"VICTORIŢA NICOLAE" PALEONTOLOGICAL COLLECTION FROM "CARSIUM" MUSEUM – HÂRŞOVA

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Abstract. The current paper presents the inventory of a new paleontological collection donated by prof. Victoriţa Nicolae of the "Carsium" Museum from the city of Hârşova – Dobrogea (Romania). The fossils were gathered during many decades by prof. Nicolae along with her students, from the open sites along the Danube shore (Hârşova – Topalu), from the sedimentary deposits of various ages (Jurassic, Cretaceous, Pliocene), but especially from the Oxfordian limestone deposits. The fossils are from various invertebrate groups like: sponges, corals, bryozoans, bivalves, gastropods, ammonites, brachiopods and others. The fauna was analyzed for two years by the authors of this paper, within the ERCIP project. The collection will be registered as part of the Collection of the Museum of National History and Archaeology from Constanţa (MINAC). The collection contains almost 500 paleontologial samples out of which 300 will be presented in this paper, chosen as most representative.

Key words: Collection, Paleontology, Heritage, Dobrogea, Hârşova.

Résumé. Cet article présente un inventaire de la nouvelle collection paléontologique donnée par le professeur Victoriţa Nicolae pour le Museum "Carsium" de Hârşova – Dobrogea (Roumanie). Les fossiles ont été collectés pendant plusieurs décennies par le professeur et ses élèves en sites ouverts sur la rive de Danube (Hârşova – Topalu), en dépôts sédimentaires de différents âges (Jurassique, Crétacé, Pliocène), mais surtout dans les calcaires de l'Oxfordien. Les fossiles appartiennent à divers groupes d'invertébrés marins: éponges, coraux, bryozoaires, bivalves, gastéropodes, ammonites, brachiopodes et autres. La faune a été étudiée pendant deux ans par les auteurs de cet article, sur le projet ERCIP. Cette collection sera enregistrée dans le Musée de l'Histoire Nationale et d'Archéologie de Constanţa (MINAC). La collection contient près de 500 échantillons paléontologiques. Dans cet article sont analysés et présentés les plus représentatifs 300 échantillons.

Mots-clés: Collection, paléontologie, Patrimoine, Dobrogea, Hârşova.

THE "CARSIUM" MUSEUM

Founded by Vasile Cotovu as "The Regional Museum of Dobrogea" at the beginning of the 20th century and inaugurated on the 1st of May 1904 by King Carol I of Romania, Queen Elisabeta, members of the Royal Family and the government who were on a cruise on the Danube, the Museum had an impressive fossil collection of 2,600 pieces according to the inventory of the day: *Seria X, Geologie, p. 155–168.*

Although it went through dramatic moments during the First World War, the Museum continued to exist. In 1926 it was reorganized by the founder and re-opened in the presence of King Ferdinand and Queen Maria. When the communist regime was established the museum was closed and the archeological collection was transferred to the Museum in Constanţa, the vast majority of other objects and collections being scattered away in several different Museums and Universities throughout the country.

After a long endevour of the current custodian, prof. Constantin Nicolae, the Museum was re-opened in 2006, in presence of King Mihai and Queen Ana, as a section of the Constanţa Museum. It

was gifted with an archeological collection, representative for the south-eastern European culture and civilisation of the V–IV millenia BC up to the Dark Ages. However, some sections of the old museum are missing: zoology, etnography, art. The passion of prof. Victoriţa Nicolae made that over 30 years numerous geological samples were collected from the region, especially fossils and were donated to the museum with the purpose of rebuilding its paleontological collection. What followed in the last three years was the scientific evaluation of the samples by the authors of this paper, through the ERCIP Project (INTERREG IV C European River Corridor Improvement Plan). "Victoriţa Nicolae" paleontological collection is about to be registered soon in the National Patrimony and in "Carsium" – Hârşova museum section within the Museum of National History and Archaeology – Constanţa, entering the scientific and cultural and educational circuit.

