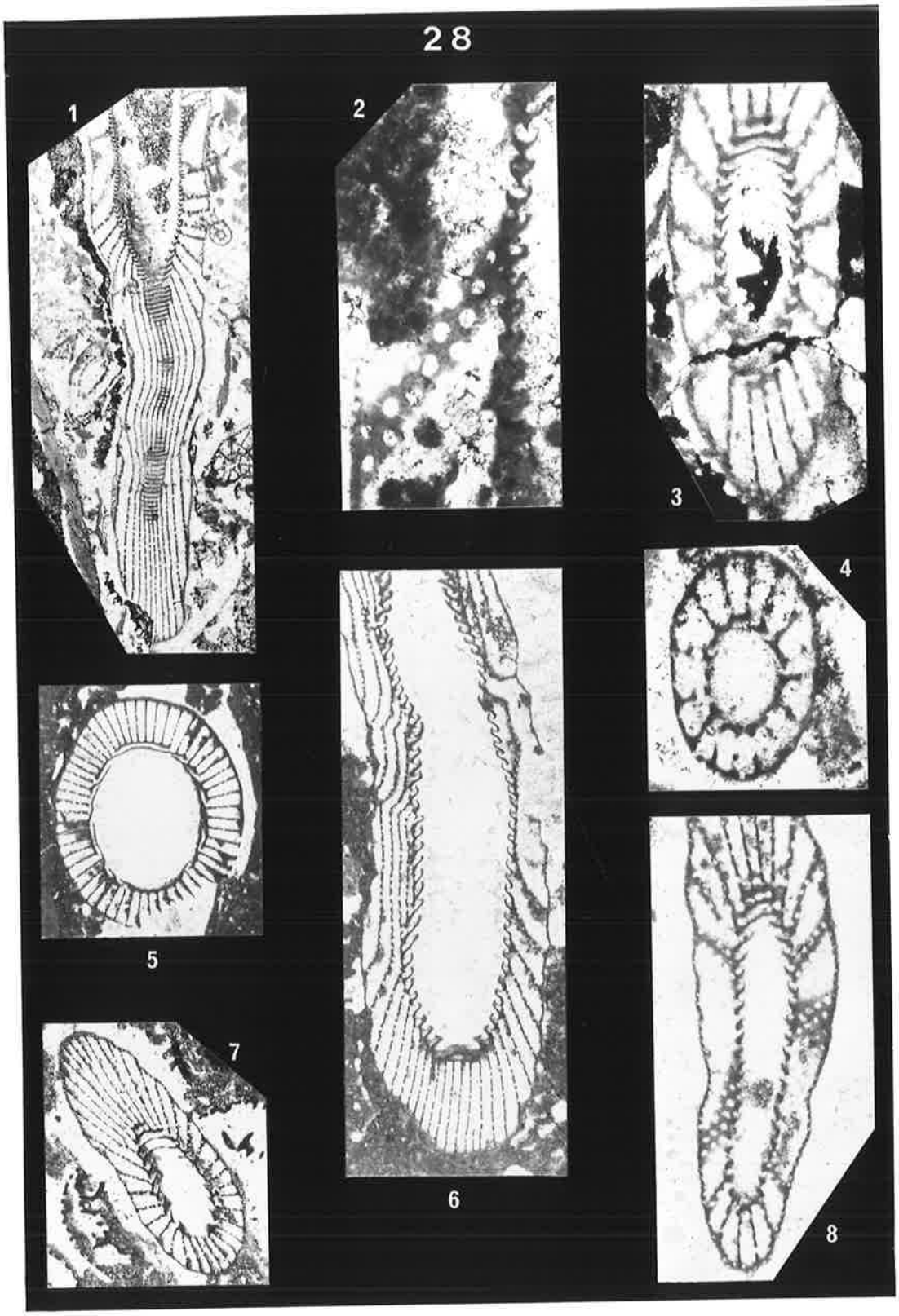
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PLATE 29

Figure 1. ? Tumulocyathus transitus sp.nov. Paratype P21542-1.
Transverse section. X6

Figure 2. ? Tumulocyathus transitus sp.nov. Paratype P21542-1.
Oblique section. X6

Figure 3. ? Tumulocyathus transitus sp.nov. P21485-2.
Oblique longitudinal section. X8

Figure 4. ? Tumulocyathus transitus sp.nov. Holotype P21541-1.
Longitudinal section. X4

Figure 5. ? Tumulocyathus transitus sp.nov. P21544.
Longitudinal section. X6

Figure 6. ? Tumulocyathus transitus sp.nov. P21548-1.
Transverse section. P21548-2. Oblique section. X6

Figure 7. ? Tumulocyathus transitus sp.nov. P21546.
Two small specimens in transverse section. X20

Figure 8. ? Tumulocyathus transitus sp.nov. P21485-2.
Detail of Figure 3, showing outer wall tumuli and portions of septal pores. X20

Figure 9. ? Tumulocyathus transitus sp.nov. P21545-1.
Oblique longitudinal section of small cup. X20

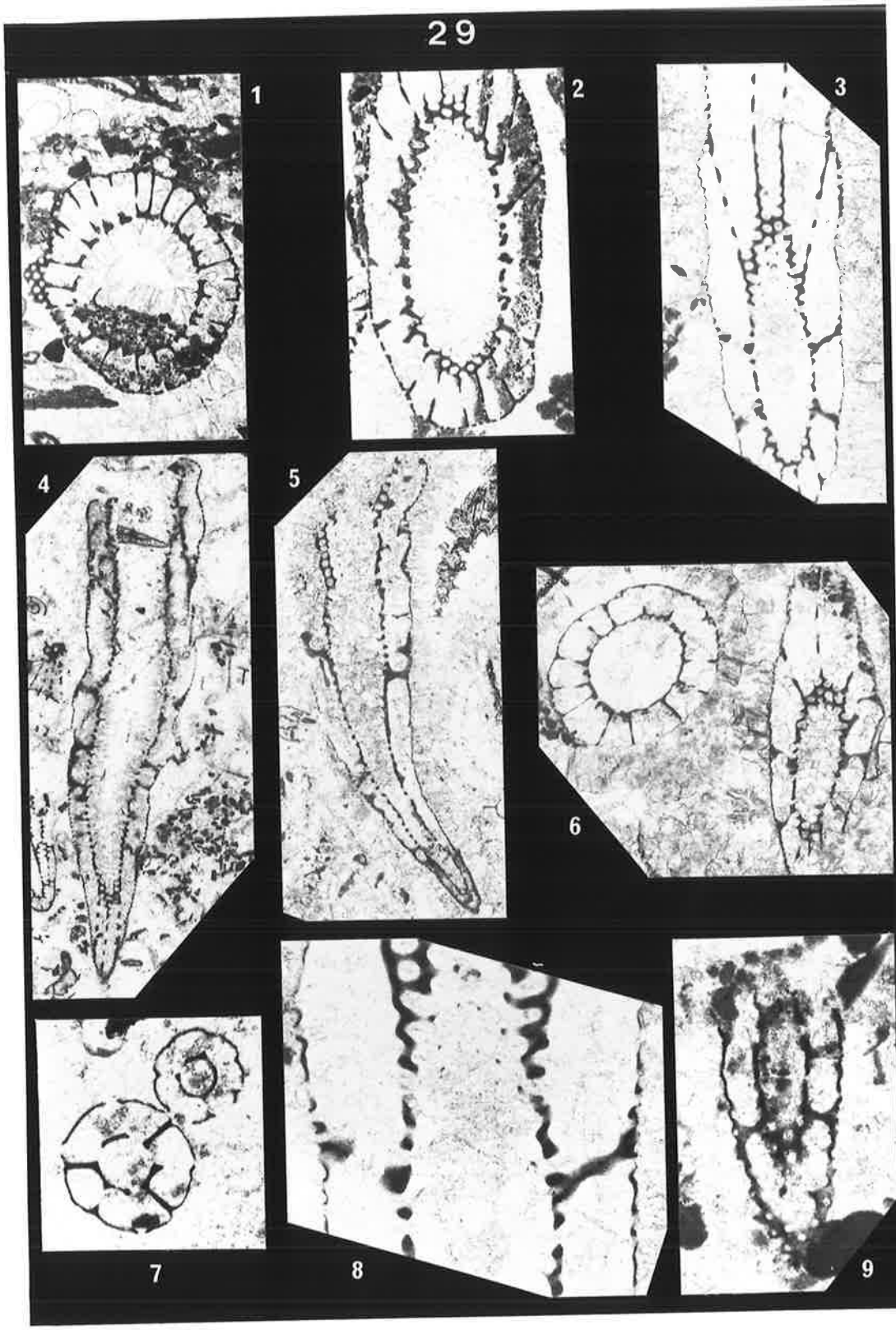
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PLATE 30

Figure 1. Baikalopectinus capulus gen.et sp.nov. Holotype P21417-3. Transverse section. X6

Figure 2. Baikalopectinus capulus gen.et sp.nov. Paratype P21553. Oblique section. X6

Figure 3. Baikalopectinus capulus gen.et sp.nov. Paratype P21552-3. Oblique section grazing inner wall and showing pectinate tabulae. X20

Figure 4. Baikalopectinus capulus gen.et sp.nov. P21559-2. Oblique section of small cup. X15

Figure 5. Baikalopectinus capulus gen.et sp.nov. P21554-1. Portion of transverse section, showing pectinate tabulae. X30

Figure 6. Baikalopectinus capulus gen.et sp.nov. Holotype P21417-3. Partial transverse section, showing pectinate tabulae. X30

Figure 7. Baikalopectinus capulus gen.et sp.nov. P21556. Oblique longitudinal section. X6

Figure 8. Baikalopectinus capulus gen.et sp.nov. Holotype P21417-3. Oblique longitudinal section. X6

Figure 9. Baikalopectinus capulus gen.et sp.nov. Holotype P21417-3. Oblique section grazing both walls. X10

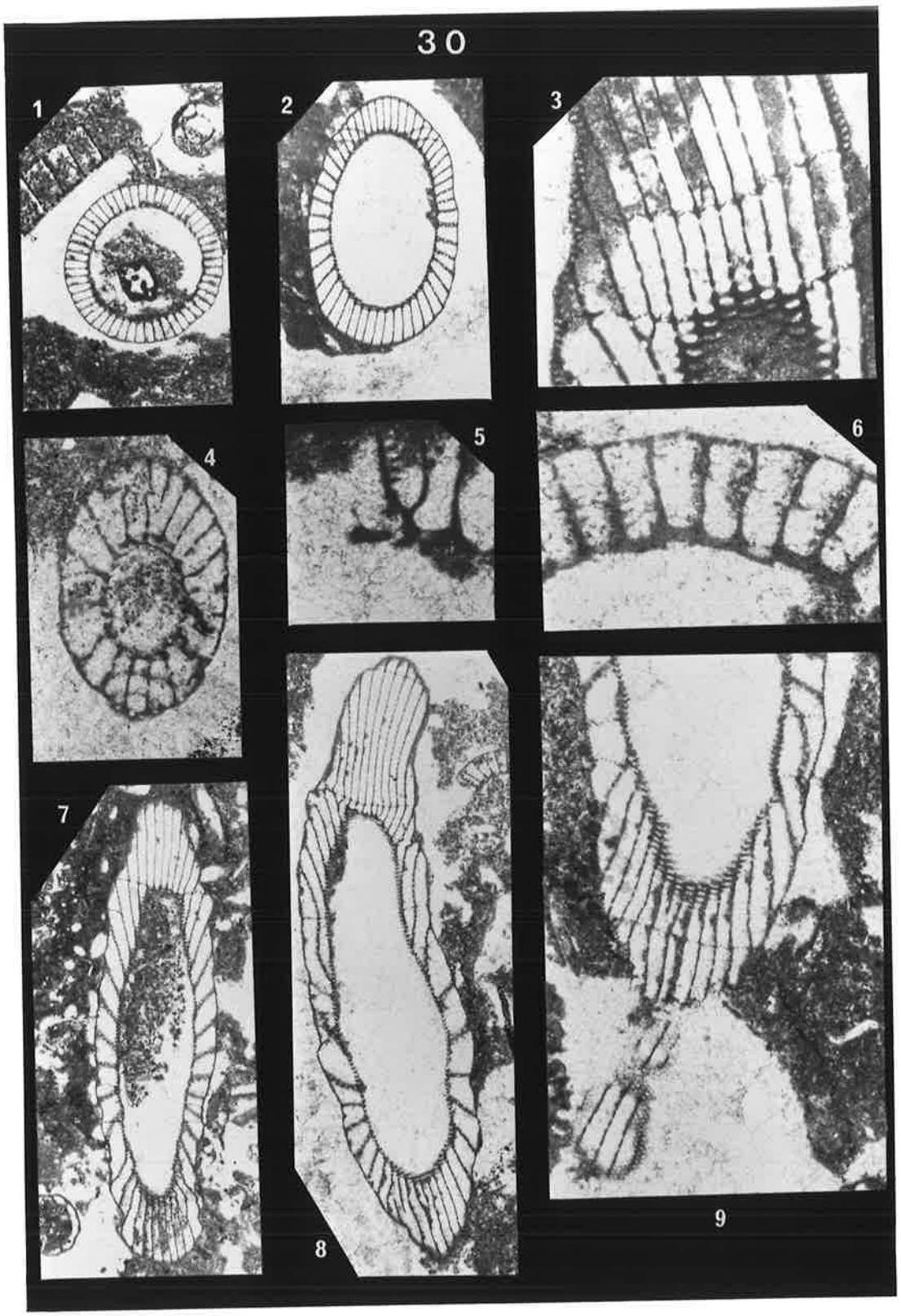
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PLATE 31

Figure 1. Rowanpectinus clarus gen.et sp.nov. Holotype P21560. Transverse section. X4

Figure 2. Rowanpectinus clarus gen.et sp.nov. Holotype P21560. Portion of transverse section showing outer wall pore diaphragms (top). X20

Figure 3. Rowanpectinus clarus gen.et sp.nov. Holotype P21560. Oblique section grazing outer wall. Diaphragm not preserved. X20.

Figure 4. Rowanpectinus clarus gen.et sp.nov. Paratype P21561. Oblique longitudinal section. X6

Figure 5. Rowanpectinus occultus gen.et sp.nov. Paratype P21564. Partial transverse section. X8

Figure 6. Rowanpectinus occultus gen.et sp.nov. Paratype P21455-2. Oblique section. X6

Figure 7. Rowanpectinus occultus gen.et sp.nov. Paratype P21455-2. Portion of same section. Note the oblique pectinate tabula (arrowed). X20

Figure 8. Rowanpectinus occultus gen.et sp.nov. Paratype P21564. Oblique section grazing outer wall, showing carcass pores, smaller diaphgram pores, and portion of pectinate tabula. X20

Figure 9. Rowanpectinus occultus gen.et sp.nov. Paratype P21564. Oblique longitudinal section. X6

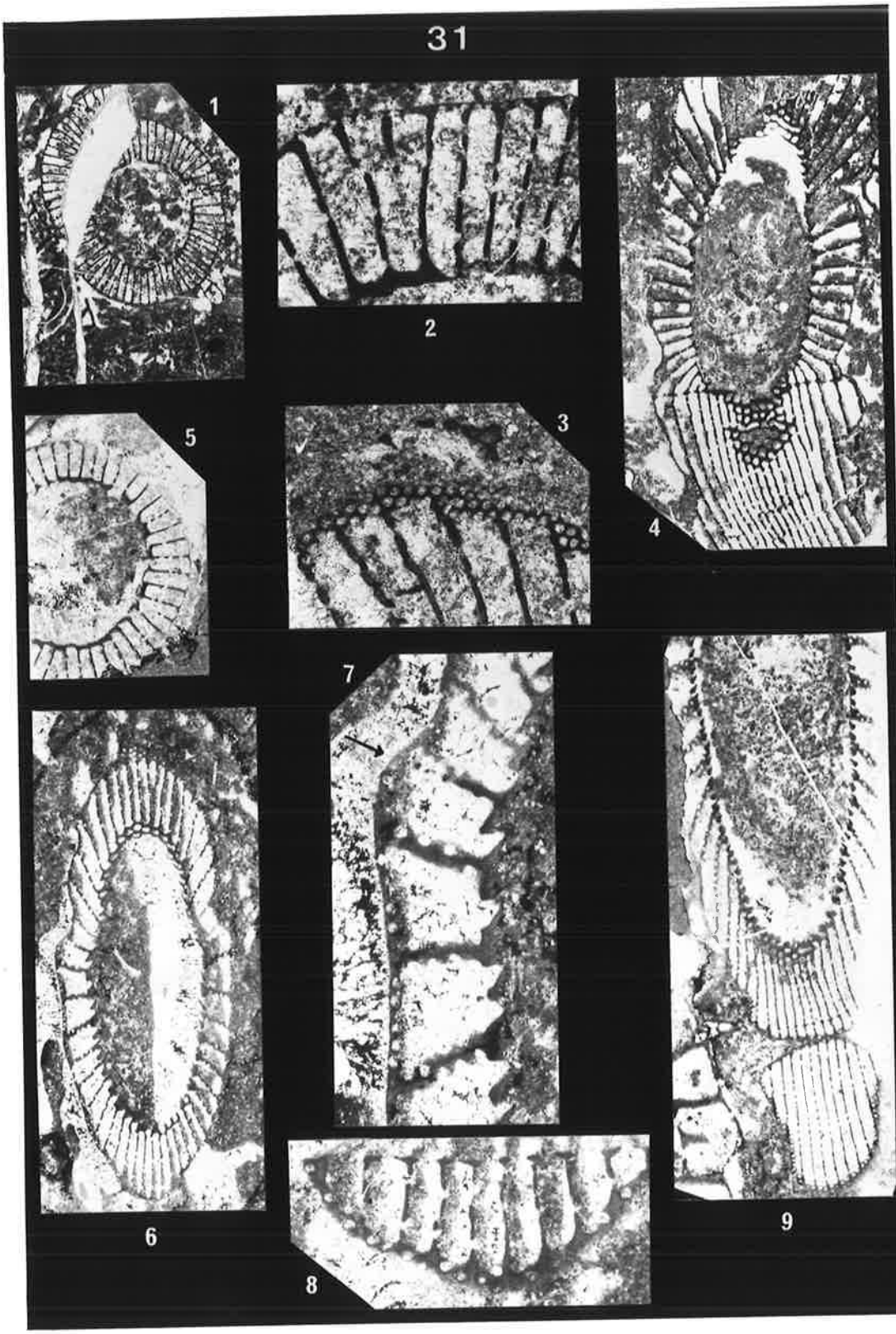
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PLATE 32

