An illustrated catalogue and revised classification of Paleozoic radiolarian genera

Martial CARIDROIT
Taniel DANELIAN
Univ. Lille, CNRS, UMR 8198 – Évo-Éco-Paléo, F-59000 Lille (France)
martial.caridroit@univ-lille1.fr/taniel.danelian@univ-lille1.fr

Luis O'DOGHERTY
Facultad de Ciencias del Mar, Universidad de Cadiz, E-11510 Puerto Real (Spain)
luis.odogherty@uca.es

Jessie CUVELIER
Univ. Lille, CNRS, UMR 8198 – Évo-Éco-Paléo, F-59000 Lille (France)
jessie.cuvelier@univ-lille1.fr

Jonathan C. AITCHISON
School of Earth and Environmental Sciences, University of Queensland, St Lucia, Qld 4072 (Australia)
jona@uq.edu.au

Lauren POUILLE
Univ. Lille, CNRS, UMR 8198 – Évo-Éco-Paléo, F-59000 Lille (France)
elwing_59@hotmail.com

Paula NOBLE
University of Nevada, Department of Geological Sciences and Engineering, Reno, Nevada 89557-0138 (United States)
and Univ. Lille, CNRS, UMR 8198 – Évo-Éco-Paléo, F-59000 Lille (France)
noblepj@unr.edu

Paulian DUMITRICA
Dennigkofenweg 33, CH-3073 Gümligen (Switzerland)
paulian.dumitrica@unil.ch

Noritoshi SUZUKI
Department of Earth Science, Graduate School of Science,
Tohoku University, 6-3 Aoba, Aramaki, Aoba-ku, Sendai 980-8578 (Japan)
norinori@m.tohoku.ac.jp

Kiyoko KUWAHARA
3-4-22 Rokujyo, Nara 630-8043 (Japan)
permorads@kcn.jp

Jörg MALETZ
Institut für Geologische Wissenschaften, Freie Universität Berlin, Haus C, Raum 005, 12249 Berlin (Germany)
yorge@zedat.fu-berlin.de

Qinglai FENG
Laboratory of Geological and Mineral resources, China University of Geosciences, Wuhan, 430074 (China)
qinglaifeng@cug.edu.cn

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ABSTRACT
The purpose of this paper is to present a revised classification of Paleozoic radiolarians at the genus level in the form of a series of plates displaying the images of the type species of each genus. These photos are supplemented by an indication of the status of the genus decided by an international team of specialists in this fossil group (Chapter "The catalogue"). The catalogue itself is presented by orders and families. It is also possible to find a genus using the alphabetical list or the list according to the classification (Appendices 1 and 2). After some remarks that illustrate the complex task undertaken to reach a consensus, a "guide for users" is proposed.

KEY WORDS
Radiolaria,
Paleozoic,
catalogue,
taxonomic revision,
type species.

RÉSUMÉ
Catalogue illustré et classification révisée des genres de radiolaires paléozoïques.
Le but du présent document est de présenter une classification révisée des radiolaires du Paléozoïque à l'échelle des genres, sous la forme d'une série de planches présentant les images des espèces types. Ces images sont complétées par l'indication du statut du genre décidé par une équipe internationale de spécialistes de ce groupe fossile (chapitre « The catalogue »). Le catalogue est organisé par ordres et par familles, mais il est également possible de trouver un genre en utilisant la liste alphabétique ou celle suivant la classification (Annexes 1 et 2). Après quelques remarques montrant le travail complexe effectué pour aboutir à un consensus, un « guide pour les utilisateurs » est proposé.

MOTS CLÉS
Radiolaria,
Paléozoïque,
catalogue,
révision taxonomique,
espèces types.

INTRODUCTION

As for many other microorganisms, the study of radiolarians started during the end of the 19th century. However, we had to wait until the 1950s for modern studies, which have been possible thanks to improvements in microscopy (Deflandre 1952; Foreman 1963; Holdsworth 1966). The use of the Paleozoic radiolarian skeletons as biostratigraphic tools started during the 1980s particularly in Japan (e.g. Ishiga & Imoto 1980; Takemura & Nakaseko 1981; Caridroit & De Wever 1984; see also Danelian *et al.* 2017 in this issue). The new biostratigraphic age constraints provided by radiolarians were foundational in reshaping tectonic reinterpretations of complex orogenic belts around the world.

In Japan and in Asia radiolarian skeletons have been mainly extracted from siliceous distal sedimentary rocks (radiolarites s.l.). Fossil preservation was commonly medium to poor and the extraction methods using HF destroyed some additional information. From limestones, radiolarian skeletons, where preserved, may be commonly well- to very well-preserved and the extraction methods have no destructive effect on their siliceous skeletons, given that the acids used are typically acetic or hydrochloric acid. Likewise, radiolarians recovered from phosphatic concretions may be exquisitely preserved and offer a myriad of characters and details that are missing in those specimens extracted from radiolarites.

The differential preservation of fossil radiolarians in limestone has a direct influence on taxonomic interpretation and, as such, in some of the challenges that we faced while preparing this catalogue. Taxa from radiolarites have been defined on the basis of simple characteristics, which for radiolarians described from proximal deposits, taxonomic discrimination is sometimes based on minute details. In some instances, radiolarian skeletons are fragmentary and not all features are preserved. The significance of fragmentary type material cannot be evaluated if more complete specimens are not found or observed. This has occasionally resulted in the erroneous establishment of new taxa and increased the number of synonyms (e.g. *Follicucullus* sp. B which is the apical part of *Follicucullus monacanthus*, in Ishiga *et al.* 1982b).

Radiolaria are known from the Cambrian onwards (Won & Below 1999; Obut & Iwata 2000; Pouille *et al.* 2011) and remain an important component of the oceanic plankton. Unfortunately, it is currently impossible to culture radiolarians and very difficult to maintain them alive in laboratory conditions. Their reproduction, ontogeny and possible dimorphisms are aspects that are very poorly understood. Thus, taxonomists have to rely on observations and interpret data based on the fossil record.

As for many other microorganisms, observation techniques improved greatly since the end of the 19th century with the advent of scanning electron microscopy. Naturally, the taxonomic approaches for the classification of radiolarians took advantage of this new instrumentation. Comparing simple drawings and thin section photos from older taxonomic works with pictures of high definition obtained using scanning electronic microscopy may be an important source of the lack of clarity in applying older taxonomic concepts.

The totality of preservational and observational challenges in describing radiolarians, combined with a wide array of radiolarists with different styles and approaches to taxonomy has necessitated this comprehensive review of radiolarian genera

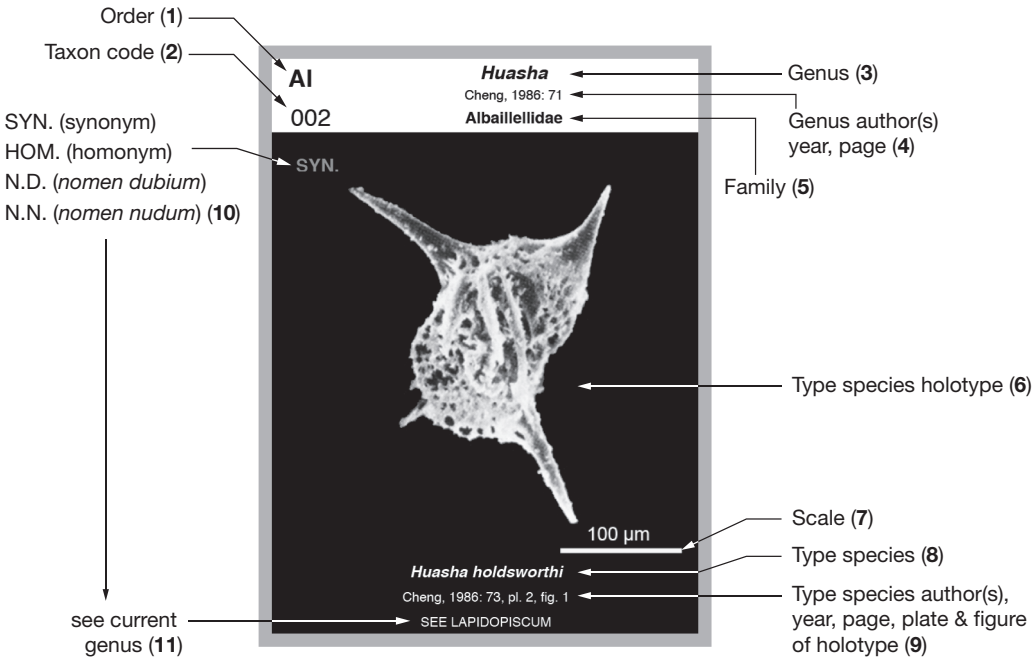

Fig. 1. — Key captions for images in the catalogue of Paleozoic radiolarian genera. **1**, Order: Albaillellaria (**Al**), Archaeospicularia (**Ar**), Entactinaria (**E**), Latentifistularia (**L**), ?Nassellaria (**N**), Spumellaria (**S**). **2**, Taxon code: this is the number of the genus in this publication; since the plates are arranged taxonomicaly, this number which is indicated in the alphabetic index (Appendix 1) allows a quick search of the plates. **3**, Genus: nominal genus as in the original publication. **4**, Genus authority: author of the nominal genus and page were it was described; usually only one page is cited, the page on which the main generic description begins (not necessarily the page on which the genus is first mentioned). **5**, Family: this is the family position adopted in this revision. **6**, Image: reillustration of the holotype of the type species. **7**, Scale: the magnification is indicated by this graphic scale bar. **8**, Type species: this is the nominal species fixed (see alphabetic index in Appendix 1) as type for the genus. **9**, Type species authorship: author of the type species with indication of page description, year, plate and figure where the image of the holotype was first illustrated. **10**, Status: when this field is not allocated the genus must be regarded as valid; **SYN.**, indicates that the genus is regarded as a synonym of a previously described genus; **HOM.**, indicates that the nominal genus is an homonym of a previously described taxon; **INV.**, is employed for invalid names; **N.D.**, indicates a name of questionable application; **N.N.**, indicates a name published without an accompanying description. If any of these abbreviations occur (or are utilized), the reader is referred to the bottom line for information on the current valid name for the genus. **11**, Bottom line: this line links to the valid name for a homonym or synonym.

by our working group, as had been done for the Mesozoic forms (O'Dogherty *et al.* 2009). During two meetings with all members, several partial meetings and many exchanges over several years, we have come to a consensus on 344 genera of Paleozoic radiolarians. The aim of the discussions was to agree on the systematics and to achieve a taxonomic consensus of all contributors. The final result is this volume that is presented as a database of all described Paleozoic radiolarian genera with re-illustration of their type species. Although the main purpose was to stabilize the systematics at generic level, suprageneric classification at order and family level were also examined.

Since a sharply defined taxonomic framework is a prerequisite for the establishment and application of useful biostratigraphic schemes, it is our hope that this publication will be a useful tool for future research on Paleozoic radiolarian biostratigraphy. Presently, and particularly in the Lower Paleozoic, for most of the type species, more data are needed and more correlations are necessary in order to improve the reliability of estimated age ranges. For this reason, we were not able to provide greater resolution of the stratigraphic range of many Paleozoic radiolarian genera, as this has been done for the Mesozoic genera. Nevertheless, a chapter is devoted to Paleozoic radiolarian biostratigraphy (Aitchison *et al.* 2017a) demonstrating the potential of these fossils. Another part of this present volume (Noble *et al.* 2017) is a compilation of all the original descriptions of all genera illustrated in the present paper, including English translations, and remarks regarding their present treatment. Finally an inventory of Paleozoic species described so far is given by Aitchison *et al.* (2017b).

SOURCE OF DATA AND DISCUSSION

Given the high diversity of Paleozoic radiolarians and their recurrent misclassification at the generic level, it has become increasingly difficult, especially for those new to this field, to find and digest all available taxonomic information and to evaluate the validity of all existing names of radiolarian taxa. Consequently, the primary goal of this publication was to present all the hitherto described Paleozoic radiolarian genera, and to revise their status and family assignment. Such a compilation will certainly facilitate everyday work for radiolarian researchers and will also serve to establish a taxonomic basis for on-going refinements of Paleozoic radiolarian stratigraphy.

The sources used to establish the list of Paleozoic genera were at first the databases personally built by Luis O'Dogherty with additions from the one of Noritoshi Suzuki, both co-authors of this catalogue. After discussion on a preliminary catalogue, all co-authors contributed with their own information to complete the list. Discussions on the status of each genus took place during two main meet-

ings: one in Lille University (September 2011) the other during the 13th InterRad meeting at Cadiz (March 2012). Several partial meetings were held in Lille University and many e-mail exchanges allowed this final consensus.

Remark on spherical radiolarians

The guiding principle in the classification of radiolarians at the suprageneric level is that the structure of the initial skeletal elements is the most conservative through evolution and represents the common element characterizing a family group. With ontogeny, new skeletal elements are placed progressively further away from the initial skeleton and this is the reason why some external differences are occasionally observed in a family group. The reader is referred to the general taxonomy in De Wever *et al.* (2001) for a more thorough explanation of this principle. Although the inventory of initial structures (especially in Entactinaria and Spumellaria) is still limited and their understanding fragmentary, this review fully agrees with the importance of such elements at higher systematic levels.

GUIDE FOR THE USER

Ideally, this image catalogue of genera can serve as a quick visual tool allowing the identification of genera. For this reason, each genus is labeled with the most basic information (see Fig. 1).

Figures

Each genus has an individual taxon code, or image number, arranged sequentially in the images on the plates. The taxon code is a number without taxonomic significance but is used as an internal indexing number used to find taxa on the plates. Since the genera follow a taxonomic arrangement, this number, which is also indicated in the alphabetic index, allows a quick search of the plates. We have scanned and reproduced images at the highest definition for each type species. These are accompanied by a scale bar made from the measurements indicated in the original publication.

Arrangement of Figures

The figured genera are arranged on the plates taxonomically rather than alphabetically because, from a systematic point of view, we prefer to group taxa having taxonomically significant affinities. The genera are grouped first by order (Albaillellaria, Archaeospicularia, Entactinaria, Latentifistularia, ?Nassellaria, Spumellaria) and then arranged by family. We have followed the gross suprageneric framework presented in De Wever *et al.* (2001), which has been further improved as a consequence of this taxonomic review.

Homonyms and synonyms

When a case of homonymy was detected, or a taxon has been designed or suspected to be a synonym, this is indicated in the upper left part of the figure box (see Fig. 1). In such cases the line underneath the figure refers to the correct genus.

The taxa were carefully reviewed and re-examined and many genera (82) were declared to be synonyms. An interesting observation derived from this study is that many of these synonymous taxa were established on very few morphological characteristics leading in most cases to a monotypic genus.

Names of doubtful application

Those genera considered *nomina dubia* (35) are indicated beneath the figure (see Fig. 1) and the majority of these are presented at the end of the catalogue without family assignment. The only exceptions are those *nomina dubia* related to or classically attached to a specific family. Such forms are allocated beside the closer representatives of the corresponding family group. Most of the genera here considered *nomina dubia* are those taxa described from thin sections or using simple microscopes by the pioneers of the study of Mesozoic and Paleozoic radiolarians.

Nomina nuda

These names or nomenclatural acts are void of type-species which were never illustrated; two genera are involved.

Authors

The general recommendations of the ICZN (Appendix B. 12) clearly state that in those cases where a name was published by more than two authors, the surname of the first author (as given in the original publication) may be cited alone in the text and followed by the term "*et al.*" However, we have preferred to give the surnames of all authors.

CONCLUSION

The main goal of this catalogue is to present a complete and reviewed set of all existing Paleozoic genera with illustration of their type species publishing until 2016. We hope that this catalogue of radiolarian type species will be a useful tool in future systematic and biostratigraphic studies.

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WU J., FENG Q., GUI B. & LIU G. 2010. — Some New Radiolarian Species and Genus from Upper Permian in Guangxi Province, South China. *Journal of Paleontology* 84 (5): 879-894. https://doi.org/10.1666/09-057.1

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APPENDICES

Appendix 1. — Index of Paleozoic genera sorted alphabetically. The number refers to the image number in the corresponding part of this catalogue named "The catalogue".

APPENDIX 1. — Continuation.

APPENDIX 1. — Continuation.

APPENDIX 2. — Index of Paleozoic genera sorted using the classification (Orders, Families) with their status. The number refers to the position in the corresponding part of this catalogue named "The catalogue".

ALBAILLELLARIA Deflandre, 1953

ALBAILLELLIDAE
Deflandre, 1953 *sensu* Holdsworth (1977)
1 *Albaillella*
2 *Huasha* (syn.)
3 *Imotoella* (syn.)
4 *Lapidopiscum*
5 *Neoalbaillella*
6 *Protoalbaillella*
7 *Saturnalbaillella* (syn.)
8 *Spinodeflandrella* (syn.)

CERATOIKISCIDAE Holdsworth, 1969
9 *Campanulithus*
10 *Cangyuanella* (syn.)
11 *Ceratoikiscum*
12 *Circulaforma*
13 *Durahelenifore* (syn.)
14 *Eoalbaillella*
15 *Gansuceratoikiscum*
16 *Glanta*
17 *Helenifore*
18 *Holoeciscus*
19 *Kappaforma*
20 *Nazaromistonella* (syn.)
21 *Nazarovites*
22 *Neoholoeciscus*
23 *Paraholoeciscus* (syn.)
24 *Proholoeciscus* (n.d.)
25 *Protoceratoikiscum*
26 *Protoholoeciscus*
27 *Raphidociclicus*
28 *Xiphachistrella* (syn.)

FOLLICUCULLIDAE Ormiston & Babcock, 1979
29 *Cariver* (syn.)
30 *Curvalbaillella* (syn.)
31 *Follicucullus*
32 *Foremanconus* (syn.)
33 *Haplodiacanthus* (syn.)
34 *Holdsworthella* (syn.)
35 *Ishigaconus*
36 *Longtanella* (syn.)
37 *Parafollicucullus*
38 *Praeholdsworthella* (syn.)
39 *Pseudoalbaillella* (syn.)

ALBAILLELLARIA incertae sedis
40 *Palacantholithus*
41 *Xiphocabrium*
42 *Xiphocladiella*

ARCHAEOSPICULARIA Dumitrica, Caridroit & De Wever, 2000

ARCHEOENTACTINIIDAE Won & Below, 1999
43 *Archeoentactinia*
44 *Lithosphaera* (hom.)
45 *Pararcheoentactinia*
46 *Sphaeroentactinia*
47 *Spongomassa*

ECHIDNINIDAE Kozur, Mostler & Repetski, 1996
48 *Aitchisonellum* (syn.)
49 *Altaiesphaera*
50 *Archaeocenosphaera* (syn.)
51 *Cancellisphaera*
52 *Curvechidnina*
53 *Echidnina*
54 *Gigantospiculum*
55 *Grosmorneus*
56 *Neoechidnina*
57 *Parechidnina*
58 *Subechidnina*
59 *Varispiculum*
60 *Westernbrookia*

PROTOENTACTINIIDAE
Kozur, Mostler & Repetski, 1996
61 *Noblella* (hom., syn.)
62 *Paulanoblella* (syn.)
63 *Protoentactinia*
64 *Protospongentactinia*

PALAEOSPICULIDAE Won *in* Won & Below, 1999
65 *Neopalaeospiculum*
66 *Palaeospiculum*
67 *Ramuspiculum*
68 *Svalbardospiculum*

SECUICOLLACTIDAE Nazarov & Ormiston, 1984
69 *Diparvapila*
70 *Palaeosphaera* (syn.)
71 *Parasecuicollacta* (syn.)
72 *Parvalanapila* (syn.)
73 *Pseudorotasphaera*
74 *Rotasphaera* (syn.)
75 *Secuicollacta*

ENTACTINARIA Kozur & Mostler, 1982

ENTACTINIIDAE Riedel, 1967
76 *Afanasievella*
77 *Apophysiactinia*
78 *Apophysisphaera* (syn.)
79 *Astroentactinia* (syn.)
80 *Belowea* (syn.)
81 *Bientactinosphaera* (syn.)
82 *Bisphaera* (hom., syn.)
83 *Borisella*
84 *Callela*

APPENDIX 2. — Continuation.

85 *Cancellosphaera*
86 *Costaentactinia*
87 *Cyclocarpus* (n.d.)
88 *Druppalonche* (syn.)
89 *Duodecimentactinia*
90 *Duosphaera* (syn.)
91 *Entactinia* (syn.)
92 *Entactinosphaera*
93 *Gracilentactinia*
94 *Helioentactinia* (n.d.)
95 *Holdisphaera*
96 *Inaequalientactinia* (syn.)
97 *Involutentactinia*
98 *Kashiwara*
99 *Magnentactinia*
100 *Magnisphaera*
101 *Meschedea* (syn.)
102 *Microporosa*
103 *Moskovistella*
104 *Multientactinia*
105 *Munzuwonella*
106 *Ornatoentactinia* (syn.)
107 *Palaeopentactinorbis* (syn.)
108 *Palaeoxyphostylus* (syn.)
109 *Paleoxiphosphaera* (n.d.)
110 *Paratriposphaera*
111 *Perforentactinia*
112 *Plenoentactinia*
113 *Plenosphaera*
114 *Pluristratoentactinia*
115 *Polyedroentactinia*
116 *Provisocyntra*
117 *Radiobisphaera*
118 *Retentactinia*
119 *Retisphaera*
120 *Sinosphaera*
121 *Spongentactinia*
122 *Spongosphaera* (hom.)
123 *Staurodruppa* (syn.)
124 *Stigmosphaerostylus*
125 *Stolbergia* (syn.)
126 *Thecentactinia* (syn.)
127 *Trilonche*
128 *Uberinterna*
129 *Wonella* (hom.)
130 *Wuyia*

HAPLENTACTINIIDAE Nazarov *in* Nazarov & Popov, 1980
131 *Arcoclathrata*
132 *Arrhiniella* (syn.)
133 *Bissylentactinia*
134 *Haplentactinia*
135 *Syntagentactinia*

PALAEOLITHOCYCLIIDAE Kozur & Mostler, 1989
136 *Eostylodictya* (syn.)
137 *Gedauia* (syn.)
138 *Palaeoastrocyclia* (syn.)
139 *Palaeolithocyclia*
140 *Paramphibrachium*
141 *Sphaerodiscus* (syn.)

PALAEOSCENIDIIDAE Riedel, 1967
142 *Deflantrica*
143 *Fukujius* (n.d.)
144 *Goodbodium* (syn.)
145 *Holdsworthum*
146 *Insolitignum*
147 *Pactarentinia*
148 *Palaeodecaradium*
149 *Palaeoephippium*
150 *Palaeopyramidium*
151 *Palaeoscenidium*
152 *Palaeothalomnus*
153 *Palaeotrifidus* (syn.)
154 *Palaeotripus* (syn.)
155 *Palaeoumbraculum* (syn.)
156 *Praesaturnalis*
157 *Procyrtis*
158 *Tetraedroclathrum* (n.n.)
159 *Tlecerina*

PYLENTONEMIDAE Deflandre, 1963
160 *Pylentonema*
161 *Polyentactinia*
162 *Quadrapesus*

TETRENTACTINIIDAE Kozur & Mostler, 1979
163 *Ellipsostigma* (n.d.)
164 *Multisphaera*
165 *Somphoentactinia* (syn.)
166 *Spongentactinella* (syn.)
167 *Tetrentactinia*
168 *Triaenosphaera*
169 *Triaenoentactinosphaera* (syn.)

LATENTIFISTULARIA Caridroit, De Wever & Dumitrica, 1999

CAULETELLIDAE Caridroit, De Wever & Dumitrica, 1999
170 *Cauletella*
171 *Deflandrella* (hom.)
172 *Foremanhelena*
173 *Ishigaum*
174 *Kimagior* (syn.)
175 *Praedeflandrella*
176 *Pseudotormentus*
177 *Shangella*
178 *Triactofenestrella* (syn.)
179 *Trifidospongus* (syn.)
180 *Triplanospongos*

APPENDIX 2. — Continuation.

LATENTIFISTULIDAE Nazarov & Ormiston, 1983
181 *Areolicaudatus*
182 *Brianellium*
183 *Latentibifistula*
184 *Latentifistula*
185 *Ouaka* (syn.)
186 *Staurentactinia*
187 *Trilacertus* (syn.)
188 *Wonella* (syn.)

ORMISTONELLIDAE De Wever & Caridroit, 1984 *sensu* Dumitrica *in* De Wever *et al.* (2001)
189 *Cornellus* (syn.)
190 *Haploaxon*
191 *Nabespecha* (syn.)
192 *Nazarovella* (hom., syn.)
193 *Ormistonella*
194 *Paulianella* (syn.)
195 *Polyfistula*
196 *Quadricaulis*
197 *Quadriremis* (syn.)
198 *Quinqueremis*
199 *Raciditor* (syn.)

PSEUDOLITHELIIDAE Kozur & Mostler, 1989 *sensu* De Wever *et al.* (2001)
200 *Grandetortura*
201 *Octatormentum*
202 *Pseudolithelius* (syn.)

TETRATORMENTIDAE Nestell & Nestell, 2010
203 *Archaeopyramisa* (syn.)
204 *Mostlerispongus*
205 *Quadrilobata*
206 *Tetracircinata* (syn.)
207 *Tetragregnon*
208 *Tetraspongoactinia* (syn.)
209 *Tetratormentum*

RUZHENCEVISPONGIDAE Kozur, 1980
210 *Latentidiota*
211 *Nazarovispongus* (syn.)
212 *Patrickella* (syn.)
213 *Rectotormentum*
214 *Ruzhencevispongus*
215 *Scharfenbergia* (hom.)
216 *Tormentum*
217 *Wonia*

?NASSELLARIA Ehrenberg, 1876

ARCHOCYRTIIDAE Kozur & Mostler, 1981 emend. Cheng (1986)
218 *Allocyrtium* (syn.)
219 *Archocyrtium*
220 *Cerarchocyrtium*
221 *Ceratoclathrulum* (n.n.)
222 *Cyrtisphaeractenium*
223 *Cyrtisphaeronemium*
224 *Deflandrellium*
225 *Foremaniella*
226 *Mostlerium* (syn.)
227 *Pararchocyrtium*
228 *Robotium* (syn.)

POPOFSKYELLIDAE Kozur & Mostler, 1981 emend. Cheng (1986)
229 *Cyrtentactinia*
230 *Kantollum*
231 *Popofskyellum*
232 *Totollum*
233 *Tuscaritellum*

SPUMELLARIA Ehrenberg, 1876

ANTYGOPORIDAE Maletz & Bruton, 2007
234 *Antygopora*
235 *Beothuka*
236 *Labyrinthia* (syn.)
237 *Parabeothuka*

COPICYNTRIDAE Kozur & Mostler, 1989
238 *Bipylospongia*
239 *Copicyntra*
240 *Copicyntroides*
241 *Copiellintra*
242 *Devoniglansus*
243 *Ellipsocopicyntra* (syn.)
244 *Klaengspongus*
245 *Paracopicyntra*
246 *Paurinella*
247 *Spongosphaeradiscus* (syn.)
248 *Tamonella*
249 *Tetrapaurinella*

HAPLOTAENIATIDAE Won, Blodgett & Nestor, 2002
250 *Gyrosphaera*
251 *Haplotaeniatum*
252 *Labyrinthosphaera*
253 *Orbiculopylorum*

INANIGUTTIDAE Nazarov & Ormiston, 1984 *sensu* Danelian & Popov (2003)
254 *Aciferopylorum* (syn.)
255 *Cessipylarum* (syn.)
256 *Cessipylorum* (syn.)
257 *Fusalfanus*
258 *Futobari*
259 *Helminentactinia* (syn.)
260 *Inanibigutta*
261 *Inanigutta*
262 *Inanihella*
263 *Kalimnasphaera*
264 *Oriundogutta*

APPENDIX 2. — Continuation.

265 *Plussatispila*
266 *Triplococcus*
267 *Zadrappolus*

SPUMELLARIA INCERTAE SEDIS
268 *Franklinia* (hom.)
269 *Haplopolus* (syn.)
270 *Hegleria*
271 *Intracorpus*
272 *Maletzella*
273 *Pseudospongoprunum*
274 *Quasibeothuka* (n.d.)
275 *Zhuangodiscus*

ORDER INCERTAE SEDIS

CORYTHOECIDAE Nazarov *in* Nazarov & Rudenko, 1981
276 *Arrectoalatus*
277 *Camptoalatus*
278 *Cornum*
279 *Corythoecia*

PROVENTOCITIDAE Aitchison, 1998
280 *Archeoproventocitum*
281 *Cowheadia*
282 *Protoproventocitum*
283 *Proventocitum*

ASPICULIDAE Won, Iams & Reed, 2005
284 *Aspiculum*
285 *Cavasphaera*
286 *Neoaspiculum*
287 *Nyfrieslandia*
288 *Sanctipaulelum*

ORDER & FAMILY INCERTAE SEDIS
289 *Adamas* (hom.)
290 *Adamasirad*
291 *Cancellientactinia*
292 *Caspiaza*
293 *Copiconulus*
294 *Etymalbaillella*
295 *Fungomacula*
296 *Lithocannosphaeropsis*
297 *Megaporus*
298 *Novormistonia*
299 *Ormistonia* (hom.)
300 *Palaeoactinosphaera*
301 *Praespongocoelia*
302 *Protobiramus*
303 *Retientactinosphaera*
304 *Russirad*
305 *Stylactinosphaera*
306 *Trigonosphaera*

NOMINA DUBIA
307 *Carposphaeridium* (n.d.)
308 *Diploplegma* (n.d.)
309 *Dorydictyum* (n.d.)
310 *Doryplegma* (n.d.)
311 *Dorysphaera* (n.d.)
312 *Duplexia* (n.d.)
313 *Ectoactinia* (n.d.)
314 *Ehrenbergia* (n.d.)
315 *Guangxitrisphaera* (n.d.)
316 *Gustefana* (n.d.)
317 *Induropilarius* (n.d.)
318 *Palaeolithochytris* (n.d.)
319 *Palamphimorphium* (n.d.)
320 *Paleocenosphaera* (n.d.)
321 *Palhindeolithus* (n.d.)
322 *Papinochium* (n.d.)
323 *Primaritripus* (n.d.)
324 *Protosegmentum* (n.d.)
325 *Pseudostigmosphaera* (n.d.)
326 *Spongocoelia* (n.d.)
327 *Srakaeosphaera* (n.d.)
328 *Stauroplegma* (n.d.)
329 *Tetrasphaera* (n.d.)
330 *Triposphaera* (n.d.)
331 *Ulcundia* (n.d.)
332 *Wangia* (n.d.)
333 *Palaeodiscaleksus* (n.d.)
334 *Palaeodiscus* (n.d.)

NOT RADIOLARIA
335 *Anakrusa*
336 *Auliela*
337 *Azyrtalia*
338 *Batoballa*
339 *Eoconcharium*
340 *Fusuconcharium*
341 *Konyrium*
342 *Lacisus*
343 *Palaeorubus*
344 *Quadratapora*

Appendix 3. — Illustrated catalogue of Paleozoic radiolarian genera.

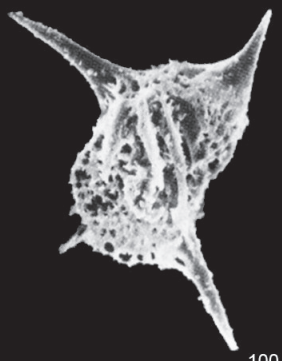
Al 001 ***Albaillella*** Deflandre, 1952: 873 **Albaillellidae**

100 µm

Albaillella paradoxa Deflandre, 1952: 873, fig. 1

Al 002 ***Huasha*** Cheng, 1986: 71 **Albaillellidae**

SYN.



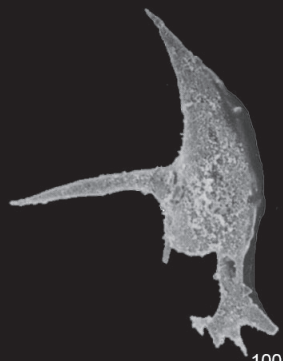
100 µm

Huasha holdsworthi Cheng, 1986: 73, pl. 2, fig. 1

SEE LAPIDOPISCUM

Al 003 ***Imotoella*** Kozur & Mostler, 1989: 163 **Albaillellidae**

SYN.



100 µm

Albaillella levis Ishiga, Kito & Imoto, 1982a: 17, pl. 3, fig. 1

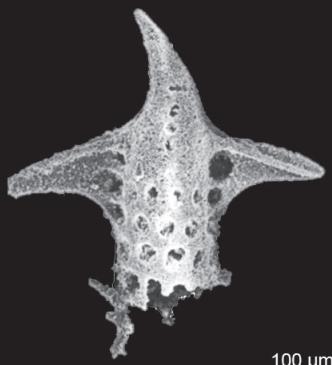
SEE ALBAILLELLA

Al 004 ***Lapidopiscum*** Deflandre, 1958: 2280 **Albaillellidae**

100 µm

Lapidopiscum piveteaui Deflandre, 1958: 2278, fig. 2

Al 005 ***Neoalbaillella*** Takemura & Nakaseko, 1981: 210 **Albaillellidae**



100 µm

Neoalbaillella ornithoformis Takemura & Nakaseko, 1981: 211, pl. 33, fig. 1

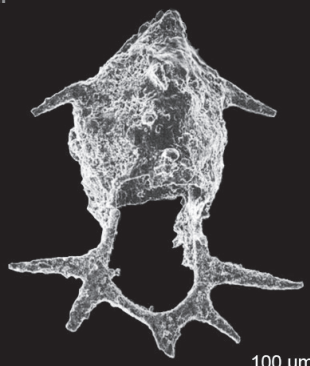
Al 006 ***Protoalbaillella*** Cheng, 1986: 67 **Albaillellidae**

100 µm

Protoalbaillella deflandrei Cheng, 1986: 68, pl. 6, fig. 1

Al 007 ***Saturnalbaillella*** Kozur & Mostler, 1989: 162 **Albaillellidae**

SYN.



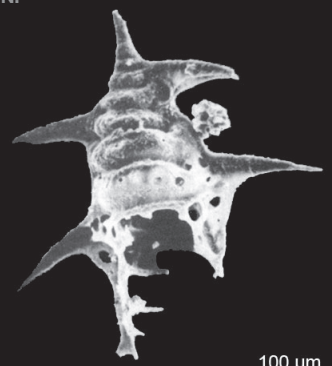
100 µm

Albaillella cartalla Ormiston & Lane, 1976: 171, pl. 5, fig. 10

SEE ALBAILLELLA

Al 008 ***Spinodeflandrella*** Kozur, 1981: 267 **Albaillellidae**

SYN.



100 µm

Spinodeflandrella tetraspinosa Kozur, 1981: 267, pl. 2, fig. 1

SEE ALBAILLELLA

Al 009 ***Campanulithus*** Nazarov & Rudenko, 1981: 137 **Ceratoikiscidae**

100 µm

Campanulithus falcatus Nazarov & Rudenko, 1981: 137, pl. 1, fig. 8

AI 010 ***Cangyuanella***
Feng & Liu, 1993: 550
Ceratoikiscidae

SYN.

Cangyuanella deflandrei
Feng, 1992: pl. 2, fig. 27
SEE PROTOHOLOECISCUS

AI 011 ***Ceratoikiscum***
Deflandre, 1953: 409
Ceratoikiscidae

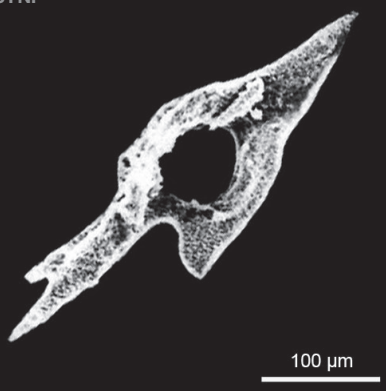
Ceratoikiscum avimexpectans
Deflandre, 1953: 409, fig. 309A

AI 012 ***Circulaforma***
Cheng, 1986: 87
Ceratoikiscidae

Circulaforma delicata
Cheng, 1986: 87, pl. 4, fig. 11

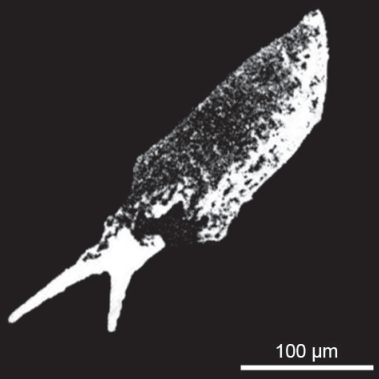
AI 013 ***Durahelenifore***
Boundy-Sanders *et al.*, 1999: 64
Ceratoikiscidae

SYN.