STUDIES AND COLLECTIONS MADE IN THE REGION

The collections made with the fossils from around the region have a history that starts at the latter stages of the 19th century when Cotovu Vasile, a passionate teacher of the natural patrimony discovered there, founded a small museum in the city of Hârşova. In the same period, Anastasiu Victor made the first geological studies and systematically gathered fossils from around this region; a part of these fossils can be found today in the collection at the MNG (National Museum of Geology – 35 pieces, 27 species). The fossils were presented in his doctoral thesis (1898). The second important moment is represented by the Ion Simionescu's work. He made systematic stratigraphic and paleontological studies in the region. His collection is the most important (summing a few hundred samples and 148 described species), distributed in three museums: "Alexandru Ioan Cuza" University – Iaşi (UAIC), The Geological Institute of Romania – Bucharest (currently in the headquarters of the National Museum of Geology – MNG) and "Carsium" Museum – Hârşova (partially lost or relocated). The fossils from this collection were thoroughly analyzed and published (Simionescu 1907, 1909, 1910, 1927). The third major moment was the massive study made by Aurelia Bărbulescu ("Jurassic Stratigraphy from western central Dobrogea", 1974), whose big collection (over 1,000 samples and 275 determined species) is hosted by Bucharest University's Laboratory Museum of Paleontology.

Other paleontological studies made in the region revealed new information as well as small collections (deposited in specific Universities): A. Cardas (1907), G. Macovei (1907, 1911), R. Pascu (1909). In 1929, C.S. Antonescu published a study on the riches of the fossil sponges fauna from Hârşova region. In his book "Jurassic Geology of the World", J.W. Arkell (1956) presents the Hârşova region as a reference point for the Romanian geology as well as for the world stratigraphy. Other studies were made by A. Drăgănescu (1975), M. Chiriac & Col. (1977), A. Andrăşanu (1982), E. Grădinaru & A. Bărbulescu (1994). The last synthesis of the stratigraphic and paleontologic data was "Jurassic and Cretaceous from central and sounthern Dobrogea" (1998), in which O. Dragastan, T. Neagu, A. Bărbulescu and I. Pană presented in detail the formations in Central Dobrogea and revised the fossil fauna gathered along the years and stored in Bucharest University's Laboratory Museum of Paleontology. This is the most thorough study to date.

A mention to the studies of bioherme of sponges was made by D. Ungureanu in the past years.

The analyzed collection is the work of prof. Victorita Nicolae, of over 3 decades, revealing her passion for the local natural patrimony. It has more than 500 samples, mostly fossils that come from formations of various ages from west of central Dobrogea (Hârşova – Topalu). The ERCIP project gave the team the opportunity to analyze this collection and highlight it culturally.

SITES OF FOSSILS ORIGIN

Hârşova's channels (Klifs) represented by the rocky shores of the Danube from the western – central sector of Dobrogea, open carbonate platform deposits of Middle and Upper Jurassic age that

offered along the years numerous fossils: ammonites, corals, sponges, bivalves, gastropods, belemnites, echinoids, crinoides, brachiopods, bryozoans, crabs, algaes, foraminiferans and other marine organisms. A special place is the presence of *in situ* neo-Jurassic reefs (of sponges or corals), as are the ones present in Cheia – Gura Dobrogei, Hârşova, Visterna or Topalu regions, representative for the Oxfordian – Kimmeridgian paleoecology.

Jurassic deposits from the region are represented by the following litostratigraphical units (A. Bărbulescu, 1974; Drăgănescu, 1976, 1985):

Tichileşti formation – Middle Jurassic (Bathonian – Callovian)

Outcrops: Tichileşti Valley in several places, Baroi Hill, Stupinei Valley, Alah-Bair Hill, south-west of Galbiori, east of Mireasa, Casimcea Valley, Sartorman Valley. Lithology: conglomerates, calcareous sandstones, biomicritic limestones, sandy marls, calcarenite, limestones with columnals, nodular limestones, limestones with siliceous bands. Fossil association: bivalves (*Bositra buchi, Chlamis vagans, Homomya gibosa, etc.*), gastropods, corals (*Porpites circularis*), echinoids, crinoides, brachiopods, belemnites, ammonites (*Macrocephalites macrocephalus*, *Indocephalites chrisooliticus*).