Figure 1. Rowanpectinus occultus gen.et sp.nov. Holotype P21563. Oblique section. X6

Figure 2. Rowanpectinus occultus gen.et sp.nov. Holotype P21563. Lower part of same section in greater detail. X16

Figure 3. ? Thalamopectinus merus sp.nov. Paratype P21566. Slightly oblique transverse section. X4

Figure 4. ? Thalamopectinus merus sp.nov. Paratype P21566. Transverse section. X3

Figure 5. ? Thalamopectinus merus sp.nov. Holotype P21565. Partial longitudinal section. X4

Figure 6. ? Thalamopectinus merus sp.nov. Paratype P21567. Oblique longitudinal section. X6

Figure 7. ? Thalamopectinus merus sp.nov. Paratype P21567. Portion of same section in greater detail. X20

Figure 8. ? Thalamopectinus merus sp.nov. Holotype P21565. Portion of longitudinal section. Note pectinate tabula (arrowed). X20

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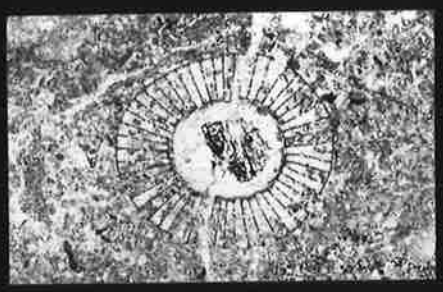

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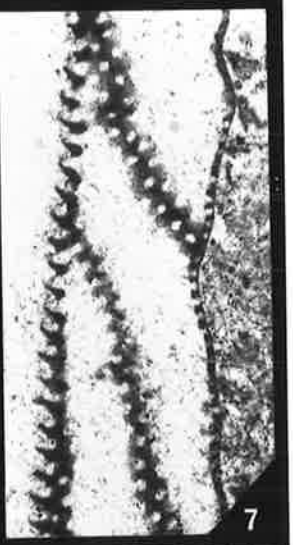

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PLATE 33

Figure 1. Coscinocyathus vestitus sp.nov. Holotype P21568.
Oblique section. X3

Figure 2. Coscinocyathus vestitus sp.nov. Holotype P21568.
Portion of longitudinal section showing septal pores and dense lamellae over the outer wall (right). X20

Figure 3. Coscinocyathus vestitus sp.nov. Holotype P21568.
Tangential section grazing outer wall from exterior. X20

Figure 4. Coscinocyathus vestitus sp.nov. Paratype P21540-1.
Longitudinal section. X2

Figure 5. Coscinocyathus vestitus sp.nov. Paratype P21540-1.
Tabulae detail. X20

Figure 6. Coscinocyathus vestitus sp.nov. Holotype P21568.
Partial longitudinal section. X2

Figure 7. Coscinocyathus vestitus sp.nov. Paratype P21540-1.
Oblique section near base of cup. X10

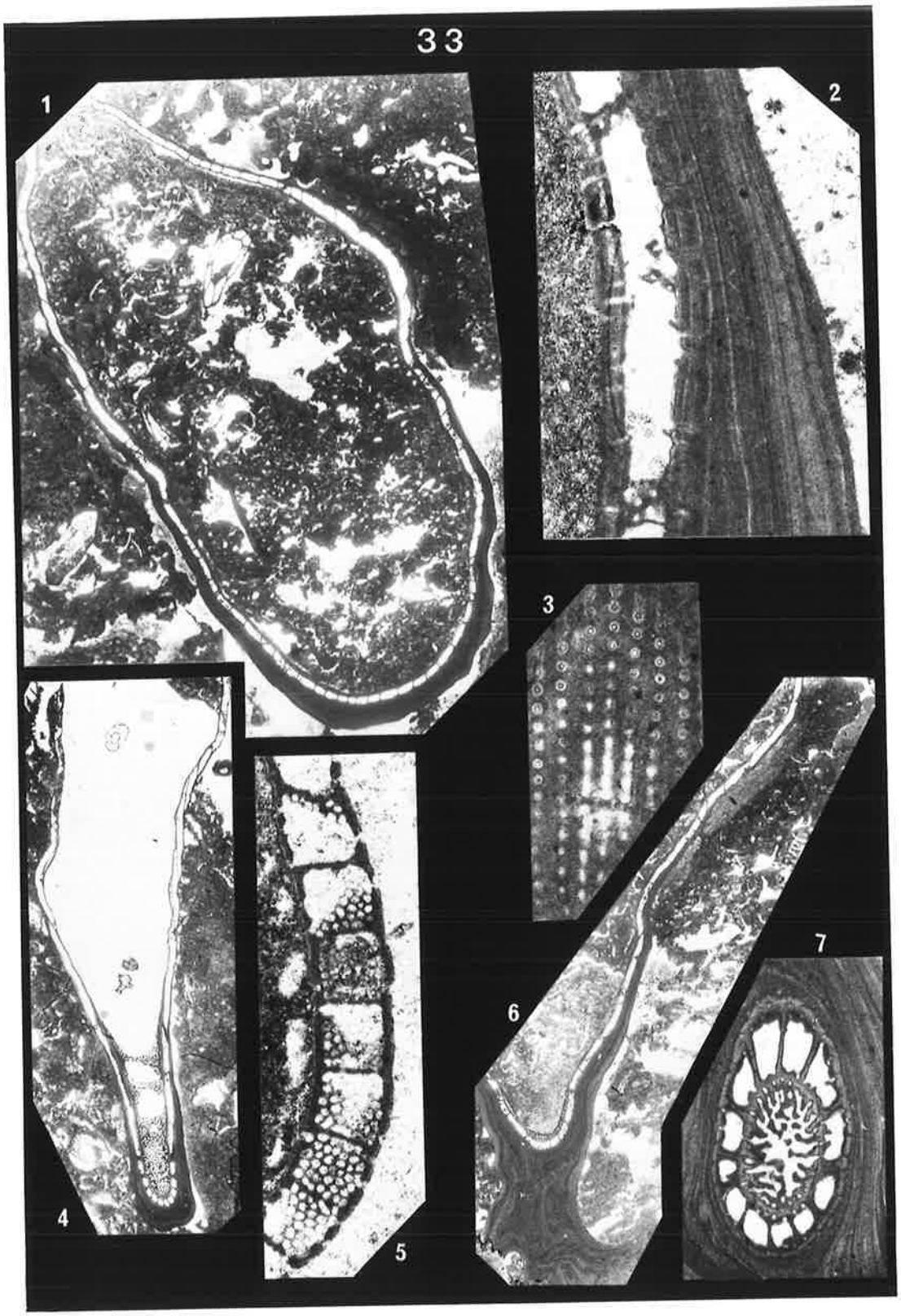
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PLATE 34

Figure 1. Coscinocyathus uratannensis sp.nov. Holotype P21488-1. Partial transverse section. X3

Figure 2. Coscinocyathus uratannensis sp.nov. Paratype P21504-2. Oblique longitudinal section. X2

Figure 3. Coscinocyathus uratannensis sp.nov. Holotype P21488-1. Portion of longitudinal section, showing inner wall spines (left), and septal pores. X6

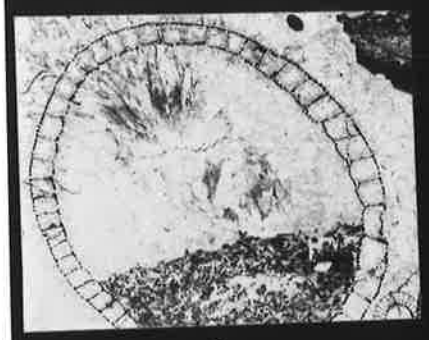
Figure 4. Coscinocyathus uratannensis sp.nov. Paratype P21504-2. Oblique section grazing both walls. X6

Figure 5. Coscinocyathus uratannensis sp.nov. Holotype P21488-1. Portion of tabula. X20

Figure 6. Rozanovicoscinus stellatus sp.nov. Holotype P21427-2. Transverse section. X4

Figure 7. Rozanovicoscinus stellatus sp.nov. Holotype P21427-2. Partial longitudinal section, (inner wall on left). X10

Figure 8. Rozanovicoscinus stellatus sp.nov. Holotype P21427-2. Longitudinal section. X4



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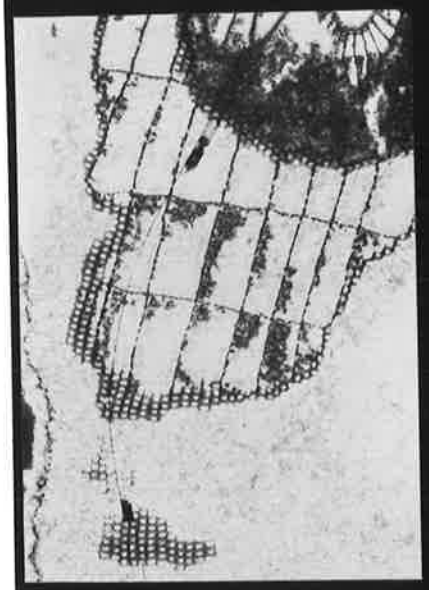

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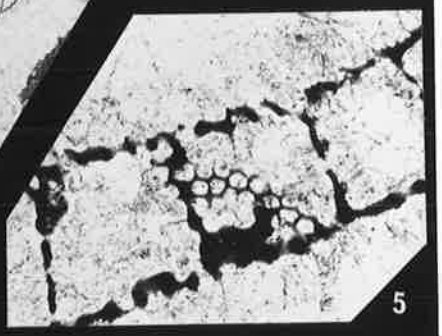

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PLATE 35

Figure 1. Rozanovicoscinus stellatus sp.nov. Holotype P21427-2.
Oblique section grazing outer wall. X10

Figure 2. Rozanovicoscinus stellatus sp.nov. Holotype P21427-2.
Tangential section grazing inner wall. X10

Figure 3. Crucicyathus repandus gen.et sp.nov. Holotype P21585.
Transverse section. X3

Figure 4. Crucicyathus repandus gen.et sp.nov. Holotype P21585.
Longitudinal section. X3

Figure 5. Crucicyathus repandus gen.et sp.nov. Paratype P21417-5.
Longitudinal section. X2

Figure 6. Crucicyathus repandus gen.et sp.nov. Holotype P21585.
Detail of base of cup in longitudinal section. X10

Figure 7. Crucicyathus repandus gen.et sp.nov. Paratype P21473-3.
Detail of tabulae. X10

Figure 8. Crucicyathus repandus gen.et sp.nov. Paratype P21510-4.
Oblique section through small cup. X8

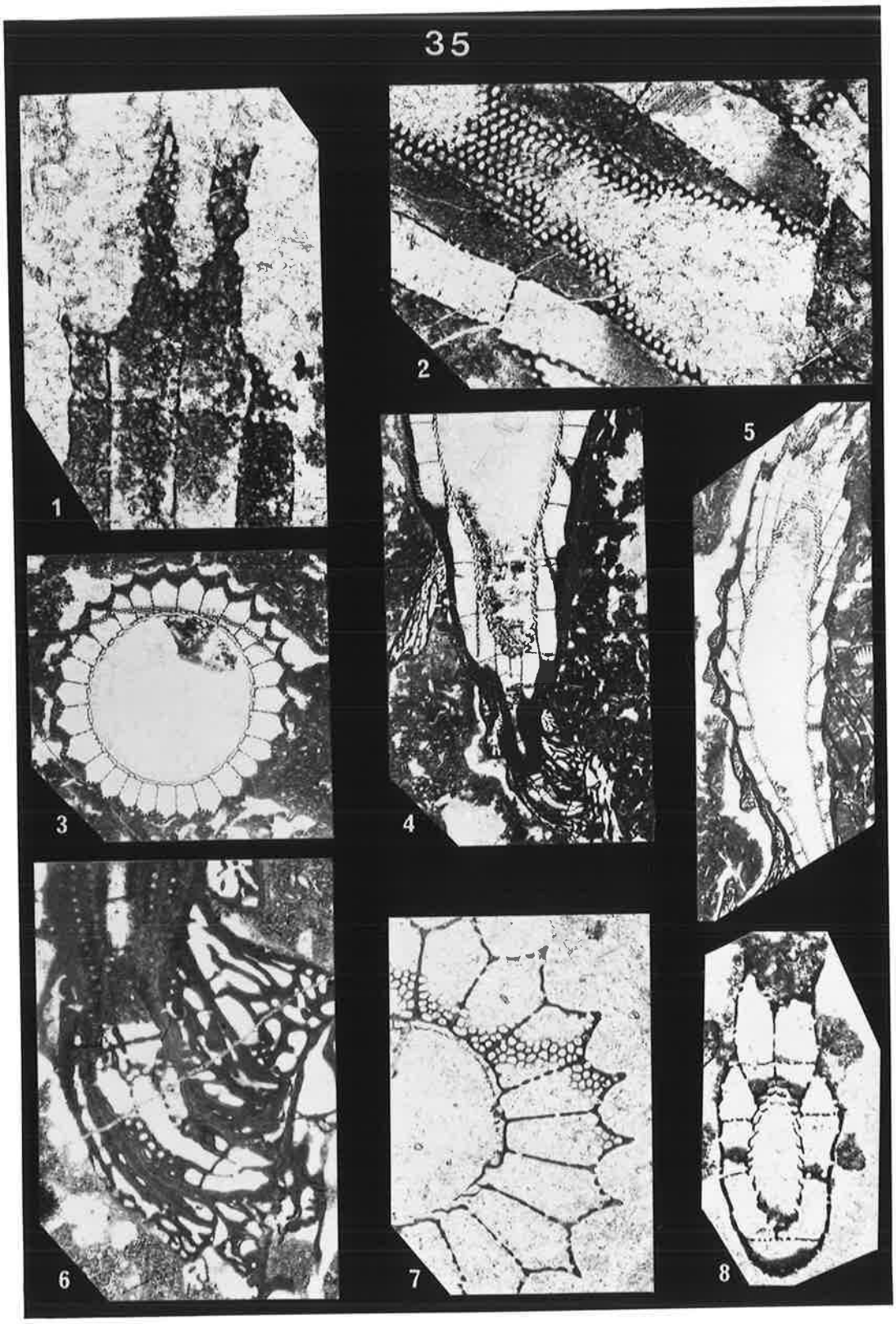
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PLATE 36

Figure 1. Crucicyathus repandus gen.et sp.nov. Paratype P21473-3.
Longitudinal section. X4

Figure 2. Mennericyathus dissitus Kruse (in prep.). P21593.
Oblique longitudinal section. X5

Figure 3. Mennericyathus dissitus Kruse (in prep.). P21593.
Detail of same section near base of cup. X20

Figure 4. Mennericyathus dissitus Kruse (in prep.). P21593.
Transverse section. X3.5

Figure 5. Mennericyathus dissitus Kruse (in prep.). P21594.
Oblique section grazing outer and inner walls. X5

Figure 6. Mennericyathus dissitus Kruse (in prep.). P21505-4.
Oblique section of small cup. X6

Figure 7. Somphocyathus coralloides Taylor. P21596.
Oblique section. X1.5

Figure 8. Somphocyathus coralloides Taylor. P21597-1.
Transverse section. X3


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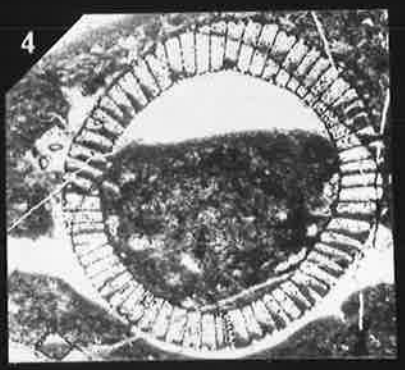
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PLATE 37

Figure 1. Somphocyathus coralloides Taylor. Holotype T1554. Transverse section. X3

Figure 2. Somphocyathus coralloides Taylor. Holotype T1596A. Partial transverse section at a larger cup diameter. Note the absence of endothecal tissue in the central cavity, and buttress zone 3 attached directly to the outer wall. X3

Figure 3. Somphocyathus coralloides Taylor. Holotype T1596A. Tabula-like structure in the intervallum. X15

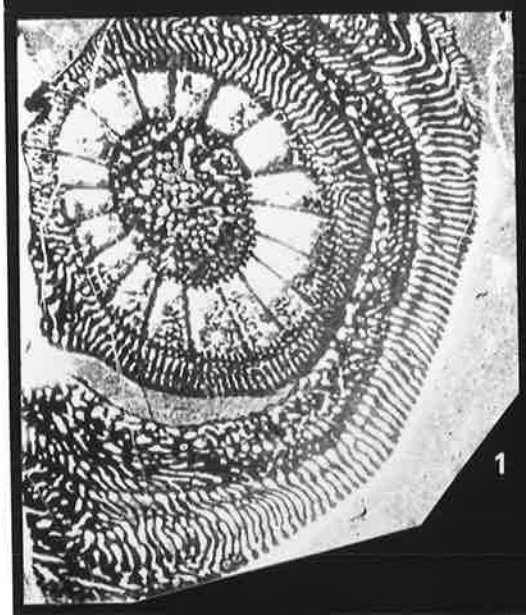
Figure 4. Somphocyathus coralloides Taylor. P21596. Portion of longitudinal section showing inner wall bracts. X15

Figure 5. Erugatocyathus krusei sp.nov. Holotype P21599. Transverse section. X4

Figure 6. Erugatocyathus krusei sp.nov. Holotype P21599. Tangential section grazing outer wall. X5

Figure 7. Erugatocyathus krusei sp.nov. Holotype P21599. Partial longitudinal section, (outer wall on left). X6