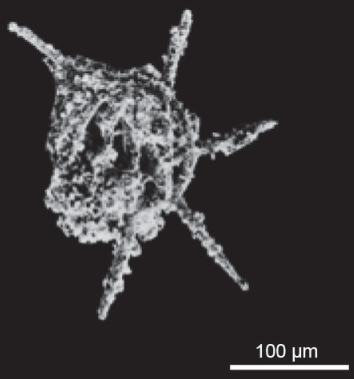
Durahelenifore robustum
Boundy-Sanders *et al.*, 1999: 66, pl. 1, fig. E
SEE HELENIFORE

AI 014 ***Eoalbaillella***
Feng & Liu, 1992: 550
Ceratoikiscidae



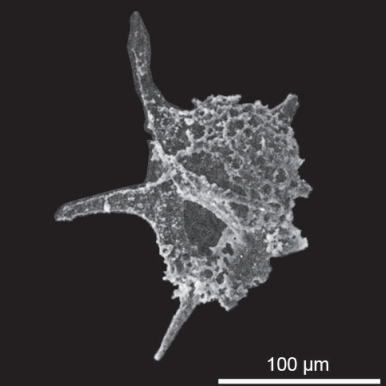
Eoalbaillella lilaensis
Feng & Liu, 1992: 551, pl. 1, fig. 1

AI 015 ***Gansuceratoikiscum***
Wang, Cheng & Zhang, 2010: 48
Ceratoikiscidae



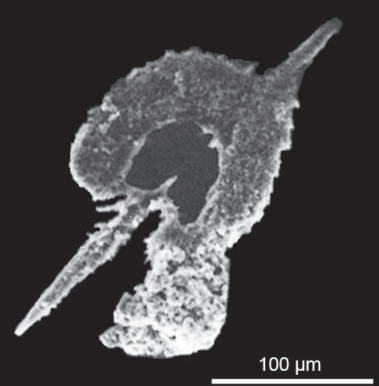
Gansuceratoikiscum guanzhuangensis
Wang, Cheng & Zhang, 2010: 473, pl. 1, fig. 11

AI 016 ***Glanta***
Wakamatsu, Sugiyama & Furutani, 1990: 180
Ceratoikiscidae



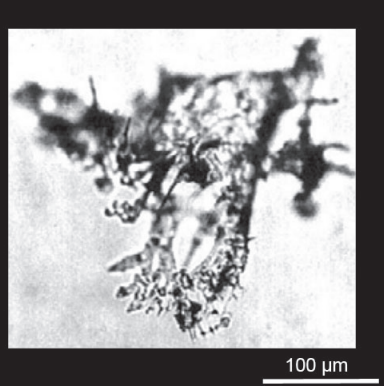
Glanta fragilis
Wakamatsu, Sugiyama & Furutani, 1990: 181, pl. 12, fig. 4a

AI 017 ***Helenifore***
Nazarov & Ormiston, 1983a: 464
Ceratoikiscidae



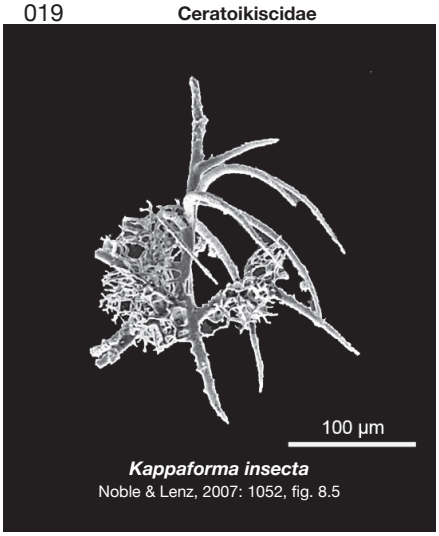
Helenifore laticlavium
Nazarov & Ormiston, 1983a: 464, pl. 2, fig. 8

AI 018 ***Holoeciscus***
Foreman, 1963: 294
Ceratoikiscidae



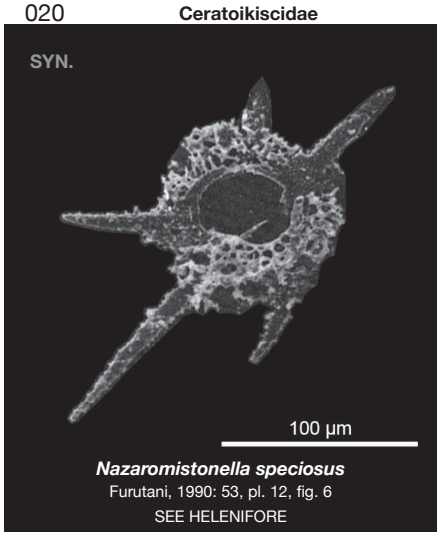
Holoeciscus auceps
Foreman, 1963: 294, pl. 8, fig. 8b

AI 019 ***Kappaforma*** Noble & Lenz, 2007: 1050 **Ceratoikiscidae**



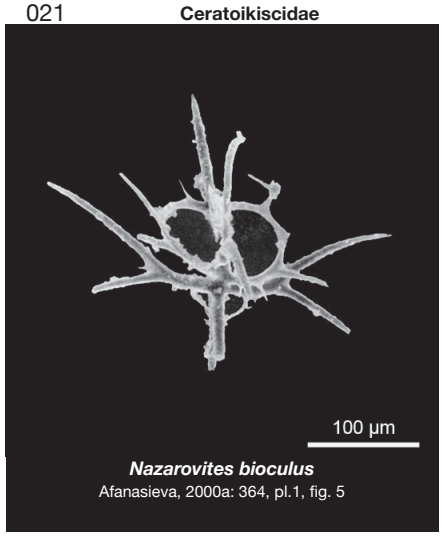
Kappaforma insecta
Noble & Lenz, 2007: 1052, fig. 8.5

AI 020 ***Nazaromistonella*** Furutani, 1990: 52 **Ceratoikiscidae**



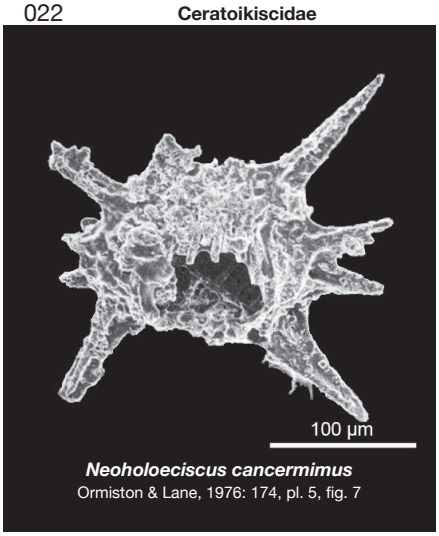
Nazaromistonella speciosus
Furutani, 1990: 53, pl. 12, fig. 6
SEE HELENIFORE

AI 021 ***Nazarovites*** Afanasieva, 2000a: 360 **Ceratoikiscidae**



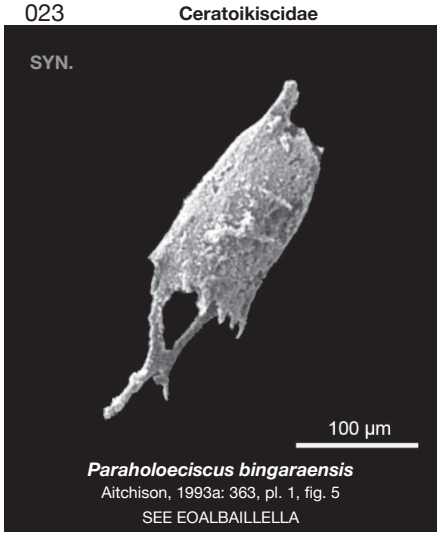
Nazarovites bioculus
Afanasieva, 2000a: 364, pl.1, fig. 5

AI 022 ***Neoholoeciscus*** Ormiston & Lane, 1976: 173 **Ceratoikiscidae**



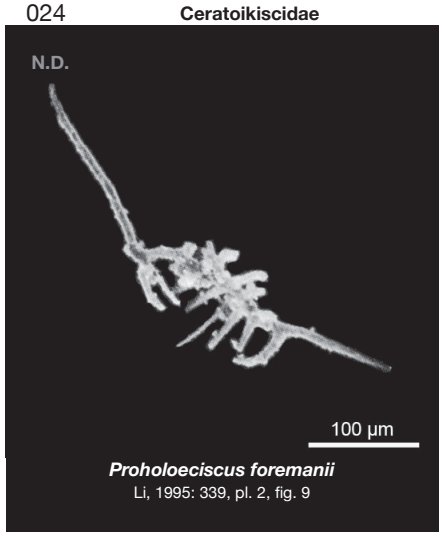
Neoholoeciscus cancermimus
Ormiston & Lane, 1976: 174, pl. 5, fig. 7

AI 023 ***Paraholoeciscus*** Aitchison, 1993a: 363 **Ceratoikiscidae**



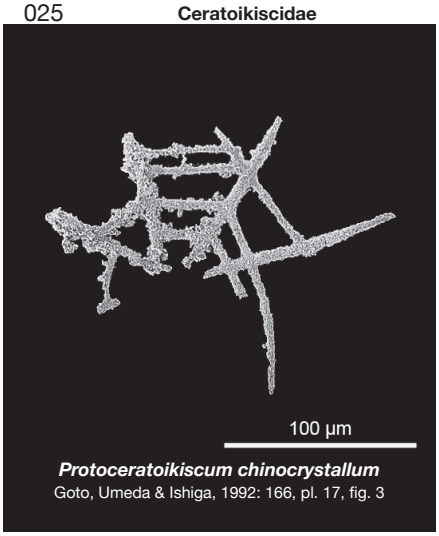
Paraholoeciscus bingaraensis
Aitchison, 1993a: 363, pl. 1, fig. 5
SEE EOALBAILLELLA

AI 024 ***Proholoeciscus*** Li, 1995: 338 **Ceratoikiscidae**



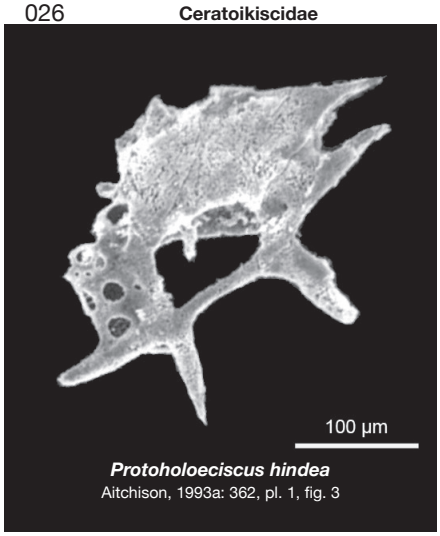
Proholoeciscus foremanii
Li, 1995: 339, pl. 2, fig. 9

AI 025 ***Protoceratoikiscum*** Goto, Umeda & Ishiga, 1992: 165 **Ceratoikiscidae**



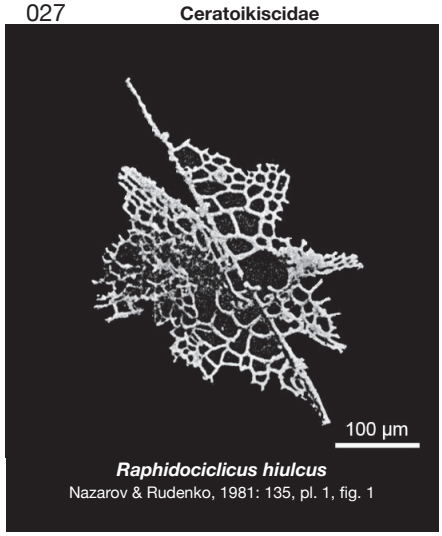
Protoceratoikiscum chinocrystallum
Goto, Umeda & Ishiga, 1992: 166, pl. 17, fig. 3

AI 026 ***Protoholoeciscus*** Aitchison, 1993a: 362 **Ceratoikiscidae**



Protoholoeciscus hindea
Aitchison, 1993a: 362, pl. 1, fig. 3

AI 027 ***Raphidociclicus*** Nazarov & Rudenko, 1981: 135 **Ceratoikiscidae**



Raphidociclicus hiulcus
Nazarov & Rudenko, 1981: 135, pl. 1, fig. 1

AI 028 ***Xiphachistrella*** Deflandre, 1973b: 499 **Ceratoikiscidae**

SYN.

Xiphachistrella acipensis
Deflandre, 1973a: 292, pl. 4, fig. 4
SEE CERATOIKISCUM

AI 029 ***Cariver*** Kozur, 1993: 108 **Follicucullidae**

SYN.

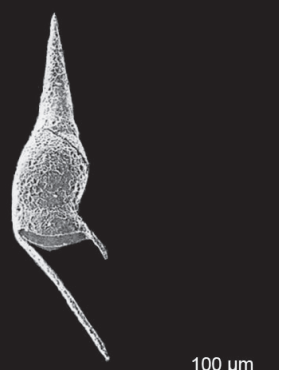
Follicucullus orthogonus
Caridroit & De Wever, 1984: 642, pl. 1, fig. 28
SEE FOLLICUCULLUS

AI 030 ***Curvalbaillella*** Kozur & Mostler, 1989:179 **Follicucullidae**

SYN.

Pseudoalbaillella U-forma
Holdsworth & Jones, 1980: 285, app. fig. 1C
SEE PARAFOLLICUCULLUS

AI 031 ***Follicucullus*** Ormiston & Babcock, 1979: 332 **Follicucullidae**



Follicucullus ventricosus
Ormiston & Babcock, 1979: 332, pl. 1, fig. 7

AI 032 ***Foremanconus*** Kozur & Mostler, 1989: 180 **Follicucullidae**

SYN.

Parafollicucullus sakmarensis
Kozur, 1981: 266, pl. 1, fig. 1
SEE PARAFOLLICUCULLUS

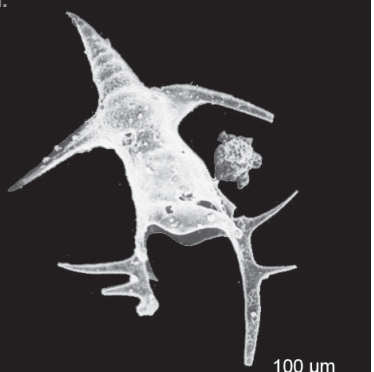
AI 033 ***Haplodiacanthus*** Nazarov & Rudenko, 1981: 133 **Follicucullidae**

SYN.

Haplodiacanthus anfractus
Nazarov & Rudenko, 1981: 133, pl. 1, fig. 5
SEE PARAFOLLICUCULLUS

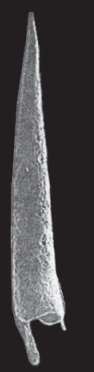
AI 034 ***Holdsworthella*** Kozur, 1981: 268 **Follicucullidae**

SYN.



Holdsworthella permica
Kozur, 1981: 268, pl. 3, fig. 2
SEE PARAFOLLICUCULLUS

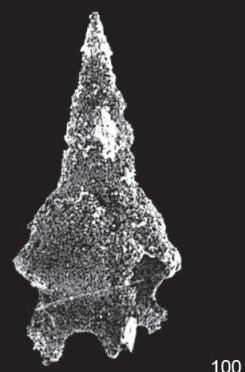
AI 035 ***Ishigaconus*** Kozur & Mostler, 1989: 181 **Follicucullidae**



Follicucullus scholasticus
Ormiston & Babcock, 1979: 333, pl. 1, fig. 1

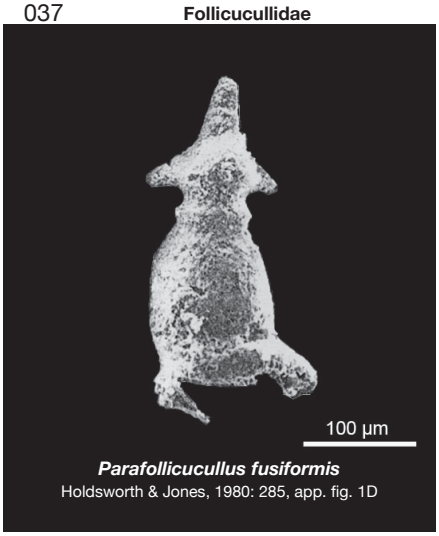
AI 036 ***Longtanella*** Sheng & Wang, 1985: 179 **Follicucullidae**

SYN.



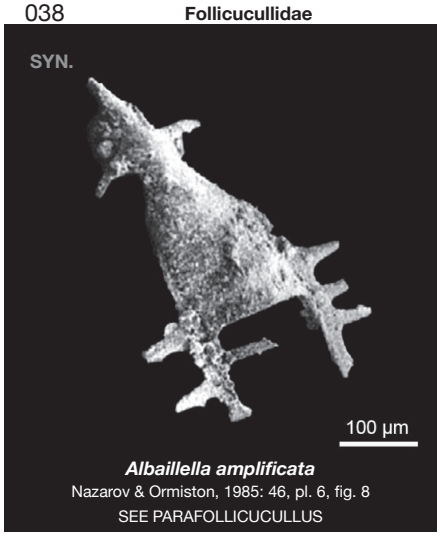
Longtanella zhengpanshanensis
Sheng & Wang, 1985: 179, pl. 3, fig. 11
SEE PARAFOLLICUCULLUS

Al 037 ***Parafollicucullus*** Holdsworth & Jones, 1980: 285 **Follicucullidae**



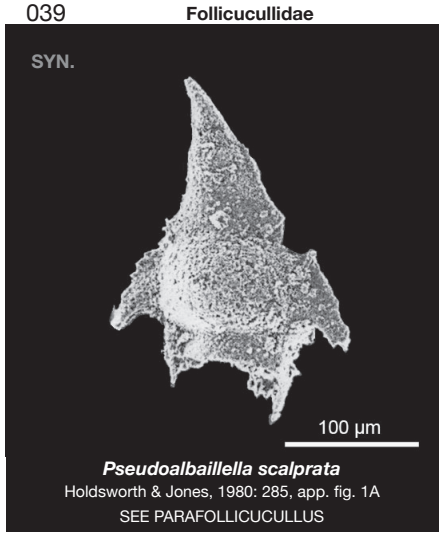
Parafollicucullus fusiformis Holdsworth & Jones, 1980: 285, app. fig. 1D

Al 038 ***Praeholdsworthella*** Kozur & Mostler, 1989: 184 **Follicucullidae**



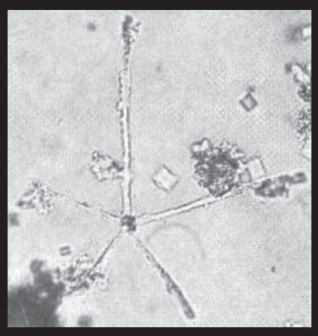
Albaillella amplificata Nazarov & Ormiston, 1985: 46, pl. 6, fig. 8
SEE PARAFOLLICUCULLUS

Al 039 ***Pseudoalbaillella*** Holdsworth & Jones, 1980: 285 **Follicucullidae**



Pseudoalbaillella scalprata Holdsworth & Jones, 1980: 285, app. fig. 1A
SEE PARAFOLLICUCULLUS

Al 040 ***Palacantholithus*** Deflandre, 1973b: 499 **Albaillellaria incertae sedis**

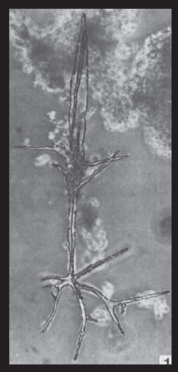


Palacantholithus stellatus Deflandre, 1973a: 291, pl. 3, fig. 2

Al 041 ***Xiphocabrium*** Deflandre, 1973b: 500 **Albaillellaria incertae sedis**

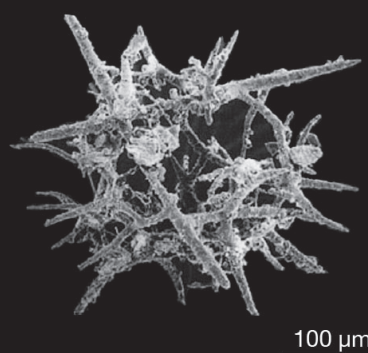
Xiphocabrium rigidum Deflandre, 1973a: 293, pl. 3, fig. 8

Al 042 ***Xiphocladiella*** Deflandre, 1973b: 499 **Albaillellaria incertae sedis**



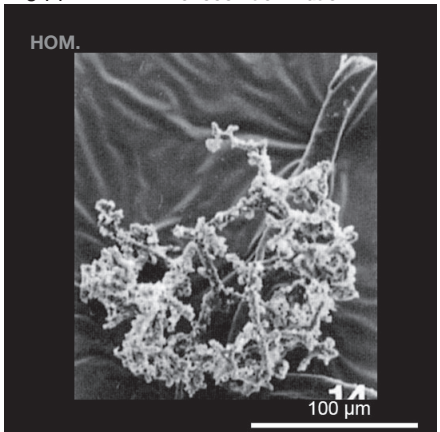
Xiphocladiella cuja Deflandre, 1973a: 291, pl. 4, fig. 1

Ar 043 ***Archeoentactinia*** Won *in* Won & Below, 1999: 332 **Archeoentactiniidae**



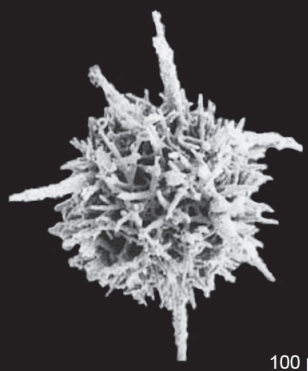
Archeoentactinia incaensis Won & Below, 1999: 333, pl. 6, fig. 9

Ar 044 ***Lithosphaera*** Won, 1998: 256 **Archeoentactiniidae**



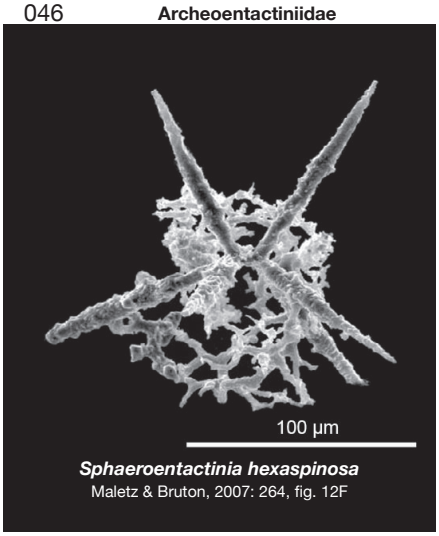
Lithosphaera oesensis Won, 1998: 257, pl. 4, fig. 14

Ar 045 ***Pararcheoentactinia*** Won & Iams, 2002: 9 **Archeoentactiniidae**



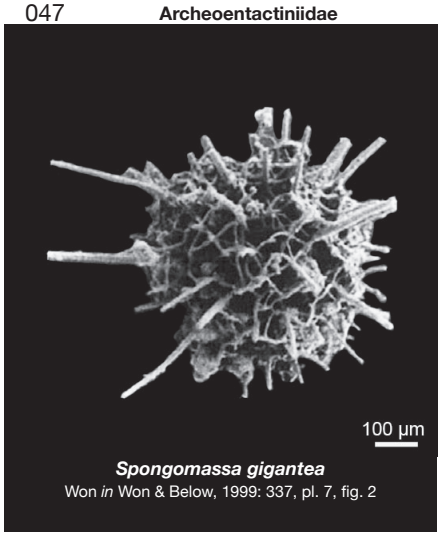
Pararcheoentactinia reedae Won & Iams, 2002: 9, fig. 9.13

Ar 046 ***Sphaeroentactinia*** Maletz & Bruton, 2007: 263 **Archeoentactiniidae**



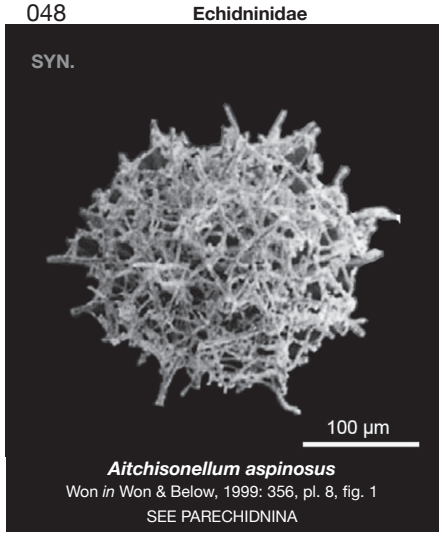
Sphaeroentactinia hexaspinosa
Maletz & Bruton, 2007: 264, fig. 12F

Ar 047 ***Spongomassa*** Won *in* Won & Below, 1999: 337 **Archeoentactiniidae**



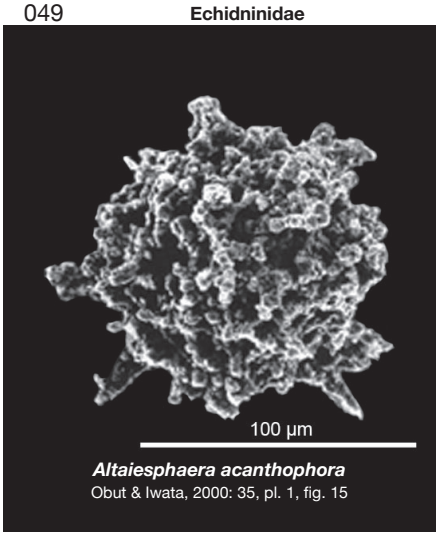
Spongomassa gigantea
Won *in* Won & Below, 1999: 337, pl. 7, fig. 2

Ar 048 ***Aitchisonellum*** Won *in* Won & Below, 1999: 352 **Echidninidae**



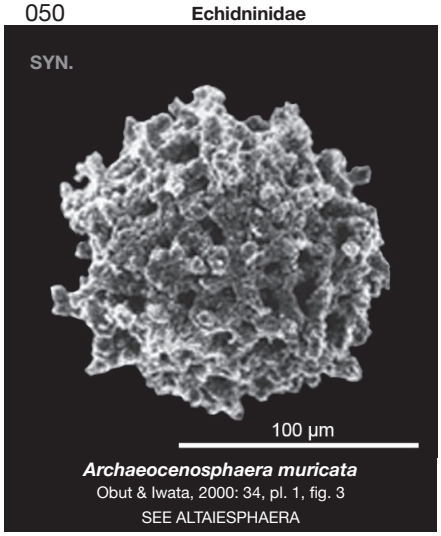
Aitchisonellum aspinosus
Won *in* Won & Below, 1999: 356, pl. 8, fig. 1
SEE PARECHIDNINA

Ar 049 ***Altaiesphaera*** Obut & Iwata, 2000: 34 **Echidninidae**



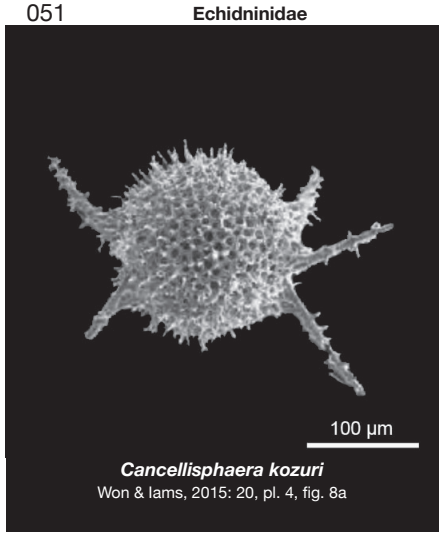
Altaiesphaera acanthophora
Obut & Iwata, 2000: 35, pl. 1, fig. 15

Ar 050 ***Archaeocenosphaera*** Obut & Iwata, 2000: 33 **Echidninidae**



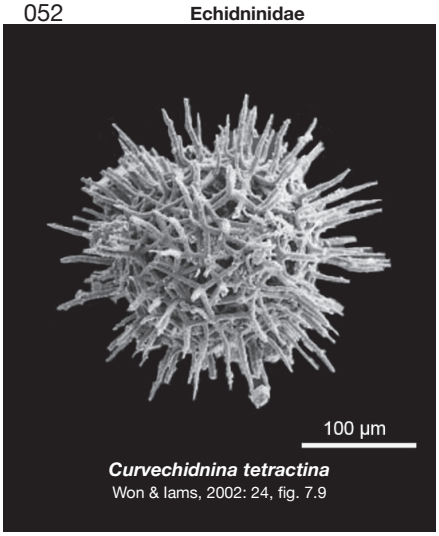
Archaeocenosphaera muricata
Obut & Iwata, 2000: 34, pl. 1, fig. 3
SEE ALTAIESPHAERA

Ar 051 ***Cancellisphaera*** Won & Iams, 2015: 19 **Echidninidae**



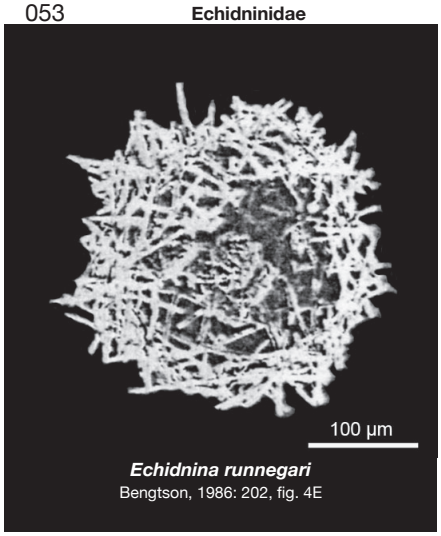
Cancellisphaera kozuri
Won & Iams, 2015: 20, pl. 4, fig. 8a

Ar 052 ***Curvechidnina*** Won & Iams, 2002: 23 **Echidninidae**



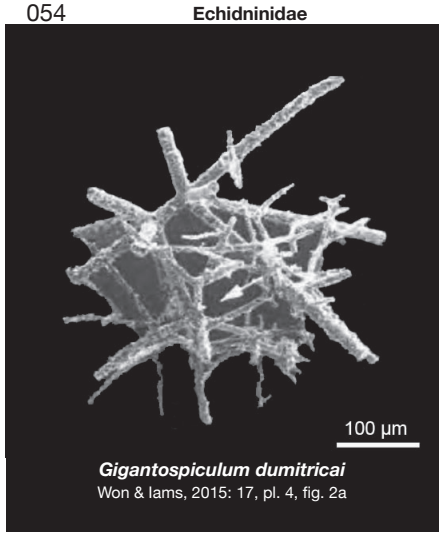
Curvechidnina tetractina
Won & Iams, 2002: 24, fig. 7.9

Ar 053 ***Echidnina*** Bengtson, 1986: 202 **Echidninidae**



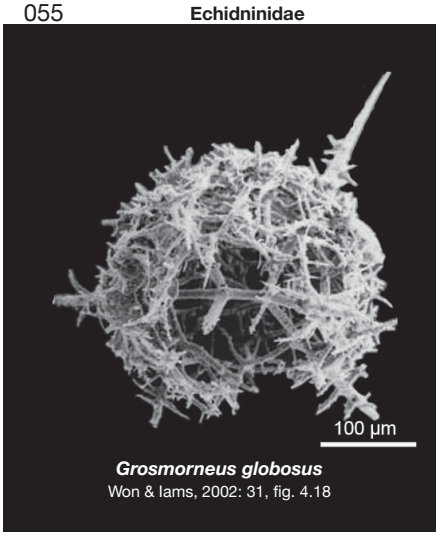
Echidnina runnegari
Bengtson, 1986: 202, fig. 4E

Ar 054 ***Gigantospiculum*** Won & Iams, 2015: 16 **Echidninidae**



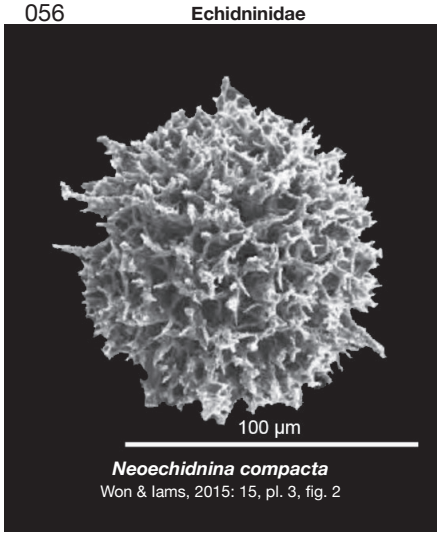
Gigantospiculum dumitricai
Won & Iams, 2015: 17, pl. 4, fig. 2a

Ar 055 ***Grosmorneus*** Won & Iams, 2002: 31 **Echidninidae**



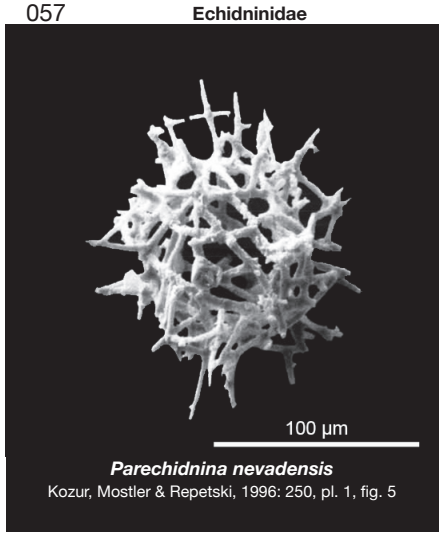
Grosmorneus globosus Won & Iams, 2002: 31, fig. 4.18

Ar 056 ***Neoechidnina*** Won & Iams, 2015: 15 **Echidninidae**



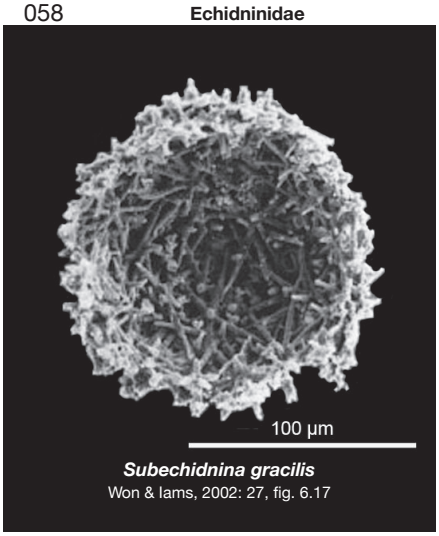
Neoechidnina compacta Won & Iams, 2015: 15, pl. 3, fig. 2

Ar 057 ***Parechidnina*** Kozur, Mostler & Repetski, 1996: 249 **Echidninidae**



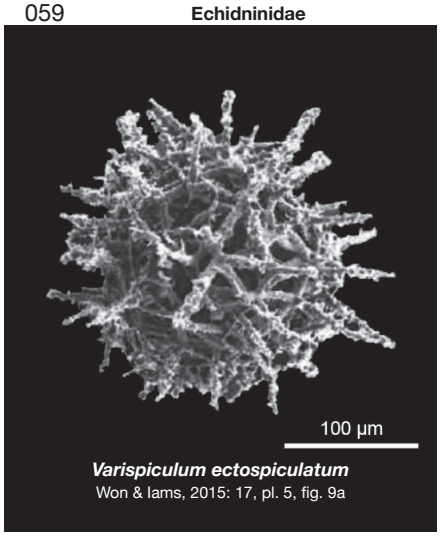
Parechidnina nevadensis Kozur, Mostler & Repetski, 1996: 250, pl. 1, fig. 5

Ar 058 ***Subechidnina*** Won & Iams, 2002: 26 **Echidninidae**



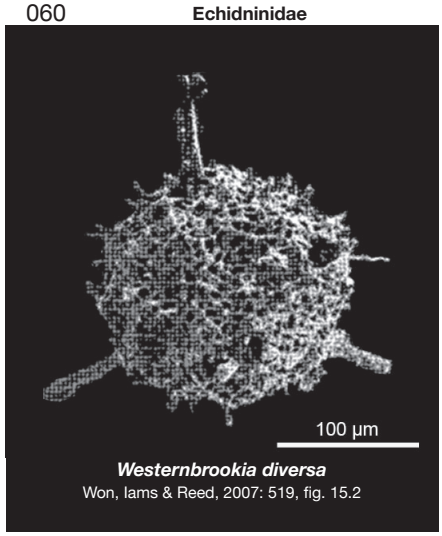
Subechidnina gracilis Won & Iams, 2002: 27, fig. 6.17

Ar 059 ***Varispiculum*** Won & Iams, 2015: 17 **Echidninidae**



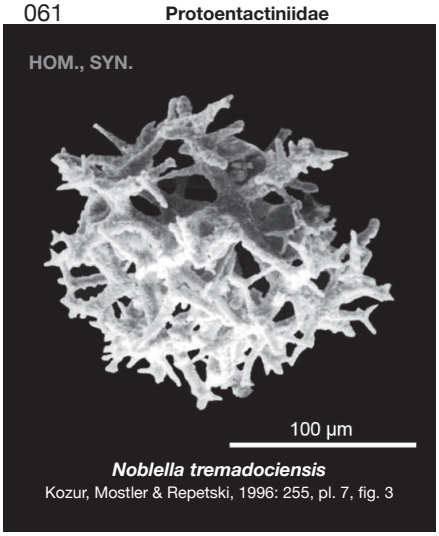
Varispiculum ectospiculatum Won & Iams, 2015: 17, pl. 5, fig. 9a

Ar 060 ***Westernbrookia*** Won, Iams & Reed, 2007: 517 **Echidninidae**



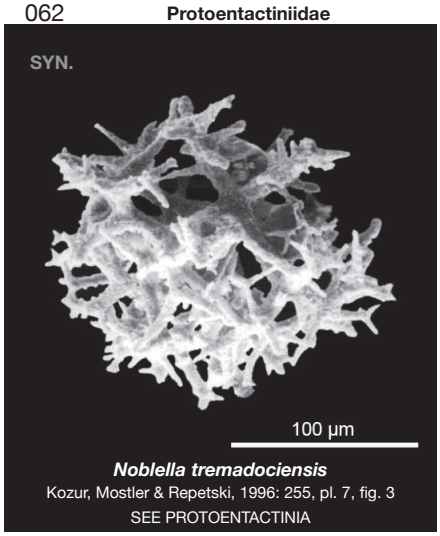
Westernbrookia diversa Won, Iams & Reed, 2007: 519, fig. 15.2