Casimcea formation – Upper Jurassic (Oxfordian – Kimmeridgian) – outcrop in the Danube's shore, near the city Hârșova – thick deposits and fossils rich.

Outcrops: on the Danube's shore (Hârşova – Capidava – Gălbiori) Cehirgeaua Valley, Veriga channel and eastern Dobrogea, Sartorman Valley, Visterna Valley, Cheia Valley, Fântânii Valley. Lithology: bioclastic limestones and biohermal (reefal), limestones with siliceous nodules, micritic limestones, dolomites. The fossil assemblage: algaes, sponges, corals, molluscs (gastropods, bivalves and cephalopods), brachiopods, echinoids, foraminiferans, bryozoans.

The majority of fossils from the new paleontological collection of the Carsium Museum determined to this date and presented here come from the Casimcea Formation deposits (Oxfordian – Kimmeridgian). A small part of the fossils (bivalves, gastropodes, etc.) come from Tichileşti Formation (Bathonian – Callovian), or from some small patches covering from the Late Cretaceous (Cenomanian) and Pliocen. To note that besides the natural outcrops in the region there are several limestone quarries, from which some of the fossils come.

"VICTORIȚA NICOLAE" PALEONTOLOGICAL COLLECTION

Chart with the 300 most representative paleontological objects most which are now inventoried in this Collection.

Abbreviations:

MINAC – "Muzeul de Istorie Naţională şi Arheologie – Constanţa" = Museum of National History and Archaeology – Constanţa

Stages – Bajocian-Bathonian = bj-bt; Oxfordian = oxf; Kimmeridgian = kimm; Cenomanian = cnm; Pliocen = pli

References* – the numbers correspond with those of the References

N°	Inventory	Species	Class animalia	Stages	References*	Conservation
1	MINAC – 48.101	*Neumannia cyrilli* (NEUMANN)	Ammonoidea	oxf	13, 15	good to expose
2	MINAC – 48.102	*Perisphinctes* sp. aff. *Perisphinctes martelli* OPPEL	Ammonoidea	oxf	13, 15	good to expose
3	MINAC – 48.103	*Perisphinctes* sp. aff. *Perisphinctes martelli* OPPEL	Ammonoidea	oxf	13, 15	fragment
4	MINAC – 48.104	*Perisphinctes (Arisphinctes) cotovui* (SIMIONESCU)	Ammonoidea	oxf	9, 11, 13, 15, 21	good to expose
5	MINAC – 48.105	*Perisphinctes (Arisphinctes) cotovui* (SIMIONESCU)	Ammonoidea	oxf	9, 11, 13, 15, 21	good