Figure 8. Erugatocyathus krusei sp.nov. Paratype P21600. Oblique longitudinal section. X3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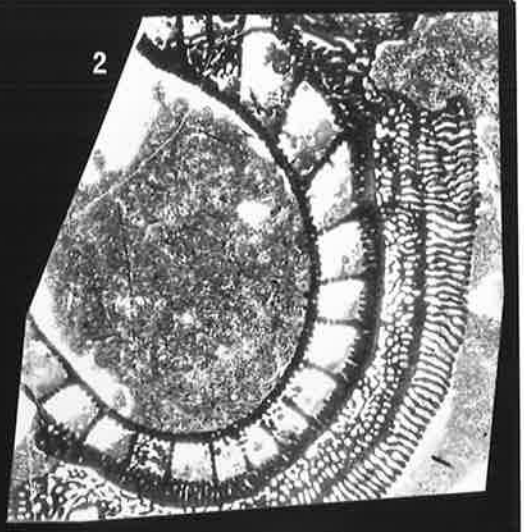
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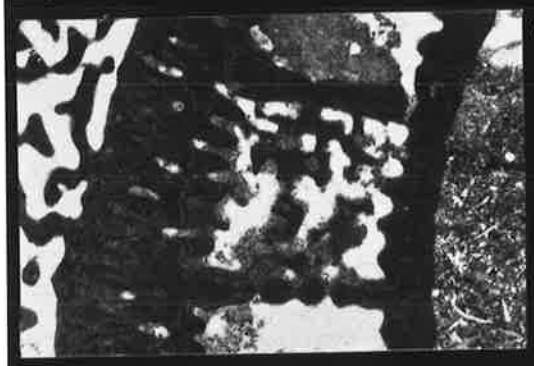
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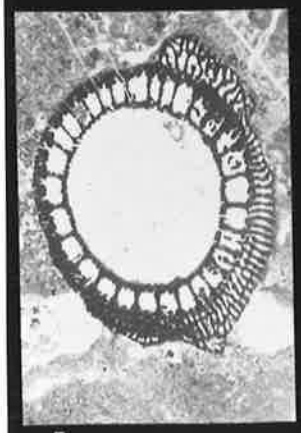
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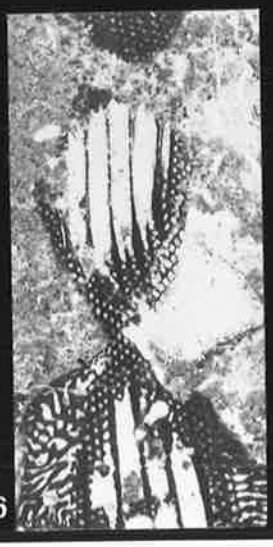
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PLATE 38

Figure 1. Erugatocyathus madigani sp.nov. Paratype P21604.
Transverse section. X2

Figure 2. Erugatocyathus madigani sp.nov. Paratype P21604.
Portion of tabula and buttresses of exothecal tissue added to the outer wall. X20

Figure 3. Erugatocyathus madigani sp.nov. Holotype P21603.
Partial longitudinal section. X3

Figure 4. Erugatocyathus madigani sp.nov. Holotype P21603.
Transverse section. X4

Figure 5. Erugatocyathus madigani sp.nov. Paratype P21604.
Oblique section grazing inner wall. X20

Figure 6. Erugatocyathus madigani sp.nov. Holotype P21603.
Portion of longitudinal section, showing secondary thickening over walls and septa (outer wall on right). X20

Figure 7. Erugatocyathus tatei sp.nov. Holotype P21607.
Partial transverse section. X4

Figure 8. Erugatocyathus tatei sp.nov. Holotype P21607.
Oblique longitudinal section. X2

Figure 9. Erugatocyathus tatei sp.nov. Holotype P21607.
Portion of longitudinal section, showing inner wall bracts (left), and septal pores. Outer wall sheath (right) not preserved. X20

Figure 10. Erugatocyathus tatei sp.nov. Holotype P21607.
Portion of tabula. X20

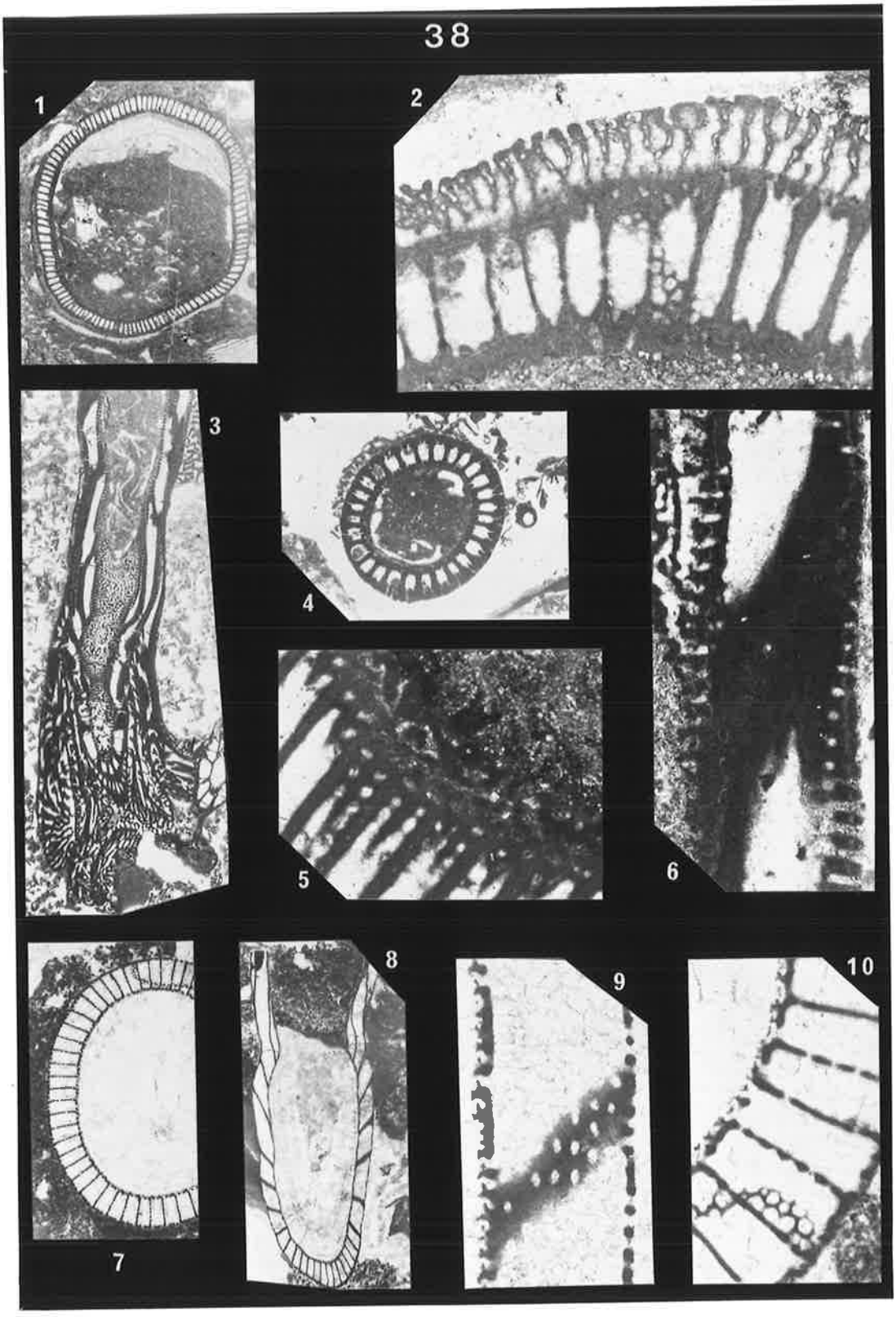
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PLATE 39

Figure 1. Erugatocyathus mawsoni sp.nov. Holotype P21552-1. Transverse section. X4

Figure 2. Erugatocyathus mawsoni sp.nov. Holotype P21552-1. Partial longitudinal section. X2

Figure 3. Erugatocyathus mawsoni sp.nov. Holotype P21552-1. Tangential section grazing inner wall. X6

Figure 4. Erugatocyathus mawsoni sp.nov. Holotype P21552-1. Portion of longitudinal section, showing outer wall microporous sheath (left), septal pores and inner wall spines (right). X6

Figure 5. Erugatocyathus mawsoni sp.nov. P21605-2. Partial transverse section showing outer wall sheath, tabulae and inner wall spines. X10

Figure 6. Erugatocyathus inflexus sp.nov. Holotype P21417-2. Transverse section. X3

Figure 7. Erugatocyathus inflexus sp.nov. Paratype P21424-2. Partial longitudinal section. X3

Figure 8. Erugatocyathus inflexus sp.nov. Paratype 21620. Tabulae, detail. X15

Figure 9. Erugatocyathus inflexus sp.nov. Paratype P21424-2. Portion of longitudinal section in greater detail, showing inner wall spines (left), septa, outer wall sheath (right) is poorly preserved. X10


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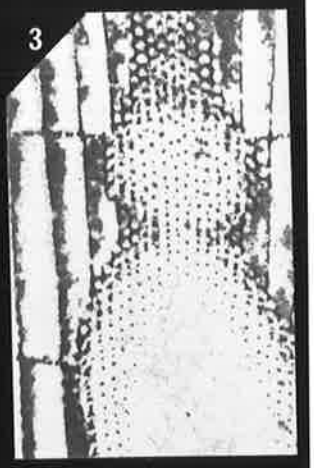
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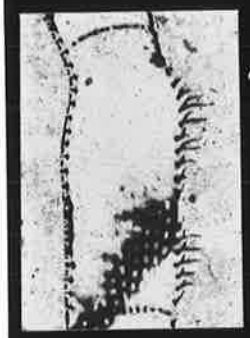
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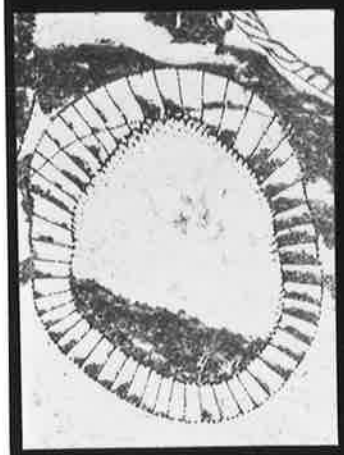
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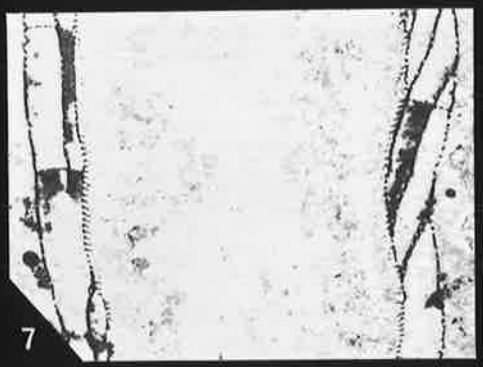
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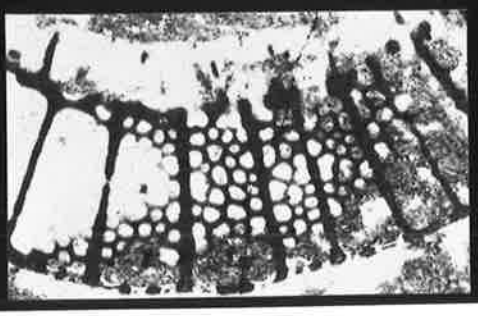
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PLATE 40

Figure 1. Erugatocyathus aquilinus sp.nov. Paratype P21412-1. Transverse section. X3

Figure 2. Erugatocyathus aquilinus sp.nov. Paratype P21552-4. Slightly oblique transverse section. X4

Figure 3. Erugatocyathus aquilinus sp.nov. Paratype P21412-8. Portion of warped cup with inner wall on the outer surface. X5

Figure 4. Erugatocyathus aquilinus sp.nov. Paratype P21552-4. Portion of longitudinal section, showing inner wall bracts (left), septal pores and outer wall microporous sheath (right). X20

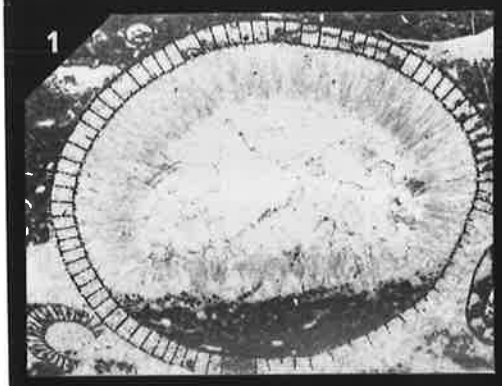
Figure 5. Erugatocyathus aquilinus sp.nov. Paratype P21412-1. Portion of transverse section showing tabulae. X20

Figure 6. Erugatocyathus oppositus sp.nov. Holotype P21507-4. Oblique transverse section. X4

Figure 7. Erugatocyathus oppositus sp.nov. Holotype P21507-4. Partial longitudinal section. X4

Figure 8. Erugatocyathus oppositus sp.nov. Paratype P21625. Portion of longitudinal section. Note the absence of an internal flange in the outer wall pores (left). X20

Figure 9. Erugatocyathus oppositus sp.nov. P21615-3. Section tangential to outer wall showing basal attachment to another cup (Beltanacyathus wirrialpensis). X10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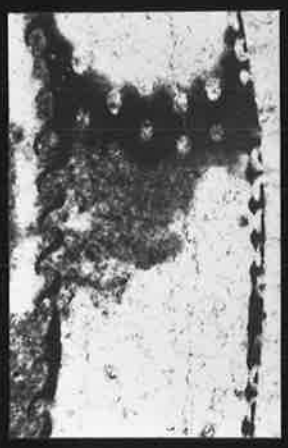
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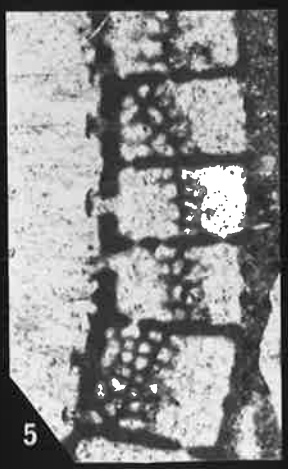
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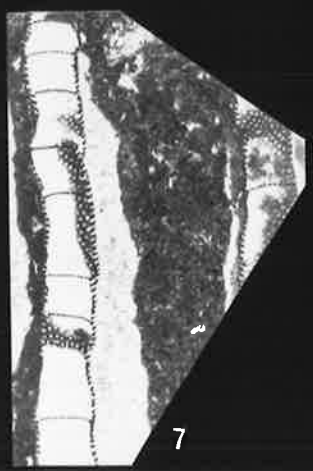
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PLATE 41

Figure 1. Erugatocyathus oppositus sp.nov. Paratype P21625. Longitudinal section. X4

Figure 2. Erugatocyathus oppositus sp.nov. Paratype P21625. Oblique longitudinal section. X4

Figure 3. Erugatocyathus oppositus sp.nov. P21592-2. Slightly oblique transverse section of small cup. X10

Figure 4. Erugatocyathus howchini sp.nov. Holotype P21590-1. Transverse section of separated cups in a colony. X3

Figure 5. Erugatocyathus howchini sp.nov. Holotype P21590-1. Transverse section of the same cups, partly separated at an earlier growth stage. X3

Figure 6. Erugatocyathus howchini sp.nov. Holotype P21590-1. Partial longitudinal section. X3

Figure 7. Erugatocyathus howchini sp.nov. Holotype P21590-1. Portion of longitudinal section (outer wall on left). X20

Figure 8. Erugatocyathus howchini sp.nov. Paratype P21629. Tangential section grazing inner wall. X20

Figure 9. Erugatocyathus howchini sp.nov. Paratype P21630. Longitudinal section through colony. X3

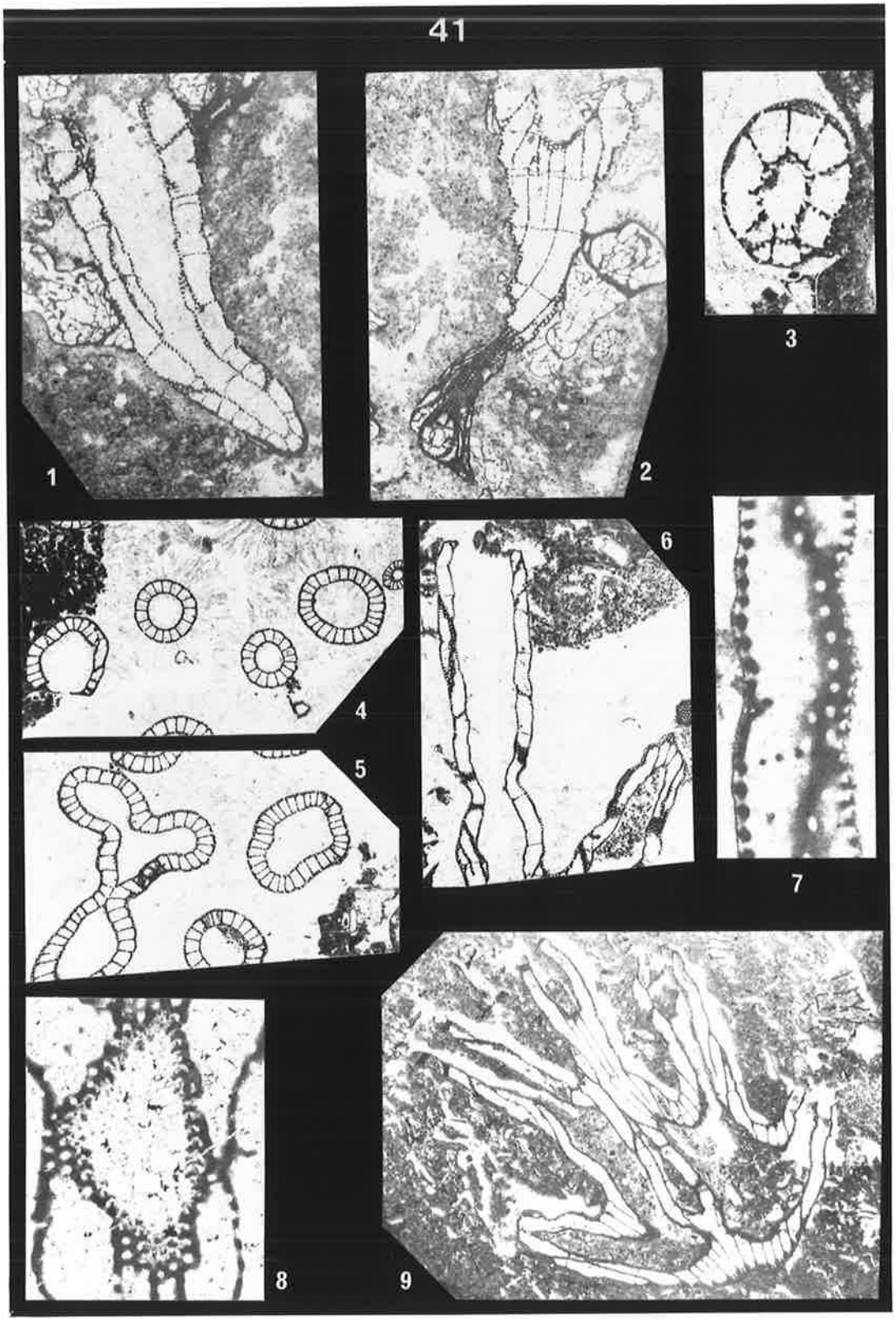
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PLATE 42