Ar 061 ***Noblella*** Kozur, Mostler & Repetski, 1996: 255 **Protoentactiniidae**



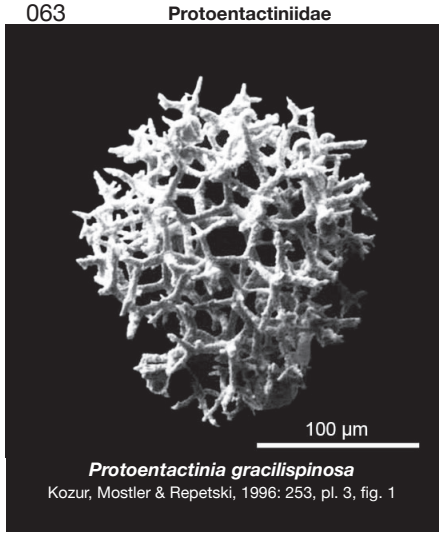
Noblella tremadociensis Kozur, Mostler & Repetski, 1996: 255, pl. 7, fig. 3

Ar 062 ***Paulanoblella*** Kozur & Repetski, 2002: 28 **Protoentactiniidae**



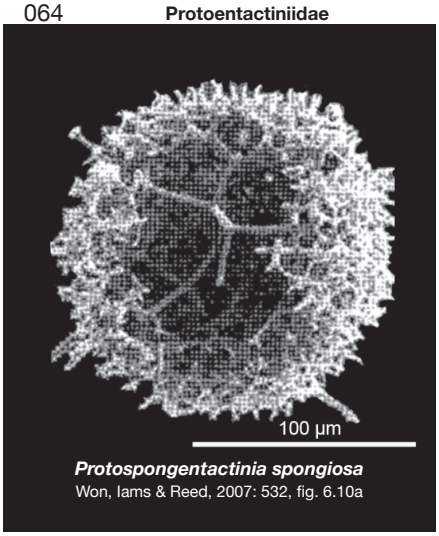
Noblella tremadociensis Kozur, Mostler & Repetski, 1996: 255, pl. 7, fig. 3
SEE PROTOENTACTINIA

Ar 063 ***Protoentactinia*** Kozur, Mostler & Repetski, 1996: 253 **Protoentactiniidae**



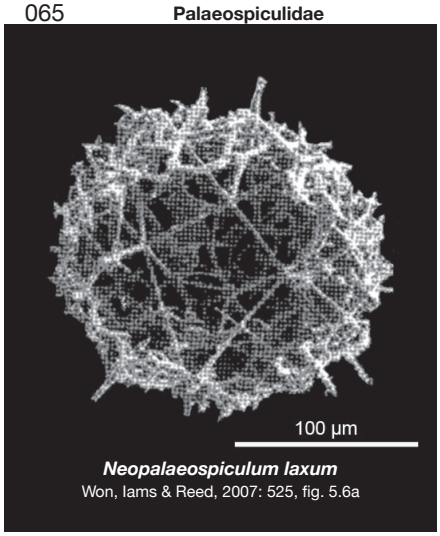
Protoentactinia gracilispinosa Kozur, Mostler & Repetski, 1996: 253, pl. 3, fig. 1

Ar 064 ***Protospongentactinia*** Won, Iams & Reed, 2007: 531 **Protoentactiniidae**



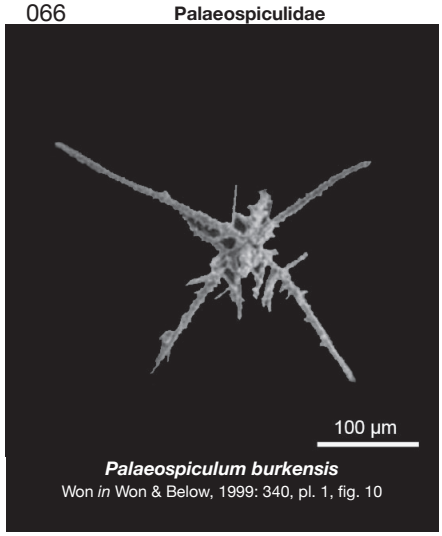
Protospongentactinia spongiosa Won, Iams & Reed, 2007: 532, fig. 6.10a

Ar 065 ***Neopalaeospiculum*** Won, Iams & Reed, 2007: 525 **Palaeospiculidae**



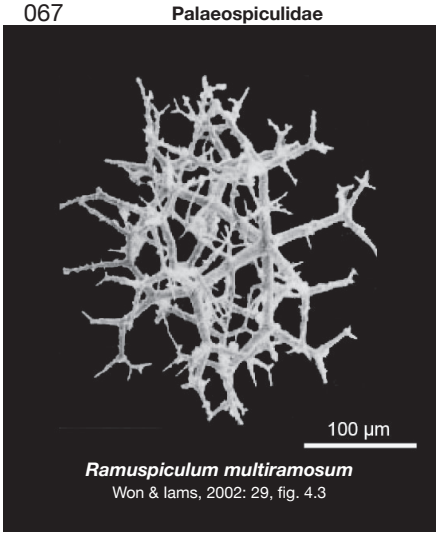
Neopalaeospiculum laxum Won, Iams & Reed, 2007: 525, fig. 5.6a

Ar 066 ***Palaeospiculum*** Won *in* Won & Below, 1999: 339 **Palaeospiculidae**



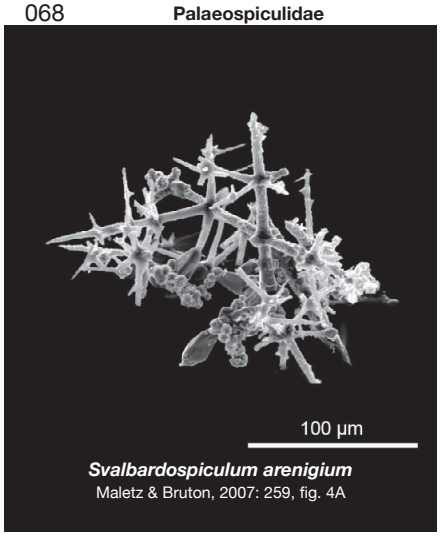
Palaeospiculum burkensis Won *in* Won & Below, 1999: 340, pl. 1, fig. 10

Ar 067 ***Ramuspiculum*** Won & Iams, 2002: 29 **Palaeospiculidae**



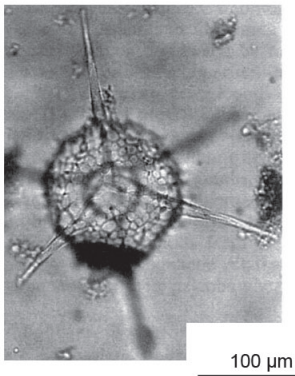
Ramuspiculum multiramosum Won & Iams, 2002: 29, fig. 4.3

Ar 068 ***Svalbardospiculum*** Maletz & Bruton, 2007: 259 **Palaeospiculidae**



Svalbardospiculum arenigium Maletz & Bruton, 2007: 259, fig. 4A

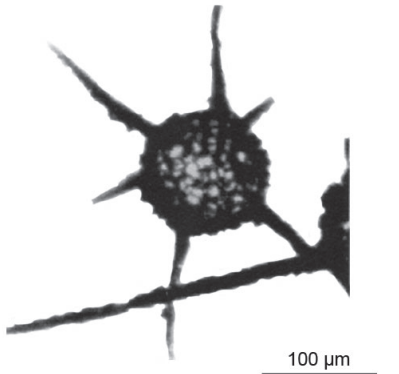
Ar 069 ***Diparvapila*** MacDonald, 1998: 594 **Secuicollactidae**



Diparvapila hicocki MacDonald, 1998: 595, fig. 8.9

Ar 070 ***Palaeosphaera*** Renz, 1990: 372 **Secuicollactidae**

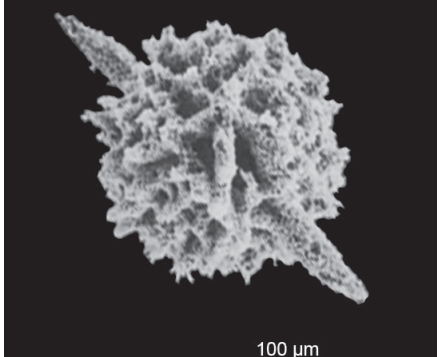
SYN.



Palaeosphaera micra Renz, 1990: 372, pl. 1, fig. 7
SEE SECUICOLLACTA

Ar 071 ***Parasecuicollacta*** Won, Blodgett & Nestor, 2002: 953 **Secuicollactidae**

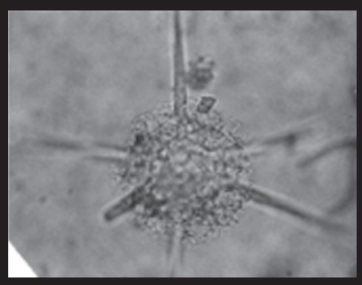
SYN.



Parasecuicollacta bipola Won, Blodgett & Nestor, 2002: 953, fig. 3.4
SEE SECUICOLLACTA

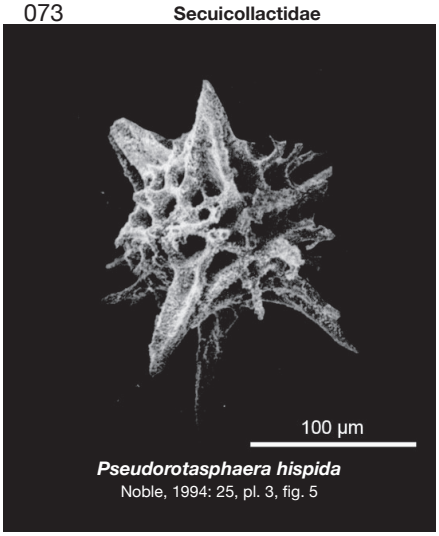
Ar 072 ***Parvalanapila*** MacDonald, 1998: 597 **Secuicollactidae**

SYN.



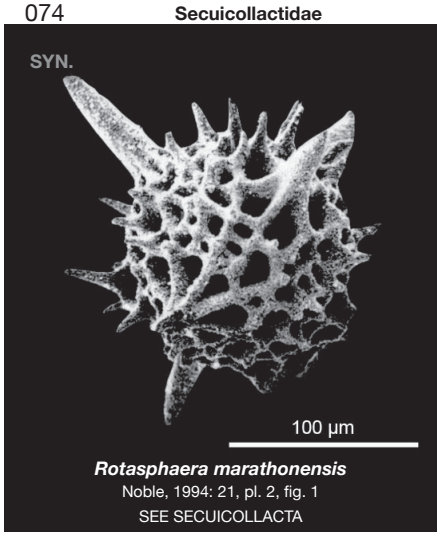
Parvalanapila fleischerorum MacDonald, 1998: 599, fig. 9.3
SEE DIPARVAPILA

Ar 073 ***Pseudorotasphaera*** Noble, 1994: 25 **Secuicollactidae**



Pseudorotasphaera hispida Noble, 1994: 25, pl. 3, fig. 5

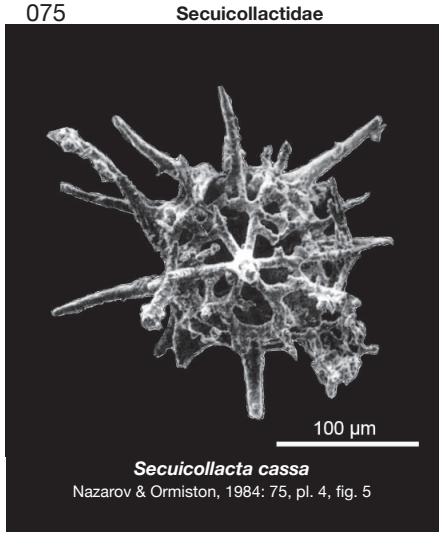
Ar 074 ***Rotasphaera*** Noble, 1994: 19 **Secuicollactidae**



Rotasphaera marathonensis Noble, 1994: 21, pl. 2, fig. 1

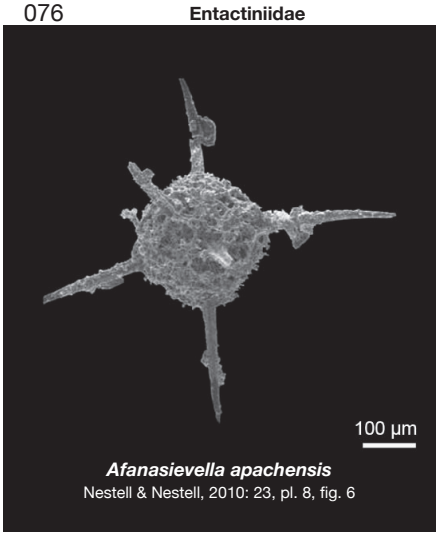
SEE SECUICOLLACTA

Ar 075 ***Secuicollacta*** Nazarov & Ormiston, 1984: 75 **Secuicollactidae**



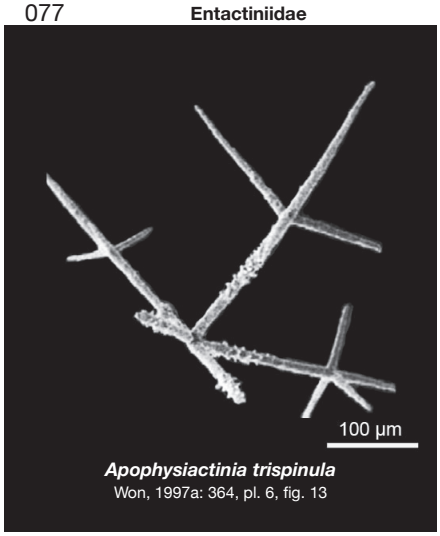
Secuicollacta cassa Nazarov & Ormiston, 1984: 75, pl. 4, fig. 5

E 076 ***Afanasievella*** Nestell & Nestell, 2010: 22 **Entactiniidae**



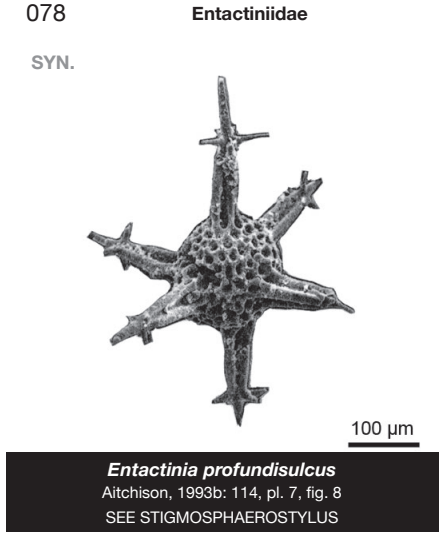
Afanasievella apachensis Nestell & Nestell, 2010: 23, pl. 8, fig. 6

E 077 ***Apophysiactinia*** Won, 1997a: 362 **Entactiniidae**



Apophysiactinia trispinula Won, 1997a: 364, pl. 6, fig. 13

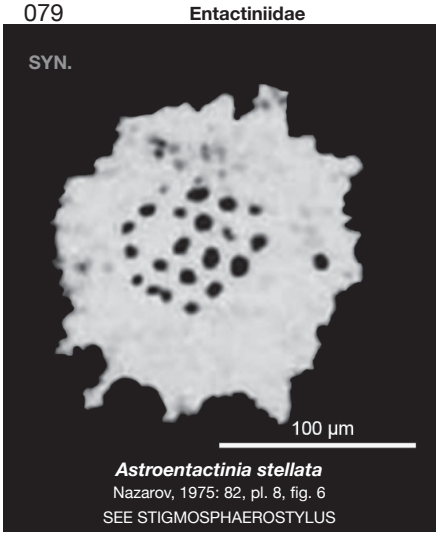
E 078 ***Apophysisphaera*** Won, 1997b: 372 **Entactiniidae**



Entactinia profundisulcus Aitchison, 1993b: 114, pl. 7, fig. 8

SEE STIGMOSPHAEROSTYLUS

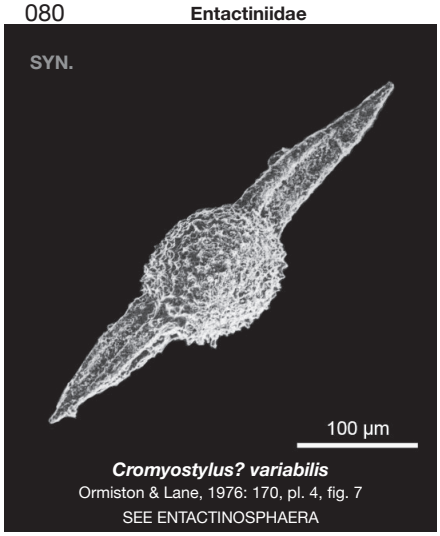
E 079 ***Astroentactinia*** Nazarov, 1975: 82 **Entactiniidae**



Astroentactinia stellata Nazarov, 1975: 82, pl. 8, fig. 6

SEE STIGMOSPHAEROSTYLUS

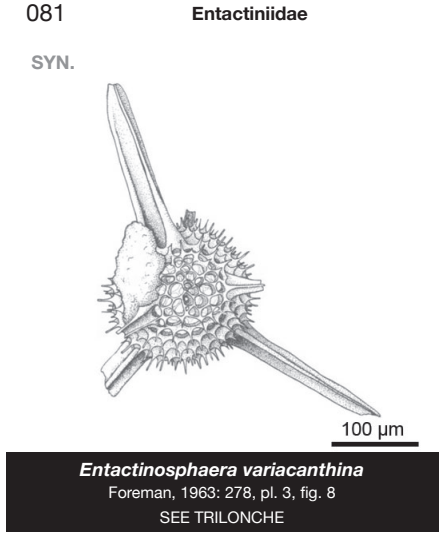
E 080 ***Belowea*** Won, 1983: 129 **Entactiniidae**



Cromyostylus? variabilis Ormiston & Lane, 1976: 170, pl. 4, fig. 7

SEE ENTACTINOSPHAERA

E 081 ***Bientactinosphaera*** Afanasieva, 2000a: 371 **Entactiniidae**



Entactinosphaera variacanthina Foreman, 1963: 278, pl. 3, fig. 8

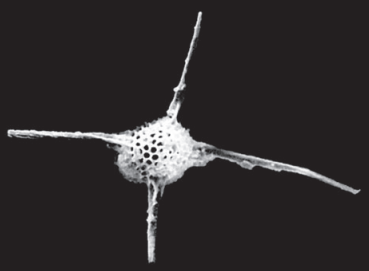
SEE TRILONCHE

E
082
Bisphaera
Won, 1997a: 344
Entactiniidae

HOM., SYN.

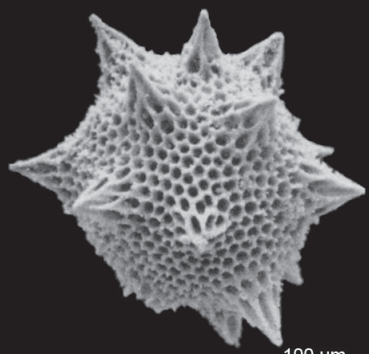
Bisphaera solidispinosa
Won, 1997a: 346, pl. 3, fig. 9
SEE TRILONCHE

E
083
Borisella
Afanasieva, 2000b: 143
Entactiniidae



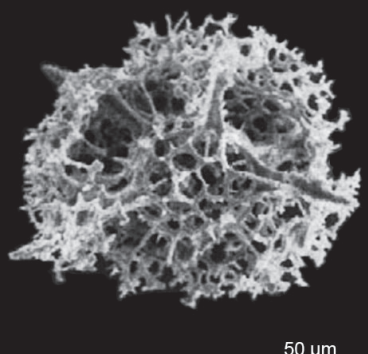
Borisella maksimovae
Afanasieva, 2000b: 144, pl. 2, fig. 10

E
084
Callela
Won, 1983: 133
Entactiniidae



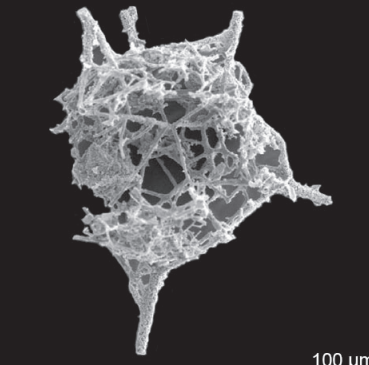
Callela stellaesimilis
Won, 1983: 135, pl. 2, fig. 10

F
085
Cancellosphaera
Afanasieva, 2000c: 34
Entactiniidae



Spongosphaera varia
Won, 1997b: 412, pl. 9, fig. 3

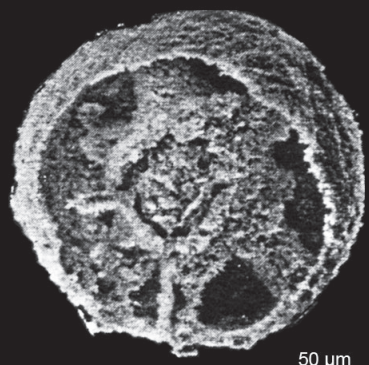
E
086
Costaentactinia
Seo & Won, 2009: 67
Entactiniidae



Costaentactinia foremanae
Seo & Won, 2009: 67, pl. 2, fig. 13

E
087
Cyclocarpus
Li & Wang, 1991: 403
Entactiniidae

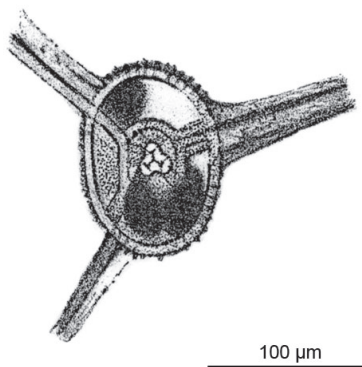
N.D.



Cyclocarpus tubiformis
Li & Wang, 1991: 403, pl. 1, fig. 2

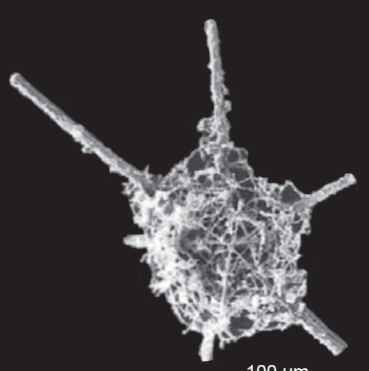
E
088
Druppalonche
Hinde, 1899b: 217
Entactiniidae

SYN.



Druppalonche clavigera
Hinde, 1899b: 217, pl. 16, fig. 14
SEE TRILONCHE

E
089
Duodecimentactinia
Won, 1997b: 377
Entactiniidae



Duodecimentactinia aranea
Won, 1997b: 378, pl. 10, fig. 2

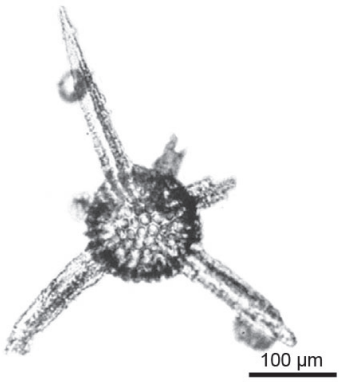
E
090
Duosphaera
Won, 1998: 235
Entactiniidae

SYN.

Bisphaera solidispinosa
Won, 1997a: 346, pl. 3, fig. 9
SEE TRILONCHE

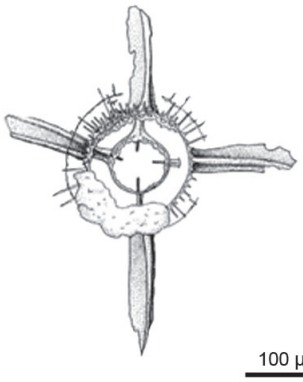
E 091 ***Entactinia***
Foreman, 1963: 271
Entactiniidae

SYN.



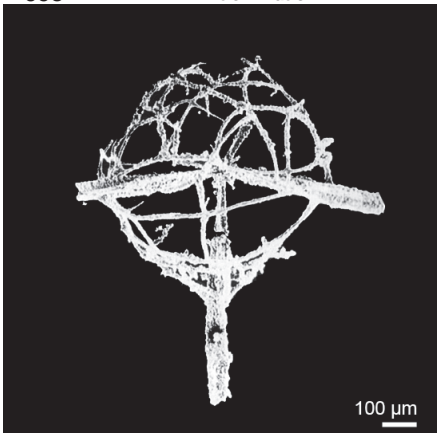
Entactinia herculea
Foreman, 1963: 271, pl. 1, fig. 3b
SEE STIGMOSPHAEROSTYLUS

E 092 ***Entactinosphaera***
Foreman, 1963: 274
Entactiniidae



Entactinosphaera esostrongyla
Foreman, 1963: 274, pl. 6, fig. 1a

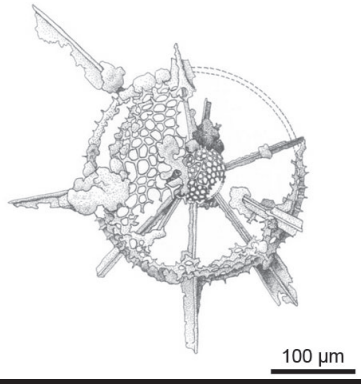
E 093 ***Gracilentactinia***
Kozur & Mostler, 1989: 192
Entactiniidae



Gracilentactinia gracilis
Kozur & Mostler, 1989: 192, pl. 8, fig. 5

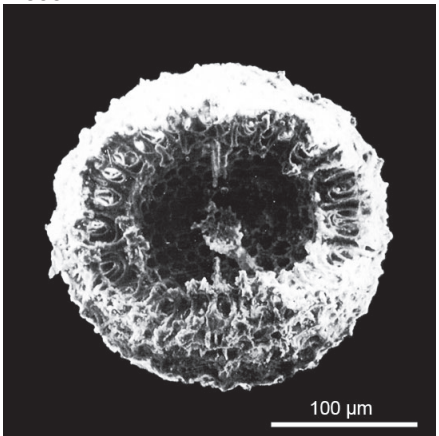
E 094 ***Helioentactinia***
Nazarov, 1975: 88
Entactiniidae

N.D.



Entactinosphaera ? polyacanthina
Foreman, 1963: 280, pl. 6, fig. 11

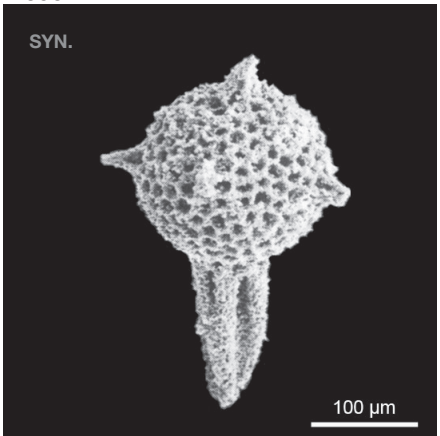
E 095 ***Holdisphaera***
Kozur & Mostler, 1989: 186
Entactiniidae



Holdisphaera furutanii
Kozur & Mostler, 1989: 187, pl. 10, fig. 10

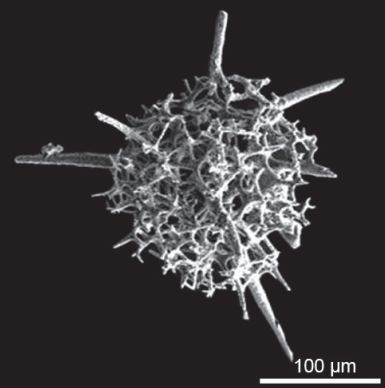
E 096 ***Inaequalientactinia***
Won, 1991: 100
Entactiniidae

SYN.



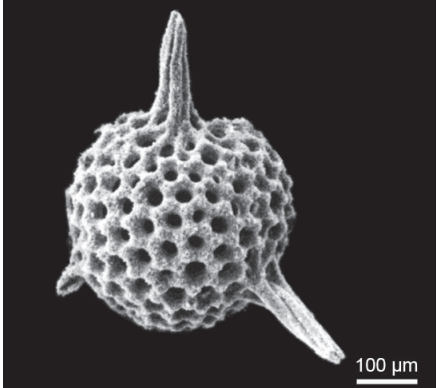
Inaequalientactinia typica
Won, 1991: 103, pl. 1, fig. 2
SEE STIGMOSPHAEROSTYLUS

E 097 ***Involutentactinia***
Jones & Noble, 2006: 296
Entactiniidae



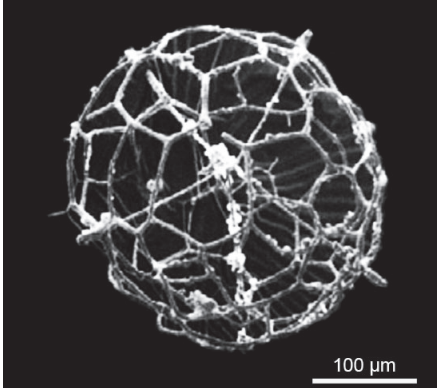
Involutentactinia eccentra
Jones & Noble, 2006: 297, pl. 1, fig. 8

E 098 ***Kashiwara***
Sashida & Tonishi, 1985: 14
Entactiniidae



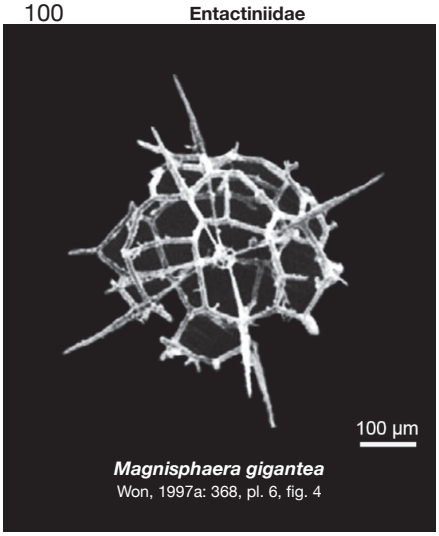
Kashiwara magna
Sashida & Tonishi, 1985: 15, pl. 5, fig. 6

E 099 ***Magnentactinia***
Won, 1997a: 366
Entactiniidae



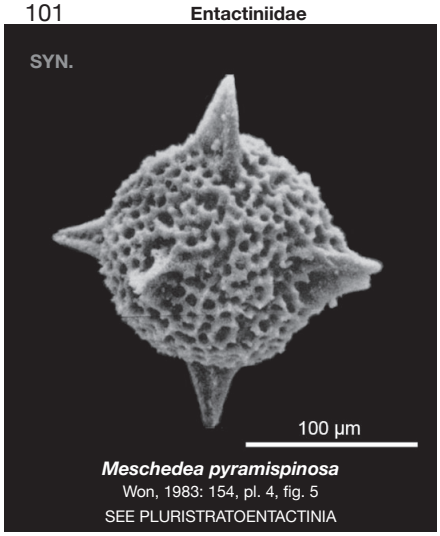
Magnentactinia fragilis
Won, 1997a: 366, pl. 6, fig. 1

E
100
Magnisphaera
Won, 1997a: 366
Entactiniidae



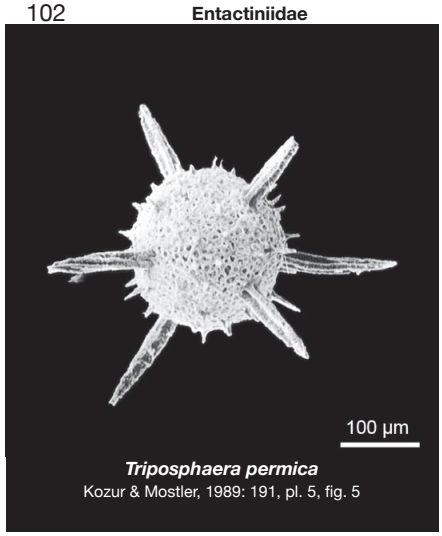
Magnisphaera gigantea
Won, 1997a: 368, pl. 6, fig. 4

E
101
Meschedea
Won, 1983: 154
Entactiniidae



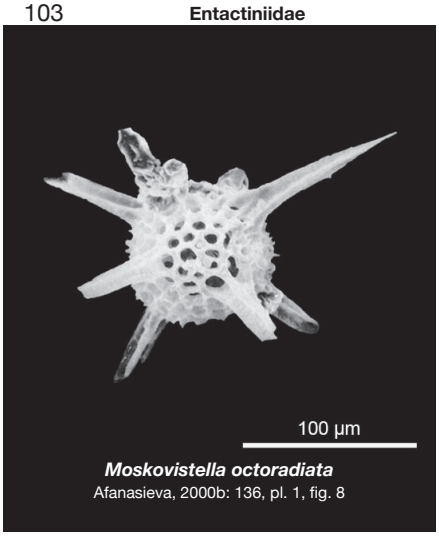
Meschedea pyramispinosa
Won, 1983: 154, pl. 4, fig. 5
SEE PLURISTRATOENTACTINIA

E
102
Microporosa
Afanasieva & Amon, 2016: 211
Entactiniidae



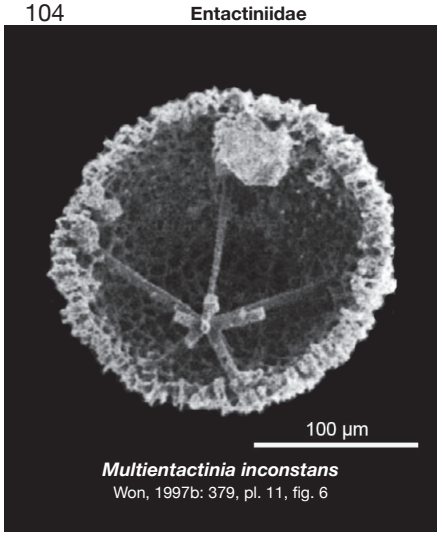
Triposphaera permica
Kozur & Mostler, 1989: 191, pl. 5, fig. 5

E
103
Moskovistella
Afanasieva, 2000b: 135
Entactiniidae



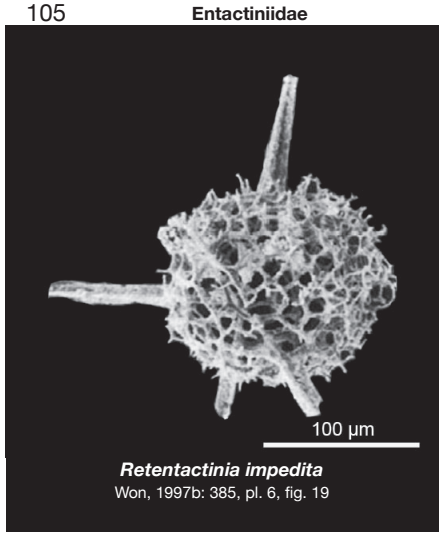
Moskovistella octoradiata
Afanasieva, 2000b: 136, pl. 1, fig. 8

E
104
Multientactinia
Won, 1997b: 378
Entactiniidae



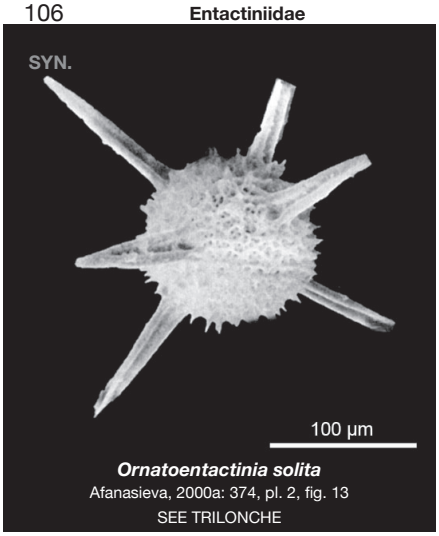
Multientactinia inconstans
Won, 1997b: 379, pl. 11, fig. 6

E
105
Munzuwonella
Afanasieva, 2009: 115
Entactiniidae



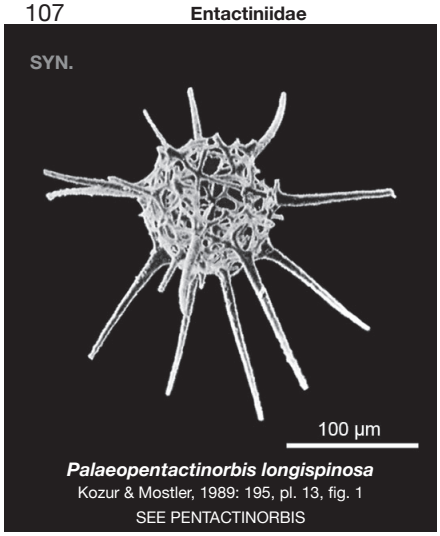
Retentactinia impedita
Won, 1997b: 385, pl. 6, fig. 19

E
106
Ornatoentactinia
Afanasieva, 2000a: 373
Entactiniidae



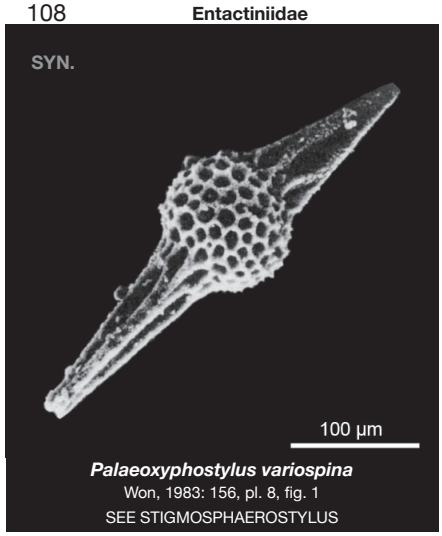
Ornatoentactinia solita
Afanasieva, 2000a: 374, pl. 2, fig. 13
SEE TRILONCHE