6	MINAC – 48.106	*Perisphinctes (Arisphinctes) cotovui* (SIMIONESCU)	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
7	MINAC – 48.107	*Decipia topalensis* (SIMIONESCU)	Ammonoidea	kimm	9, 11, 13, 15, 21	good to expose
8	MINAC – 48.108	*Liosphinctes* cf. *paucicosta* (SIMIONESCU)	Ammonoidea	oxf	9, 11, 13, 15, 21	good to expose
9	MINAC – 48.109	*Progeronia gerontoides* (SIEMIRADZKI)	Ammonoidea	kimm	9, 11, 15, 21	good to expose
10	MINAC – 48.110	*Neumannia sapunovi* (BROCHWICZ-LEWINSKI & ROZAK)	Ammonoidea	oxf	13, 15	good to expose
11	MINAC – 48.111	*Neumannia sapunovi* (BROCHWICZ-LEWINSKI & ROZAK)	Ammonoidea	oxf	13, 15	good
12	MINAC – 48.112	*Neumannia sapunovi* (BROCHWICZ-LEWINSKI & ROZAK)	Ammonoidea	oxf	13, 15	good
13	MINAC – 48.113	*Euaspidoceras* cf. *rotari* (OPPEL)	Ammonoidea	oxf	11, 15, 21	good to expose
14	MINAC – 48.114	*Gregoriceras* cf. *fouquei* (KILLIAN)	Ammonoidea	oxf	11, 15,	good
15	MINAC – 48.115	*Physodoceras circumspinosum* (QUENSTEDT)	Ammonoidea	kimm	11, 15, 21	good to expose
16	MINAC – 48.116	*Crussoliceras* sp.	Ammonoidea	kimm	15, 21	good
17	MINAC – 48.117	*Perisphinctes sp.1*	Ammonoidea	oxf	15, 21	fragment
18	MINAC – 48.118	*Lithacoceras sp. 1*	Ammonoidea	kimm	11, 15, 21	good
19	MINAC – 48.119	*Lithacosphinctes sp. 1*	Ammonoidea	kimm	15, 21	fragment
20	MINAC – 48.120	*Orthosphinctes* (*Orthosphinctes*) cf. *tiziani* (OPPEL)	Ammonoidea	oxf	11, 15, 21	good to expose
21	MINAC – 48.121	*Orthosphinctes* sp 2	Ammonoidea	oxf	15, 21	good
22	MINAC – 48.122	*Perisphinctes sp 2*	Ammonoidea	oxf	15, 21	fragment
23	MINAC – 48.123	*Perisphinctidae sp 3*	Ammonoidea	oxf	15, 21	fragment
24	MINAC – 48.124	*Orthosphinctes* sp. 2	Ammonoidea	oxf	15, 21	fragment
25	MINAC – 48.125	*Decipia sp1*	Ammonoidea	oxf	11, 15, 21	fragment
26	MINAC – 48.126	*Lithacosphinctes sp 2*	Ammonoidea	oxf	15, 21	good
27	MINAC – 48.127	*Orthosphinctes sp 3*	Ammonoidea	oxf	15, 21	fragment
28	MINAC – 48.128	*Euaspidoceras sp 1*	Ammonoidea	oxf	11, 15, 21	good to expose
29	MINAC – 48.129	*Orthosphinctes* sp 4	Ammonoidea	oxf	15, 21	fragment
30	MINAC – 48.130	*Orthosphinctes* sp 5	Ammonoidea	oxf	15, 21	good
31	MINAC – 48.131	*Lithacosphinctes sp3*	Ammonoidea	oxf	15, 21	fragment
32	MINAC – 48.132	*Parawedekindia arduennensis* (D'ORBIGNY)	Ammonoidea	oxf	11, 15, 21	good to expose
33	MINAC – 48.133	*Decipia pseudobreviceps* (SIMIONESCU)	Ammonoidea	kimm	11, 15, 21	good to expose
34	MINAC – 48.134	*Perisphinctes* (*Kranaosphinctes*) cf. *methodii* NEUMAN	Ammonoidea	oxf	13, 15, 21	good to expose
35	MINAC – 48.135	*Ochetoceras marantianum* (D'ORBIGNY)	Ammonoidea	oxf	11, 15, 21	good to expose
36	MINAC – 48.136	*Subdiscosphinctes* cf. *richei* (RIAZ)	Ammonoidea	oxf	13, 15, 21	fragment
37	MINAC – 48.137	*Pachydiscus* sp.	Ammonoidea	camp	15	good to expose
38	MINAC – 48.138	*Orthosphinctes* sp.	Ammonoidea	oxf	15, 21	good