Figure 1. Erugatocyathus howchini sp.nov. Paratype P21615-2. Partial longitudinal section through base of colony. X3

Figure 2. ? Veronicacyathus c.f. complexus (Bedford R. and J.). P21614-3. Transverse section. X6

Figure 3. ? Veronicacyathus c.f. complexus (Bedford R. and J.). P21540-4. Oblique longitudinal section. X6

Figure 4. ? Veronicacyathus c.f. complexus (Bedford R. and J.). P21540-4. Portion of same section, showing septal pores and inner wall spines (right). X20

Figure 5. ? Veronicacyathus c.f. complexus (Bedford R. and J.). P21540-4. Portion of same section grazing inner wall. X20

Figure 6. Veronicacyathus radiatus sp.nov. Holotype P21631. Partial transverse section. X2

Figure 7. Veronicacyathus radiatus sp.nov. Paratype P21634-1. Transverse to oblique section. X3

Figure 8. Veronicacyathus radiatus sp.nov. Paratype P21632-1. Oblique longitudinal section. X4

Figure 9. Veronicacyathus radiatus sp.nov. Paratype P21635-1. Portion of longitudinal section (outer wall on left). X10

Figure 10. Veronicacyathus radiatus sp.nov. Paratype P21632-1. Tangential section grazing inner wall. X15

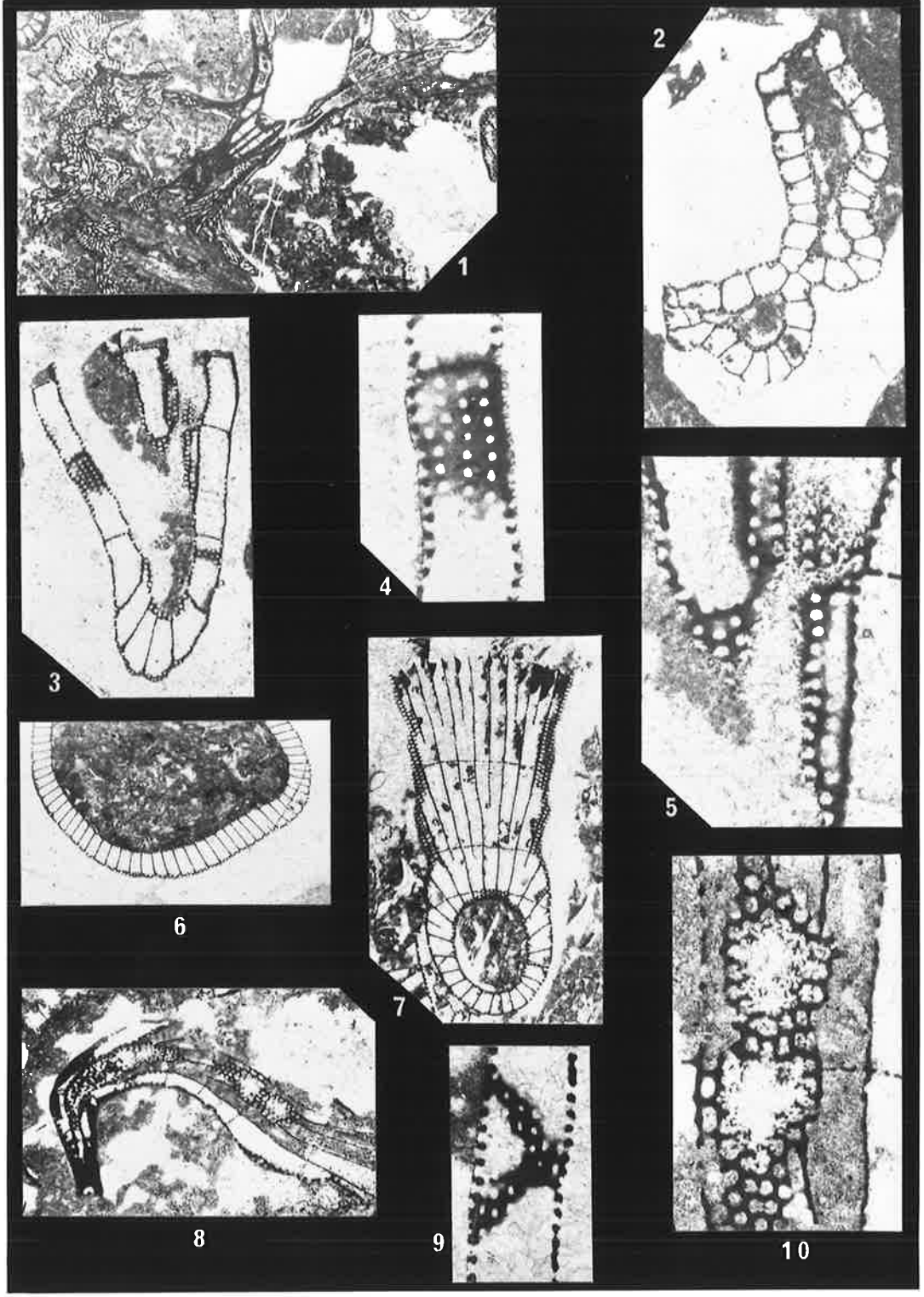
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PLATE 43

Figure 1. Veronicacyathus limbatus sp.nov. Holotype P21654. Transverse section. X2

Figure 2. Veronicacyathus limbatus sp.nov. Holotype P21654. Oblique longitudinal section. X2

Figure 3. Veronicacyathus limbatus sp.nov. Holotype P21654. Tangential section grazing outer wall. Microporous sheath not preserved. X20

Figure 4. Veronicacyathus limbatus sp.nov. Holotype P21654. Portion of longitudinal section showing fragments of outer wall sheath (left), and inner wall pore-tubes (right). X20

Figure 5. Veronicacyathus limbatus sp.nov. Holotype P21654. Detail of tabulae. X10

Figure 6. Veronicacyathus limbatus sp.nov. Holotype P21654. Tangential section grazing inner wall. X20

Figure 7. Bractocyathus projectus sp.nov. Holotype P21655. Partial transverse section. X6

Figure 8. Bractocyathus projectus sp.nov. Holotype P21655. Partial longitudinal section. X6

Figure 9. Bractocyathus curvus sp.nov. Paratype P21658. Partial transverse section. X15

Figure 10. Bractocyathus curvus sp.nov. Holotype P21656. Oblique longitudinal section. X6

Figure 11. Bractocyathus curvus sp.nov. Paratype P21658. Partial transverse section. X4

Figure 12. Bractocyathus curvus sp.nov. Paratype P21657. Portion of longitudinal section (inner wall on right). X15

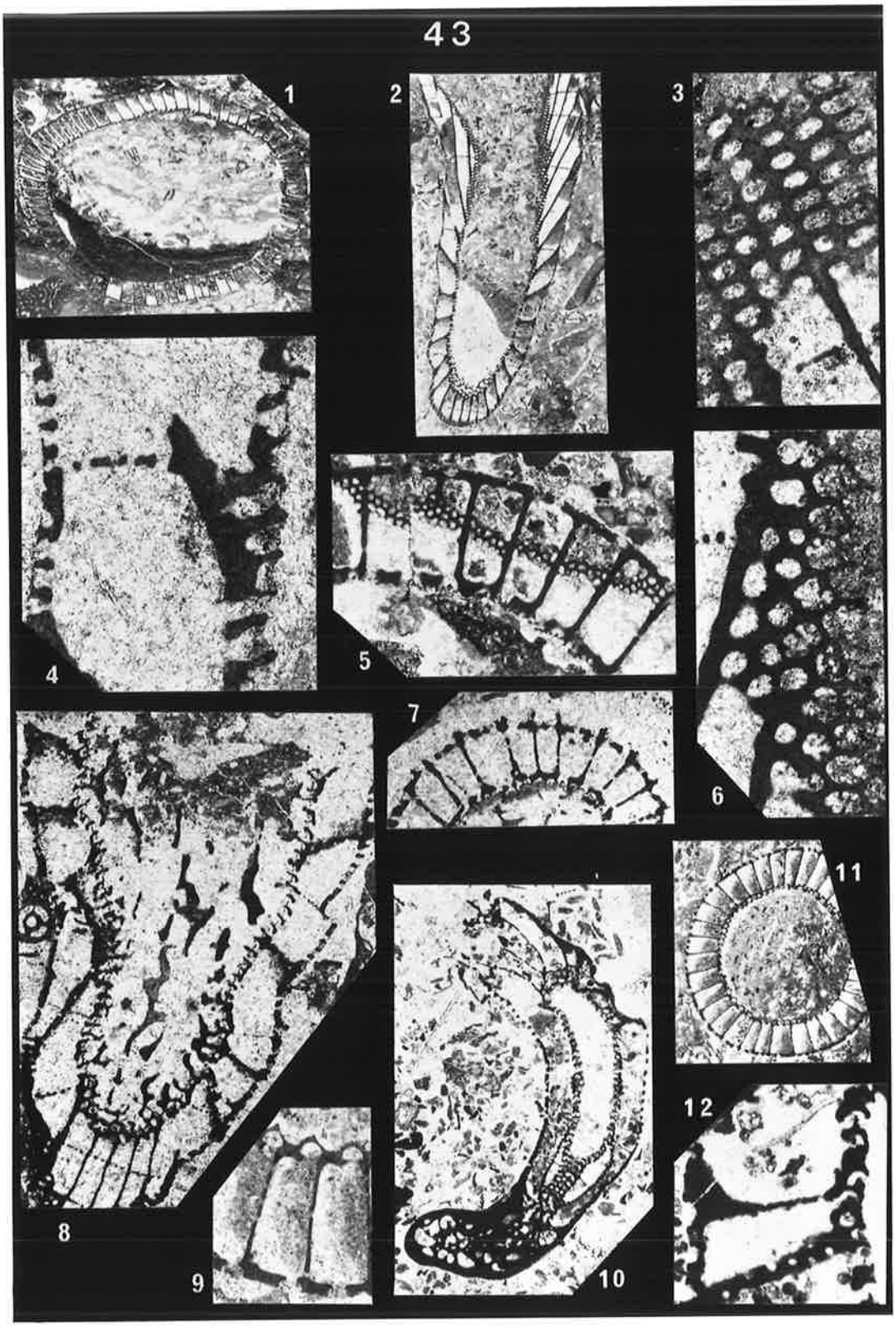
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PLATE 44

Figure 1. Auliscocyathus arcuatus sp.nov. Holotype P21539-3. Slightly oblique transverse section. X3

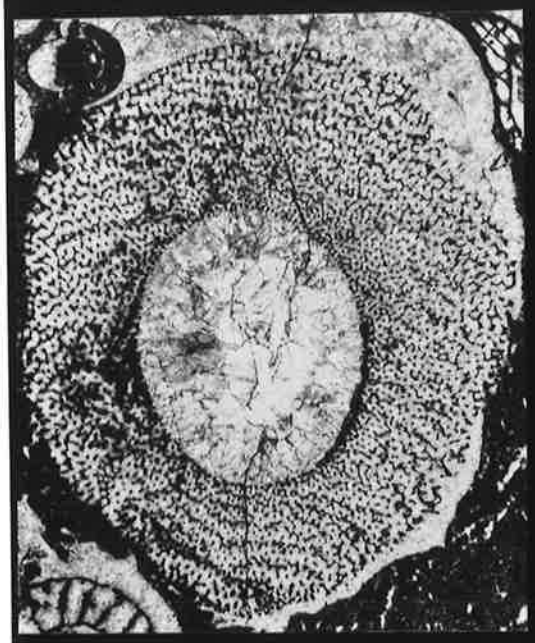
Figure 2. Auliscocyathus arcuatus sp.nov. Holotype P21539-3. Partial longitudinal section (outer wall on right). X3

Figure 3. Auliscocyathus irregularis (Taylor). Holotype T1604B. Partial transverse section. X2

Figure 4. Auliscocyathus irregularis (Taylor). Holotype T1604A. Tangential longitudinal section a short distance beneath the outer surface, (view from exterior). X2

Figure 5. Auliscocyathus irregularis (Taylor). Holotype T1604A. Partial longitudinal section. Note rudimentary outer wall (on left). X2

Figure 6. Agastrocyathus araneosus sp.nov. Paratype P21663-3. Transverse section through colony, with four axial zones replacing central cavities. X10



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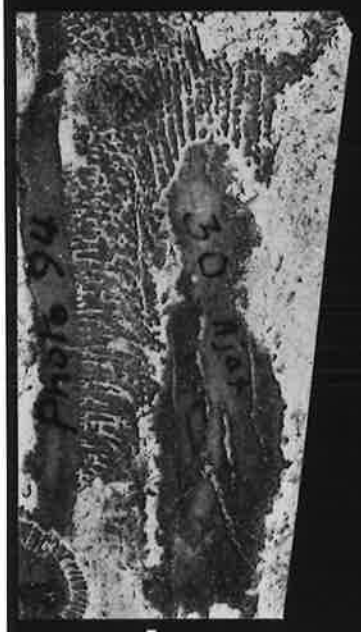

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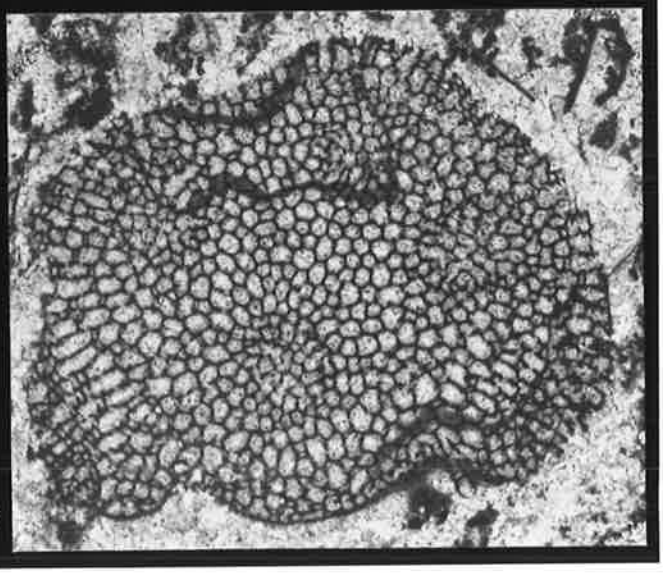

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PLATE 45

Figure 1. Agastrocyathus araneosus sp.nov. Paratype P21660. Transverse section through colony of radiating, almost prostrate cups. X5

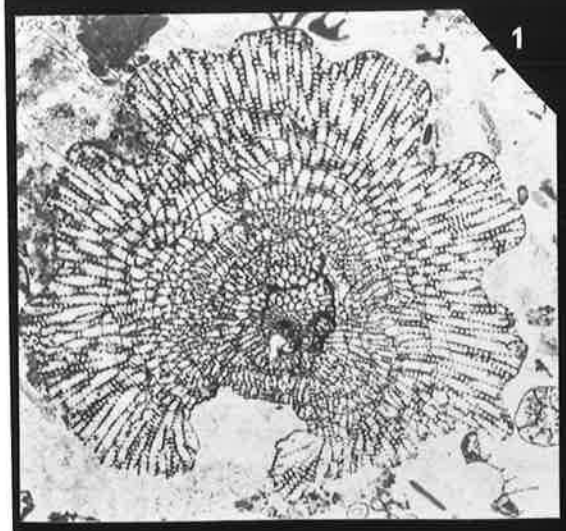
Figure 2. Agastrocyathus araneosus sp.nov. Paratype P21660. Portion of same section in greater detail. X10

Figure 3. Agastrocyathus araneosus sp.nov. Holotype P21483-2. Longitudinal section through colony. X10

Figure 4. Agastrocyathus araneosus sp.nov. Paratype P21659. Transverse to oblique section of small form, showing an empty central cavity. Note the rudimentary inner wall. X6

Figure 5. Dictyofavus obtusus gen.et sp.nov. Paratype P21669. Transverse section through colony. Note the empty central cavities and rudimentary inner walls. X8

Figure 6. Dictyofavus obtusus gen.et sp.nov. Paratype P21668. Transverse section showing finger-like protuberance containing rods and dissepiments similar to those found in the intervallum. X5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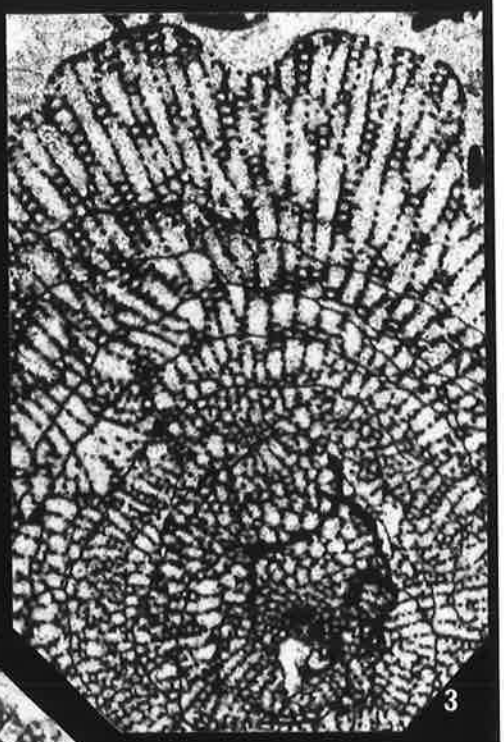
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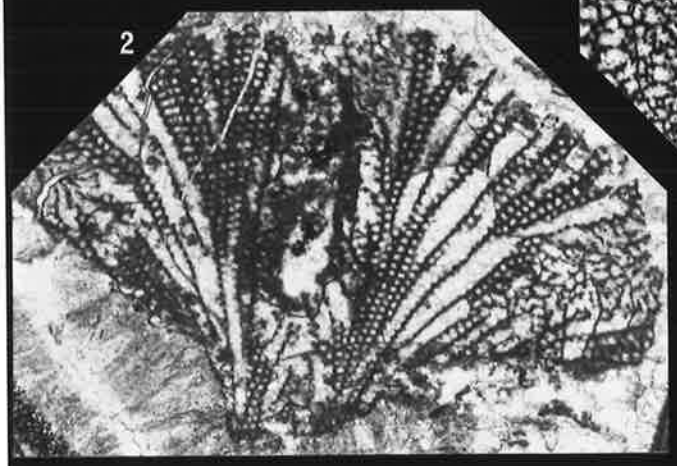
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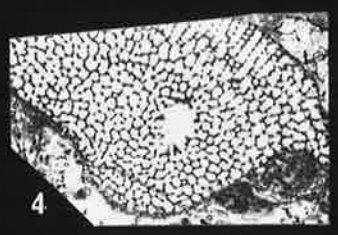
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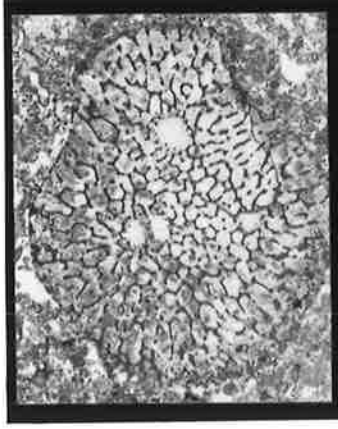
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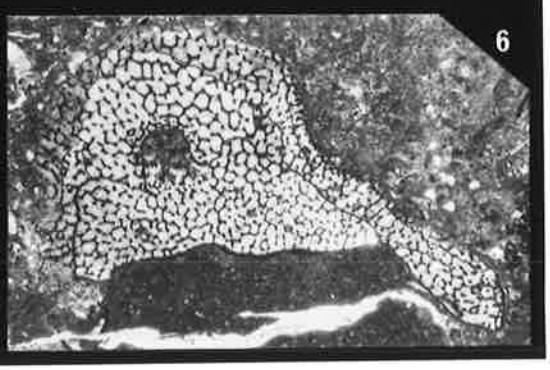
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PLATE 46