E
107
Palaeopentactinorbis
Kozur & Mostler, 1989: 195
Entactiniidae



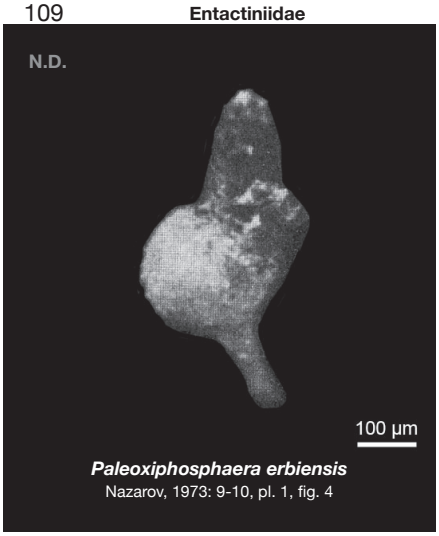
Palaeopentactinorbis longispinosa
Kozur & Mostler, 1989: 195, pl. 13, fig. 1
SEE PENTACTINORBIS

E
108
Palaeoxyphostylus
Won, 1983: 155
Entactiniidae



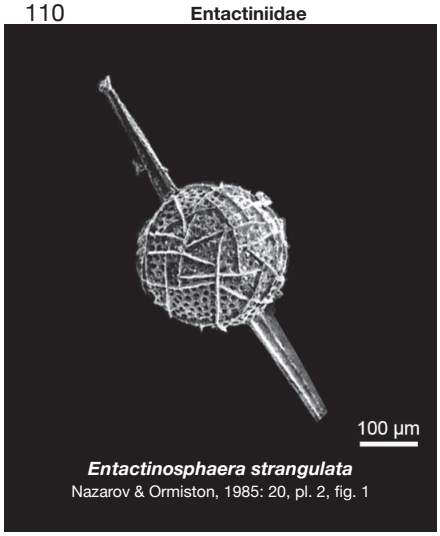
Palaeoxyphostylus variospina
Won, 1983: 156, pl. 8, fig. 1
SEE STIGMOSPHAEROSTYLUS

E 109 ***Paleoxiphosphaera*** Nazarov, 1973: 9 **Entactiniidae**



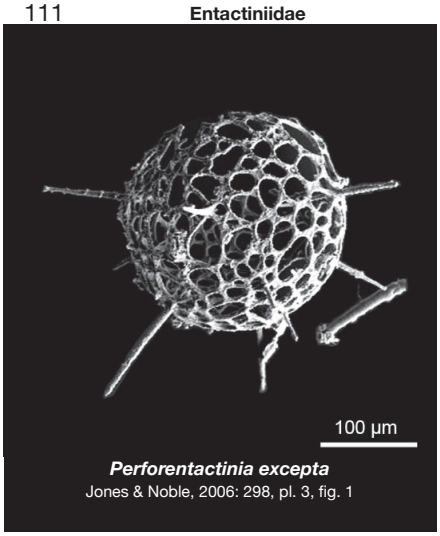
Paleoxiphosphaera erbiensis Nazarov, 1973: 9-10, pl. 1, fig. 4

E 110 ***Paratriposphaera*** Kozur & Mostler, 1989: 187 **Entactiniidae**



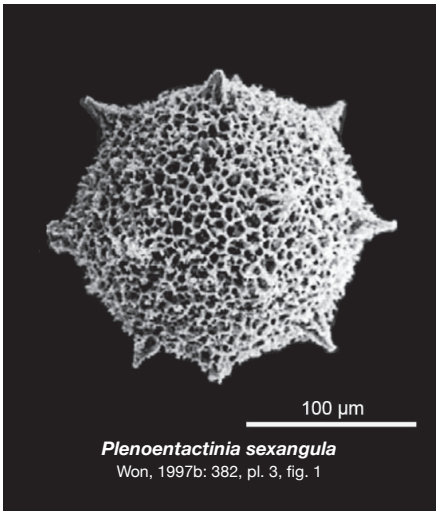
Entactinosphaera strangulata Nazarov & Ormiston, 1985: 20, pl. 2, fig. 1

E 111 ***Perforentactinia*** Jones & Noble, 2006: 298 **Entactiniidae**



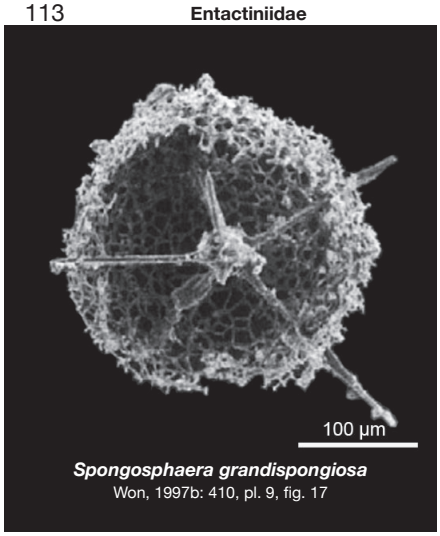
Perforentactinia excepta Jones & Noble, 2006: 298, pl. 3, fig. 1

E 112 ***Plenoentactinia*** Won, 1997b: 381 **Entactiniidae**



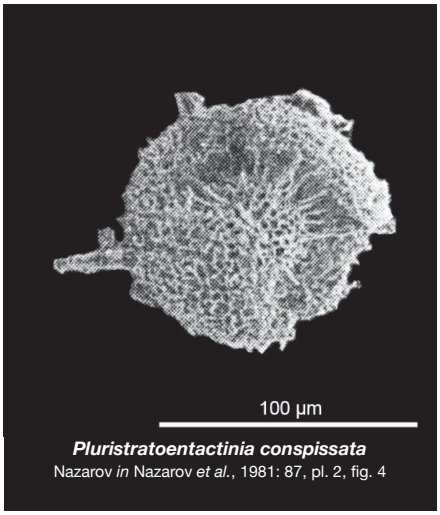
Plenoentactinia sexangula Won, 1997b: 382, pl. 3, fig. 1

E 113 ***Plenosphaera*** Park & Won, 2012: 56 **Entactiniidae**



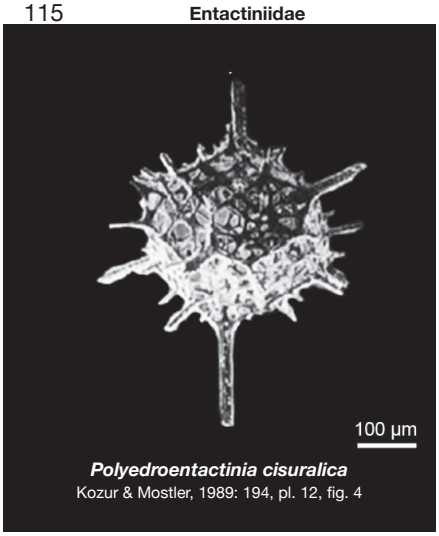
Spongosphaera grandispongiosa Won, 1997b: 410, pl. 9, fig. 17

E 114 ***Pluristratoentactinia*** Nazarov *in* Nazarov *et al.*, 1981: 86 **Entactiniidae**



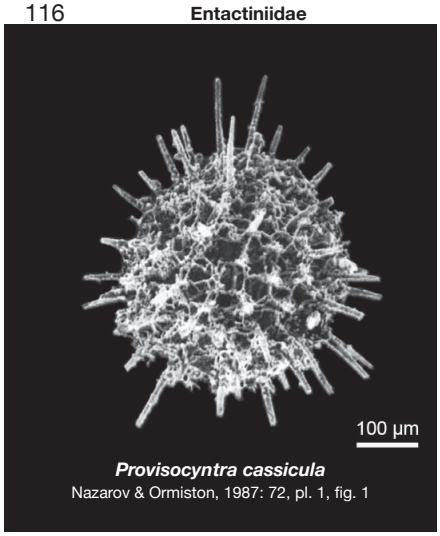
Pluristratoentactinia conspissata Nazarov *in* Nazarov *et al.*, 1981: 87, pl. 2, fig. 4

E 115 ***Polyedroentactinia*** Kozur & Mostler, 1989: 194 **Entactiniidae**



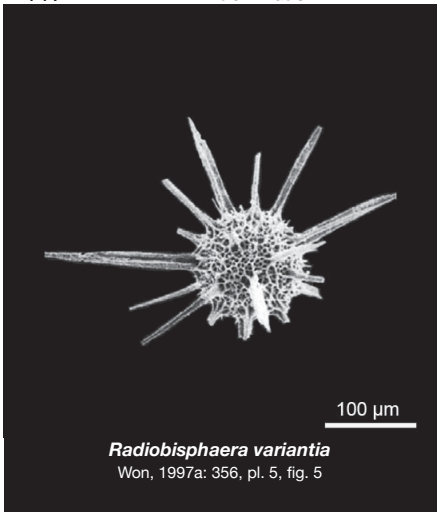
Polyedroentactinia cisuralica Kozur & Mostler, 1989: 194, pl. 12, fig. 4

E 116 ***Provisocyntra*** Nazarov & Ormiston, 1987: 68 **Entactiniidae**



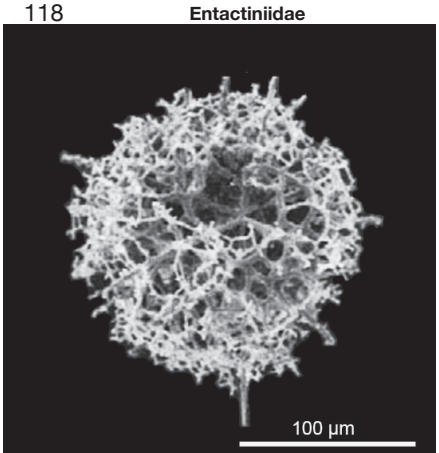
Provisocyntra cassicula Nazarov & Ormiston, 1987: 72, pl. 1, fig. 1

E 117 ***Radiobisphaera*** Won, 1997a: 350 **Entactiniidae**



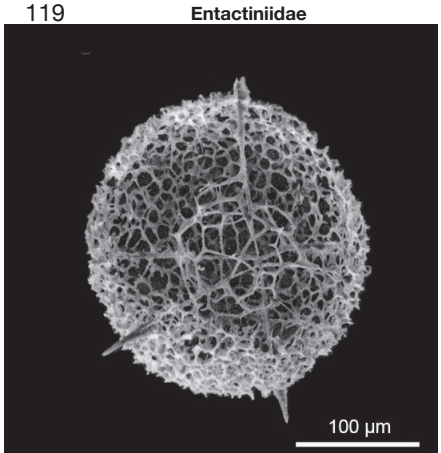
Radiobisphaera variantia Won, 1997a: 356, pl. 5, fig. 5

E 118 ***Retentactinia*** Won, 1997b: 383 **Entactiniidae**



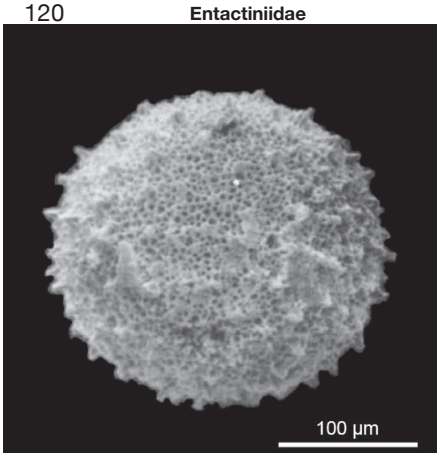
Retentactinia repleta Won, 1997b: 390, pl. 7, fig. 11

E 119 ***Retisphaera*** Won, 1997b: 390 **Entactiniidae**



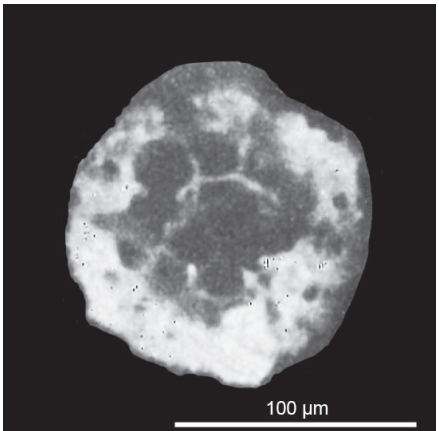
Spongentactinia concinna Aitchison, 1993b: 116, pl. 6, fig. 10

E 120 ***Sinosphaera*** Feng *in* Feng *et al.*, 2004: 137 **Entactiniidae**



Sinosphaera spinosa Feng *in* Feng *et al.*, 2004: 137, pl. 1, fig. 1

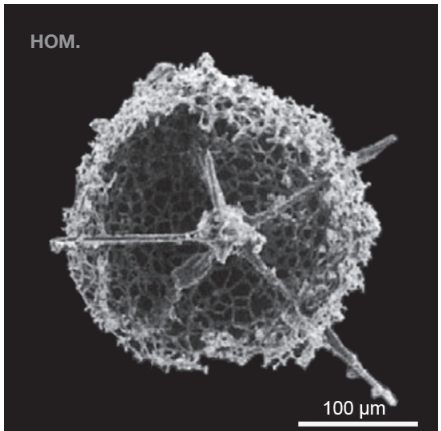
E 121 ***Spongentactinia*** Nazarov, 1975: 75 **Entactiniidae**



Spongentactinia fungosa Nazarov, 1975: 75, pl. 11, fig. 6

E 122 ***Spongosphaera*** Won, 1997b: 410 **Entactiniidae**

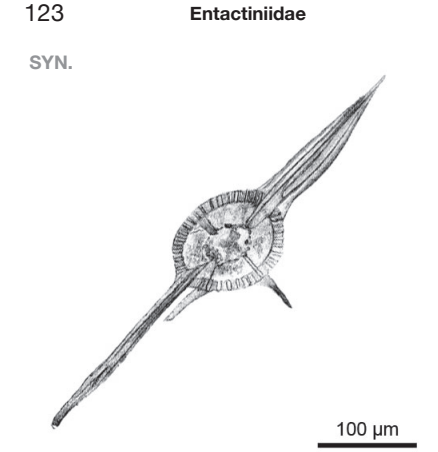
HOM.



Spongosphaera grandispongiosa Won, 1997b: 410, pl. 9, fig. 17
SEE PLENOSPHAERA

E 123 ***Staurodruppa*** Hinde, 1899a: 51 **Entactiniidae**

SYN.



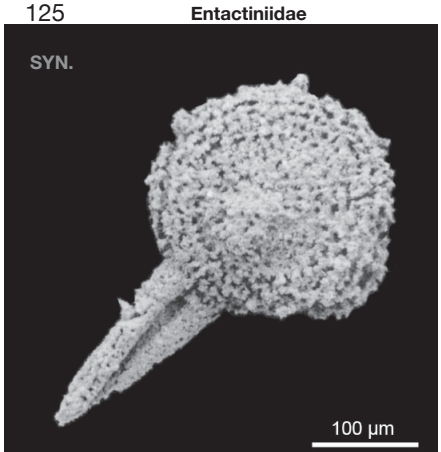
Staurodruppa praelonga Hinde, 1899a: 51, pl. 9, fig. 6
SEE TRILONCHE

E 124 ***Stigmosphaerostylus*** Rüst, 1892: 142 **Entactiniidae**

Stigmosphaerostylus notabilis Rüst, 1892: 142, pl. 10, fig. 2

E 125 ***Stolbergia*** Kozur & Mostler, 1989: 198 **Entactiniidae**

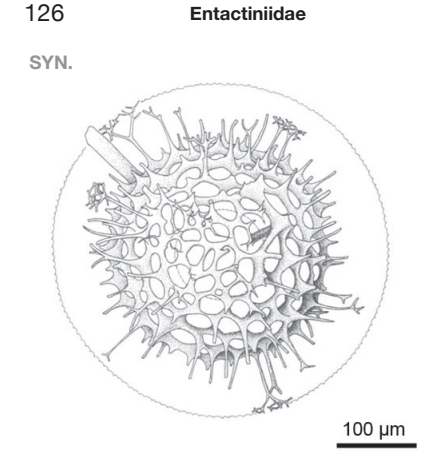
SYN.



Eostylodictya speculum Won, 1983: 152, pl. 3, fig. 2
SEE ENTACTINOSPHAERA

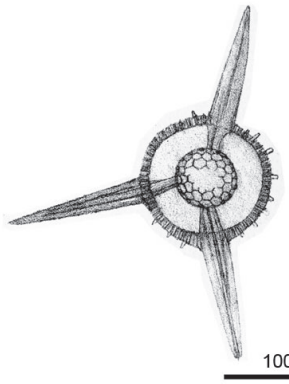
E 126 ***Thecentactinia*** Nazarov, 1975: 71 **Entactiniidae**

SYN.



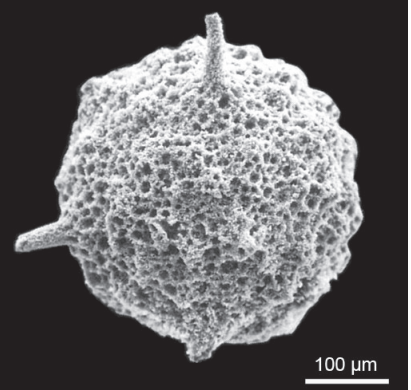
Entactinosphaera riedeli Foreman, 1963: 275, pl. 6, fig. 9
SEE ENTACTINOSPHAERA

E 127 ***Trilonche*** Hinde, 1899a: 47 **Entactiniidae**



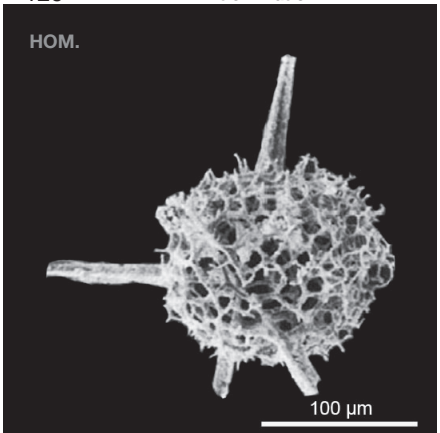
Trilonche vetusta Hinde, 1899a: 48, pl. 8, fig. 18

E 128 ***Uberinterna*** Sashida & Tonishi, 1988: 531 **Entactiniidae**



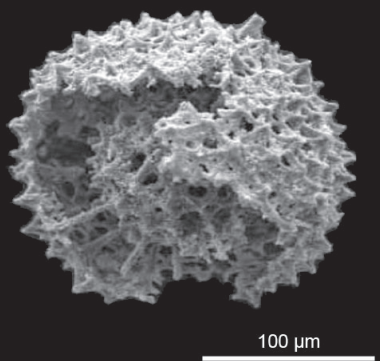
Uberinterna virgispinosum Sashida & Tonishi, 1988: 531, fig. 8.7

E 129 ***Wonella*** Afanasieva, 2000c: 34 **Entactiniidae**



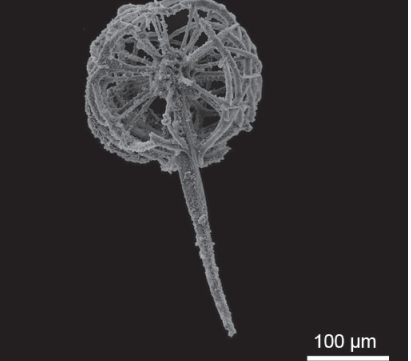
Retentactinia impedita Won, 1997b: 385, pl. 6, fig. 19

E 130 ***Wuyia*** Feng *in* Feng *et al.*, 2007: 31 **Entactiniidae**



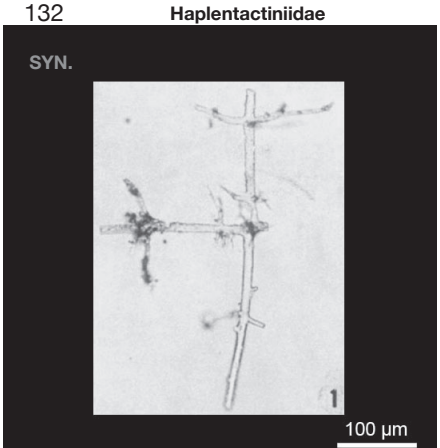
Wuyia dongpanica Feng *in* Feng *et al.*, 2007: 33, pl. 5, fig. 9

E 131 ***Arcoclathrata*** Afanasieva & Amon, 2016: 217 **Haplentactiniidae**



Arcoclathrata alekseevi Afanasieva & Amon, 2016: 219, pl. 2, fig. 9

E 132 ***Arrhiniella*** Kozur & Mostler, 1981: 4 **Haplentactiniidae**

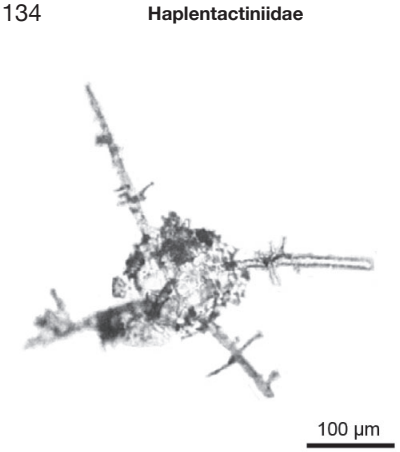


Haplentactinia arrhinia Foreman, 1963: 270, pl. 1, fig. 1
SEE HAPLENTACTINIA

E 133 ***Bissylentactinia*** Nazarov, 1975: 93 **Haplentactiniidae**

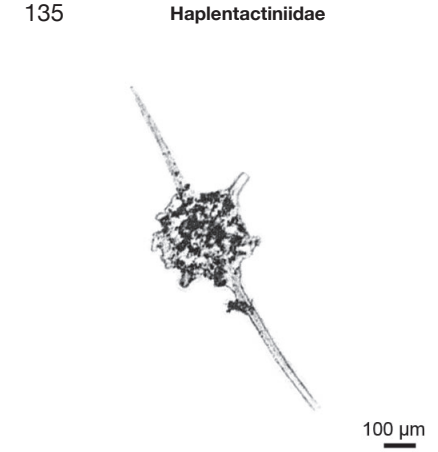
Bissylentactinia rudicula Nazarov, 1975: 94, pl. 13, fig. 1

E 134 ***Haplentactinia*** Foreman, 1963: 270 **Haplentactiniidae**



Haplentactinia rhinophyusa Foreman, 1963: 270, pl. 1, fig. 2

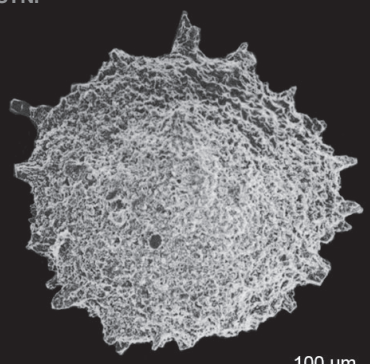
E 135 ***Syntagentactinia*** Nazarov *in* Nazarov & Popov, 1980: 56 **Haplentactiniidae**



Syntagentactinia biocculosa Nazarov *in* Nazarov & Popov, 1980: 56 , pl. 12, fig. 1

E
136 ***Eostylodictya***
Ormiston & Lane, 1976: 170
Palaeolithocycliidae

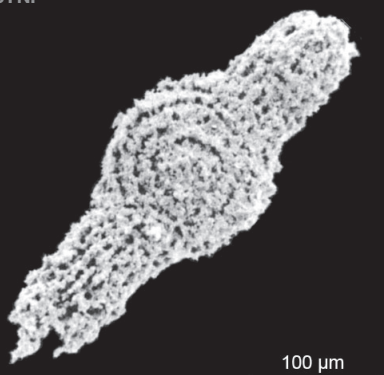
SYN.



Eostylodictya eccentrica
Ormiston & Lane, 1976: 171, pl. 4, fig. 1
SEE PALAEOLITHOCYCLIA

E
137 ***Gedauia***
Won, 1983: 153
Palaeolithocycliidae

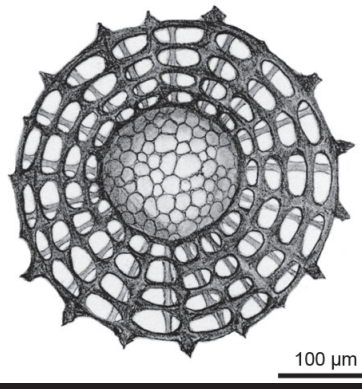
SYN.



Gedauia bibrachialis
Won, 1983: 153, pl. 3, fig. 5
SEE PARAMPHIBRACHIUM

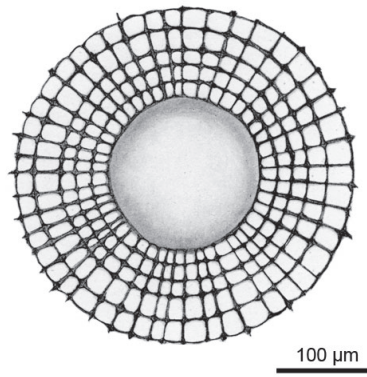
E
138 ***Palaeoastrocyclia***
Kozur & Mostler, 1972: 16
Palaeolithocycliidae

SYN.



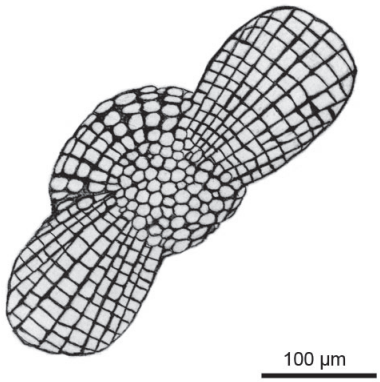
Lithocyclia ulrichi
Rüst, 1892: 166, pl. 22, fig. 3
SEE PALAEOLITHOCYCLIA

E
139 ***Palaeolithocyclia***
Kozur & Mostler, 1972: 17
Palaeolithocycliidae



Lithocyclia macrococcus
Rüst, 1892: 166, pl. 22, fig. 4

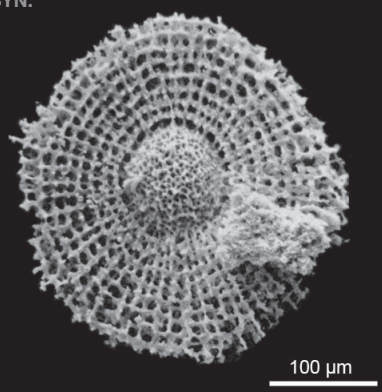
E
140 ***Paramphibrachium***
Kozur & Mostler, 1978: 143
Palaeolithocycliidae



Amphymenium alienum
Rüst, 1892: 170, pl. 24, fig. 2

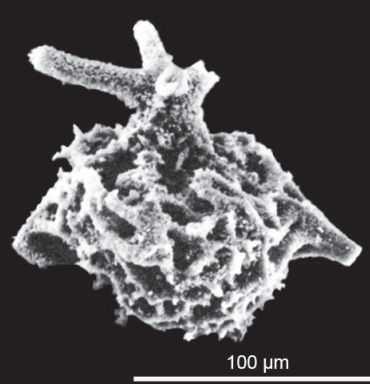
E
141 ***Sphaerodiscus***
Won, 1983: 163
Palaeolithocycliidae

SYN.



Sphaerodiscus rota
Won, 1983: 163, pl. 3, fig. 10a
SEE PALAEOLITHOCYCLIA

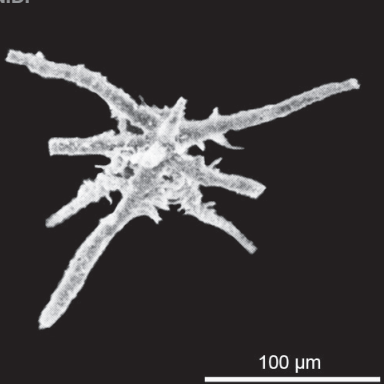
E
142 ***Deflantrica***
Wakamatsu, Sugiyama & Furutani, 1990: 167
Palaeoscenidiidae



Parentactinia vetustum
Furutani, 1983: 108, pl. 21, fig. 5a

E
143 ***Fukujius***
Furutani, 1990: 46
Palaeoscenidiidae

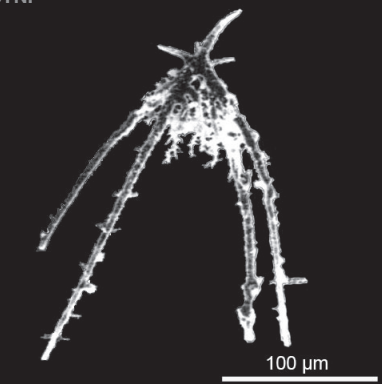
N.D.



Fukujius yamakoshii
Furutani, 1990: 47, pl. 9, fig. 4

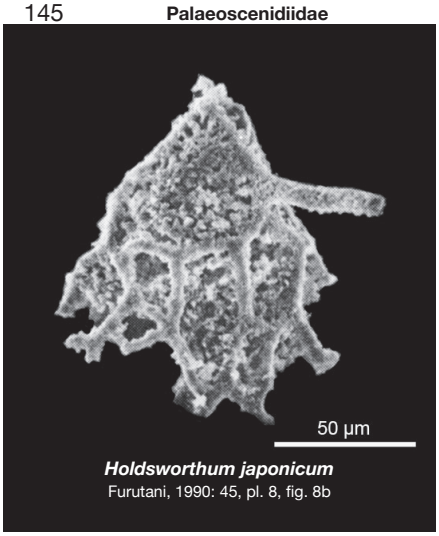
E
144 ***Goodbodium***
Furutani, 1990: 43
Palaeoscenidiidae

SYN.



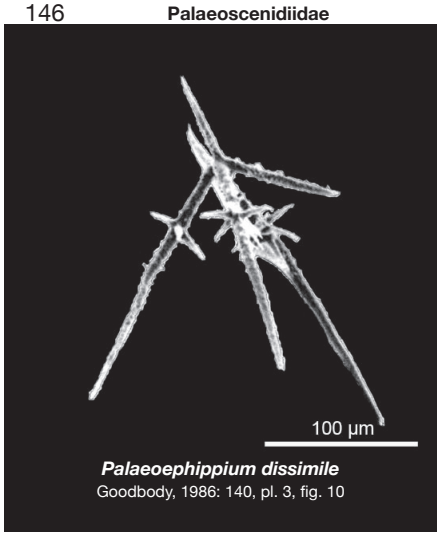
Palaeoscenidium flammatum
Goodbody, 1986: 152, pl. 1, fig. 4
SEE PALAEOSCENIDIUM

E 145 ***Holdsworthum*** Furutani, 1990: 44 **Palaeoscenidiidae**



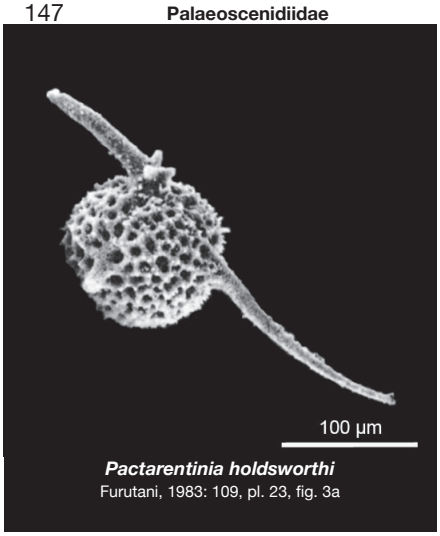
Holdsworthum japonicum Furutani, 1990: 45, pl. 8, fig. 8b

E 146 ***Insolitignum*** MacDonald, 1999: 2053 **Palaeoscenidiidae**



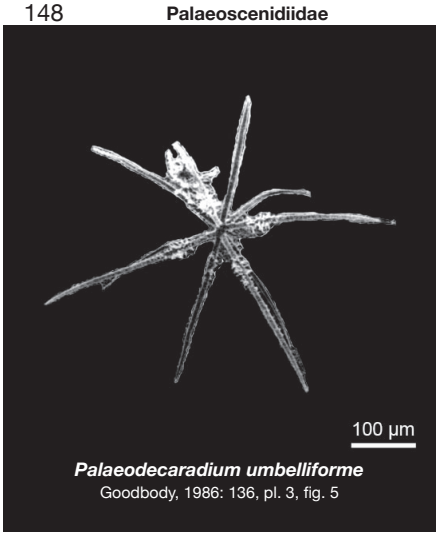
Palaeoephippium dissimile Goodbody, 1986: 140, pl. 3, fig. 10

E 147 ***Pactarentinia*** Furutani, 1983: 109 **Palaeoscenidiidae**



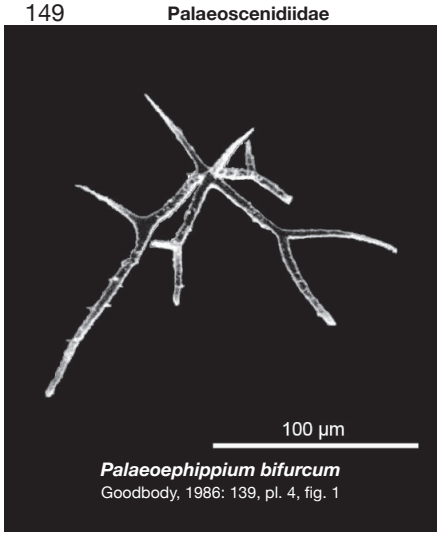
Pactarentinia holdsworthi Furutani, 1983: 109, pl. 23, fig. 3a

E 148 ***Palaeodecaradium*** Goodbody, 1986: 136 **Palaeoscenidiidae**



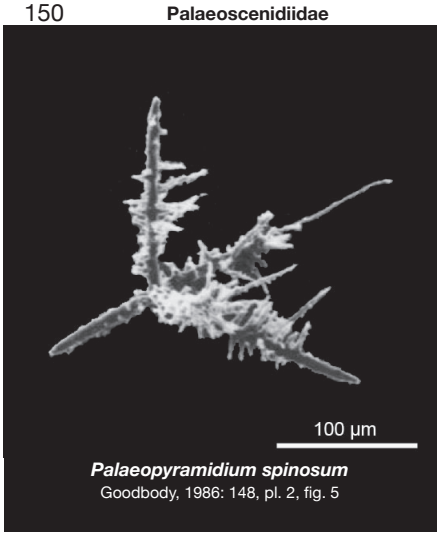
Palaeodecaradium umbelliforme Goodbody, 1986: 136, pl. 3, fig. 5

E 149 ***Palaeoephippium*** Goodbody, 1986: 138 **Palaeoscenidiidae**



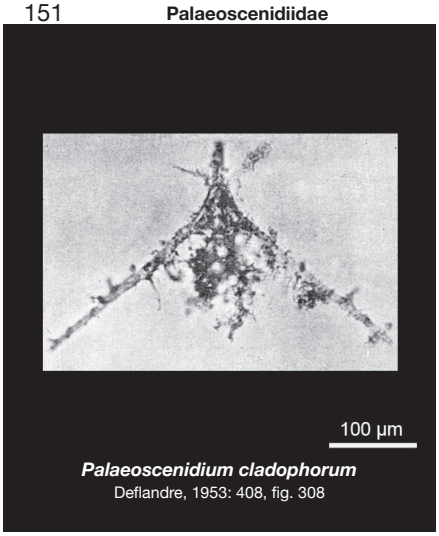
Palaeoephippium bifurcum Goodbody, 1986: 139, pl. 4, fig. 1

E 150 ***Palaeopyramidium*** Goodbody, 1986: 147 **Palaeoscenidiidae**



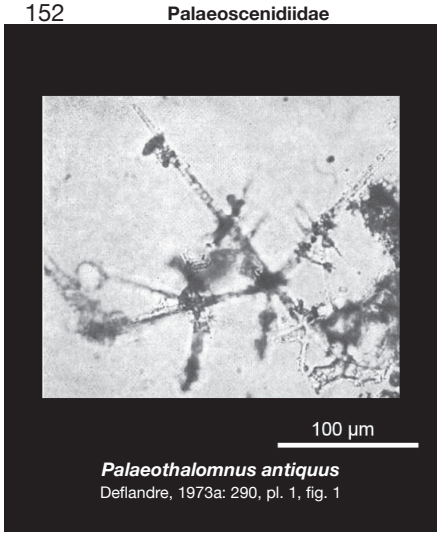
Palaeopyramidium spinosum Goodbody, 1986: 148, pl. 2, fig. 5

E 151 ***Palaeoscenidium*** Deflandre, 1953: 408 **Palaeoscenidiidae**



Palaeoscenidium cladophorum Deflandre, 1953: 408, fig. 308

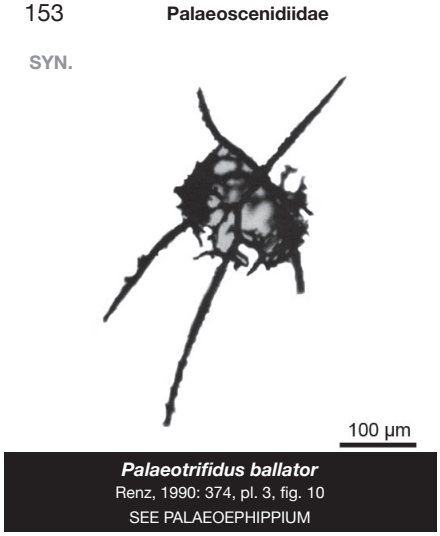
E 152 ***Palaeothalomnus*** Deflandre, 1973b: 497 **Palaeoscenidiidae**



Palaeothalomnus antiquus Deflandre, 1973a: 290, pl. 1, fig. 1

E 153 ***Palaeotrifidus*** Renz, 1990: 374 **Palaeoscenidiidae**

SYN.