39	MINAC – 48.139	*Epipeltoceras bimmamatum* (QUENSTEDT).	Ammonoidea	oxf	15, 21	fragment
40	MINAC – 48.140	*Creniceras* cf. *lophotum* (OPPEL)	Ammonoidea	oxf	15, 21	good
41	MINAC – 48.141	*Glochiceras* sp.	Ammonoidea	kimm	15, 21	good
42	MINAC – 48.142	*Lissoceras* sp.	Ammonoidea	oxf	11, 15, 21	good
43	MINAC – 48.143	*Orthosphinctes* sp.	Ammonoidea	oxf	15, 21	good
44	MINAC – 48.144	*Perisphinctidae*	Ammonoidea	oxf	15, 21	fragment
45	MINAC – 48.145	*Sowerbyceras* sp.	Ammonoidea	kimm	11, 15, 21	good
46	MINAC – 48.146	*Perisphinctidae*	Ammonoidea	oxf	15, 21	fragment
47	MINAC – 48.147	*Perisphinctidae*	Ammonoidea	oxf	15, 21	fragment
48	MINAC – 48.148	*Perisphinctidae*	Ammonoidea	oxf	15, 21	fragment
49	MINAC – 48.149	*Perisphinctidae*	Ammonoidea	oxf	15, 21	fragment
50	MINAC – 48.150	*Perisphinctidae*	Ammonoidea	oxf	15, 21	good
51	MINAC – 48.151	*Stauroderma lochense* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
52	MINAC – 48.152	*Cribrospongia tesselata* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
53	MINAC – 48.153	*Cribrospongia reticulata* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
54	MINAC – 48.154	*Hyalotragos* sp.1	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
55	MINAC – 48.155	*Stauroderma lochense* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
56	MINAC – 48.156	*Hyalotragos* sp. 3	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
57	MINAC – 48.157	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
58	MINAC – 48.158	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
59	MINAC – 48.159	*Cylindrophyma milleporata* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
60	MINAC – 48.160	*Tremadictyon phylloideum* (ANTONESCU)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
61	MINAC – 48.161	*Casearia articulata* (SCHMIDEL)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
62	MINAC – 48.162	*Laocoetis paradoxa* (MÜNSTER)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
63	MINAC – 48.163	*Cypellia sp*	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
64	MINAC – 48.164	*Cnemidiastrum stellatum* (GOLDFUSS)	Demospongia	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
65	MINAC – 48.165	*Cribrospongia elegans* (SCHRAMMEN)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
66	MINAC – 48.166	*Laocoetis parallela* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
67	MINAC – 48.167	*Platychonia sp.*	Demospongia	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
68	MINAC – 48.168	*Stephanastraea jurassica* RONIEWICZ	Scleractinia	kimm	8, 11, 20	good to expose
69	MINAC – 48.169	*Cyathophora* sp.	Scleractinia	oxf	8, 11, 20	good
70	MINAC – 48.170	*Trochonatica helvetica* (PICTET & CAMPICHE)	Gastropoda	oxf	8, 11, 22, 23	good to expose
71	MINAC – 48.171	*Harpagodes* (*Jaccardites*) cf. *jaccardi* (PICTET & CAMPICHE)	Gastropoda	oxf	8, 11, 22, 23	good to expose