Figure 1. Dictyofavus obtusus gen.et sp.nov. Paratype P21668. Oblique longitudinal section. X5

Figure 2. Dictyofavus obtusus gen.et sp.nov. Paratype P21670. Longitudinal section through small cup. X10

Figure 3. Paranacyathus spinosus sp.nov. Paratype P21425-3. Oblique section. X2

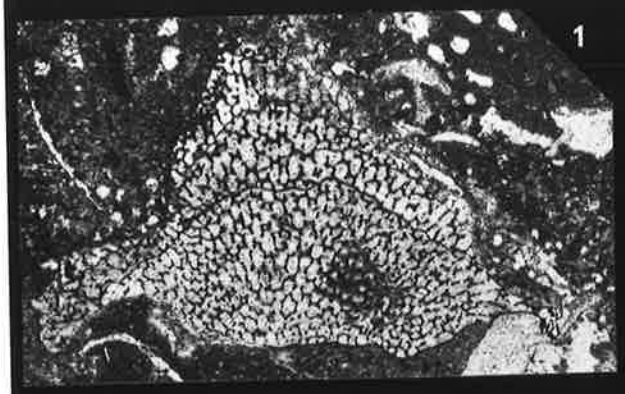
Figure 4. Paranacyathus spinosus sp.nov. Paratype P21540-2. Oblique longitudinal section. X3

Figure 5. Paranacyathus spinosus sp.nov. Paratype P21466-4. Portion of longitudinal section showing septal pores (outer wall on right). X5

Figure 6. Copleicyathus confertus Bedford R. and J. P21684. Transverse section. X4

Figure 7. Copleicyathus confertus Bedford R. and J. P21684. Transverse and oblique sections through colony. X2

Figure 8. Copleicyathus confertus Bedford R. and J. P21686. Oblique longitudinal section through small cup. X5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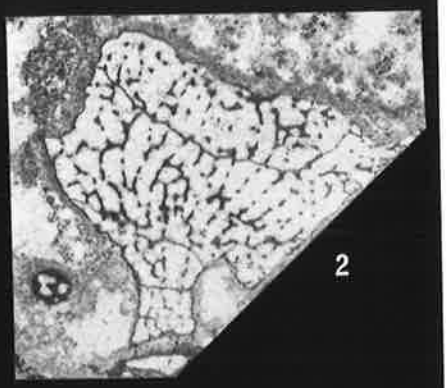
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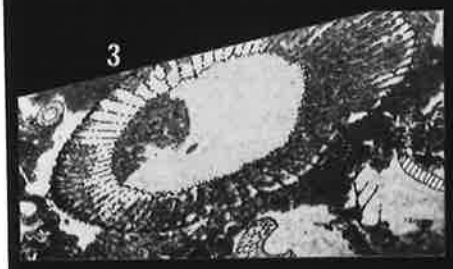
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PLATE 47

Figure 1. Copleicyathus confertus Bedford R. and J. P21684. Oblique longitudinal section through part of colony. X2

Figure 2. Copleicyathus confertus Bedford R. and J. P21684. Oblique section showing detail of outer wall. Subdivided pores are difficult to see. X10

Figure 3. Copleicyathus confertus Bedford R. and J. P21684. Tangential section grazing inner wall, showing spinose lining. X10

Figure 4. Copleicyathus confertus Bedford R. and J. P21684. Portion of longitudinal section, showing septal pores (outer wall on left). X6

Figure 5. Copleicyathus scottensis sp.nov. Holotype P21423-1. Partial longitudinal section. X2

Figure 6. Copleicyathus scottensis sp.nov. Holotype P21423-1. Transverse section. X3

Figure 7. Copleicyathus scottensis sp.nov. Holotype P21423-1. Tangential section grazing inner wall, showing spinose lining. X10

Figure 8. Copleicyathus scottensis sp.nov. Holotype P21423-1. Portion of longitudinal section, showing septal pores (outer wall on left). X6

Figure 9. Copleicyathus scottensis sp.nov. Holotype P21423-1. Portion of transverse section in greater detail (inner wall at bottom). X10

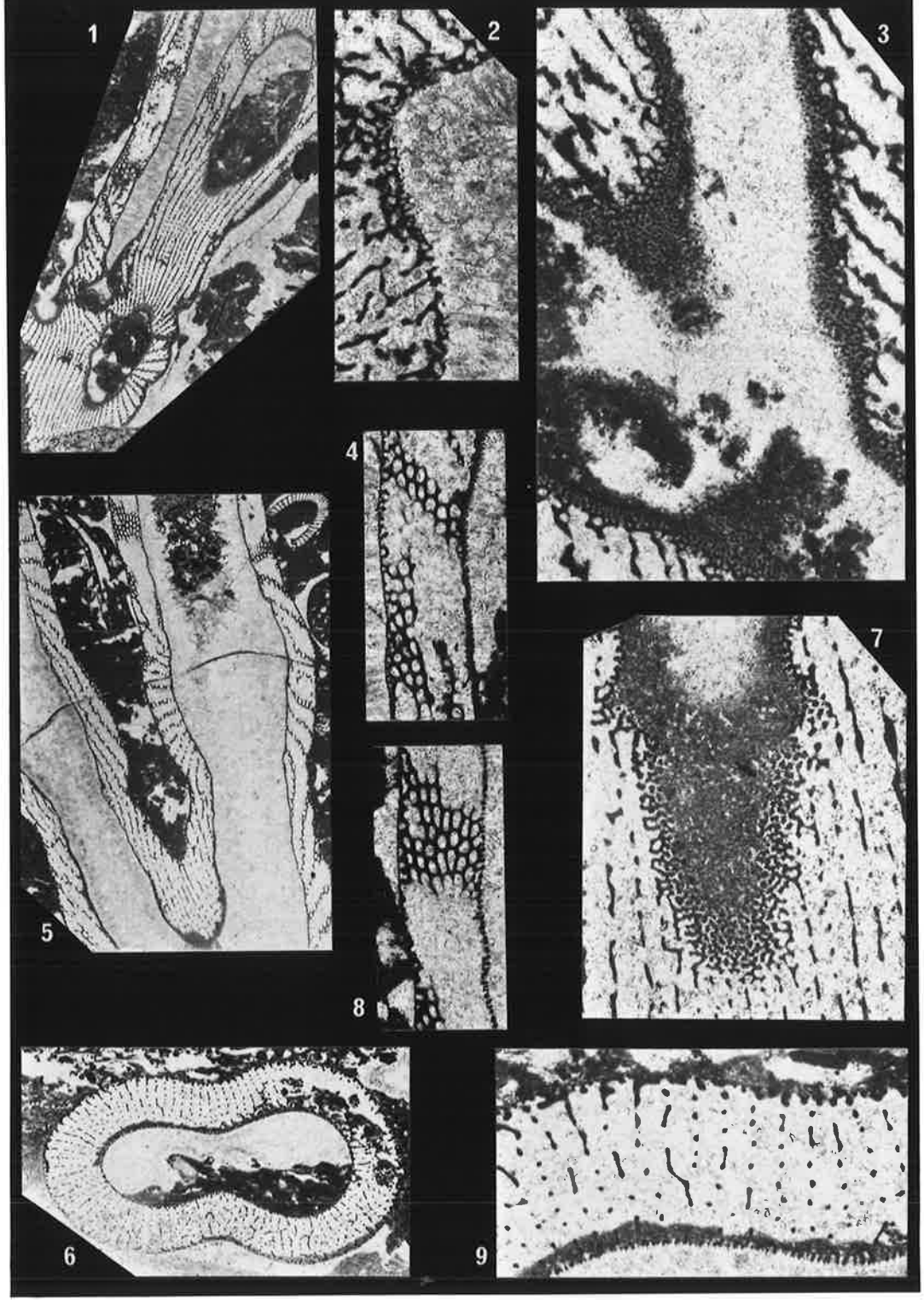
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PLATE 48

Figure 1. Copleicyathus scottensis sp.nov. Holotype P21423-1. Tangential section grazing outer wall, showing subdivided pores. X10

Figure 2. Copleicyathus cymosus sp.nov. Holotype P21687-1. Transverse section. X4

Figure 3. Copleicyathus cymosus sp.nov. Paratype P21687-2. Tangential section grazing outer wall. Partly subdivided pores are difficult to see. X10

Figure 4. Copleicyathus cymosus sp.nov. P21695. Oblique longitudinal section. X2

Figure 5. Copleicyathus cymosus sp.nov. P21697-1. Oblique section. X2

Figure 6. Copleicyathus cymosus sp.nov. Holotype P21687-1. Oblique section, showing new cup growth by budding. X2

Figure 7. Copleicyathus cymosus sp.nov. P21691-2. Partial transverse section, showing wavy septa linked by synapticulae and porous tangential plates. X5


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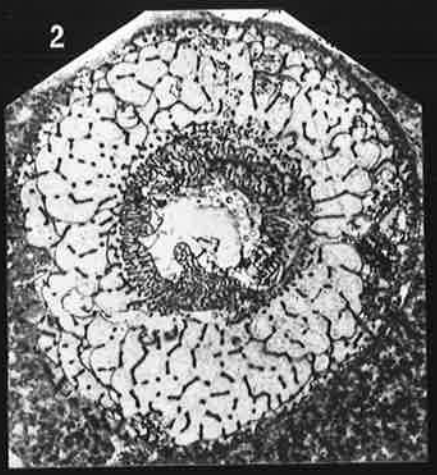
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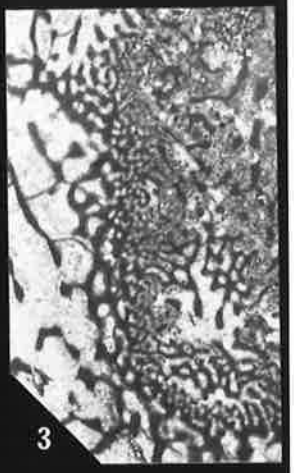
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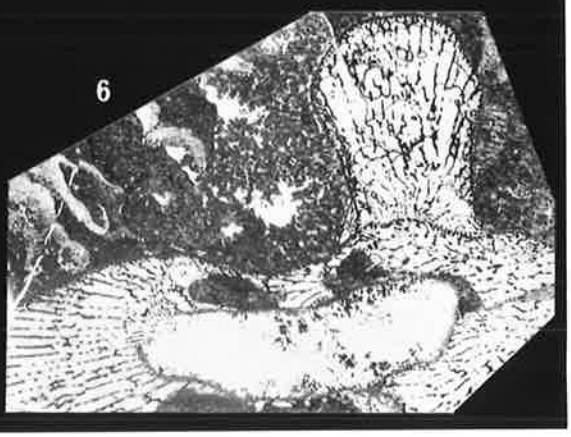
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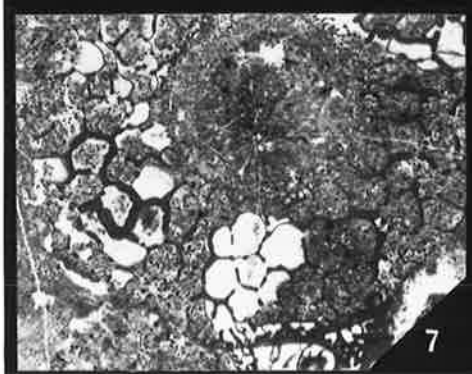
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PLATE 49

Figure 1. Metaldetes dissepimentalis (Taylor). P21703-1.
Partial transverse section. X4

Figure 2. Metaldetes dissepimentalis (Taylor). P21703-2.
Oblique longitudinal section. X3

Figure 3. Metaldetes dissepimentalis (Taylor). P21702-2.
Oblique section. X2

Figure 4. Metaldetes dissepimentalis (Taylor). P21702-2.
Tangential section grazing inner wall, showing subdivided pores. X20

Figure 5. Metaldetes ferulae sp.nov. Paratype P21709.
Partial transverse section. X4

Figure 6. Metaldetes ferulae sp.nov. Paratype P21709.
Partial oblique longitudinal section showing extensive outgrowths and abundant endothecal tissue. X2

Figure 7. Metaldetes ferulae sp.nov. Holotype P21498-1.
Portion of longitudinal section (outer wall on right). X6

Figure 8. Metaldetes ferulae sp.nov. Holotype P21498-1.
Partial longitudinal section. Note lack of abundant endothecal tissue. X2

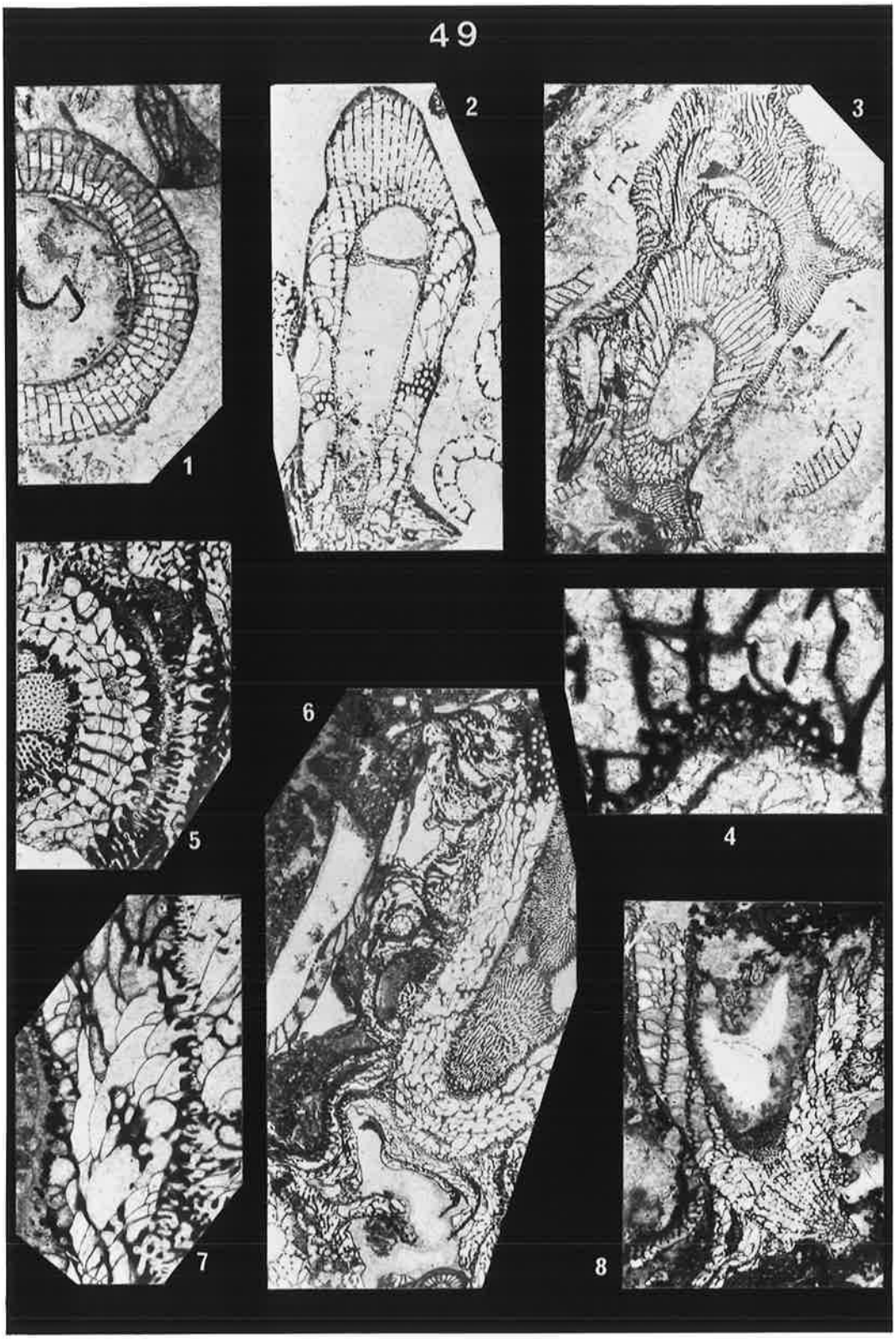
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PLATE 50

Figure 1. Metaldetes ferulae sp.nov. Holotype P21498-1. Tangential section grazing outer wall, showing partly subdivided pores and cross-sections through rod-like extensions. X10

Figure 2. Metaldetes ferulae sp.nov. Paratype P21709. Tangential section grazing inner wall, showing subdivided pores on the intervallum side of the wall. X10