Palaeotrifidus ballator Renz, 1990: 374, pl. 3, fig. 10

SEE PALAEOEPHIPPIUM

E 154 ***Palaeotripus*** Goodbody, 1986: 152 **Palaeoscenidiidae**

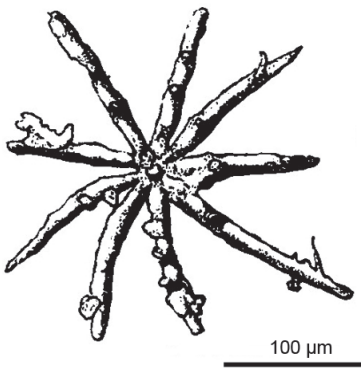
SYN.

Palaeotripus nudus Goodbody, 1986: 154, pl. 1, fig. 8

SEE PALAEODECARADIUM

E 155 ***Palaeoumbraculum*** Amon, Braun & Ivanov, 1995: 8 **Palaeoscenidiidae**

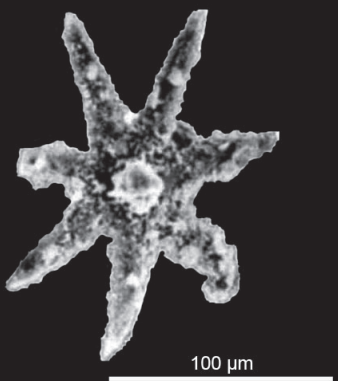
SYN.



Palaeoumbraculum expandum Amon, Braun & Ivanov, 1995: 8, text-fig. 12a

SEE PRAESATURNALIS

E 156 ***Praesaturnalis*** Li, 1994: 269 **Palaeoscenidiidae**



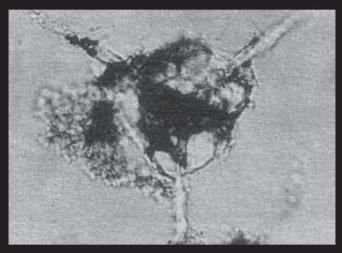
Praesaturnalis septemistellatus Li, 1994: 269, pl. 1, fig. 15

E 157 ***Procyrtis*** Li, 1995: 336 **Palaeoscenidiidae**

Procyrtis rustii Li, 1995: 336, pl. 1, fig. 17

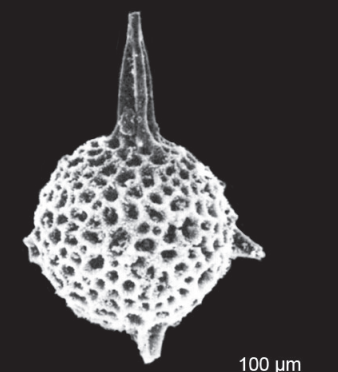
E 158 ***Tetraedroclathrum*** Deflandre, 1960: 216 **Palaeoscenidiidae**

N.N.



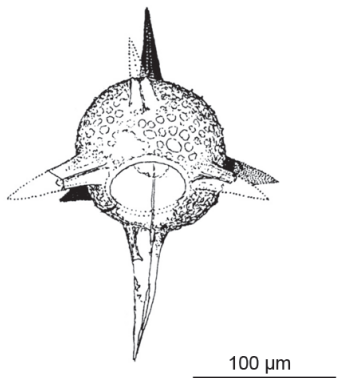
Tetraedroclathrum cabrierense Deflandre, 1960: 216, pl. 1, fig. 22

E 159 ***Tlecerina*** Furutani, 1983: 110 **Palaeoscenidiidae**



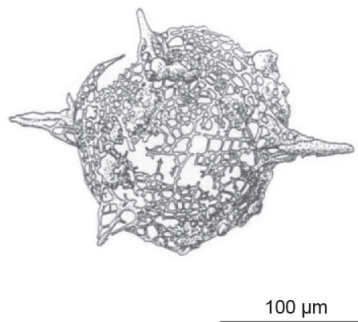
Tlecerina horrida Furutani, 1983: 110, pl. 25, fig. 1

E 160 ***Pylentonema*** Deflandre, 1963: 3981 **Pylentonemidae**



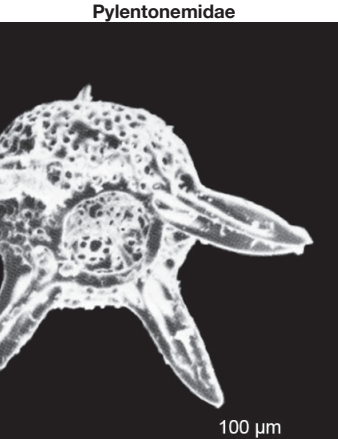
Acanthopyle antiqua Deflandre, 1963: 3982, fig. 1

E 161 ***Polyentactinia*** Foreman, 1963: 281 **Pylentonemidae**



Polyentactinia craticulata Foreman, 1963: 281, pl. 9, fig. 5b

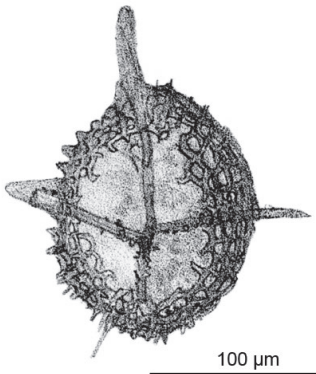
E 162 ***Quadrapesus*** Cheng, 1986: 121 **Pylentonemidae**



Quadrapesus dumitricai Cheng, 1986: 121, pl. 2, fig. 11

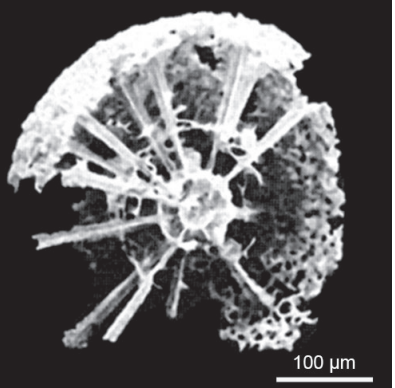
E
Ellipsostigma
Hinde, 1899a: 51
163 **Tetrentactiniidae**

N.D.



Ellipsostigma australe
Hinde, 1899a: 51, pl. 9, fig. 5

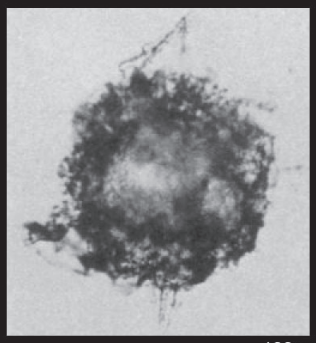
E
Multisphaera
Nazarov & Afanasieva *in* Afanasieva, 2000c: 75
164 **Tetrentactiniidae**



Multisphaera impersepta
Nazarov & Afanasieva *in* Afanasieva, 2000c: 75, pl. 81, fig. 7

E
Somphoentactinia
Nazarov, 1975: 92
165 **Tetrentactiniidae**

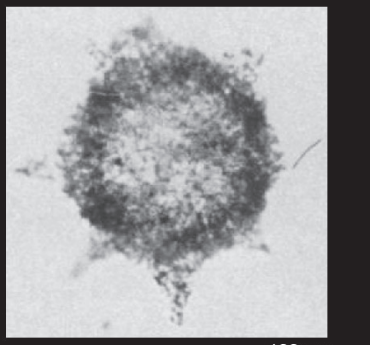
SYN.



Tetrentactinia somphozona
Foreman, 1963: 283, pl. 7, fig. 6a
SEE TETRENTACTINIA

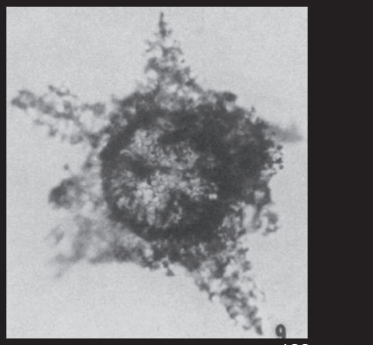
E
Spongentactinella
Nazarov, 1975: 91
166 **Tetrentactiniidae**

SYN.



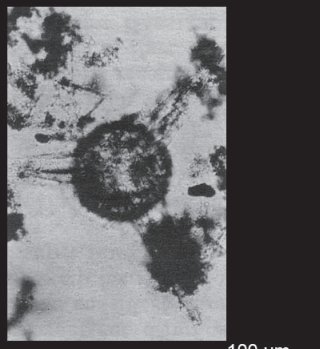
Tetrentactinia veles
Foreman, 1963: 283, pl. 7, fig. 1
SEE TETRENTACTINIA

E
Tetrentactinia
Foreman, 1963: 282
167 **Tetrentactiniidae**



Tetrentactinia barysphaera
Foreman, 1963: 282, pl. 7, fig. 9

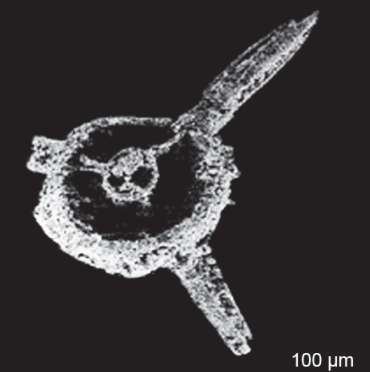
E
Triaenosphaera
Deflandre, 1973c: 1150
168 **Tetrentactiniidae**



Triaenosphaera sicarius
Deflandre, 1973c: 1150, pl. 2, fig. 3

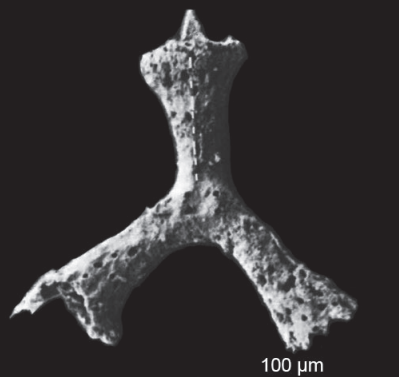
E
Triaenoentactinosphaera
Wang, 1997: 155
169 **Tetrentactiniidae**

SYN.



Triaenoentactinosphaera regularia
Wang, 1997: 156, pl. 4, fig. 8
SEE TRIANOSPHAERA

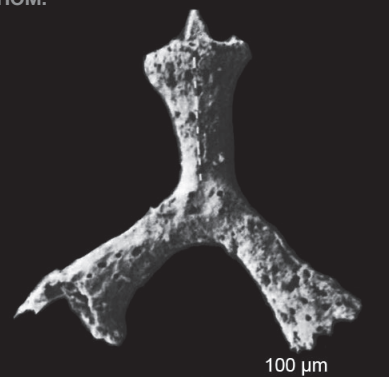
L
Cauletella
Caridroit, De Wever & Dumitrica, 1999: 608
170 **Cauletellidae**



Deflandrella manica
De Wever & Caridroit, 1984: 99, pl. 1, fig. 2

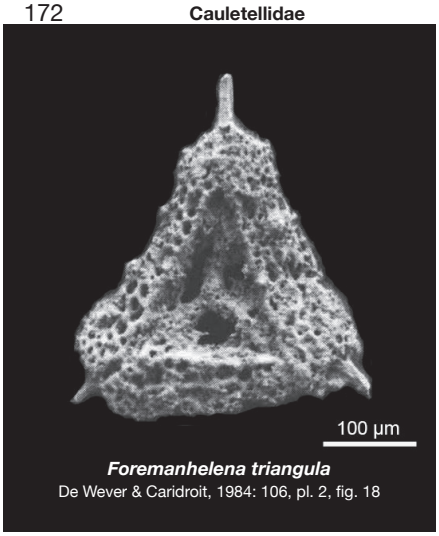
L
Deflandrella
De Wever & Caridroit, 1984: 99
171 **Cauletellidae**

HOM.



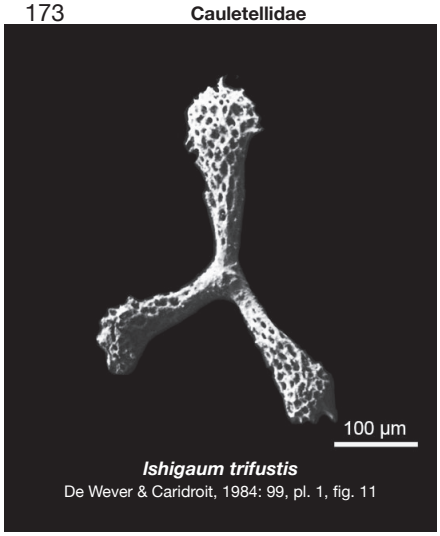
Deflandrella manica
De Wever & Caridroit, 1984: 99, pl. 1, fig. 2
SEE CAULETELLA

L 172 ***Foremanhelena*** De Wever & Caridroit, 1984: 104 **Cauletellidae**



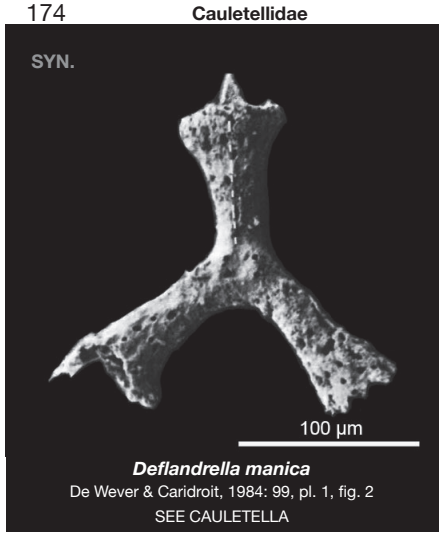
Foremanhelena triangula De Wever & Caridroit, 1984: 106, pl. 2, fig. 18

L 173 ***Ishigaum*** De Wever & Caridroit, 1984: 99 **Cauletellidae**



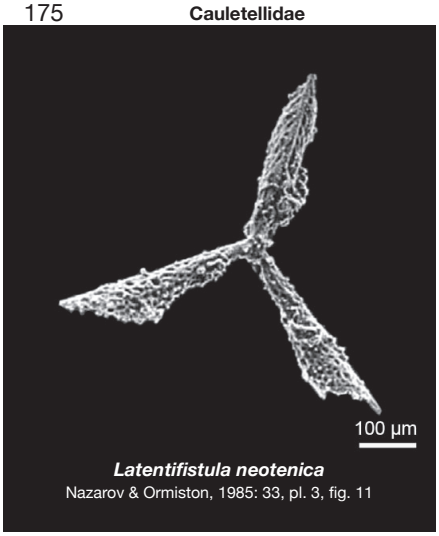
Ishigaum trifustis De Wever & Caridroit, 1984: 99, pl. 1, fig. 11

L 174 ***Kimagior*** Sugiyama, 2000: 228 **Cauletellidae**



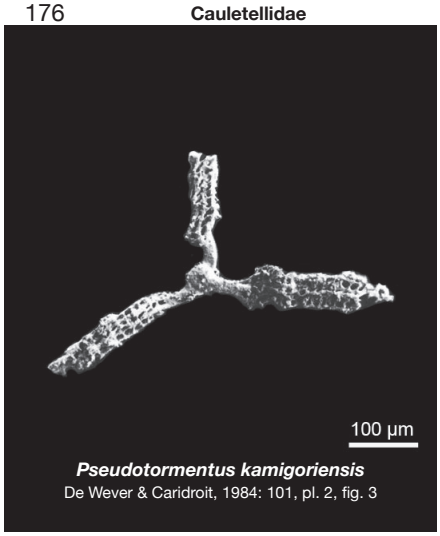
Deflandrella manica De Wever & Caridroit, 1984: 99, pl. 1, fig. 2
SEE CAULETELLA

L 175 ***Praedeflandrella*** Kozur & Mostler, 1989: 211 **Cauletellidae**



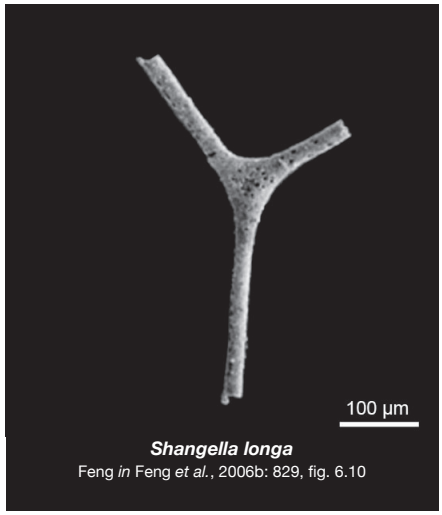
Latentifistula neotenica Nazarov & Ormiston, 1985: 33, pl. 3, fig. 11

L 176 ***Pseudotormentus*** De Wever & Caridroit, 1984: 101 **Cauletellidae**



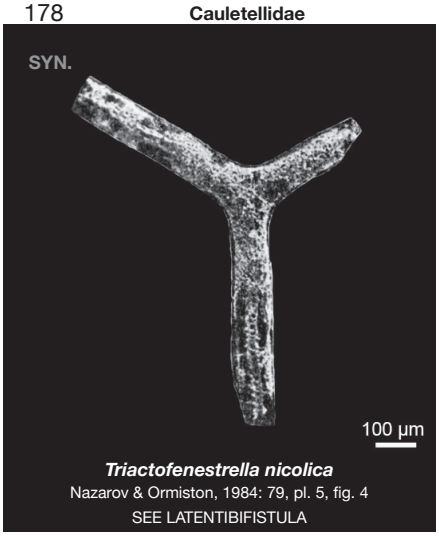
Pseudotormentus kamigoriensis De Wever & Caridroit, 1984: 101, pl. 2, fig. 3

L 177 ***Shangella*** Feng *in* Feng *et al.*, 2006b: 828 **Cauletellidae**



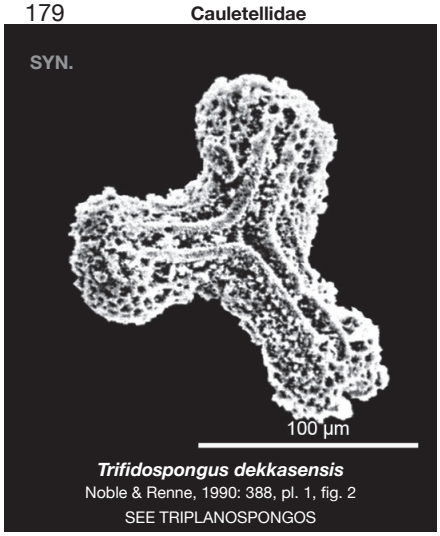
Shangella longa Feng *in* Feng *et al.*, 2006b: 829, fig. 6.10

L 178 ***Triactofenestrella*** Nazarov & Ormiston, 1984: 79 **Cauletellidae**



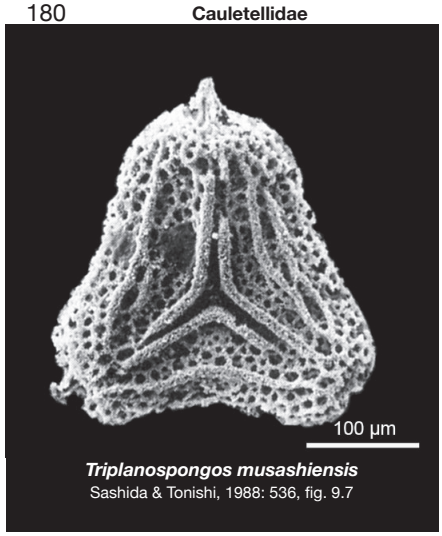
Triactofenestrella nicolica Nazarov & Ormiston, 1984: 79, pl. 5, fig. 4
SEE LATENTIBIFISTULA

L 179 ***Trifidospongus*** Noble & Renne, 1990: 388 **Cauletellidae**



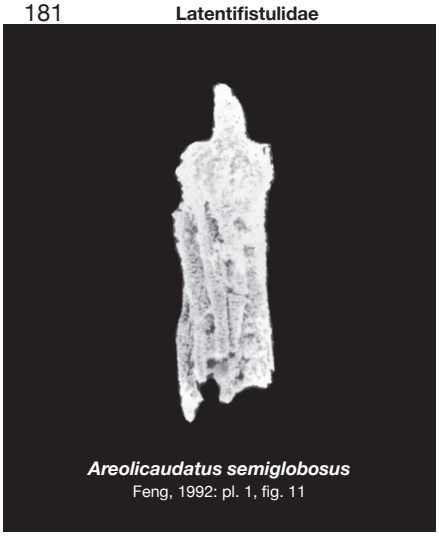
Trifidospongus dekkasensis Noble & Renne, 1990: 388, pl. 1, fig. 2
SEE TRIPLANOSPONGOS

L 180 ***Triplanospongos*** Sashida & Tonishi, 1988: 536 **Cauletellidae**



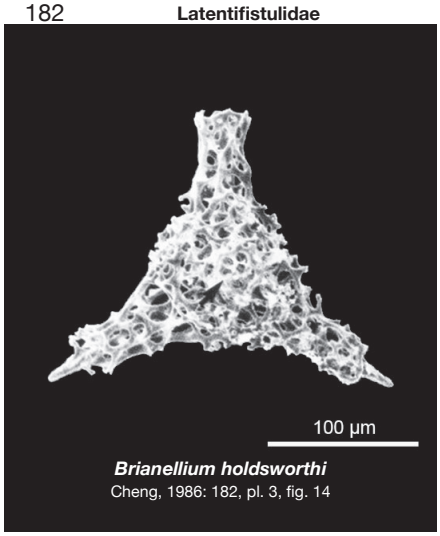
Triplanospongos musashiensis Sashida & Tonishi, 1988: 536, fig. 9.7

L
181
Areolicaudatus
Feng & Liu, 1993: 545
Latentifistulidae



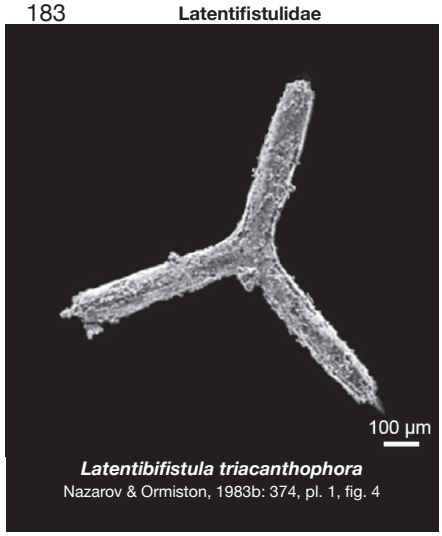
Areolicaudatus semiglobosus
Feng, 1992: pl. 1, fig. 11

L
182
Brianellium
Cheng, 1986: 180
Latentifistulidae



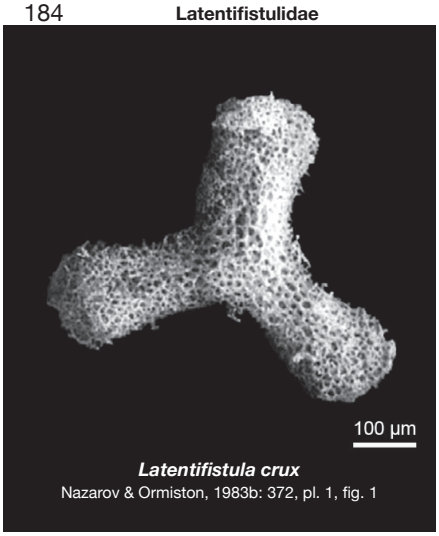
Brianellium holdsworthi
Cheng, 1986: 182, pl. 3, fig. 14

L
183
Latentibifistula
Nazarov & Ormiston, 1983b: 373
Latentifistulidae



Latentibifistula triacanthophora
Nazarov & Ormiston, 1983b: 374, pl. 1, fig. 4

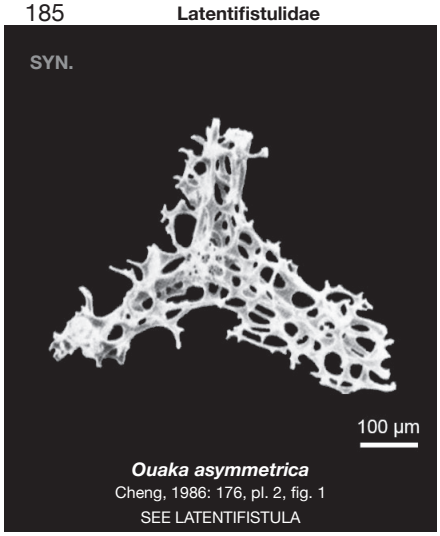
L
184
Latentifistula
Nazarov & Ormiston, 1983b: 371
Latentifistulidae



Latentifistula crux
Nazarov & Ormiston, 1983b: 372, pl. 1, fig. 1

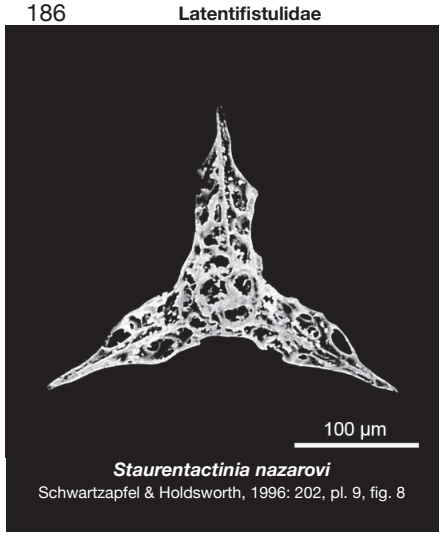
L
185
Ouaka
Cheng, 1986: 176
Latentifistulidae

SYN.



Ouaka asymmetrica
Cheng, 1986: 176, pl. 2, fig. 1
SEE LATENTIFISTULA

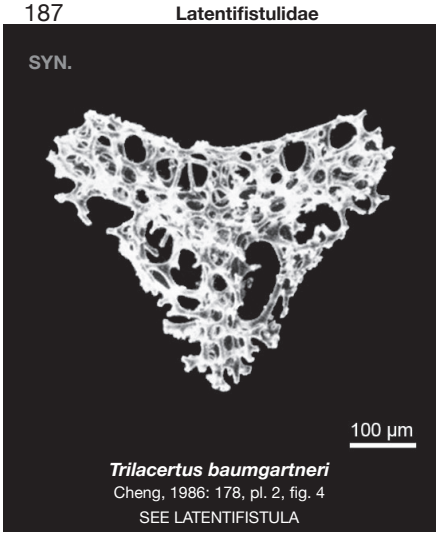
L
186
Staurentactinia
Schwartzapfel & Holdsworth, 1996: 202
Latentifistulidae



Staurentactinia nazarovi
Schwartzapfel & Holdsworth, 1996: 202, pl. 9, fig. 8

L
187
Trilacertus
Cheng, 1986: 177
Latentifistulidae

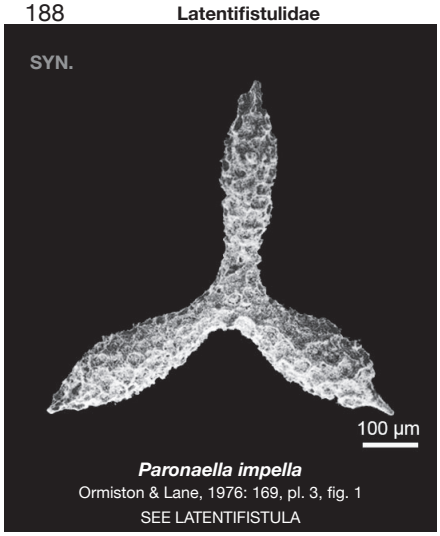
SYN.



Trilacertus baumgartneri
Cheng, 1986: 178, pl. 2, fig. 4
SEE LATENTIFISTULA

L
188
Wonella
Kozur & Mostler, 1989: 220
Latentifistulidae

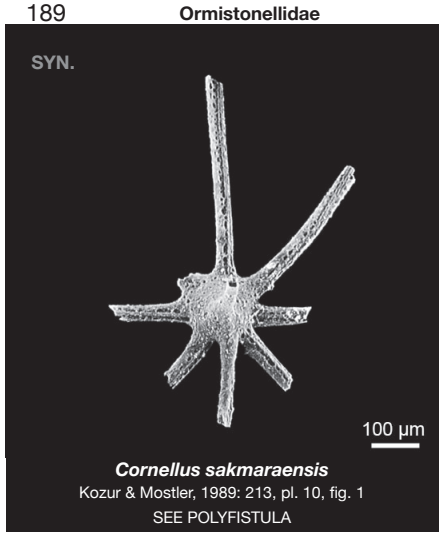
SYN.



Paronaella impella
Ormiston & Lane, 1976: 169, pl. 3, fig. 1
SEE LATENTIFISTULA

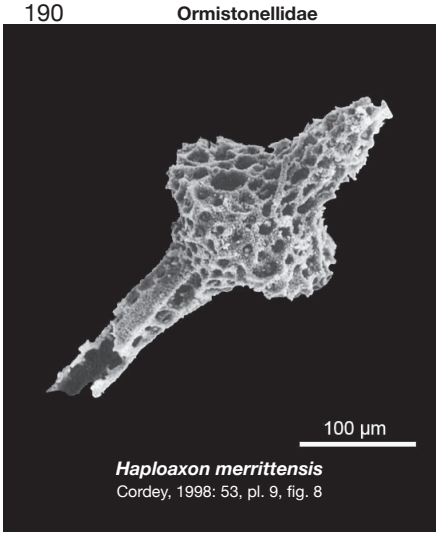
L
189
Cornellus
Kozur & Mostler, 1989: 212
Ormistonellidae

SYN.



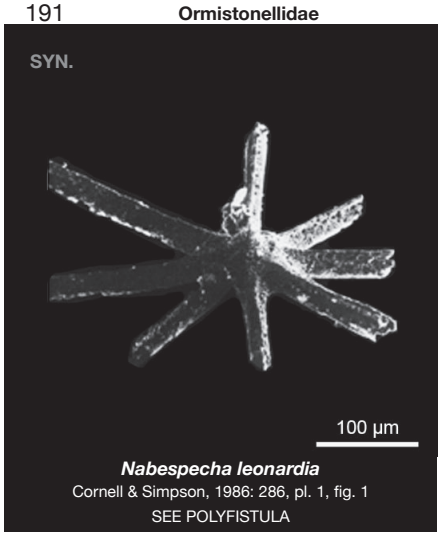
Cornellus sakmaraensis
Kozur & Mostler, 1989: 213, pl. 10, fig. 1
SEE POLYFISTULA

L
190 ***Haploaxon***
Cordey, 1998: 52
Ormistonellidae



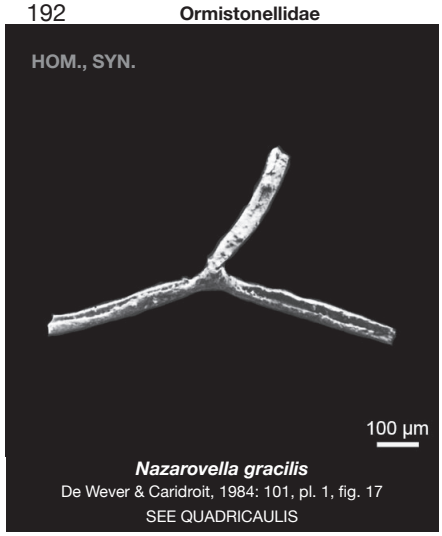
Haploaxon merrittensis
Cordey, 1998: 53, pl. 9, fig. 8

L
191 ***Nabespecha***
Cornell & Simpson, 1986: 286
Ormistonellidae



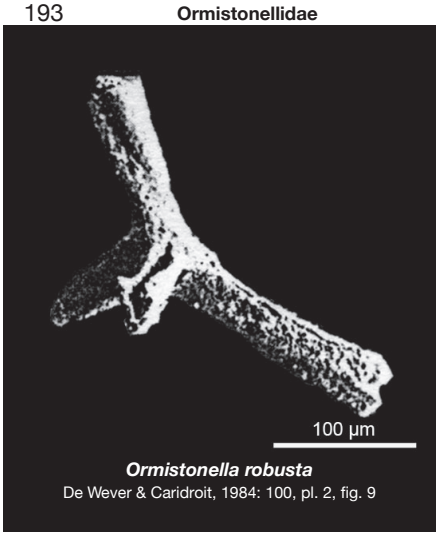
Nabespecha leonardia
Cornell & Simpson, 1986: 286, pl. 1, fig. 1
SEE POLYFISTULA

L
192 ***Nazarovella***
De Wever & Caridroit, 1984: 101
Ormistonellidae



Nazarovella gracilis
De Wever & Caridroit, 1984: 101, pl. 1, fig. 17
SEE QUADRICAULIS

L
193 ***Ormistonella***
De Wever & Caridroit, 1984: 100
Ormistonellidae

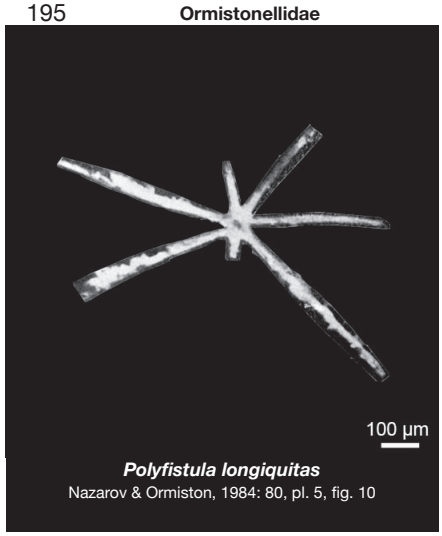


Ormistonella robusta
De Wever & Caridroit, 1984: 100, pl. 2, fig. 9

L
194 ***Paulianella***
Kozur & Mostler, 1989: 215
Ormistonellidae

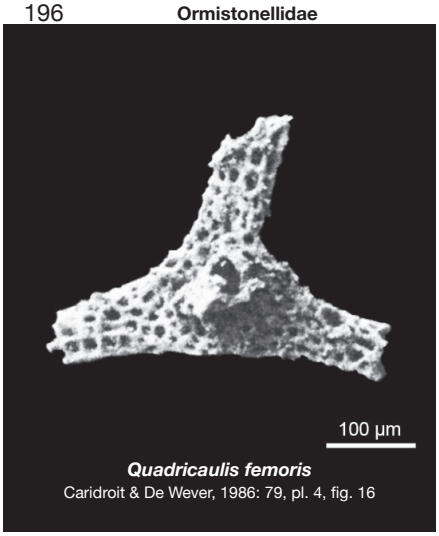
Latentifistula valdeinepta
Nazarov & Ormiston, 1985: 33, pl. 3, fig. 9
SEE ORMISTONELLA

L
195 ***Polyfistula***
Nazarov & Ormiston, 1984: 80
Ormistonellidae



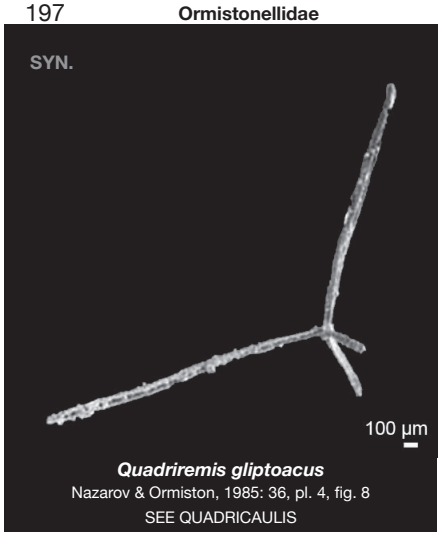
Polyfistula longiquitas
Nazarov & Ormiston, 1984: 80, pl. 5, fig. 10

L
196 ***Quadricaulis***
Caridroit & De Wever, 1986: 79
Ormistonellidae



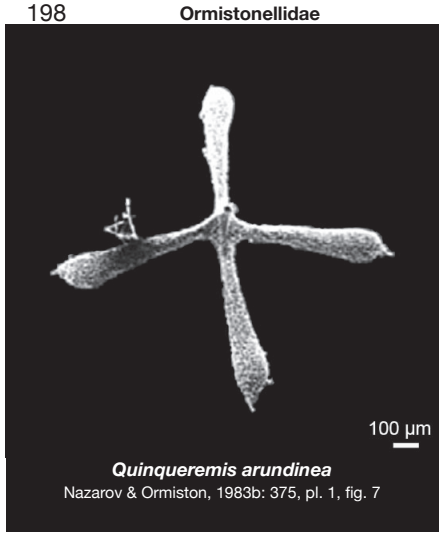
Quadricaulis femoris
Caridroit & De Wever, 1986: 79, pl. 4, fig. 16

L
197 ***Quadriremis***
Nazarov & Ormiston, 1985: 36
Ormistonellidae



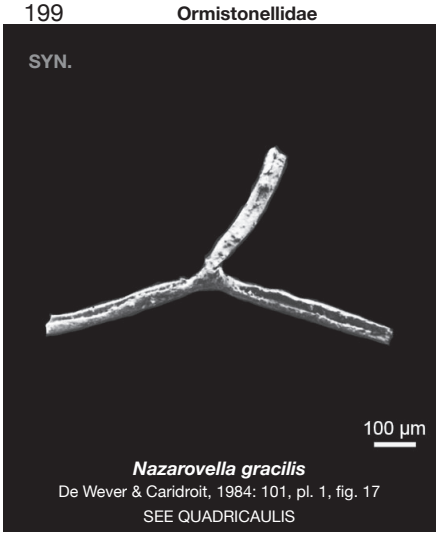
Quadriremis gliptoacus
Nazarov & Ormiston, 1985: 36, pl. 4, fig. 8
SEE QUADRICAULIS