72	MINAC – 48.172	*Ostrea* sp.	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	fragment
73	MINAC – 48.173	*Ctenostreon proboscideum* (SOWERBY)	Bivalvia	bj-bt	5, 6, 8, 10, 11, 22, 23	good to expose
74	MINAC – 48.174	*Isoarca* cf. *explicata* BOEHM	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	good to expose
75	MINAC – 48.175	*Pleuromya jurassy* BROGNIART	Bivalvia	bj-bt	5, 6, 8, 10, 11, 22, 23	good to expose
76	MINAC – 48.176	*Diceras speciosum* (MÜNSTER)	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
77	MINAC – 48.177	*Chlamys* (C.) cf. *textoria* (SCHLOTHEIM)	Bivalvia	bj-kimm	5, 6, 8, 10, 11, 22, 23	good to expose
78	MINAC – 48.178	*Minervapecten* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good to expose
79	MINAC – 48.179	*Stylodacna heberti* (COBALCESCU)	Bivalvia	pli	5, 6, 8, 10, 11, 22, 23	good to expose
80	MINAC – 48.180	*Ctenostreon* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good to expose
81	MINAC – 48.181	*Protocardia corallinum* (LEYMERIE)	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good to expose
82	MINAC – 48.182	*Ctenostreon substriatum* (MÜNSTER)	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good to expose
83	MINAC – 48.183	*Meleagrinella echinata* (SMITH)	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	good to expose
84	MINAC – 48.184	*Paracidaris blumenbachi* (MÜNSTER)	Echinoidea	oxf	8, 11, 19, 22	good to expose
85	MINAC – 48.185	*Plegiocidaris coronata* (SCHLOTHEIM) - radiole	Echinoidea	bj-bt	8, 11, 19, 22	good to expose
86	MINAC – 48.186	*Plegiocidaris cervicalis* (MÜNSTER)	Echinoidea	oxf	8, 11, 19, 22	good to expose
88	MINAC – 48.188	*Millericrinus muensterianus* D'ORBIGNY - columnals	Crinoidea	oxf	8, 11, 22	fragment
90	MINAC – 48.190	*Lacunosella trilobataeformis* WISNIEWSKA	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
91	MINAC – 48.191	*Argovithyris sp.*	Brachiopoda	oxf	8, 11, 14, 22, 23	good
92	MINAC – 48.192	*Lacunosella cracoviensis* (QUENSTEDT)	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
93	MINAC – 48.193	*Torquirhynchia speciosa* (MÜNSTER)	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
94	MINAC – 48.194	*Nucleata* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
95	MINAC – 48.195	*Juralina topalensis* (SIMIONESCU)	Brachiopoda	kimm	8, 11, 14, 22, 23	good
96	MINAC – 48.196	*Zeillerina delemontana* (OPPEL)	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
97	MINAC – 48.197	*Moeschia alata* (ROLLET)	Brachiopoda	oxf	8, 11, 14, 22, 23	good
98	MINAC – 48.198	*Dorsoplicathyris farcinata* (DOUVILLE)	Brachiopoda	oxf	8, 11, 14, 22, 23	good
99	MINAC – 48.199	*Moeschia granulata* BOULLIER	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
100	MINAC – 48.200	*Plegiocidaris coronata* (SCHLOTHEIM) - radiole	Echinoidea	oxf	8, 11, 19, 22	fragment
101	MINAC – 48.201	*Cidaris* sp.	Echinoidea	kimm	8, 11, 19, 22	fragment
102	MINAC – 48.202	*Cidaris* sp.	Echinoidea	oxf	8, 11, 19, 22	fragment
103	MINAC – 48.203	*Paracidaris propinqua* (MÜNSTER *in* GOLDFUSS)	Echinoidea	oxf	8, 11, 19, 22	fragment
104	MINAC – 48.204	*Paracidaris* sp. 1	Echinoidea	oxf	8, 11, 19, 22	fragment
105	MINAC – 48.205	*Paracidaris* sp. 2	Echinoidea	oxf	8, 11, 19, 22	fragment
106	MINAC – 48.206	*Plegiocidaris cervicalis* (MÜNSTER)	Echinoidea	oxf	8, 11, 19, 22	fragment