Figure 3. Metaldetes incohatus sp.nov. Holotype P21710. Transverse section. X3

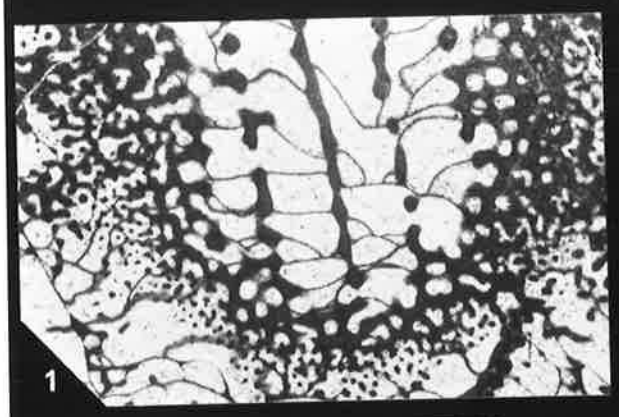
Figure 4. Metaldetes incohatus sp.nov. Paratype P21712. Transverse and oblique section through colonial form. X2

Figure 5. Metaldetes incohatus sp.nov. Holotype P21710. Tangential section grazing inner wall, showing partly subdivided pores. X20

Figure 6. Metaldetes incohatus sp.nov. Paratype P21713. Portion of longitudinal section showing septal pores (outer wall on right). X6

Figure 7. Metaldetes gracilis sp.nov. Holotype P21716. Transverse section of colonial form. X2

Figure 8. Metaldetes gracilis sp.nov. Holotype P21716. Enlarged portion of transverse section at cup junction, showing subdivided outer wall pores. X10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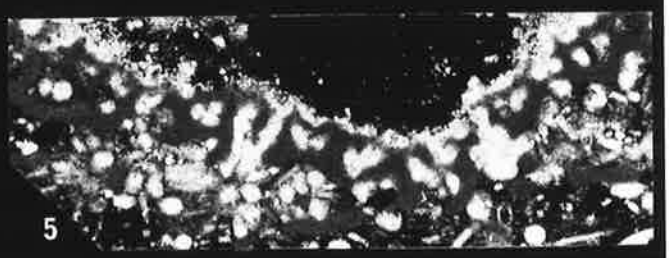
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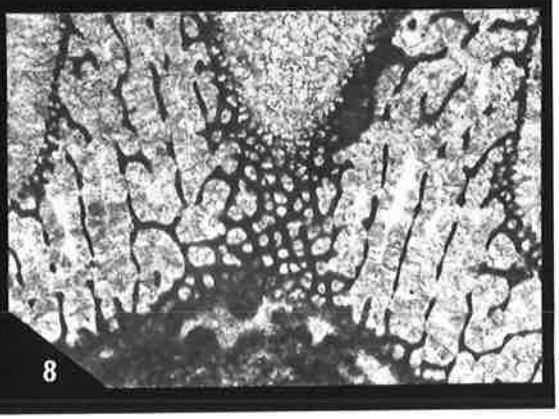
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PLATE 51

Figure 1. Metaldetes gracilis sp.nov. Holotype P21716. Tangential section grazing inner wall. X10

Figure 2. Metaldetes gracilis sp.nov. Holotype P21716. Portion of longitudinal section showing septal pores (outer wall on right). X6

Figure 3. Ardrossacyathus grandis sp.nov. Holotype P21718. Transverse section. X2

Figure 4. Ardrossacyathus grandis sp.nov. Holotype P21718. Partial longitudinal section. X2

Figure 5. Ardrossacyathus grandis sp.nov. Holotype P21718. Portion of transverse section in greater detail. X5

Figure 6. Ardrossacyathus grandis sp.nov. Holotype P21718. Portion of longitudinal section showing septal pores and inner wall pore-tubes (on right). X5

Figure 7. Ardrossacyathus grandis sp.nov. Paratype P21720. Partial longitudinal section showing abundant endothecal tissue in the central cavity. X2

Figure 8. Ardrossacyathus grandis sp.nov. Paratype P21719. Partial longitudinal section showing practically no endothecal tissue. Note the initially simple inner wall. X2

Figure 9. Ardrossacyathus grandis sp.nov. Holotype P21718. Tangential section grazing outer wall. X10

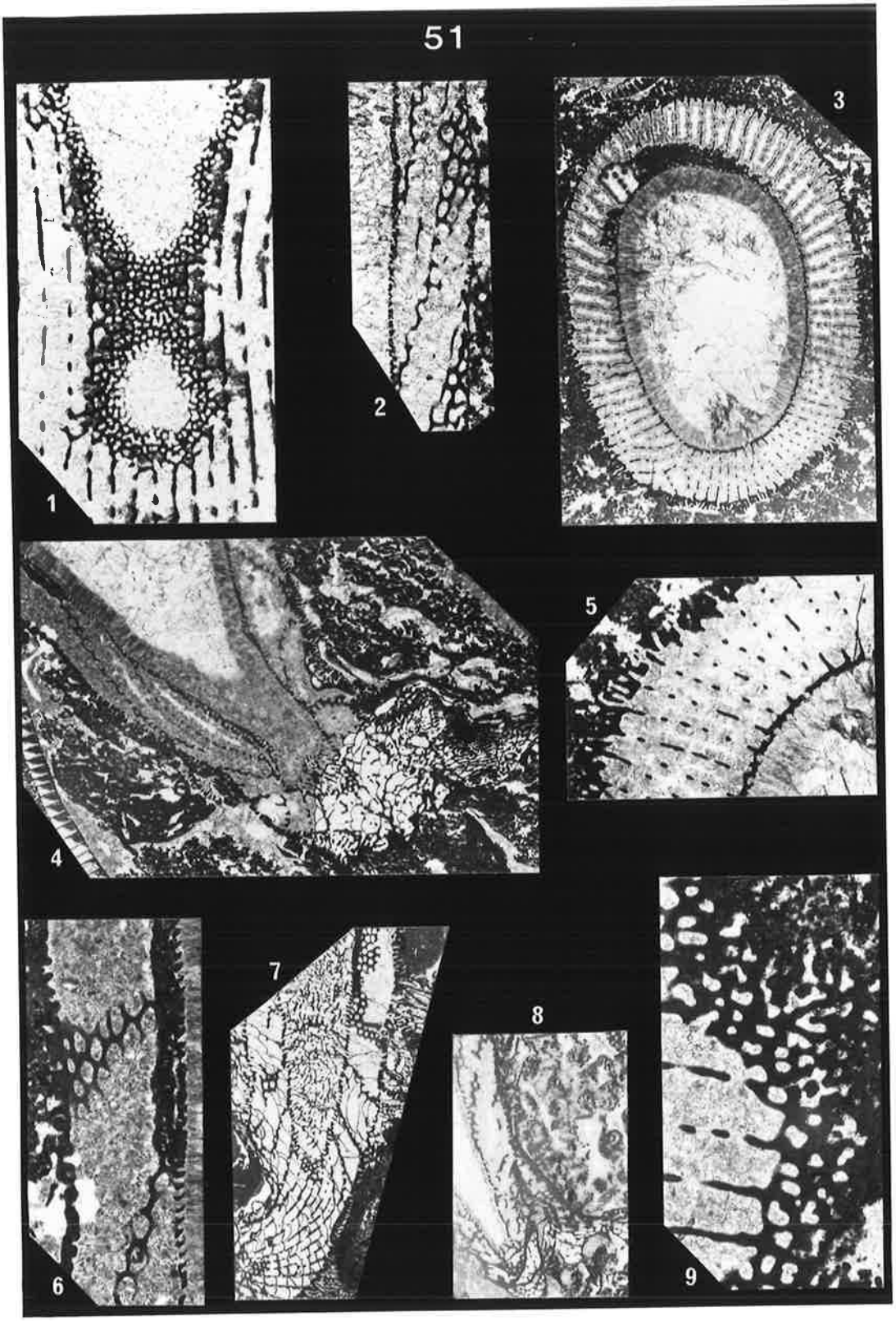
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PLATE 52

Figure 1. Spirillicyathus tenuis Bedford R. and J. P21411-2.
Transverse section. X2

Figure 2. Spirillicyathus tenuis Bedford R. and J. P21411-2.
Part of transverse section in greater detail. X5

Figure 3. Spirillicyathus tenuis Bedford R. and J. P21741.
Transverse section. X5

Figure 4. Spirillicyathus tenuis Bedford R. and J. P21411-2.
Partial longitudinal section. X4

Figure 5. Spirillicyathus tenuis Bedford R. and J. P21411-2.
Tangential section grazing outer wall. X10

Figure 6. Spirillicyathus pigmentum Bedford R. and J. P21744.
Oblique section through small cup. X4

Figure 7. Spirillicyathus pigmentum Bedford R. and J. P21423-2.
Transverse section. X2

Figure 8. Spirillicyathus pigmentum Bedford R. and J. P21423-2.
Oblique longitudinal section parallel to long axis of cup.
Outer wall (bottom), inner wall (top), and septal pores
(right) are visible. X3

Figure 9. Spirillicyathus pigmentum Bedford R. and J. P21742.
Oblique longitudinal section through base of cup. X10

Figure 10. Spirillicyathus pigmentum Bedford R. and J. P21423-2.
Transverse section of the same specimen shown in Figure 7,
at a smaller cup diameter. X4

Figure 11. Spirillicyathus pigmentum Bedford R. and J. P21743.
Transverse to oblique section of large cup. The attached
small Irregulare is Copleicyathus sp.. X2

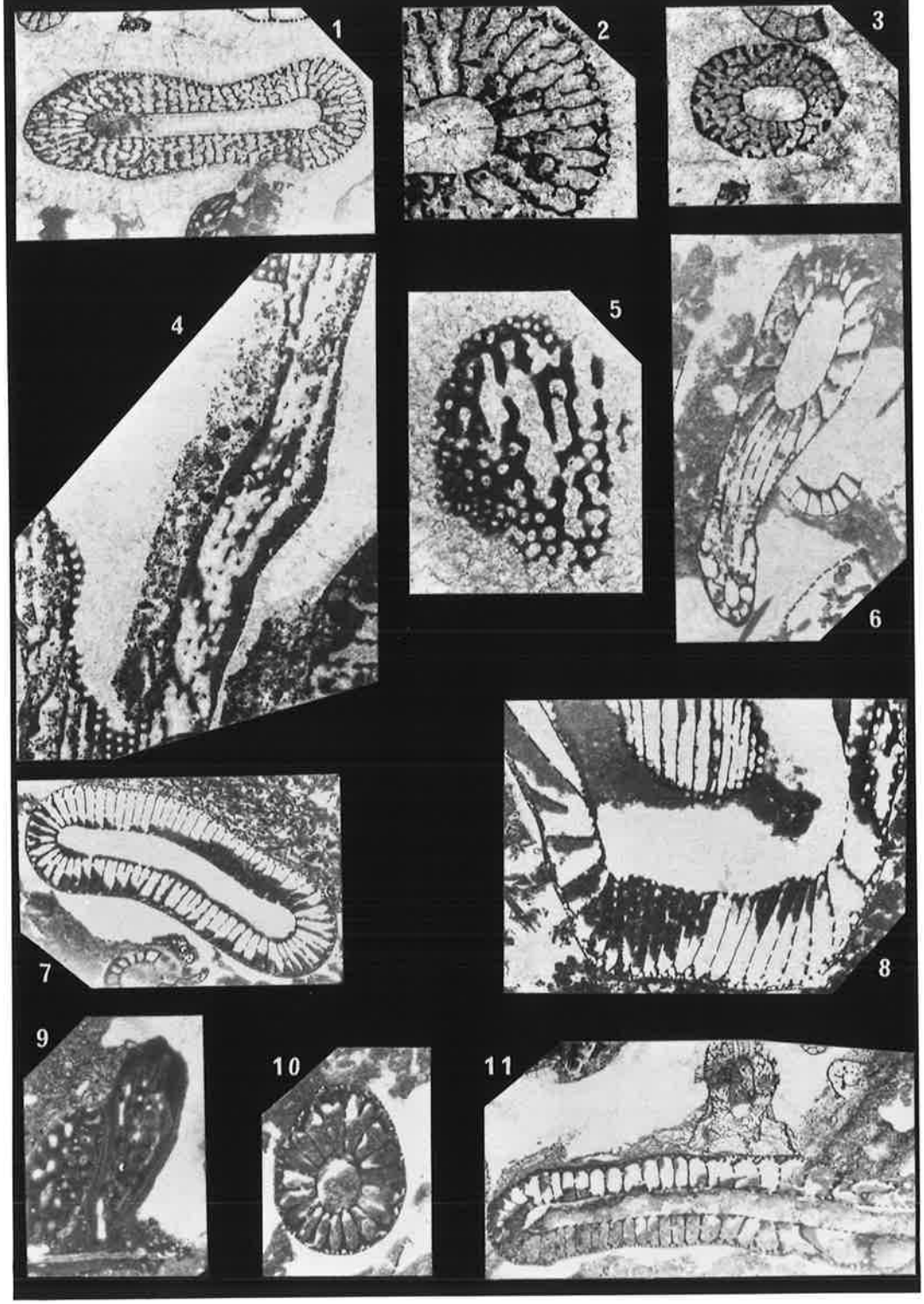
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PLATE 53

Figure 1. Jugalicyathus tardus gen.et sp.nov. Paratype P21748. Transverse section. X3

Figure 2. Jugalicyathus tardus gen.et sp.nov. P21767. Oblique section showing attachment of septa to struts at the outer wall. X3

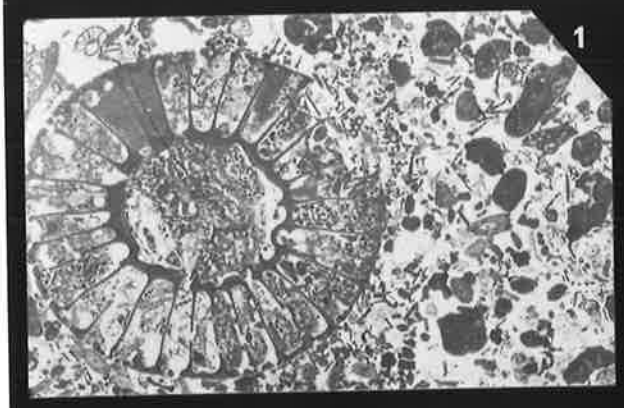
Figure 3. Jugalicyathus tardus gen.et sp.nov. Holotype P21747. Oblique longitudinal section. X1

Figure 4. Jugalicyathus tardus gen.et sp.nov. P21765. Partial oblique longitudinal section showing initially simply porous inner wall. X2

Figure 5. Jugalicyathus tardus gen.et sp.nov. Holotype P21747. Tangential section grazing outer wall. X10

Figure 6. Hawkercyathus insculptus gen.et sp.nov. Paratype P21774. Slightly oblique transverse section. Note the imperforate portion of the outer wall (lower left), and sharply contracted initial phase of the porous outer wall stage. X6

Figure 7. Hawkercyathus insculptus gen.et sp.nov. Paratype P21697-3. Tangential longitudinal section through small cup. Note rapid expansion in cup diameter at the upper part of the apparently imperforate outer wall. X4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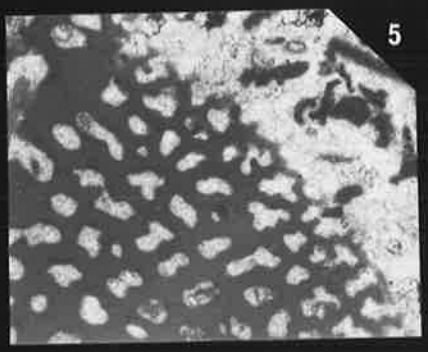
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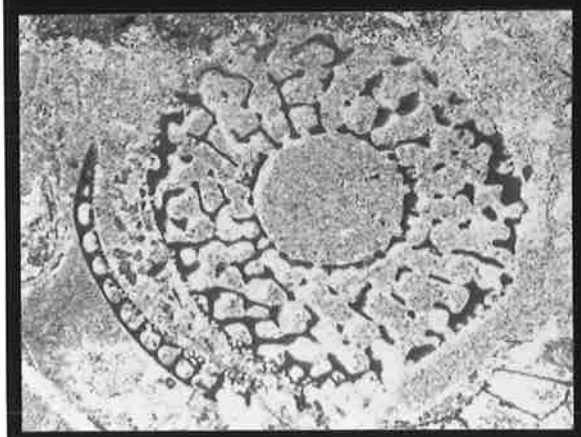
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PLATE 54

Figure 1. Hawkercyathus insculptus gen.et sp.nov. Holotype P21773. Partial oblique longitudinal section. X4

Figure 2. Hawkercyathus insculptus gen.et sp.nov. Holotype P21773. Transverse section through stage with porous outer wall. X3

Figure 3. Hawkercyathus insculptus gen.et sp.nov. Paratypes P21697-3; P21697-4 (on left). Oblique longitudinal sections. X2

Figure 4. Hawkercyathus insculptus gen.et sp.nov. Paratype P21775. Partial longitudinal section near base of small cup. X10

Figure 5. Hawkercyathus insculptus gen.et sp.nov. Paratype P21755. Partial longitudinal section showing connection of intervallum elements to the outermost lamina of the outer wall. Note the seemingly imperforate outer wall. X30

Figure 6. Hawkercyathus insculptus gen.et sp.nov. P21787. Oblique longitudinal section showing the apparently imperforate outer wall surmounted by an initially contracted, highly porous outer wall. Peripheral pore distribution not visible. X3


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PLATE 55

Figure 1. Pycnoidocyathus synapticulosus Taylor. Holotype T1587B. Partial transverse section. X1

Figure 2. Pycnoidocyathus synapticulosus Taylor. Holotype T1587B. Partial longitudinal section. X1

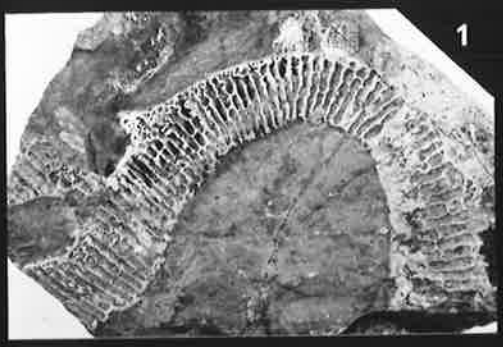
Figure 3. Pycnoidocyathus synapticulosus Taylor. Holotype T1587A. Partial transverse section in detail, showing broadening of synapticulae associated with growth of a new septum. X2

Figure 4. Pycnoidocyathus synapticulosus Taylor. Holotype T1587B. Oblique external view of outer wall showing pores. X4

Figure 5. Pycnoidocyathus synapticulosus Taylor. Holotype T1587C. Partial longitudinal section in detail, showing septal pores (inner wall on right). X3

Figure 6. Pycnoidocyathus amplus sp.nov. Holotype P21793. Partial transverse section. X1.5