L
198 ***Quinqueremis***
Nazarov & Ormiston, 1983b: 374
Ormistonellidae



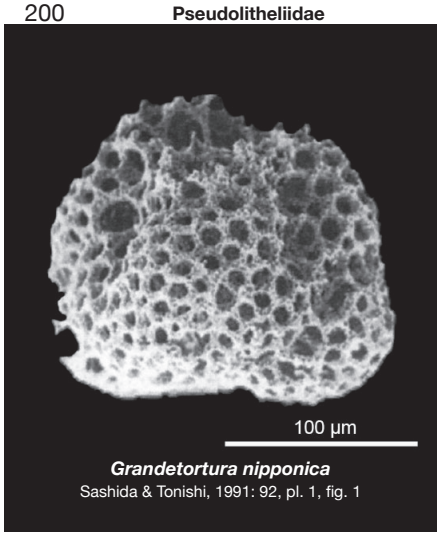
Quinqueremis arundinea
Nazarov & Ormiston, 1983b: 375, pl. 1, fig. 7

L 199 ***Raciditor***
Sugiyama, 2000: 227
Ormistonellidae



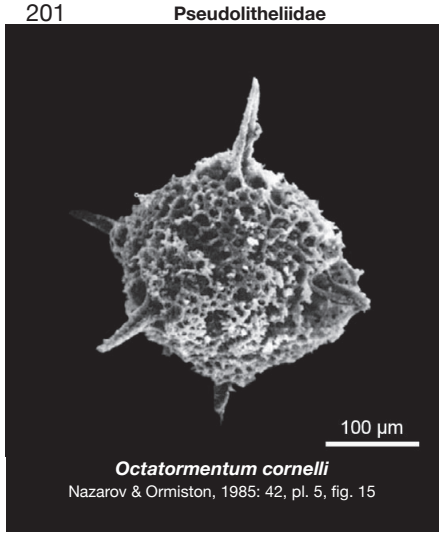
Nazarovella gracilis
De Wever & Caridroit, 1984: 101, pl. 1, fig. 17
SEE QUADRICAULIS

L 200 ***Grandetortura***
Sashida & Tonishi, 1991: 90
Pseudolitheliidae



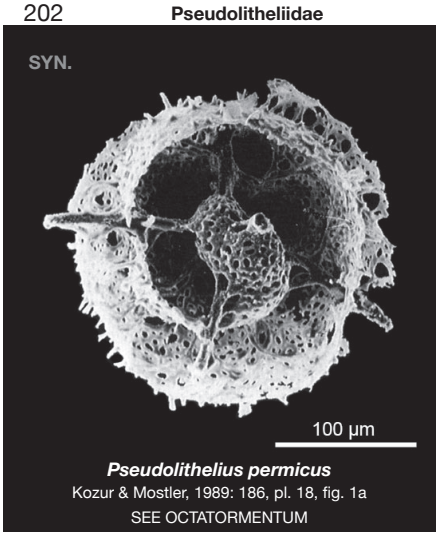
Grandetortura nipponica
Sashida & Tonishi, 1991: 92, pl. 1, fig. 1

L 201 ***Octatormentum***
Nazarov & Ormiston, 1985: 42
Pseudolitheliidae



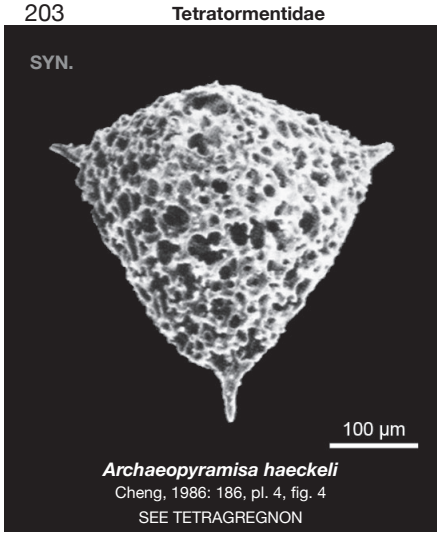
Octatormentum cornelli
Nazarov & Ormiston, 1985: 42, pl. 5, fig. 15

L 202 ***Pseudolithelius***
Kozur & Mostler, 1989: 185
Pseudolitheliidae



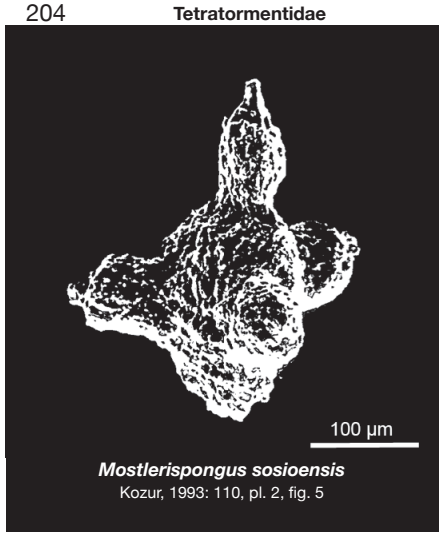
Pseudolithelius permicus
Kozur & Mostler, 1989: 186, pl. 18, fig. 1a
SEE OCTATORMENTUM

L 203 ***Archaeopyramisa***
Cheng, 1986: 185
Tetratormentidae



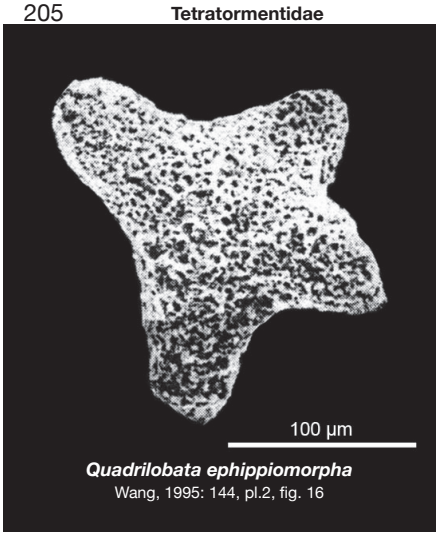
Archaeopyramisa haeckeli
Cheng, 1986: 186, pl. 4, fig. 4
SEE TETRAGREGNON

L 204 ***Mostlerispongus***
Kozur, 1993: 110
Tetratormentidae



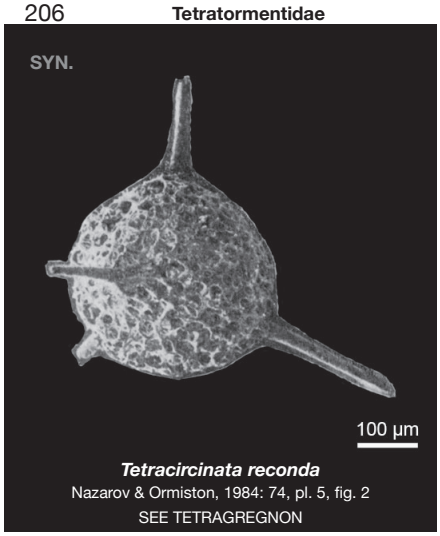
Mostlerispongus sosioensis
Kozur, 1993: 110, pl. 2, fig. 5

L 205 ***Quadrilobata***
Wang, 1995: 144
Tetratormentidae



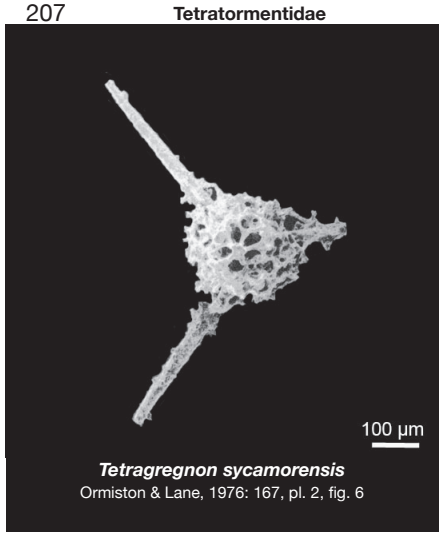
Quadrilobata ephippiomorpha
Wang, 1995: 144, pl.2, fig. 16

L 206 ***Tetracircinata***
Nazarov & Ormiston, 1984: 74
Tetratormentidae



Tetracircinata reconda
Nazarov & Ormiston, 1984: 74, pl. 5, fig. 2
SEE TETRAGREGNON

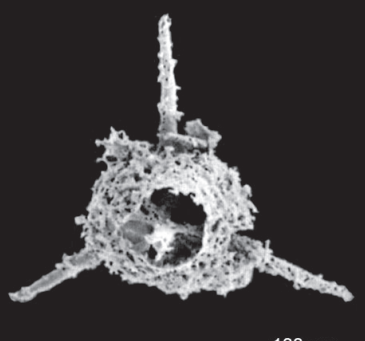
L 207 ***Tetragregnon***
Ormiston & Lane, 1976: 167
Tetratormentidae



Tetragregnon sycamorensis
Ormiston & Lane, 1976: 167, pl. 2, fig. 6

L **208** ***Tetraspongoactinia*** Won, 1998: 257 **Tetratormentidae**

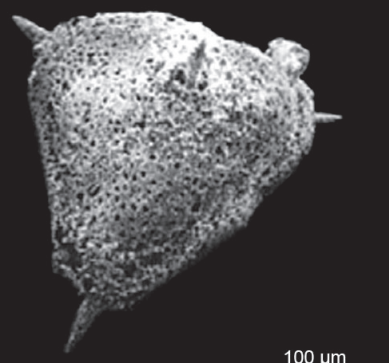
SYN.



Tetraspongoactinia holdsworthi Won, 1998: 257, pl. 4, fig. 10

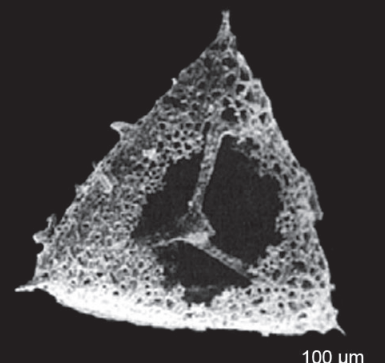
SEE TETRAGREGNON

L **209** ***Tetratormentum*** Nazarov & Ormiston, 1985: 42 **Tetratormentidae**



Tetratormentum narthecium Nazarov & Ormiston, 1985: 42, pl. 5, fig. 8

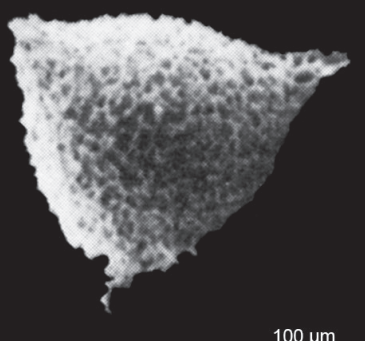
L **210** ***Latentidiota*** Nazarov & Ormiston, 1985: 29 **Ruzhencevispongidae**



Latentidiota visenda Nazarov & Ormiston, 1985: 29, pl. 3, fig. 7

L **211** ***Nazarovispongus*** Kozur, 1980: 237 **Ruzhencevispongidae**

SYN.

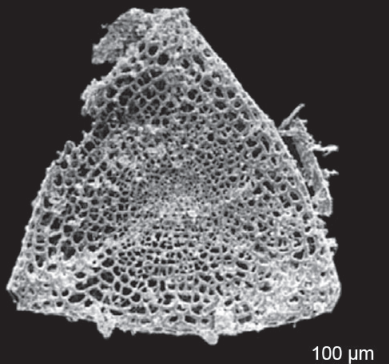


Nazarovispongus pavlovi Kozur, 1980: 238, pl. 1, fig. 6

SEE RUZHENCEVISPONGUS

L **212** ***Patrickella*** Kozur & Mostler, 1989: 214 **Ruzhencevispongidae**

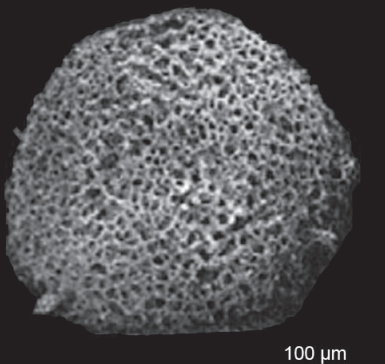
SYN.



Ruzhencevispongus cataphractus Nazarov & Ormiston, 1985: 29, pl. 3, fig. 1

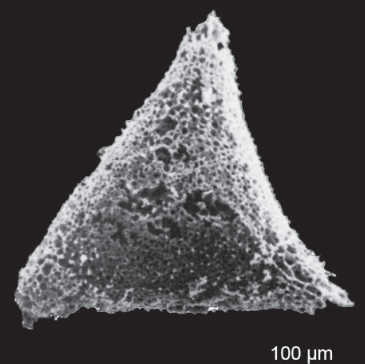
SEE RUZHENCEVISPONGUS

L **213** ***Rectotormentum*** Nazarov & Ormiston, 1985: 41 **Ruzhencevispongidae**



Rectotormentum fornicatum Nazarov & Ormiston, 1985: 41, pl. 5, fig. 11

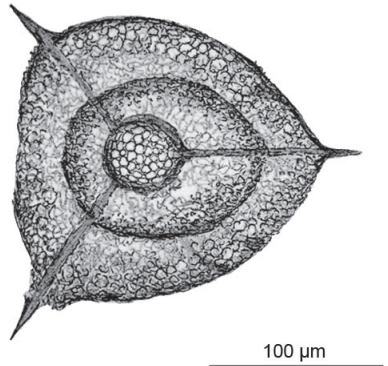
L **214** ***Ruzhencevispongus*** Kozur, 1980: 237 **Ruzhencevispongidae**



Ruzhencevispongus uralicus Kozur, 1980: 237, pl. 1, fig. 1

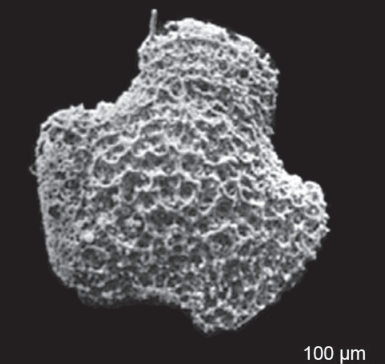
L **215** ***Scharfenbergia*** Won, 1983: 158 **Ruzhencevispongidae**

HOM.



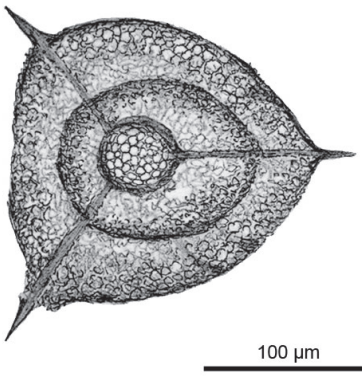
Spongotripus concentricus Rüst, 1892: 173, pl. 25, fig. 4

L **216** ***Tormentum*** Nazarov & Ormiston, 1983b: 376 **Ruzhencevispongidae**



Tormentum protei Nazarov & Ormiston, 1983b: 376, pl. 1, fig. 3

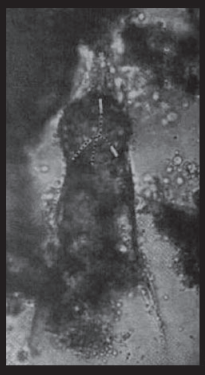
L
217
Wonia
Özdikmen, 2009: 247
Ruzhencevispongidae



Spongotripus concentricus
Rüst, 1892: 173, pl. 25, fig. 4

N
218
Allocyrtium
Afanasieva, 1986: 31
Archocyrtiidae

SYN.

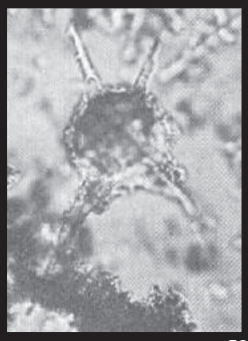


Archocyrtium castuligerum
Deflandre, 1972a: pl. 4, fig. 6; Deflandre, 1972b: 15
SEE ARCHOCYRTIUM

N
219
Archocyrtium
Deflandre, 1972b: 15
Archocyrtiidae

Archocyrtium riedeli
Deflandre, 1972a: pl. 4, fig. 4; Deflandre, 1972b: 15

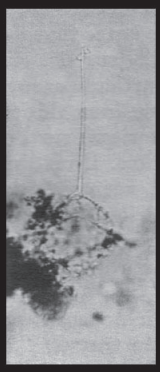
N
220
Cerarchocyrtium
Deflandre, 1973d: 151
Archocyrtiidae



Cerarchocyrtium ambiguum
Deflandre, 1973d: 151, pl. 4, fig. 1

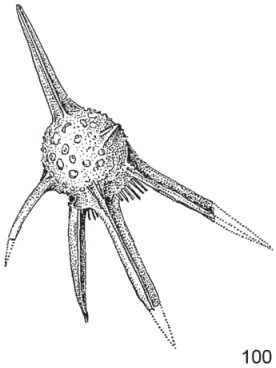
N
221
Ceratoclathrulum
Deflandre, 1960: 216
Archocyrtiidae

N.N.



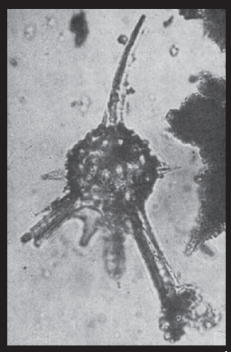
Ceratoclathrulum ambiguum
Deflandre, 1960: 216, pl. 1, fig. 8

N
222
Cyrtisphaeractenium
Deflandre, 1972b: 14
Archocyrtiidae



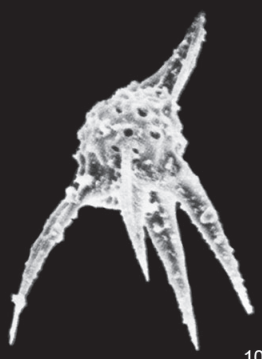
Cyrtisphaeractenium mendax
Deflandre, 1972a: pl. 1, fig. 10; Deflandre, 1972b: 15

N
223
Cyrtisphaeronemium
Deflandre, 1972b: 14
Archocyrtiidae



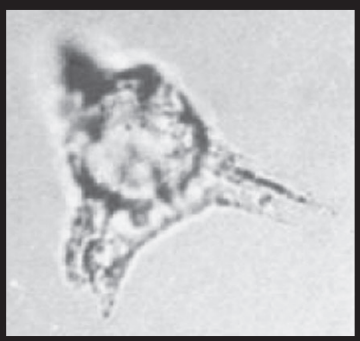
Cyrtisphaeronemium prudentigerum
Deflandre, 1972a: pl. 2, fig. 1; Deflandre, 1972b: 14

N
224
Deflandrellium
Cheng, 1986: 134
Archocyrtiidae



Deflandrellium georgesi
Cheng, 1986: 134, pl. 7, fig. 7

N
225
Foremaniella
Deflandre, 1972b: 14
Archocyrtiidae



Cyrtentactinia cibdelosphaera
Foreman, 1963: 285, pl. 8, fig. 3

N 226 ***Mostlerium*** Cheng, 1986: 136 **Archocyrtiidae**

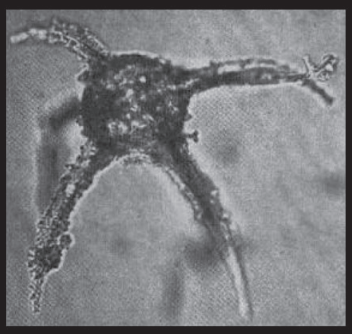
SYN.

100 µm

Mostlerium unicum Cheng, 1986: 136, pl. 4, fig. 8

SEE PARARCHOCYRTIUM

N 227 ***Pararchocyrtium*** Deflandre, 1972b: 15 **Archocyrtiidae**



100 µm

Pararchocyrtium mirabile Deflandre, 1972a: pl. 4, fig. 1; Deflandre, 1972b: 15

N 228 ***Robotium*** Cheng, 1986: 137 **Archocyrtiidae**

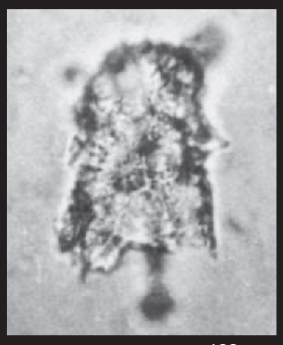
SYN.

100 µm

Robotium validum Cheng, 1986: 139, pl. 3, fig. 11

SEE PARARCHOCYRTIUM

N 229 ***Cyrtentactinia*** Foreman, 1963: 284 **Popofskyellidae**



100 µm

Cyrtentactinia primotica Foreman, 1963: 285, pl. 8, fig. 2a

N 230 ***Kantollum*** Cheng, 1986: 163 **Popofskyellidae**

100 µm

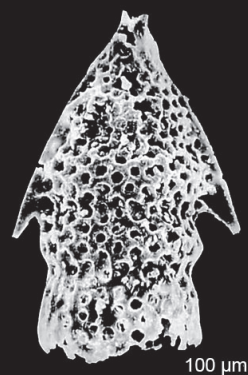
Kantollum pittsburgense Cheng, 1986: 164, pl. 2, fig. 4

N 231 ***Popofskyellum*** Deflandre, 1964: 3058 **Popofskyellidae**

100 µm

Popofskyellum pulchrum Deflandre, 1964: fig. 1

N 232 ***Totollum*** Schwartzapfel & Holdsworth, 1996: 142 **Popofskyellidae**



100 µm

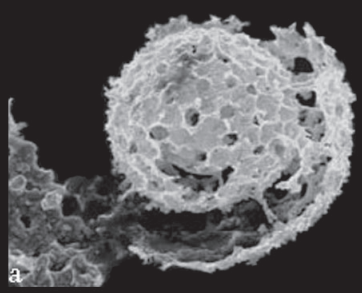
Totollum blomei Schwartzapfel & Holdsworth, 1996: 146, pl. 10, fig. 1

N 233 ***Tuscaritellum*** Deflandre, 1972b: 16 **Popofskyellidae**

50 µm

Tuscaritellum imitatum Deflandre, 1972a: text-fig. 4

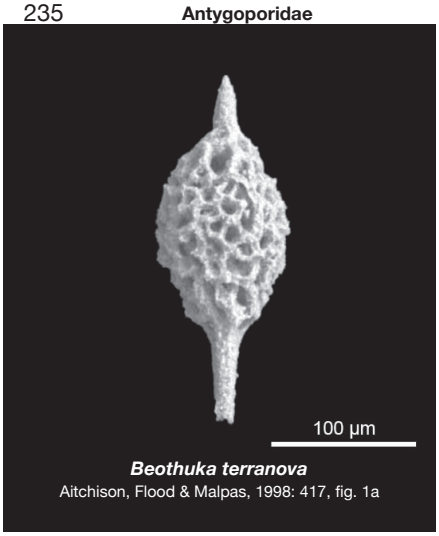
S 234 ***Antygopora*** Maletz & Bruton, 2005: 713 **Antygoporidae**



50 µm

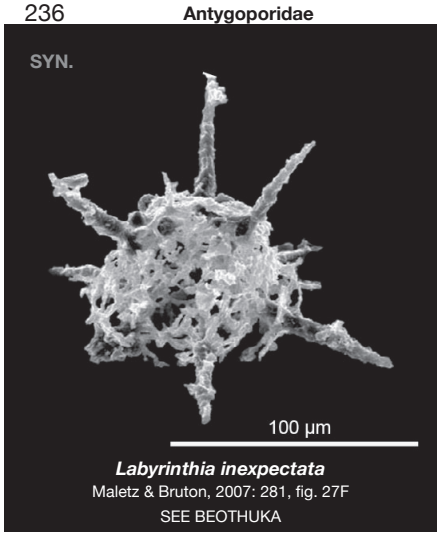
Antygopora ordovicica Maletz & Bruton, 2005: 715, fig. 2a

S
235
Beothuka
Aitchison, Flood & Malpas, 1998: 417
Antygoporidae



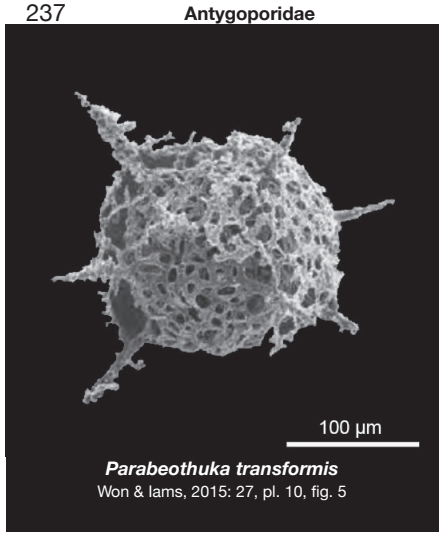
Beothuka terranova
Aitchison, Flood & Malpas, 1998: 417, fig. 1a

S
236
Labyrinthia
Maletz & Bruton, 2007: 281
Antygoporidae



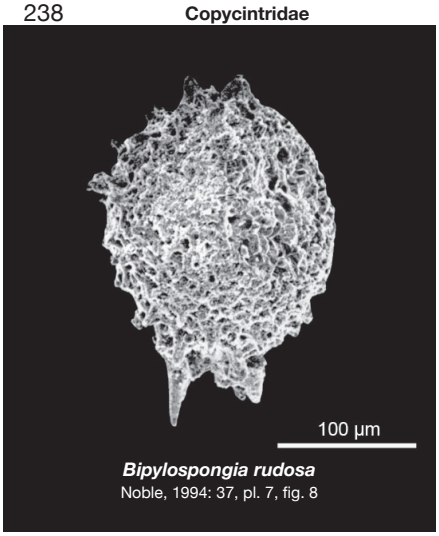
Labyrinthia inexpectata
Maletz & Bruton, 2007: 281, fig. 27F
SEE BEOTHUKA

S
237
Parabeothuka
Won & Iams, 2015: 27
Antygoporidae



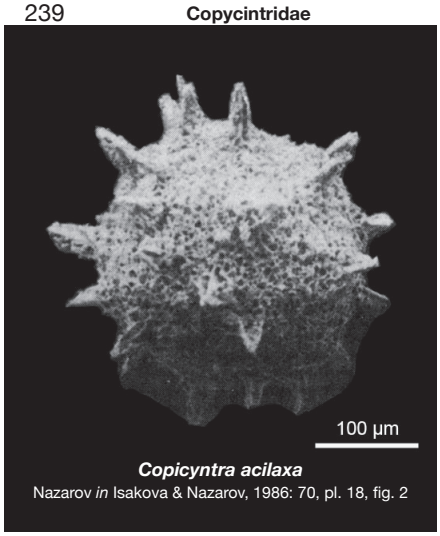
Parabeothuka transformis
Won & Iams, 2015: 27, pl. 10, fig. 5

S
238
Bipylospongia
Noble, 1994: 37
Copycintridae



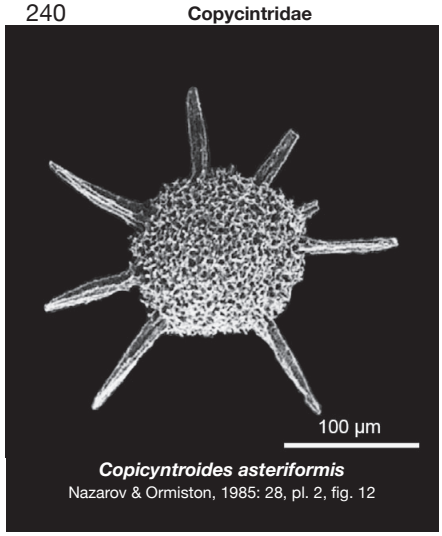
Bipylospongia rudosa
Noble, 1994: 37, pl. 7, fig. 8

S
239
Copicyntra
Nazarov & Ormiston, 1985: 24
Copycintridae



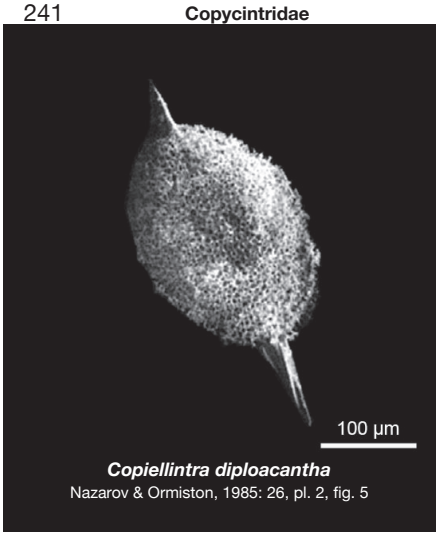
Copicyntra acilaxa
Nazarov *in* Isakova & Nazarov, 1986: 70, pl. 18, fig. 2

S
240
Copicyntroides
Nazarov & Ormiston, 1985: 28
Copycintridae



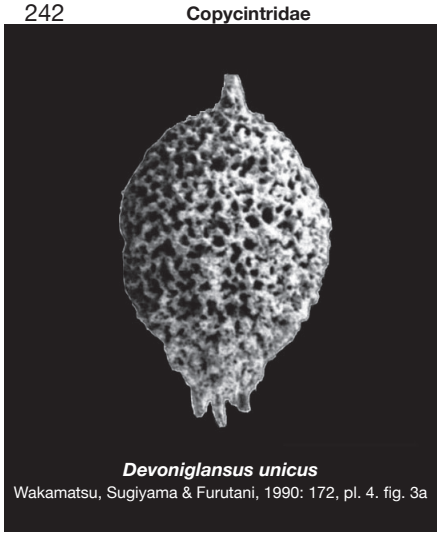
Copicyntroides asteriformis
Nazarov & Ormiston, 1985: 28, pl. 2, fig. 12

S
241
Copiellintra
Nazarov & Ormiston, 1985: 25
Copycintridae



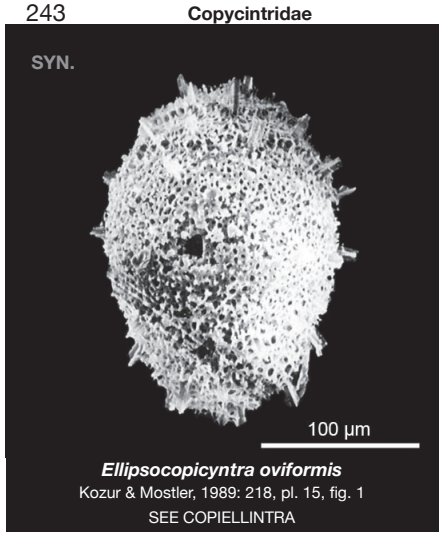
Copiellintra diploacantha
Nazarov & Ormiston, 1985: 26, pl. 2, fig. 5

S
242
Devoniglansus
Wakamatsu, Sugiyama & Furutani, 1990: 171
Copycintridae



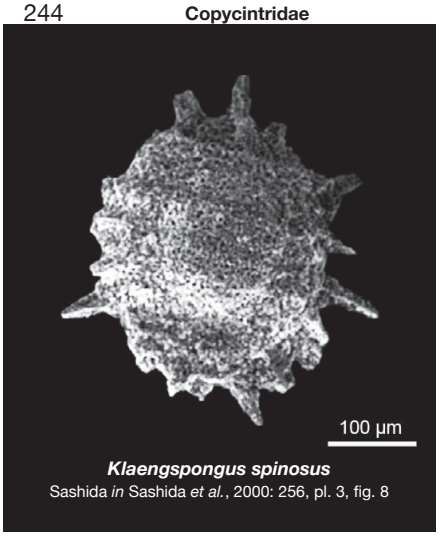
Devoniglansus unicus
Wakamatsu, Sugiyama & Furutani, 1990: 172, pl. 4. fig. 3a

S
243
Ellipsocopicyntra
Kozur & Mostler, 1989: 218
Copycintridae



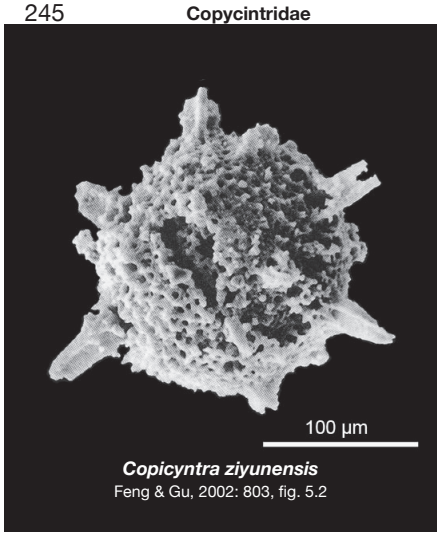
Ellipsocopicyntra oviformis
Kozur & Mostler, 1989: 218, pl. 15, fig. 1
SEE COPIELLINTRA

S 244 ***Klaengspongus***
Sashida *in* Sashida *et al.*, 2000: 256
Copycintridae



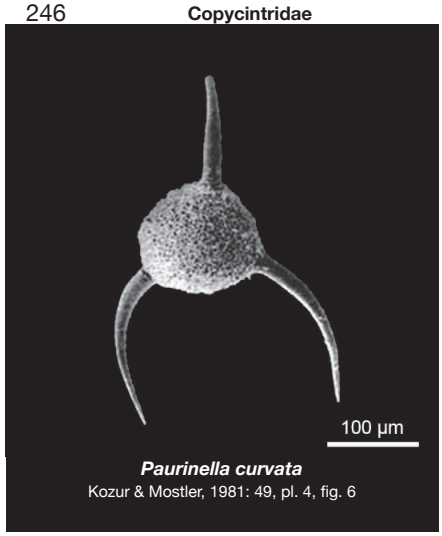
Klaengspongus spinosus
Sashida *in* Sashida *et al.*, 2000: 256, pl. 3, fig. 8

S 245 ***Paracopicyntra***
Feng *in* Feng *et al.*, 2006a: 25
Copycintridae



Copicyntra ziyunensis
Feng & Gu, 2002: 803, fig. 5.2

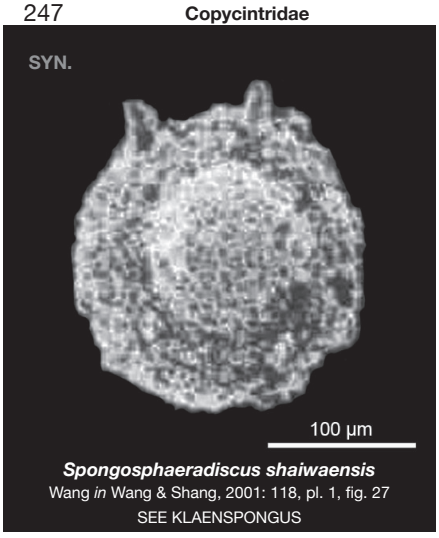
S 246 ***Paurinella***
Kozur & Mostler, 1981: 49
Copycintridae



Paurinella curvata
Kozur & Mostler, 1981: 49, pl. 4, fig. 6

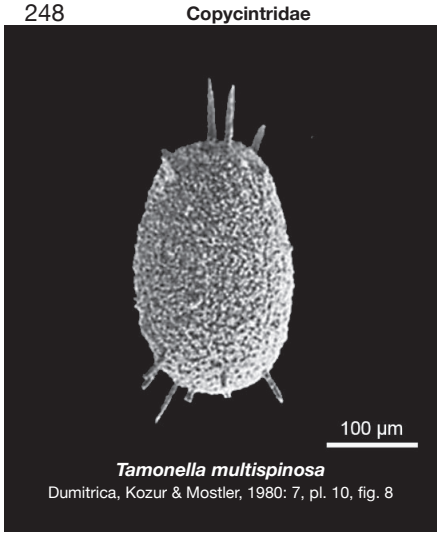
S 247 ***Spongosphaeradiscus***
Wang *in* Wang & Shang, 2001: 118
Copycintridae

SYN.



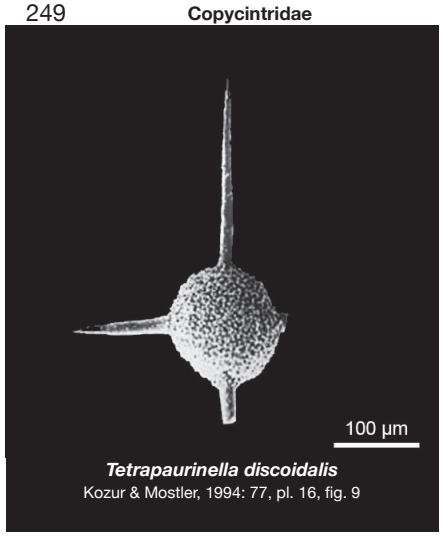
Spongosphaeradiscus shaiwaensis
Wang *in* Wang & Shang, 2001: 118, pl. 1, fig. 27
SEE KLAENSPONGUS

S 248 ***Tamonella***
Dumitrica, Kozur & Mostler, 1980: 7
Copycintridae



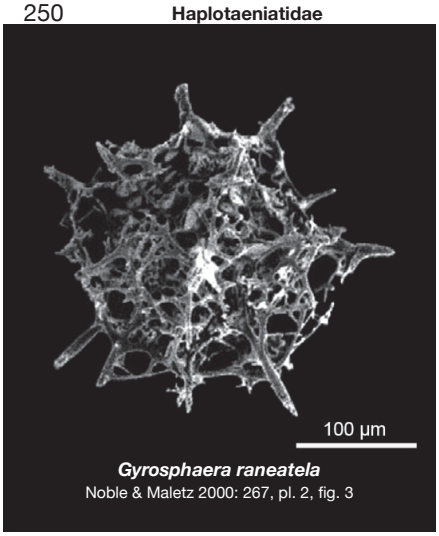
Tamonella multispinosa
Dumitrica, Kozur & Mostler, 1980: 7, pl. 10, fig. 8

S 249 ***Tetrapaurinella***
Kozur & Mostler, 1994: 76
Copycintridae



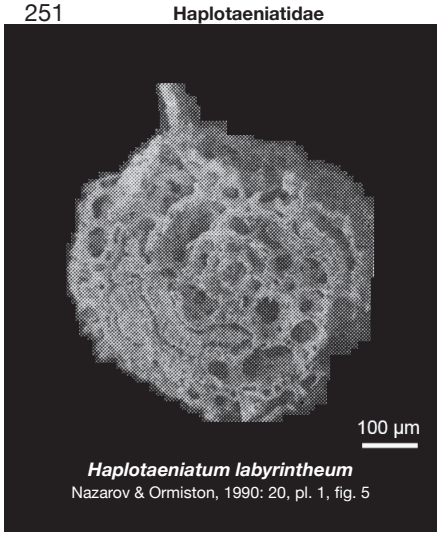
Tetrapaurinella discoidalis
Kozur & Mostler, 1994: 77, pl. 16, fig. 9

S 250 ***Gyrosphaera***
Noble & Maletz 2000: 267
Haplotaeniatidae



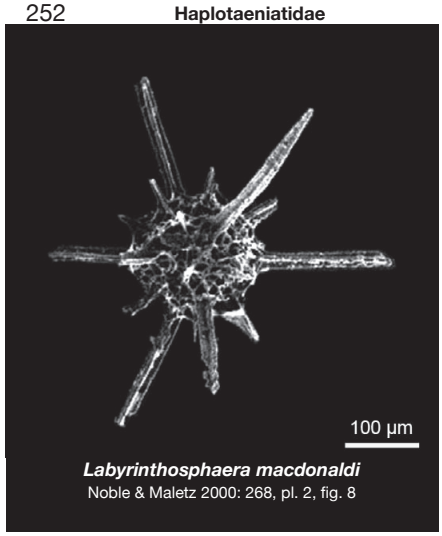
Gyrosphaera raneatela
Noble & Maletz 2000: 267, pl. 2, fig. 3

S 251 ***Haplotaeniatum***
Nazarov & Ormiston, 1990: 19
Haplotaeniatidae



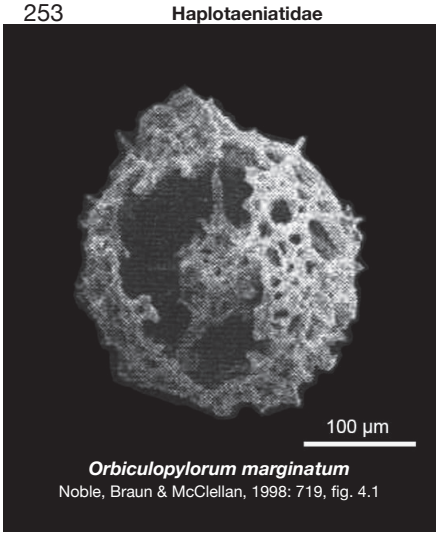
Haplotaeniatum labyrintheum
Nazarov & Ormiston, 1990: 20, pl. 1, fig. 5

S 252 ***Labyrinthosphaera***
Noble & Maletz 2000: 268
Haplotaeniatidae



Labyrinthosphaera macdonaldi
Noble & Maletz 2000: 268, pl. 2, fig. 8

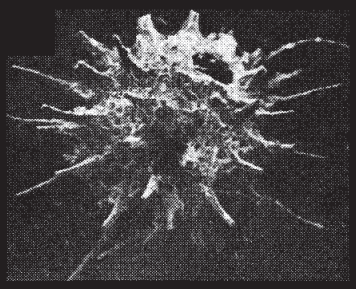
S 253 ***Orbiculopylorum***
Noble, Braun & McClellan, 1998: 718
Haplotaeniatidae



Orbiculopylorum marginatum
Noble, Braun & McClellan, 1998: 719, fig. 4.1

S 254 ***Aciferopylorum***
Nazarov & Ormiston, 1990: 21
Inaniguttidae

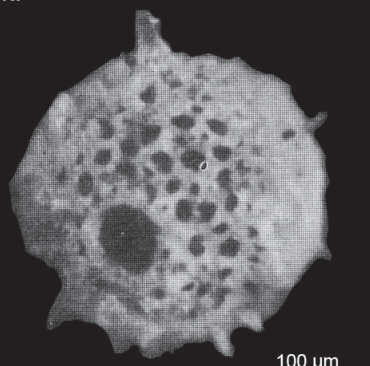
SYN.



Aciferopylorum admirandum
Nazarov & Ormiston, 1990: 22, pl. 1, fig. 7
SEE FUSALFANUS

S 255 ***Cessipylarum***
Nazarov *in* Afanasieva, 1986: 30
Inaniguttidae

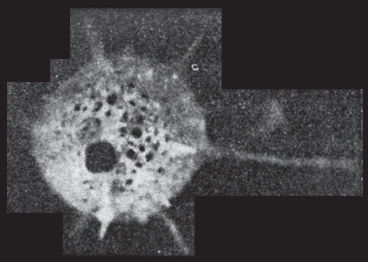
SYN.



Pylentonema insueta
Nazarov, 1975: 97, pl. 21, fig. 7
SEE KALIMNASPHAERA

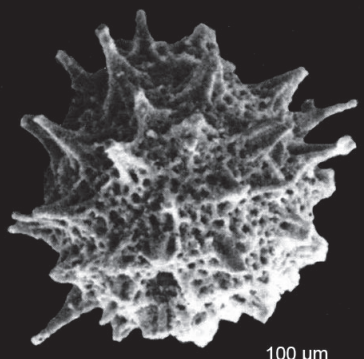
S 256 ***Cessipylorum***
Nazarov & Ormiston *in* Nazarov, 1988: 70
Inaniguttidae

SYN.



Pylentonema aperta
Nazarov *in* Nazarov *et al.* 1975: 102, pl. 1, fig. 1
SEE KALIMNASPHAERA

S 257 ***Fusalfanus***
Furutani, 1990: 38
Inaniguttidae



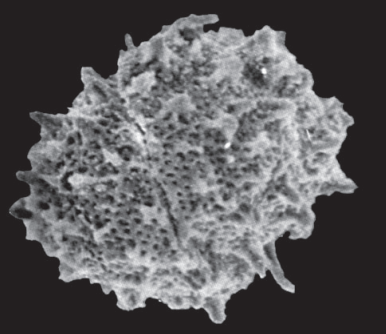
Fusalfanus osobudaniensis
Furutani, 1990: 38, pl. 5, fig. 2a

S 258 ***Futobari***
Furutani, 1990: 34
Inaniguttidae

Futobari solidus
Furutani, 1990: 34, pl. 1, fig. 1a

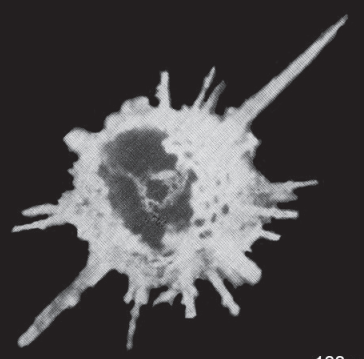
S 259 ***Helminentactinia***
Li, 1994: 268
Inaniguttidae

SYN.



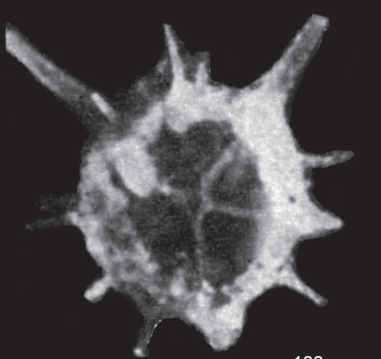
Helminentactinia nazarovi
Li, 1994: 268, pl. 1, fig. 16
SEE ZADRAPPOLUS

S 260 ***Inanibigutta***
Nazarov & Ormiston *in* Nazarov, 1988: 56
Inaniguttidae



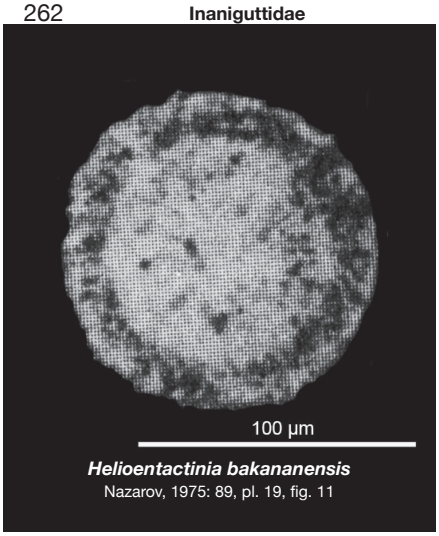
Entactinosphaera aksakensis
Nazarov, 1975: 68, pl. 21, fig. 2

S 261 ***Inanigutta***
Nazarov & Ormiston, 1984: 72
Inaniguttidae



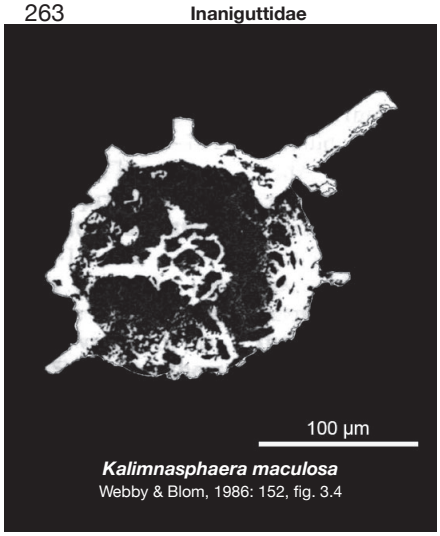
Entactinia unica
Nazarov, 1975: 54, pl. 20, fig. 1

S 262 ***Inanihella*** Nazarov & Ormiston, 1984: 72
Inaniguttidae



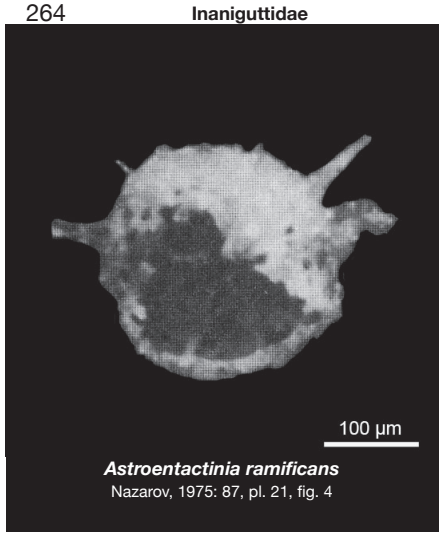
Helioentactinia bakananensis
Nazarov, 1975: 89, pl. 19, fig. 11

S 263 ***Kalimnasphaera*** Webby & Blom, 1986: 152
Inaniguttidae



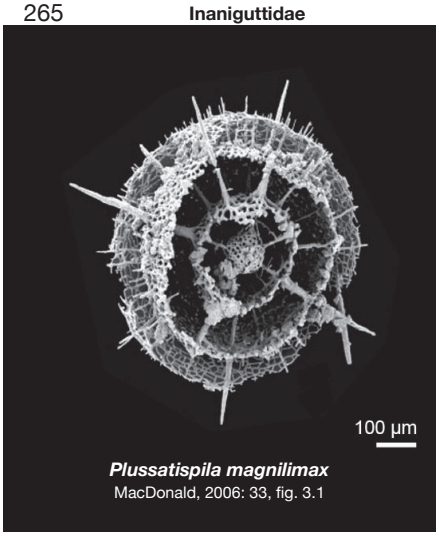
Kalimnasphaera maculosa
Webby & Blom, 1986: 152, fig. 3.4

S 264 ***Oriundogutta*** Nazarov & Ormiston *in* Nazarov, 1988: 57
Inaniguttidae



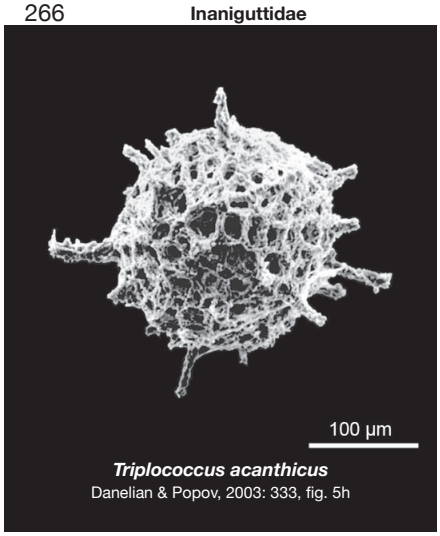
Astroentactinia ramificans
Nazarov, 1975: 87, pl. 21, fig. 4

S 265 ***Plussatispila*** MacDonald, 2006: 33
Inaniguttidae



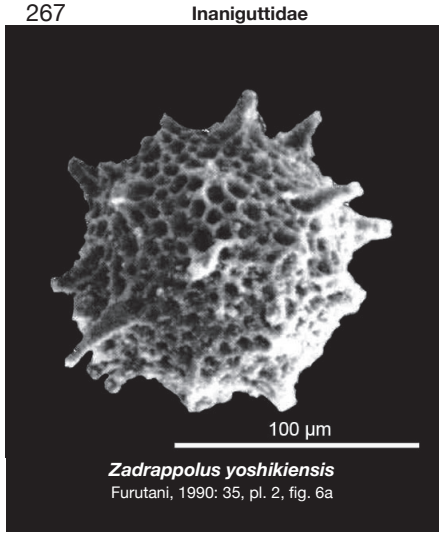
Plussatispila magnilimax
MacDonald, 2006: 33, fig. 3.1

S 266 ***Triplococcus*** Danelian & Popov, 2003: 333
Inaniguttidae



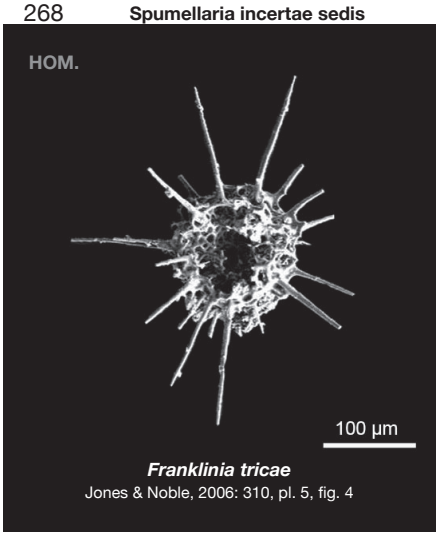
Triplococcus acanthicus
Danelian & Popov, 2003: 333, fig. 5h

S 267 ***Zadrappolus*** Furutani, 1990: 35
Inaniguttidae



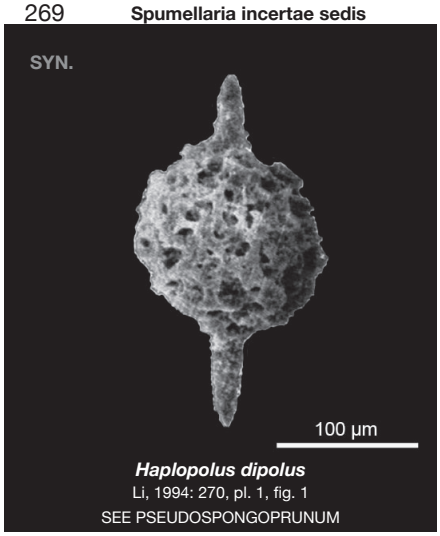
Zadrappolus yoshikiensis
Furutani, 1990: 35, pl. 2, fig. 6a

S 268 ***Franklinia*** Jones & Noble, 2006: 308
Spumellaria incertae sedis



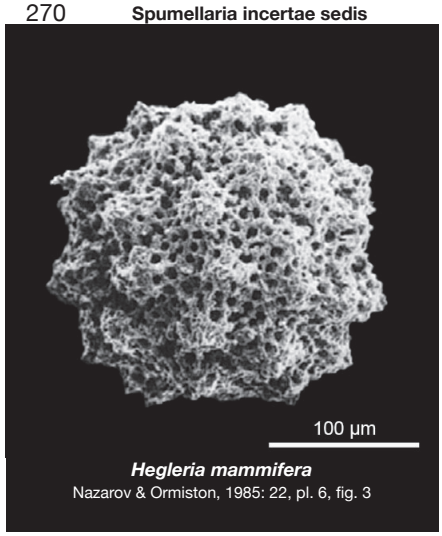
Franklinia tricae
Jones & Noble, 2006: 310, pl. 5, fig. 4

S 269 ***Haplopolus*** Li, 1994: 270
Spumellaria incertae sedis



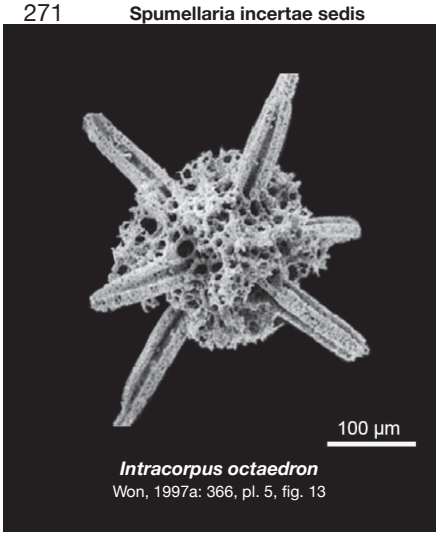
Haplopolus dipolus
Li, 1994: 270, pl. 1, fig. 1
SEE PSEUDOSPONGOPRUNUM

S 270 ***Hegleria*** Nazarov & Ormiston, 1985: 22
Spumellaria incertae sedis



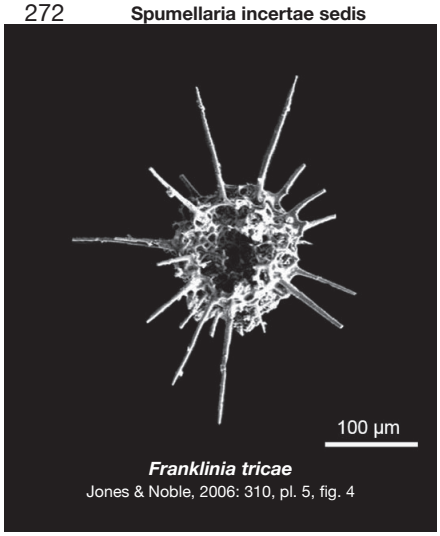
Hegleria mammifera
Nazarov & Ormiston, 1985: 22, pl. 6, fig. 3

S
271 ***Intracorpus***
Won, 1997a: 366
Spumellaria incertae sedis



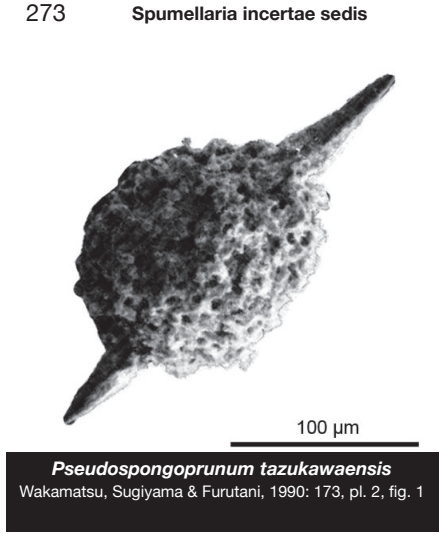
Intracorpus octaedron
Won, 1997a: 366, pl. 5, fig. 13

S
272 ***Maletzella***
Noble, 2014: 35
Spumellaria incertae sedis



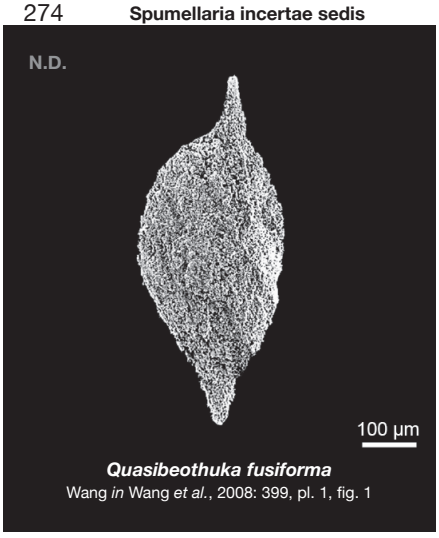
Franklinia tricae
Jones & Noble, 2006: 310, pl. 5, fig. 4

S
273 ***Pseudospongoprunum***
Wakamatsu, Sugiyama & Furutani, 1990: 172
Spumellaria incertae sedis



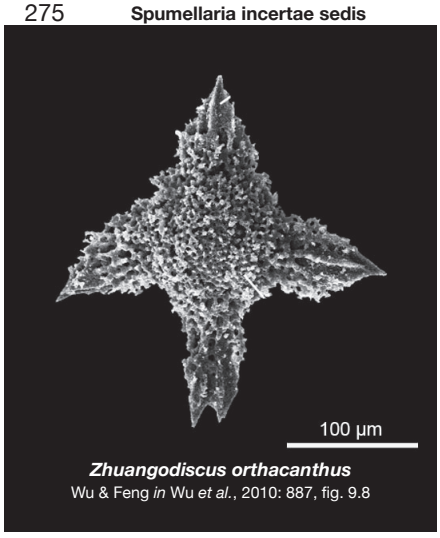
Pseudospongoprunum tazukawaensis
Wakamatsu, Sugiyama & Furutani, 1990: 173, pl. 2, fig. 1

S
274 ***Quasibeothuka***
Wang *in* Wang *et al.*, 2008: 399
Spumellaria incertae sedis



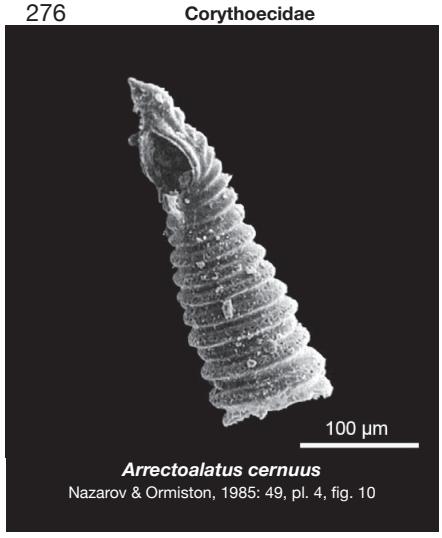
Quasibeothuka fusiforma
Wang *in* Wang *et al.*, 2008: 399, pl. 1, fig. 1

S
275 ***Zhuangodiscus***
Wu & Feng *in* Wu *et al.*, 2010: 887
Spumellaria incertae sedis



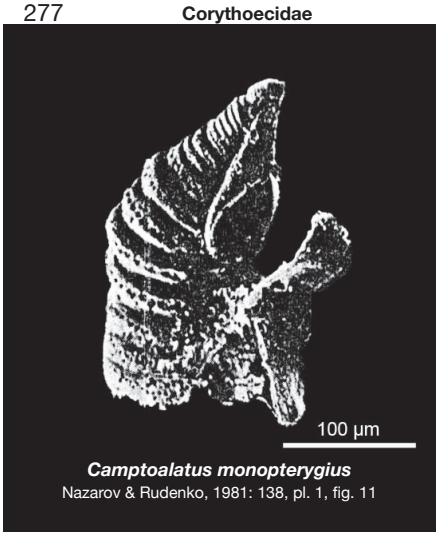
Zhuangodiscus orthacanthus
Wu & Feng *in* Wu *et al.*, 2010: 887, fig. 9.8

276 ***Arrectoalatus***
Nazarov & Ormiston, 1985: 49
Corythoecidae



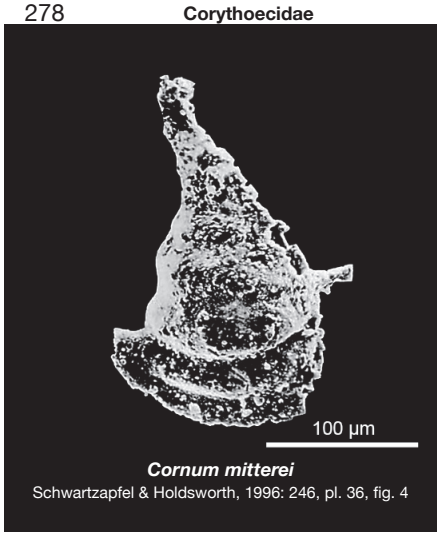
Arrectoalatus cernuus
Nazarov & Ormiston, 1985: 49, pl. 4, fig. 10

Camptoalatus
Nazarov & Rudenko, 1981: 138
277 **Corythoecidae**



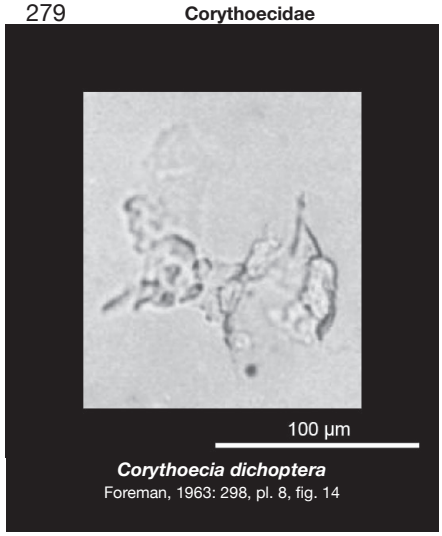
Camptoalatus monopterygius
Nazarov & Rudenko, 1981: 138, pl. 1, fig. 11

Cornum
Schwartzapfel & Holdsworth, 1996: 230
278 **Corythoecidae**



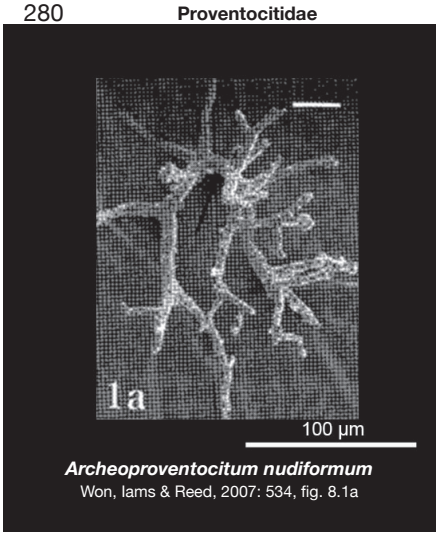
Cornum mitterei
Schwartzapfel & Holdsworth, 1996: 246, pl. 36, fig. 4

Corythoecia
Foreman, 1963: 298
279 **Corythoecidae**



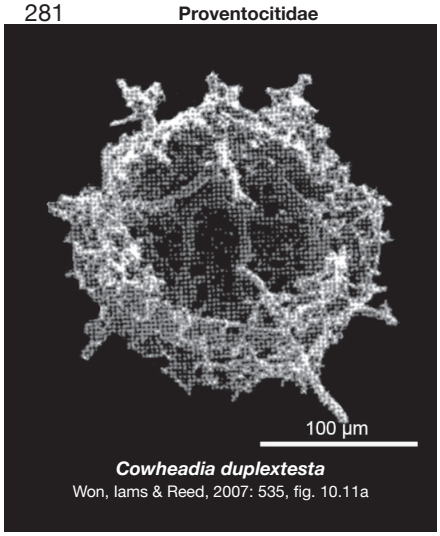
Corythoecia dichoptera
Foreman, 1963: 298, pl. 8, fig. 14

Archeoproventocitum
Won, Iams & Reed, 2007: 533
280 **Proventocitidae**



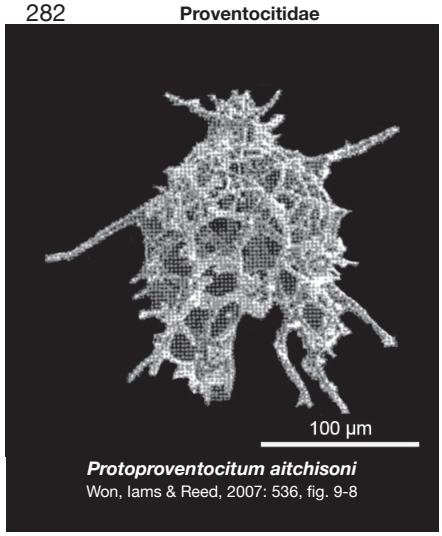
Archeoproventocitum nudiformum
Won, Iams & Reed, 2007: 534, fig. 8.1a

Cowheadia
Won, Iams & Reed, 2007: 535
281 **Proventocitidae**



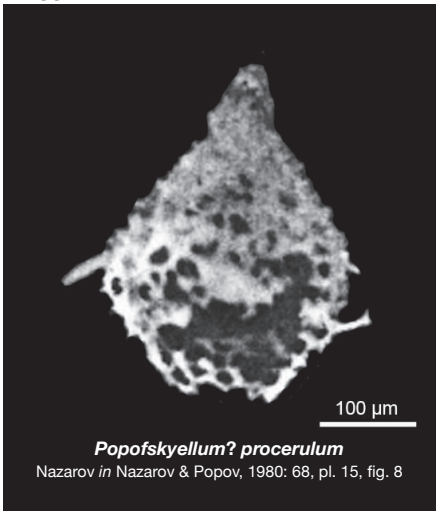
Cowheadia duplextesta
Won, Iams & Reed, 2007: 535, fig. 10.11a

Protoproventocitum
Won, Iams & Reed, 2007: 535
282 **Proventocitidae**



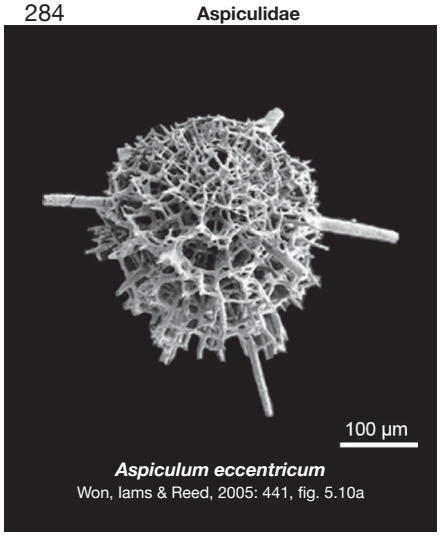
Protoproventocitum aitchisoni
Won, Iams & Reed, 2007: 536, fig. 9-8

Proventocitum
Nazarov & Ormiston *in* Nazarov, 1988: 71
283 **Proventocitidae**



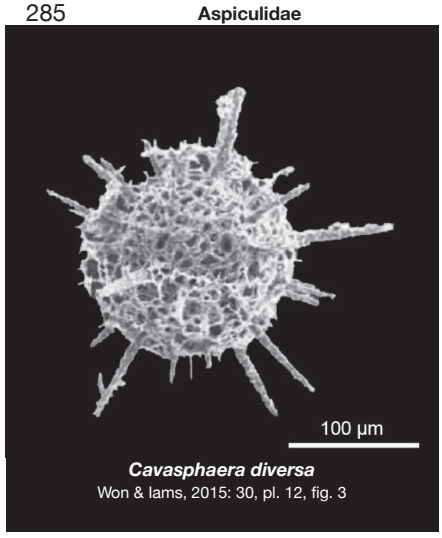
Popofskyellum? procerulum
Nazarov *in* Nazarov & Popov, 1980: 68, pl. 15, fig. 8

Aspiculum
Won, Iams & Reed, 2005: 441
284 **Aspiculidae**



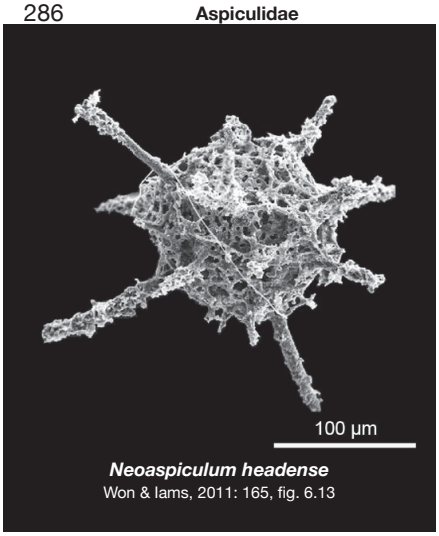
Aspiculum eccentricum
Won, Iams & Reed, 2005: 441, fig. 5.10a

Cavasphaera
Won & Iams, 2015: 30
285 **Aspiculidae**



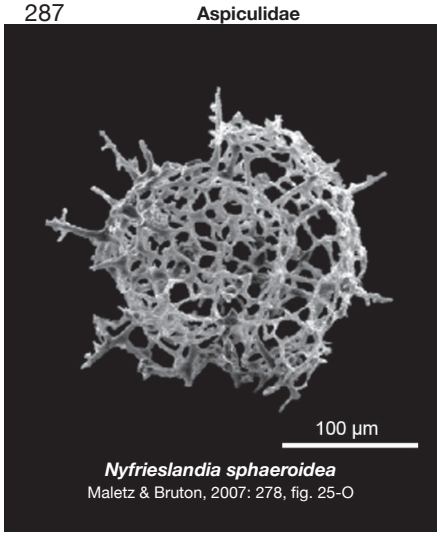
Cavasphaera diversa
Won & Iams, 2015: 30, pl. 12, fig. 3

Neoaspiculum
Won & Iams, 2011: 165
286 **Aspiculidae**



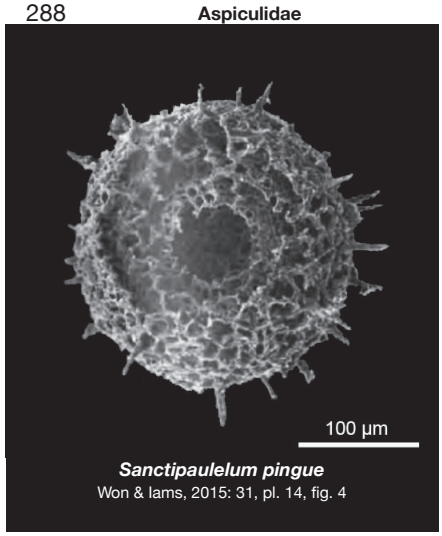
Neoaspiculum headense
Won & Iams, 2011: 165, fig. 6.13

Nyfrieslandia
Maletz & Bruton, 2007: 278
287 **Aspiculidae**



Nyfrieslandia sphaeroidea
Maletz & Bruton, 2007: 278, fig. 25-O

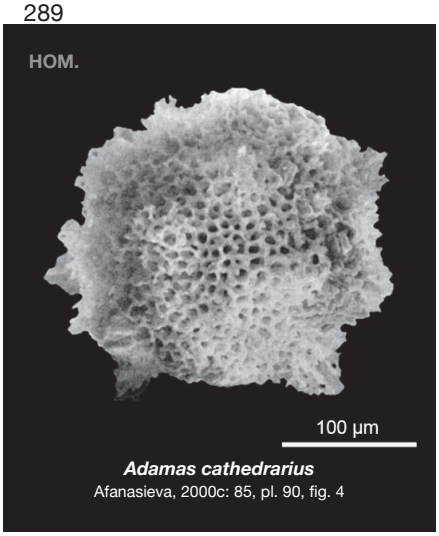
Sanctipaulelum
Won & Iams, 2015: 31
288 **Aspiculidae**