Figure 7. Pycnoidocyathus amplus sp.nov. Holotype P21793. Partial longitudinal section. X1.5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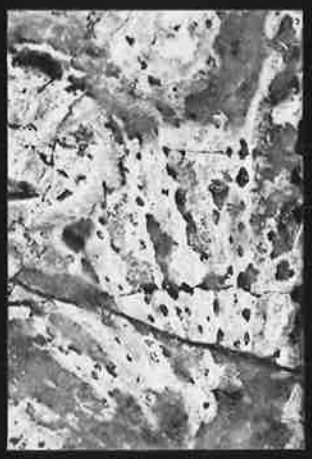
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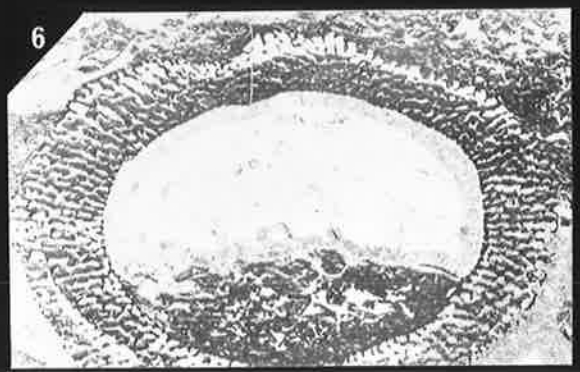
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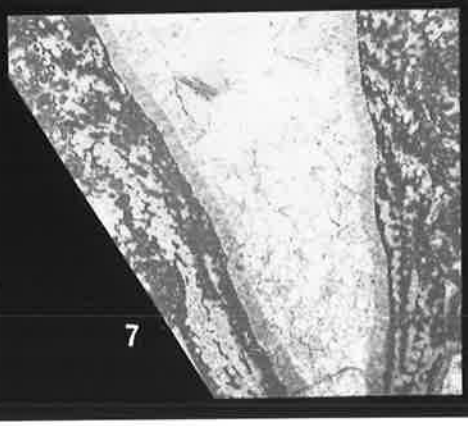
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PLATE 56

Figure 1. Pycnoidocyathus amplus sp.nov. Holotype P21793. Detail of part of transverse section. X5

Figure 2. Pycnoidocyathus amplus sp.nov. Holotype P21793. Partial longitudinal section showing septal pores. X5

Figure 3. Pycnoidocyathus amplus sp.nov. Holotype P21793. Tangential section grazing outer wall (peripheral pore distribution is not clearly shown). X5

Figure 4. Pycnoidocyathus cribrus sp.nov. Paratype P21466-5. Oblique section. X1.5

Figure 5. Pycnoidocyathus cribrus sp.nov. Paratype P21466-5. Partial longitudinal section. X3

Figure 6. Pycnoidocyathus cribrus sp.nov. Holotype P21794-1 and Paratype P21794-2 (small specimen, lower right). Oblique longitudinal section. X2

Figure 7. Pycnoidocyathus cribrus sp.nov. Paratype P21796. Slightly oblique section through lower part of cup. X6

Figure 8. Pycnoidocyathus cribrus sp.nov. Paratype P21794-2. Oblique longitudinal section. A portion of the outer wall of the holotype (P21794-1) is visible (upper right). X5


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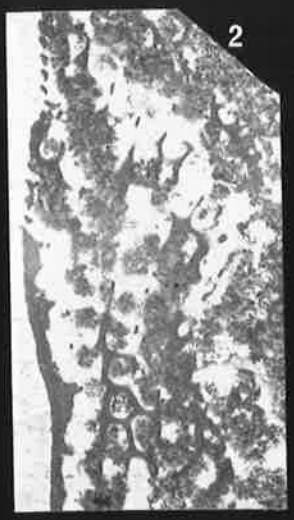
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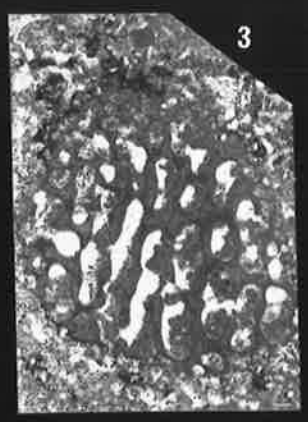
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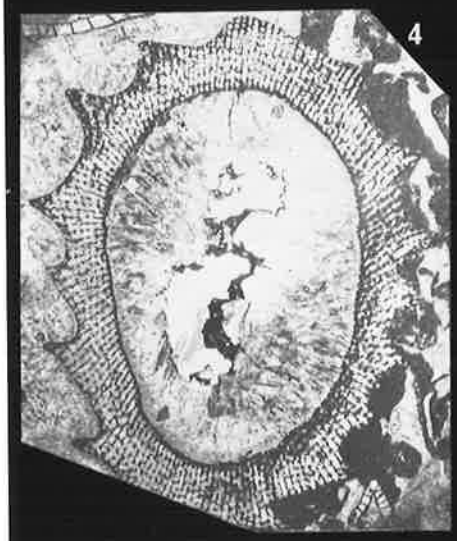
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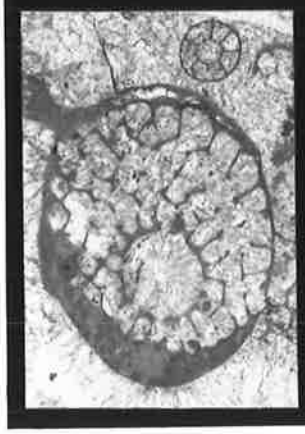
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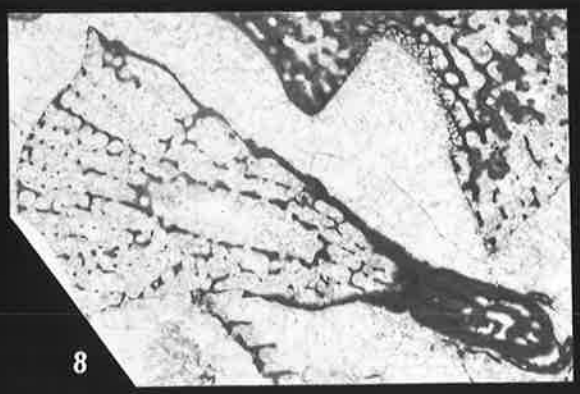
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PLATE 57

Figure 1. ? Pycnoidocyathus strictus sp.nov. Holotype P21799. Partial transverse section. X2

Figure 2. ? Pycnoidocyathus strictus sp.nov. Holotype P21799. Partial longitudinal section. X1.5

Figure 3. ? Pycnoidocyathus strictus sp.nov. Holotype P21799. Partial longitudinal section in greater detail (outer wall on right). X5

Figure 4. ? Pycnoidocyathus strictus sp.nov. Holotype P21799. Part of transverse section in greater detail showing inner wall pore-tube openings (top). X5

Figure 5. Small specimen of Pycnoidocyathus Taylor. P21800. Oblique section. Note the possible outer wall pore (arrowed), and finely porous outer wall (top). X5

Figure 6. Small specimen of Pycnoidocyathus Taylor. P21801. Slightly oblique transverse section. X5

Figure 7. Same specimen. Oblique longitudinal section. X5

Figure 8. Small specimen of Pycnoidocyathus Taylor. P21802. Partial transverse section. X5

Figure 9. Same specimen. Partial longitudinal section. Note dissepiments associated with an encrusting form on the outer wall, and possible outer wall pore (arrowed). X5

Figure 10. Small specimen of ? Flindersicoscinus Debrenne. P21805. Slightly oblique section. X8

Figure 11. Small specimen of ? Flindersicoscinus Debrenne. P21535-4. Oblique section. X4

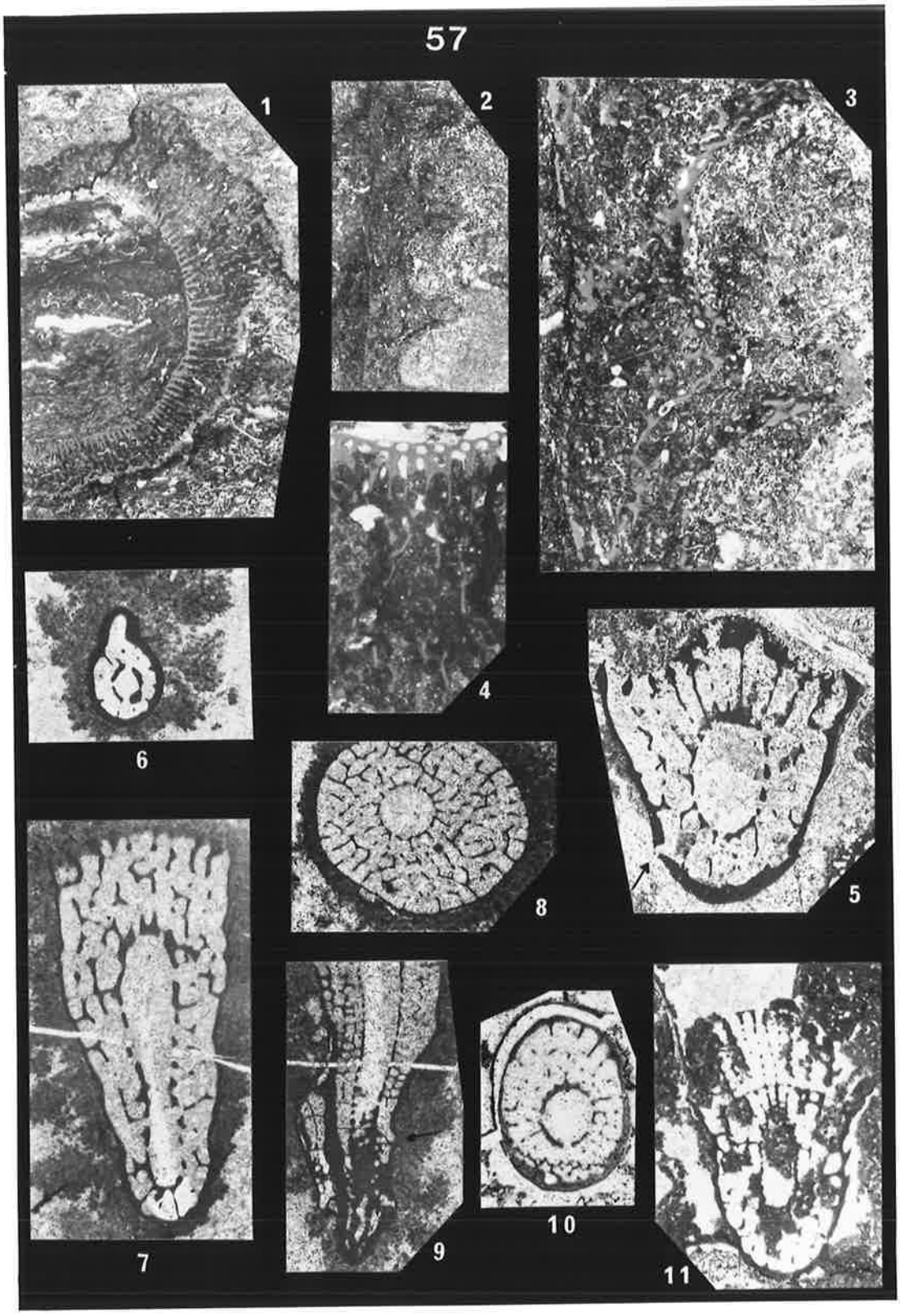
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PLATE 58

Figure 1. Warriootacyathus wilkawillinensis gen.et sp.nov.
Paratype P21806-2. Transverse section. X2

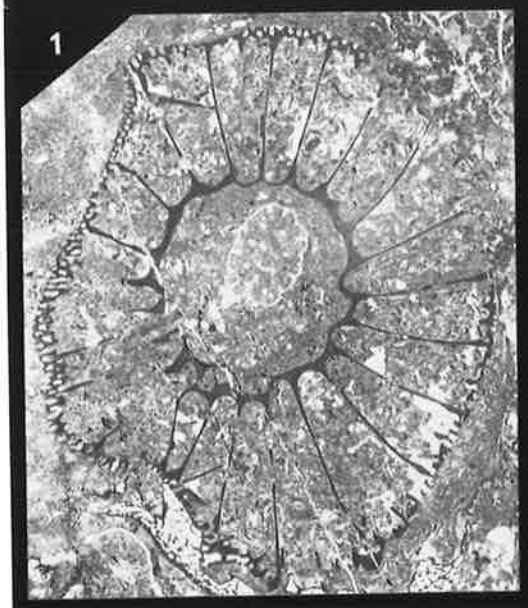
Figure 2. Warriootacyathus wilkawillinensis gen.et sp.nov.
Holotype P21806-1. Partial transverse section. X3

Figure 3. Warriootacyathus wilkawillinensis gen.et sp.nov.
Holotype P21806-1. Oblique section through outer wall.
X8

Figure 4. Warriootacyathus wilkawillinensis gen.et sp.nov.
Holotype P21806-1. Partial longitudinal section showing
septal pores (outer wall on right). X5

Figure 5. Warriootacyathus wilkawillinensis gen.et sp.nov.
Paratype P21806-3. Oblique section near base of cup,
showing attachment to the outer wall of the holotype
(P21806-1). X10

Figure 6. Warriootacyathus wilkawillinensis gen.et sp.nov.
Holotype P21806-1. Tangential section grazing inner wall
through base of pore-tubes. X4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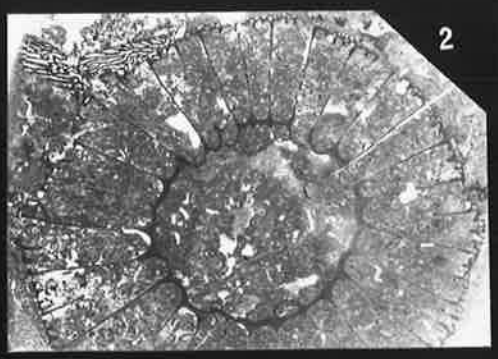
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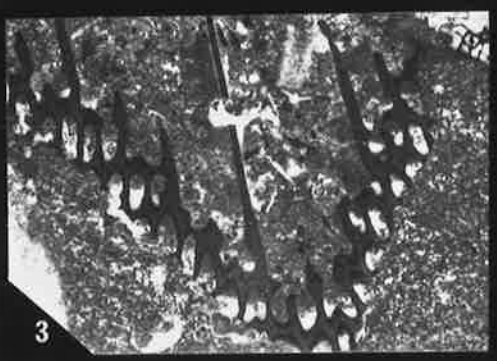
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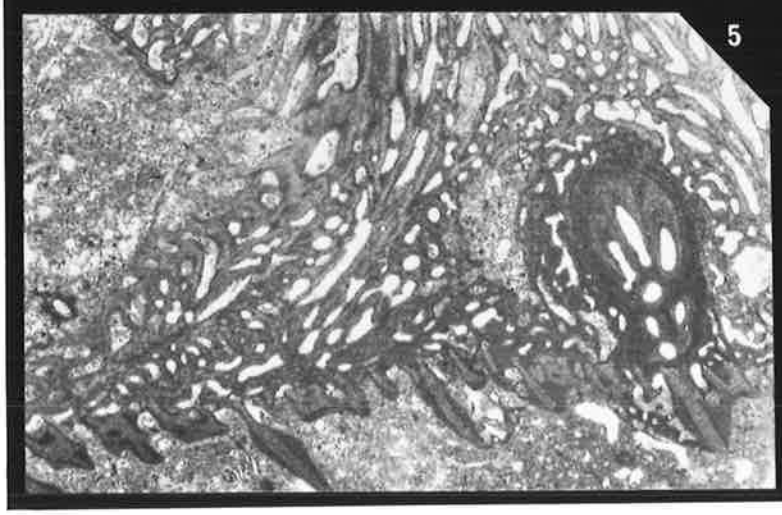
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PLATE 59

Figure 1. Warriootacyathus irregularis gen.et sp.nov.
Holotype P21515-2. Partial transverse section. X5

Figure 2. Warriootacyathus irregularis gen.et sp.nov.
Paratype P21816. Partial transverse section showing portions of the porous cap at the top of the cup. X1

Figure 3. Warriootacyathus irregularis gen.et sp.nov.
Holotype P21515-2. Partial longitudinal section. X1

Figure 4. Warriootacyathus irregularis gen.et sp.nov.
Holotype P21515-2. Tangential section grazing outer wall. X5

Figure 5. Warriootacyathus irregularis gen.et sp.nov.
Paratype P21818. Transverse section of small cup. X5

Figure 6. Warriootacyathus irregularis gen.et sp.nov.
Holotype P21515-2. Partial longitudinal section in greater detail. X4

Figure 7. Warriootacyathus lucidus gen.et sp.nov.
Holotype P21820. Partial transverse section. X1.5

Figure 8. Warriootacyathus lucidus gen.et sp.nov.
Holotype P21820. Partial transverse section in greater detail. Outer wall at top. X4