Sanctipaulelum pingue
Won & Iams, 2015: 31, pl. 14, fig. 4

Adamas
Afanasieva, 2000c: 85

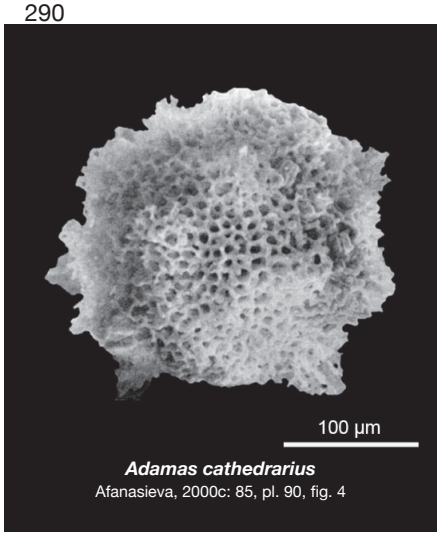
289



Adamas cathedrarius
Afanasieva, 2000c: 85, pl. 90, fig. 4

Adamasirad
Afanasieva, 2009: 115

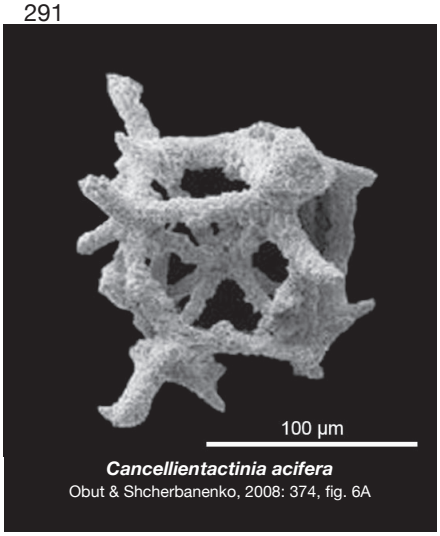
290



Adamas cathedrarius
Afanasieva, 2000c: 85, pl. 90, fig. 4

Cancellientactinia
Obut & Shcherbanenko, 2008: 374

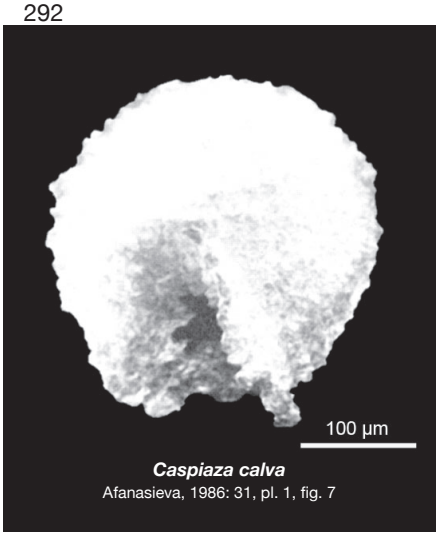
291



Cancellientactinia acifera
Obut & Shcherbanenko, 2008: 374, fig. 6A

Caspiaza
Afanasieva, 1986: 31

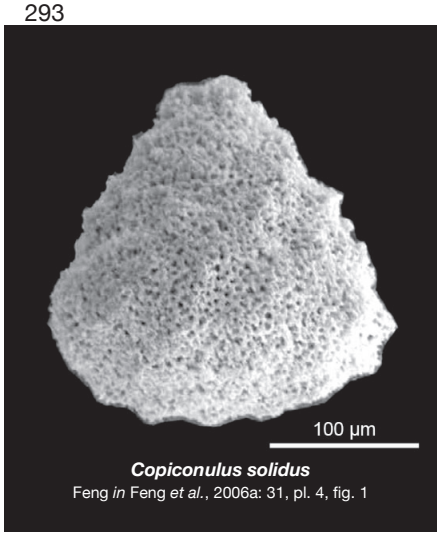
292



Caspiaza calva
Afanasieva, 1986: 31, pl. 1, fig. 7

Copiconulus
Feng *in* Feng *et al.*, 2006a: 31

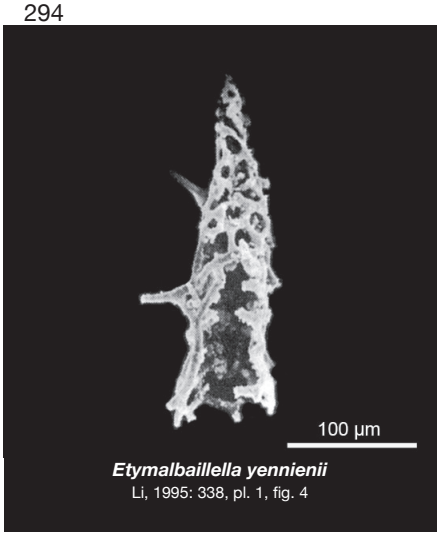
293



Copiconulus solidus
Feng *in* Feng *et al.*, 2006a: 31, pl. 4, fig. 1

Etymalbaillella
Li, 1995: 337

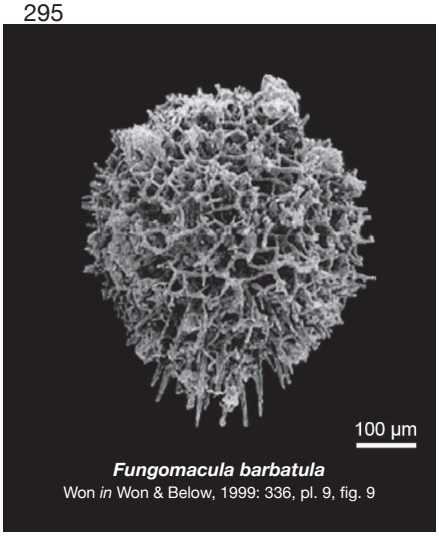
294



Etymalbaillella yennienii
Li, 1995: 338, pl. 1, fig. 4

Fungomacula
Won *in* Won & Below, 1999: 336

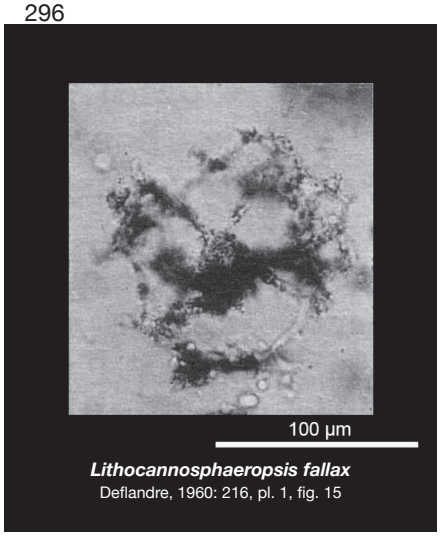
295



Fungomacula barbatula
Won *in* Won & Below, 1999: 336, pl. 9, fig. 9

Lithocannosphaeropsis
Ormiston & Lane, 1976: 174

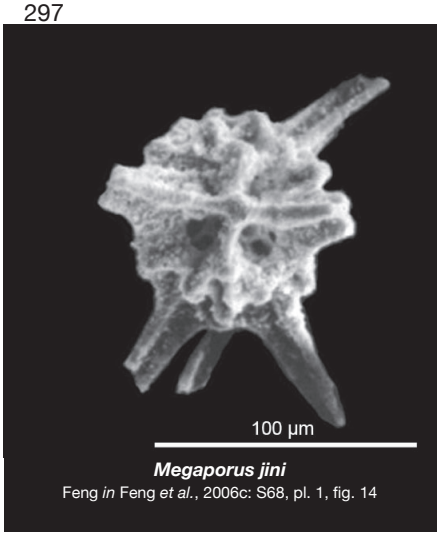
296



Lithocannosphaeropsis fallax
Deflandre, 1960: 216, pl. 1, fig. 15

Megaporus
Feng *in* Feng *et al.*, 2006c: S68

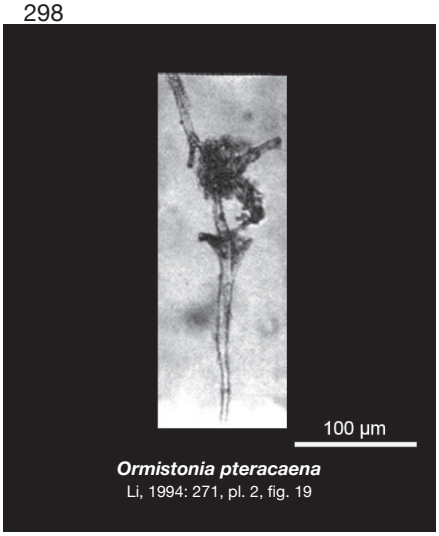
297



Megaporus jini
Feng *in* Feng *et al.*, 2006c: S68, pl. 1, fig. 14

Novormistonia
Özdikmen, 2009: 246

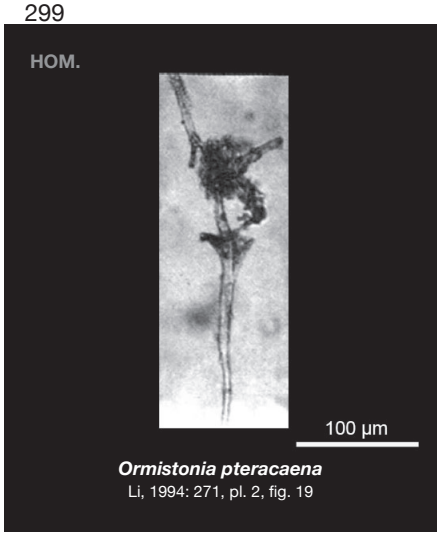
298



Ormistonia pteracaena
Li, 1994: 271, pl. 2, fig. 19

Ormistonia
Li, 1994: 270

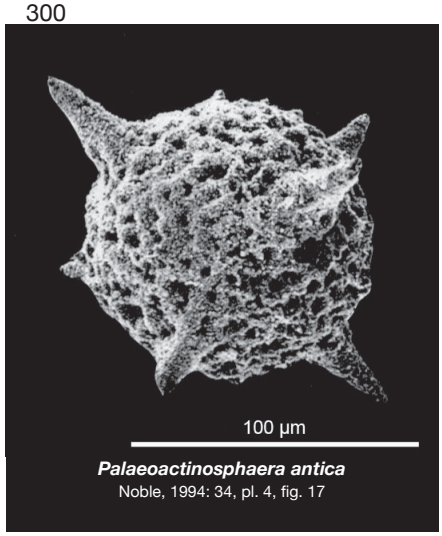
299



Ormistonia pteracaena
Li, 1994: 271, pl. 2, fig. 19

Palaeoactinosphaera
Noble, 1994: 33

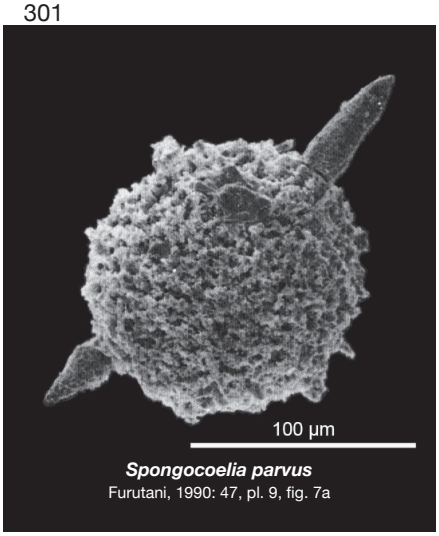
300



Palaeoactinosphaera antica
Noble, 1994: 34, pl. 4, fig. 17

Praespongocoelia
Noble, 1994: 38

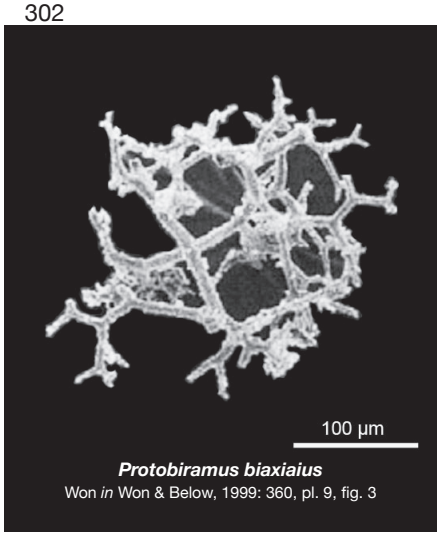
301



Spongocoelia parvus
Furutani, 1990: 47, pl. 9, fig. 7a

Protobiramus
Won *in* Won & Below, 1999: 358

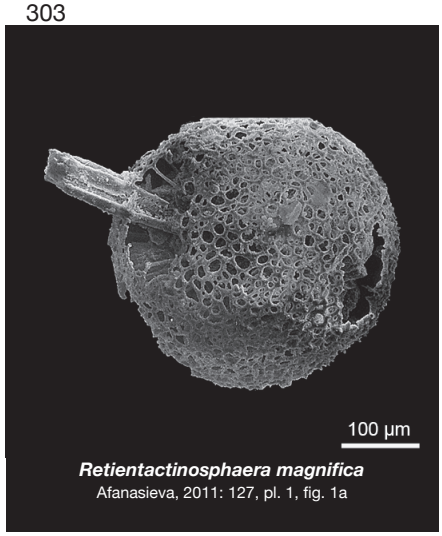
302



Protobiramus biaxiaius
Won *in* Won & Below, 1999: 360, pl. 9, fig. 3

Retientactinosphaera
Afanasieva, 2011: 127

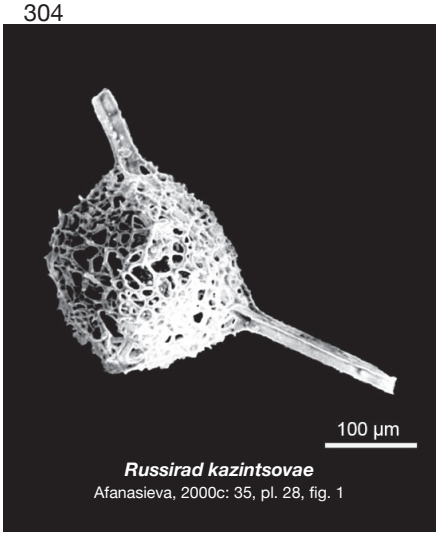
303



Retientactinosphaera magnifica
Afanasieva, 2011: 127, pl. 1, fig. 1a

Russirad
Afanasieva, 2000c: 35

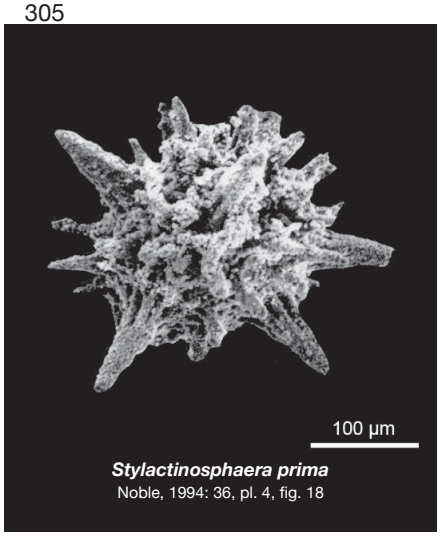
304



Russirad kazintsovae
Afanasieva, 2000c: 35, pl. 28, fig. 1

Stylactinosphaera
Noble, 1994: 36

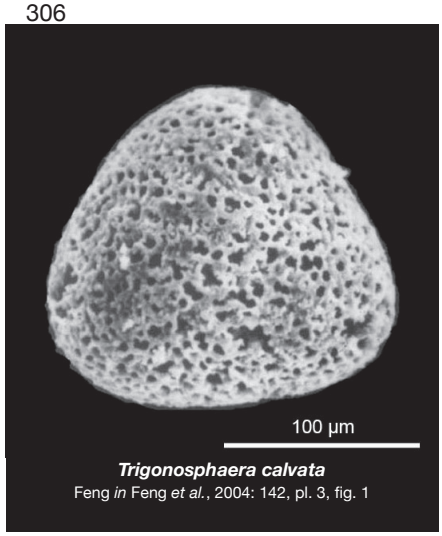
305



Stylactinosphaera prima
Noble, 1994: 36, pl. 4, fig. 18

Trigonosphaera
Feng *in* Feng *et al.*, 2004: 137

306



Trigonosphaera calvata
Feng *in* Feng *et al.*, 2004: 142, pl. 3, fig. 1

Carposphaeridium
Chapman, 1923: 37

307

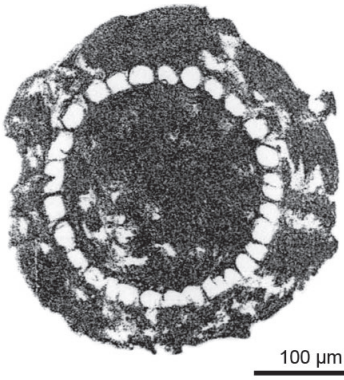
N.D.

Carposphaeridium cambrense
Chapman, 1923: 37, pl. 12, fig. 1

Diploplegma
Hinde, 1890: 48

308

N.D.



Diploplegma cinctum
Hinde, 1890: 48, pl. 3, fig. 10

Dorydictyum
Hinde, 1890: 54

309

N.D.

Dorydictyum simplex
Hinde, 1890: 54, pl. 3, fig. 7

Doryplegma
Hinde, 1890: 53

310

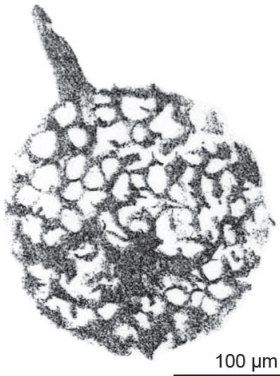
N.D.

Doryplegma nasutum
Hinde, 1890: 53, pl. 3, fig. 9

Dorysphaera
Hinde, 1890: 52

311

N.D.

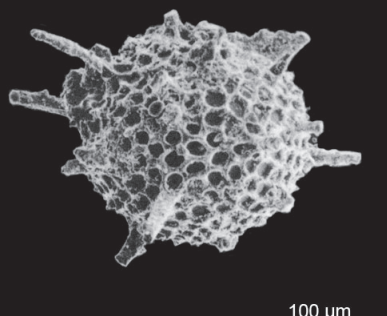


Dorysphaera reticulata
Hinde, 1890: 52, pl. 4, fig. 3

Duplexia
Won, 1983: 141

312

N.D.

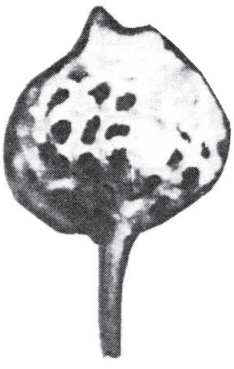


Entactinosphaera foremanae
Ormiston & Lane, 1976: 166, pl. 1, fig. 9

Ectoactinia
Liu, 1992: 129

313

N.D.

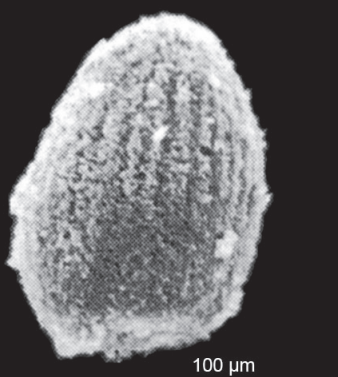


Ectoactinia tulufanensis
Liu, 1992: 129, pl. 1, fig. 1

Ehrenbergia
Li, 1995: 335

314

N.D.



Ehrenbergia baijingensis
Li, 1995: 335, pl. 1, fig. 10

Guangxitrisphaera
Wang *in* Wang & Kuang, 1993: 285

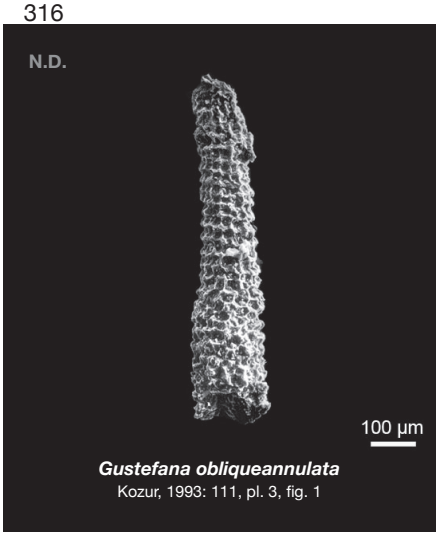
315

N.D.

Guangxitrisphaera wanyaoensis
Wang *in* Wang & Kuang, 1993: 285, pl. 3, fig. 15

Gustefana
Kozur, 1993: 111

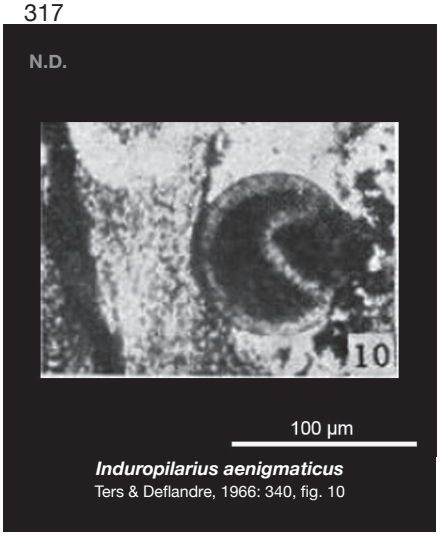
316



Gustefana obliqueannulata
Kozur, 1993: 111, pl. 3, fig. 1

Induropilarius
Ters & Deflandre, 1966: 340

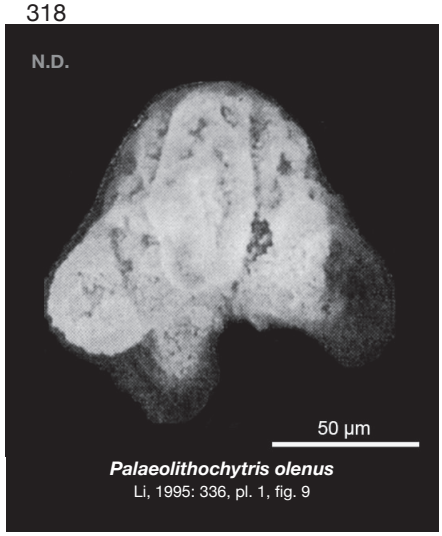
317



Induropilarius aenigmaticus
Ters & Deflandre, 1966: 340, fig. 10

Palaeolithochytris
Li, 1995: 336

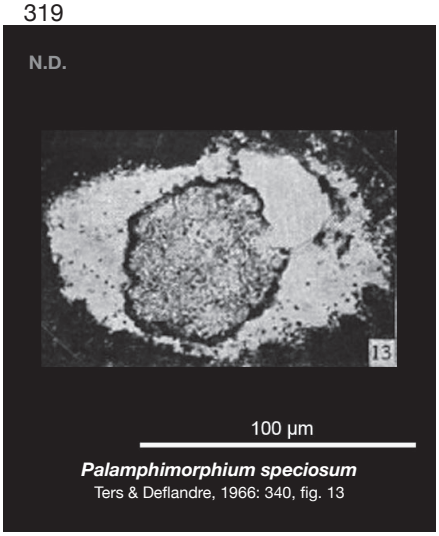
318



Palaeolithochytris olenus
Li, 1995: 336, pl. 1, fig. 9

Palamphimorphium
Ters & Deflandre, 1966: 340

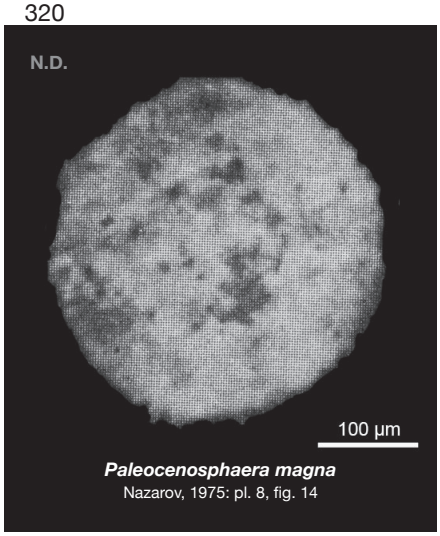
319



Palamphimorphium speciosum
Ters & Deflandre, 1966: 340, fig. 13

Paleocenosphaera
Nazarov, 1973: 8

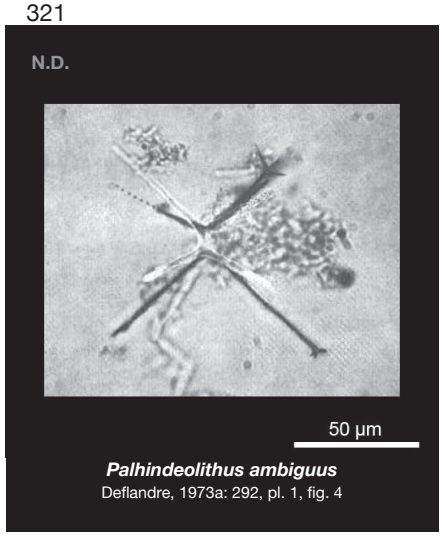
320



Paleocenosphaera magna
Nazarov, 1975: pl. 8, fig. 14

Palhindeolithus
Deflandre, 1973a: 498

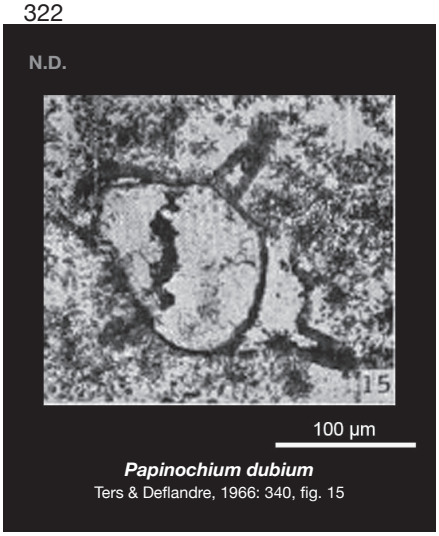
321



Palhindeolithus ambiguus
Deflandre, 1973a: 292, pl. 1, fig. 4

Papinochium
Ters & Deflandre, 1966: 340

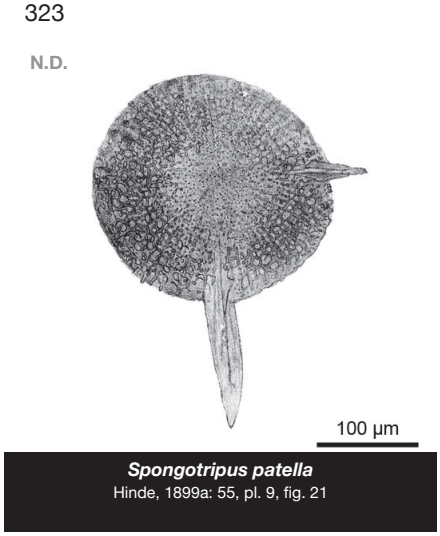
322



Papinochium dubium
Ters & Deflandre, 1966: 340, fig. 15

Primaritripus
Afanasieva, 2000c: 92

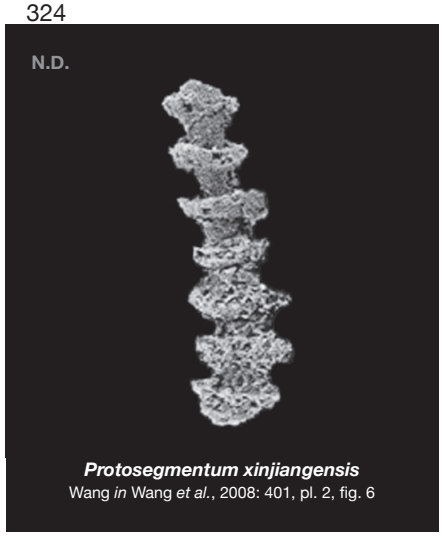
323



Spongotripus patella
Hinde, 1899a: 55, pl. 9, fig. 21

Protosegmentum
Wang *in* Wang *et al.*, 2008 : 401

324

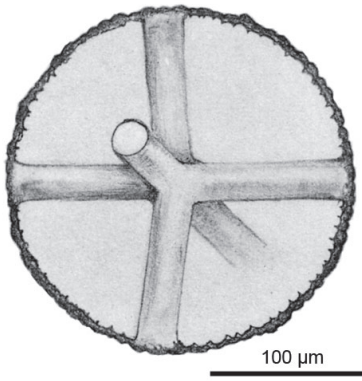


Protosegmentum xinjiangensis
Wang *in* Wang *et al.*, 2008: 401, pl. 2, fig. 6

Pseudostigmosphaera
Kozur & Mostler, 1979: 30

325

N.D.

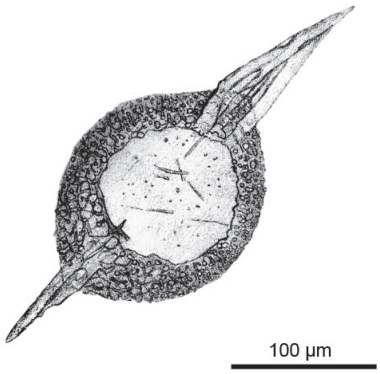


Stigmosphaera mira
Rüst, 1892: 135, pl. 6, fig. 11

Spongocoelia
Hinde, 1899a: 52

326

N.D.

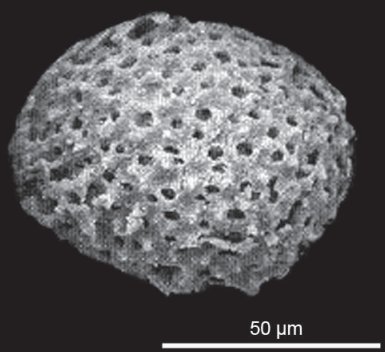


Spongocoelia citreum
Hinde, 1899a: 52, pl. 9, fig. 18

Srakaeosphaera
Sashida *in* Sashida *et al.*, 1997: 12

327

N.D.

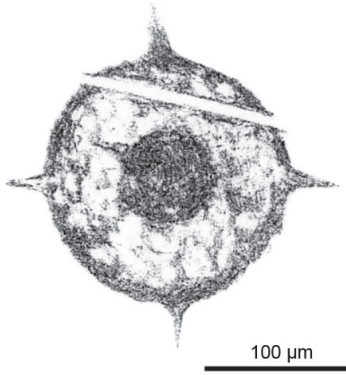


Srakaeosphaera minuta
Sashida *in* Sashida *et al.*, 1997: 12, fig. 6.3

Stauroplegma
Hinde, 1890: 49

328

N.D.

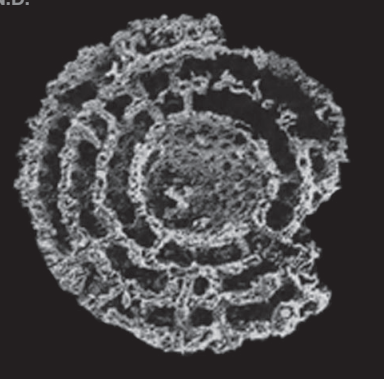


Stauroplegma brevispina
Hinde, 1890: 50, pl. 4, fig. 5

Tetrasphaera
Wang *in* Wang *et al.*, 2008 : 401

329

N.D.

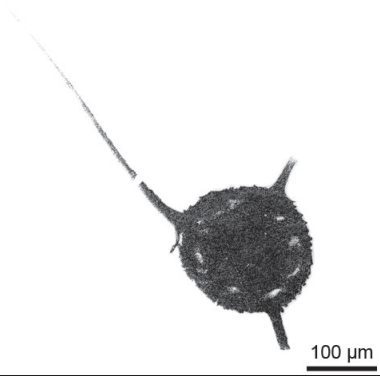


Tetrasphaera kuruktagensis
Wang *in* Wang *et al.*, 2008: 401, pl. 2, fig. 10

Triposphaera
Hinde, 1890: 54

330

N.D.



Triposphaera peachii
Hinde, 1890: 55, pl. 4, fig. 9

Ulcundia
Nazarov, 1974: 110

331

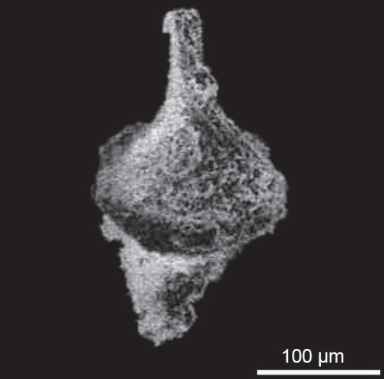
N.D.

Ulcundia incomperta
Nazarov, 1974: 111, pl. 2, fig. 5

Wangia
Feng & Liu, 1993b: 544

332

N.D.

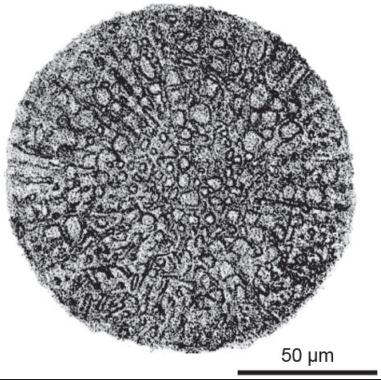


Wangia biturbinata
Feng & Liu, 1993b: 544, pl. 1, fig. 18

Palaeodiscaleksus
Afanasieva, 2008: 101

333

N.D.

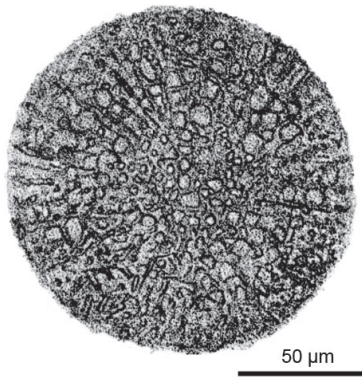


Spongodiscus punctus
Hinde, 1899a: 54, pl. 9, fig. 14

Palaeodiscus
Afanasieva, 2000c: 91

334

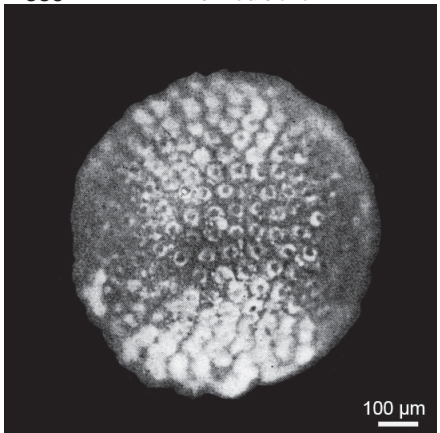
N.D.



Spongodiscus punctus
Hinde, 1899a: 54, pl. 9, fig. 14

Anakrusa
Nazarov, 1977: 38

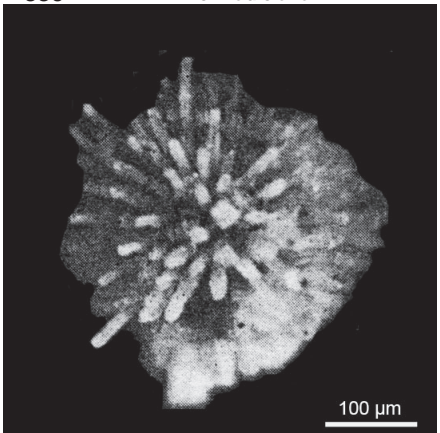
335 **Not Radiolaria**



Anakrusa miriacantha
Nazarov, 1977: 38, pl. 1, fig. 1

Auliela
Nazarov, 1977: 39

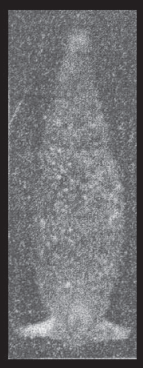
336 **Not Radiolaria**



Auliela aspersa
Nazarov, 1977: 40, pl. 1, fig. 5

Azyrtalia
Nazarov, 1973: 11

337 **Not Radiolaria**



Azyrtalia dilata
Nazarov, 1973: 12, pl. 1, fig. 11

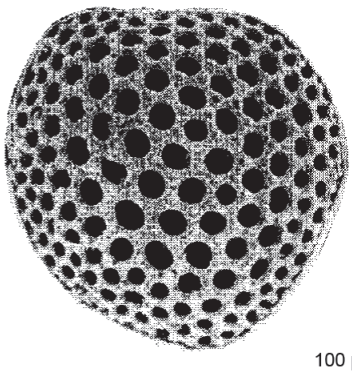
Batoballa
Wang *et al.*, 2008: 396

338 **Not Radiolaria**

Batoballa communis
Wang *in* Wang *et al.*, 2008: 396, pl. 2, fig. 2

Eoconcharium
Hao & Shu, 1987: 308

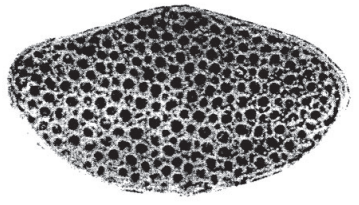
339 **Not Radiolaria**



Eoconcharium chinense
Hao & Shu, 1987: 309, pl. 1, fig. 3a

Fusuconcharium
Hao & Shu, 1987: 309

340 **Not Radiolaria**



Fusuconcharium typicum
Hao & Shu, 1987: 309, pl. 4, fig. 1a

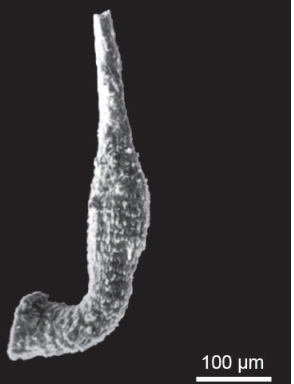
Konyrium
Nazarov & Popov, 1976: 41

341 **Not Radiolaria**

Konyrium varium
Nazarov & Popov, 1976: 41, pl. 3, fig. 19

Lacisus
Kozur, 1993: 109

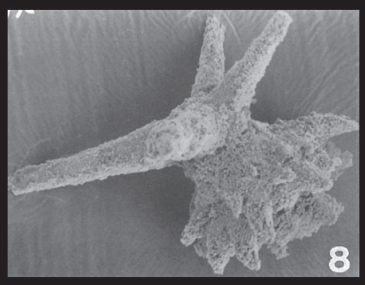
342 **Not Radiolaria**



Lacisus siphunculus
Kozur, 1993: 109, pl. 1, fig. 12

Palaeorubus
Ishiga *in* Ishiga *et al.*, 1987: 300

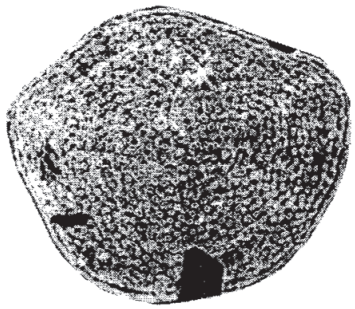
343 **Not Radiolaria**



Palaeorubus hastingensis
Ishiga *in* Ishiga *et al.*, 1987: 300, pl. 2, fig. 8

Quadratapora
Hao & Shu, 1987: 309

344 **Not Radiolaria**



Quadratapora zhenbaensis
Hao & Shu, 1987: 309, pl. 4, fig. 4a