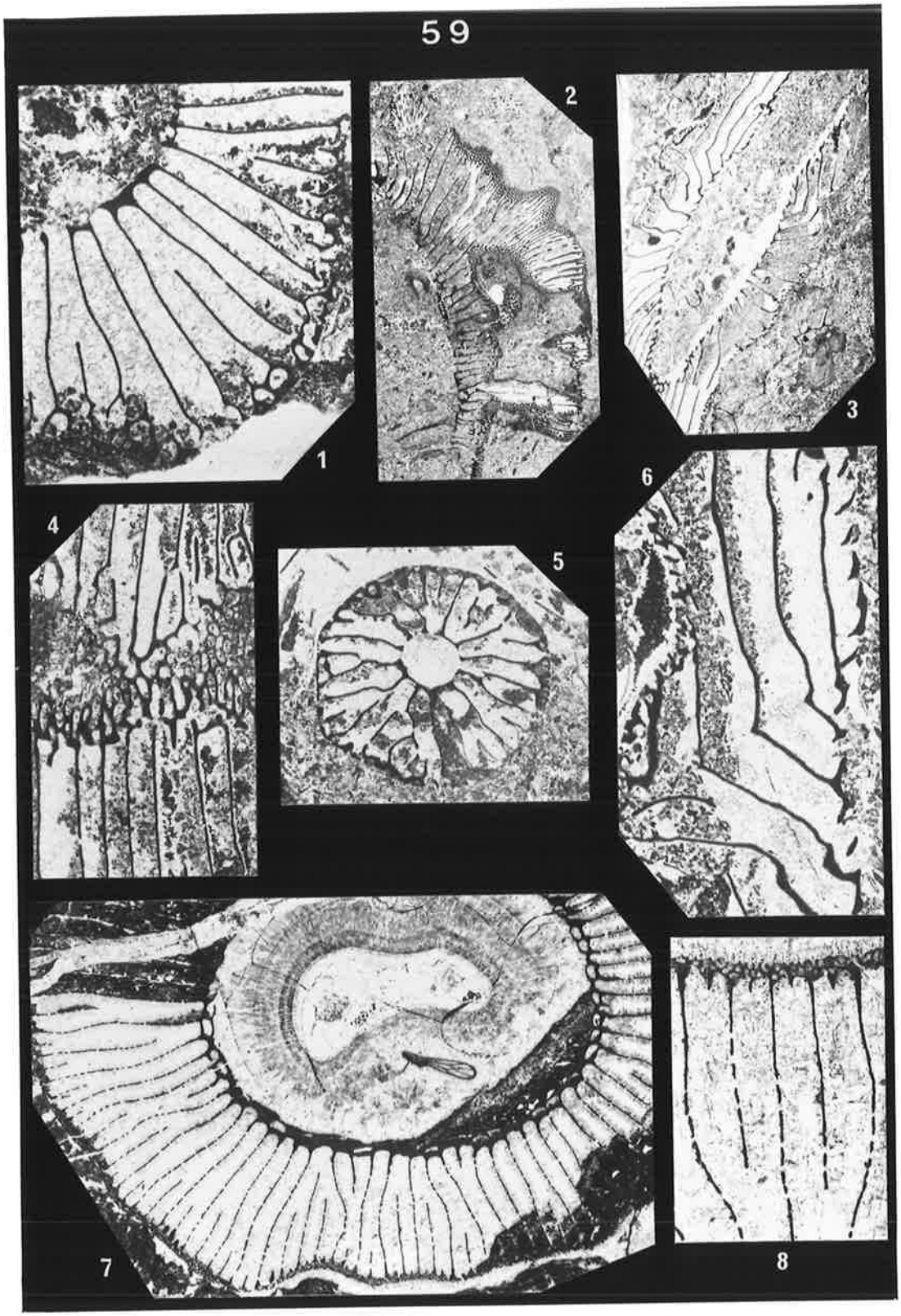
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PLATE 60

Figure 1. Warriootacyathus lucidus gen.et sp.nov.
Holotype P21820. Tangential section grazing outer wall. X6

Figure 2. Warriootacyathus lucidus gen.et sp.nov.
Holotype P21820. Partial longitudinal section showing the cap at the top of the cup (outer wall on right). X2

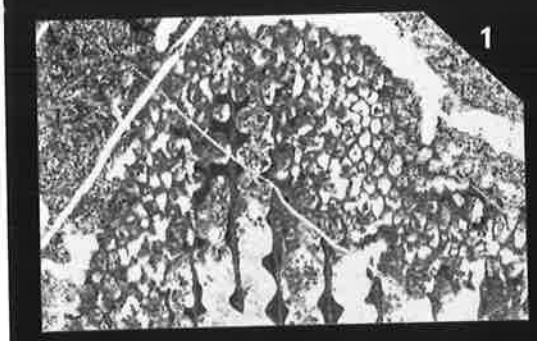
Figure 3. Warriootacyathus lucidus gen.et sp.nov.
Holotype P21820. Partial longitudinal section (outer wall on left). X4

Figure 4. Beltanacyathus wirrialpensis (Taylor).
Holotype T1581B. Partial transverse section. X3

Figure 5. Beltanacyathus wirrialpensis (Taylor).
P21822. Partial transverse section. X4

Figure 6. Beltanacyathus digitus sp.nov.
Paratype P21825. Partial transverse section. X2

Figure 7. Beltanacyathus digitus sp.nov.
Paratype P21825. Partial longitudinal section (outer wall on right). X3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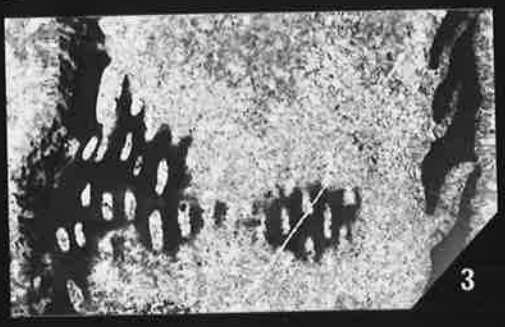
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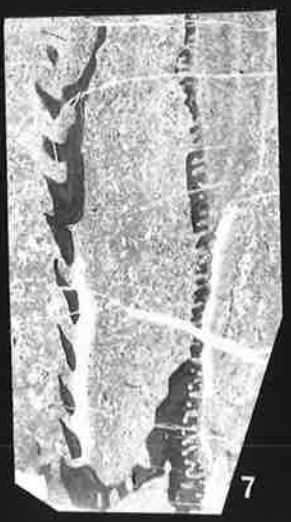
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PLATE 61

Figure 1. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Transverse section (partial), showing porosity of cap at top of cup. X2

Figure 2. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Partial longitudinal section. X1

Figure 3. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Part of transverse section in greater detail. X4

Figure 4. Fridaycyathus biserialis gen.et sp.nov. Paratype P21826. Partial transverse section. X1

Figure 5. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Partial longitudinal section showing the relative positions of outer wall carcass pores (on left) and pore-tubes (on right). X6

Figure 6. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Tangential section grazing outer wall showing carcass pores (centre) and pore tube openings (left and top). X6

Figure 7. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Detail of inner wall pore tube construction in longitudinal section. X10

Figure 8. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Partial longitudinal section in greater detail. X4

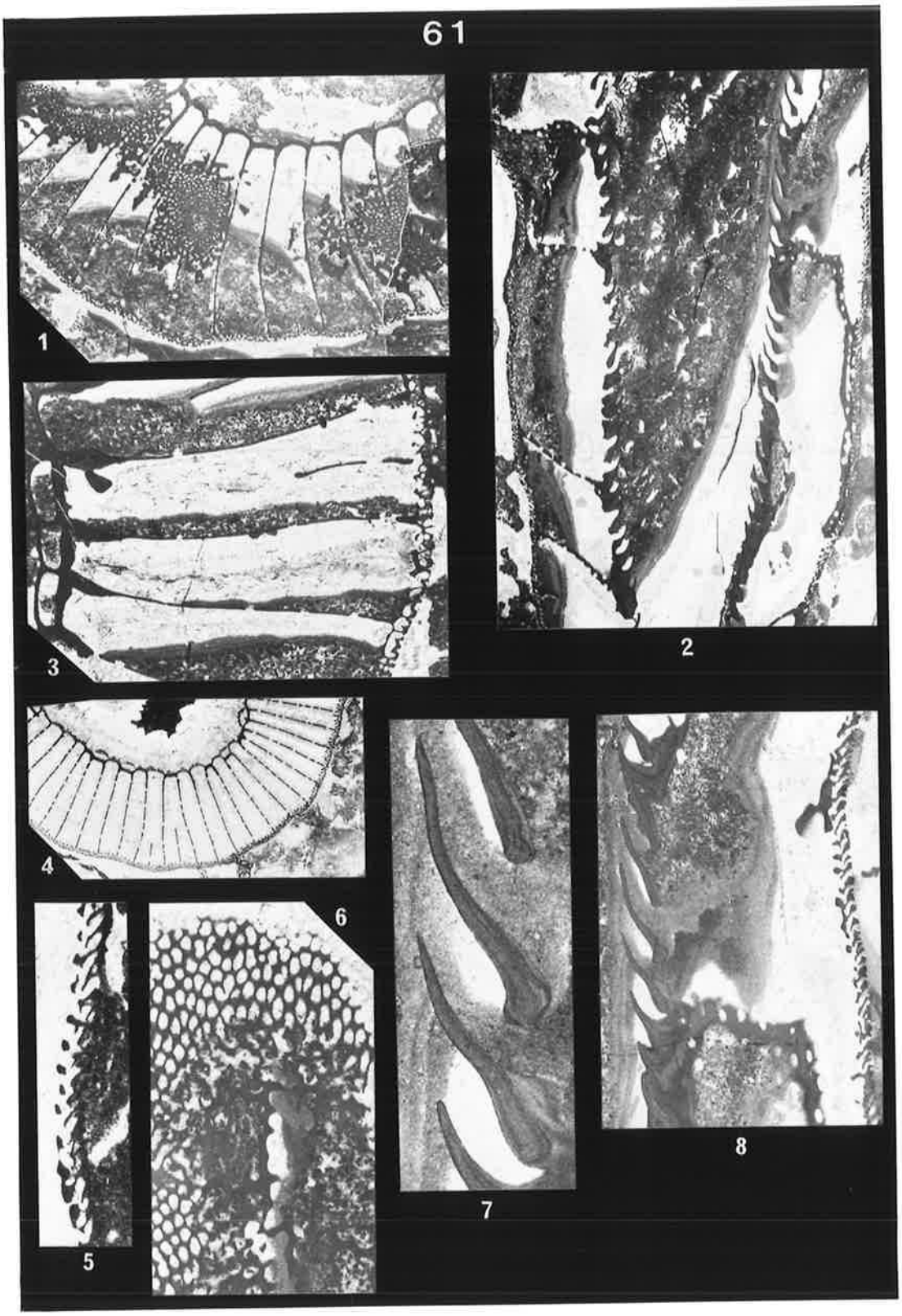
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PLATE 62

Figure 1. Fridaycyathus biserialis gen.et sp.nov. Paratype P21476-1. Oblique longitudinal section. X3

Figure 2. Fridaycyathus biserialis gen.et sp.nov. Paratype P21746-1. Partial longitudinal section showing septal pores. X3

Figure 3. Fridaycyathus biserialis gen.et sp.nov. Holotype P21465-1. Tangential section grazing inner wall. X4

Figure 4. Bayleicyathus bowmani gen.et sp.nov. Holotype P21830. Transverse section. X4

Figure 5. Bayleicyathus bowmani gen.et sp.nov. Holotype P21830. Oblique section. X4

Figure 6. Bayleicyathus bowmani gen.et sp.nov. Holotype P21830. Tangential section grazing outer wall. X10

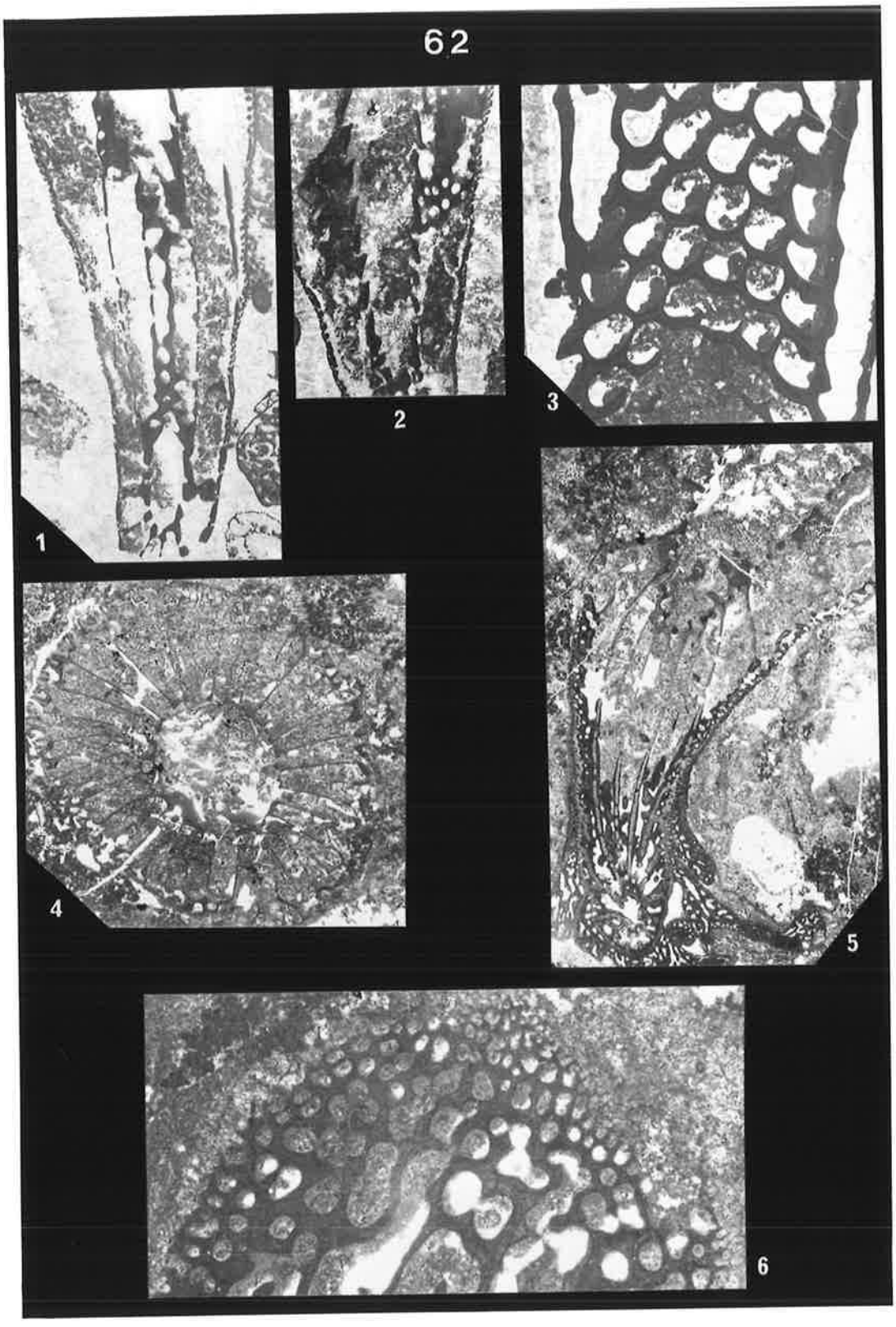
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PLATE 63

Figure 1. Bayleicyathus bowmani gen.et sp.nov. Paratype P21831. Partial longitudinal section near base of cup. X6

Figure 2. Bayleicyathus bowmani gen.et sp.nov. Paratype P21831. Partial longitudinal section near top of fragment. X6

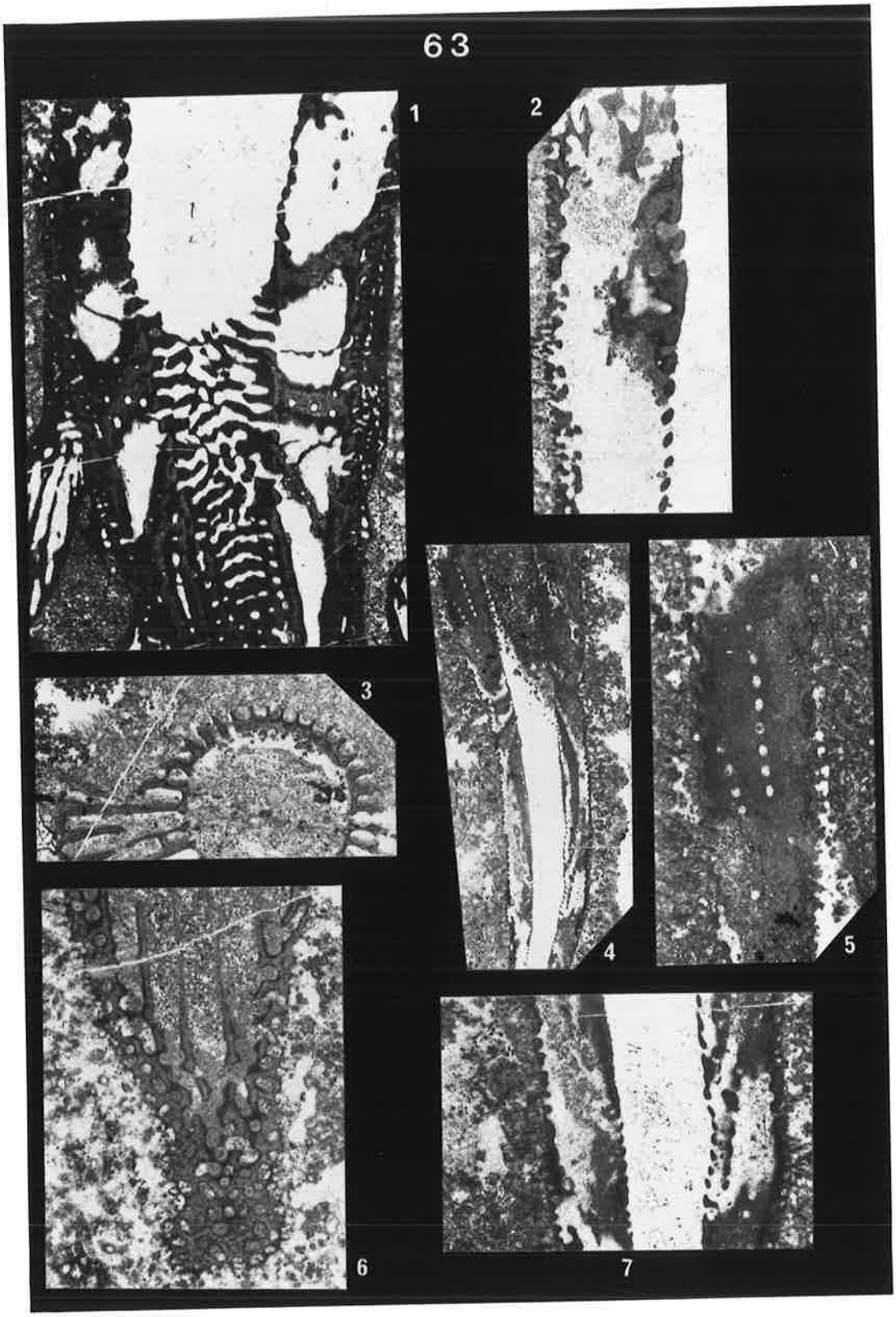
Figure 3. Bayleicyathus diversus gen.et sp.nov. Holotype P21833. Partial transverse section. X6

Figure 4. Bayleicyathus diversus gen.et sp.nov. Holotype P21833. Partial longitudinal section. X2

Figure 5. Bayleicyathus diversus gen.et sp.nov. Holotype P21833. Detail of septal pores, outer wall on left. X6

Figure 6. Bayleicyathus diversus gen.et sp.nov. Holotype P21833. Tangential section grazing outer wall. X10

Figure 7. Bayleicyathus diversus gen.et sp.nov. Holotype P21833. Partial longitudinal section of lower part of cup. X6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