107	MINAC – 48.207	*Plegiocidaris cervicalis* (MÜNSTER)	Echinoidea	oxf	8, 11, 19, 22	fragment
108	MINAC – 48.208	*Ampulina* sp.	Gastropoda	oxf	8, 11, 22, 23	good
109	MINAC – 48.209	*Ampulina* sp.	Gastropoda	kimm	8, 11, 22, 23	good
110	MINAC – 48.210	*Ampulina* sp.	Gastropoda	kimm	8, 11, 22, 23	good
111	MINAC – 48.211	*Ampulina* sp.	Gastropoda	oxf	8, 11, 22, 23	good
112	MINAC – 48.212	*Harpagodes* sp.	Gastropoda	oxf	8, 11, 22, 23	good to expose
113	MINAC – 48.213	Coralgal	Scleractinia	kimm	8, 11, 20	good
114	MINAC – 48.214	Coralgal	Scleractinia	kimm	8, 11, 20	good
115	MINAC – 48.215	Coralgal	Scleractinia	oxf	8, 11, 20	good
116	MINAC – 48.216	Coral	Scleractinia	kimm	8, 11, 20	good
117	MINAC – 48.217	Coral	Scleractinia	oxf	8, 11, 20	good
118	MINAC – 48.218	*Diceras speciosum* (MÜNSTER)	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
119	MINAC – 48.219	*Cardium* sp.	Bivalvia	sm	5, 6, 8, 10, 11, 22, 23	good
120	MINAC – 48.220	*Chlamys textoria* (SCHLOTHEIM)	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	good
121	MINAC – 48.221	*Chlamys* cf. *textoria* (SCHLOTHEIM)	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
122	MINAC – 48.222	*Chlamys* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good
123	MINAC – 48.223	*Chlamys* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
124	MINAC – 48.224	*Chlamys* sp.	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	fragment
125	MINAC – 48.225	*Chlamys* sp.	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	fragment
126	MINAC – 48.226	*Chlamys* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
127	MINAC – 48.227	*Chlamys* sp.	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	good
128	MINAC – 48.228	*Chlamys* sp.	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	fragment
129	MINAC – 48.229	*Chlamys ambigua* (MÜNSTER)	Bivalvia	bj-bt	5, 6, 8, 10, 11, 22, 23	good to expose
130	MINAC – 48.230	*Chlamys textoria* (SCHLOTHEIM)	Bivalvia	bj-bt	5, 6, 8, 10, 11, 22, 23	good
131	MINAC – 48.231	*Chlamys textoria* (SCHLOTHEIM)	Bivalvia	bj-bt	5, 6, 8, 10, 11, 22, 23	good
132	MINAC – 48.232	*Chlamys textoria* (SCHLOTHEIM)	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	fragment
133	MINAC – 48.233	*Chlamys textoria* (SCHLOTHEIM)	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	fragment
134	MINAC – 48.234	*Ctenostreon* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
135	MINAC – 48.235	*Ctenostreon* sp.	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	fragment
136	MINAC – 48.236	*Ctenostreon* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
137	MINAC – 48.237	*Liostrea* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good
138	MINAC – 48.238	*Liostrea* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good
139	MINAC – 48.239	*Liostrea* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment

140	MINAC – 48.240	*Liostrea* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	fragment
141	MINAC – 48.241	*Meleagrinella echinata* (SMITH)	Bivalvia	oxf	5, 6, 8, 10, 11, 22, 23	good to expose
142	MINAC – 48.242	*Minervapecten* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good
143	MINAC – 48.243	*Plagyostoma* sp.	Bivalvia	bj-bt	5, 6, 8, 10, 11, 22, 23	good
144	MINAC – 48.244	*Pleuromya donacina* (ROEMER)	Bivalvia	bj-bt	5, 6, 8, 10, 11, 22, 23	good to expose
145	MINAC – 48.245	*Spondylopecten* sp.	Bivalvia	kimm	5, 6, 8, 10, 11, 22, 23	good
146	MINAC – 48.246	*Cardium* sp.	Bivalvia	pli	5, 6, 8, 10, 11, 22, 23	fragment
147	MINAC – 48.247	*Casearia articulata* (SCHMIDEL)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
148	MINAC – 48.248	*Cribrospongia* cf. *cucullata* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
149	MINAC – 48.249	*Cribrospongia* cf. *cucullata* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
150	MINAC – 48.250	*Cribrospongia cucullata* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
151	MINAC – 48.251	*Cribrospongia* cf. *cucullata* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
152	MINAC – 48.252	*Cribrospongia* cf. *elegans* (SCHRAMMEN)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
153	MINAC – 48.253	*Cribrospongia* cf. *elegans* (SCHRAMMEN)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
154	MINAC – 48.254	*Cribrospongia* cf. *reticulata* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
155	MINAC – 48.255	*Cribrospongia cucullata* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
156	MINAC – 48.256	*Cribrospongia elegans* (SCHRAMMEN)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
157	MINAC – 48.257	*Cribrospongia reticulata* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
158	MINAC – 48.258	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
159	MINAC – 48.259	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
160	MINAC – 48.260	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
161	MINAC – 48.261	*Cribrospongia tesselata* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
162	MINAC – 48.262	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
163	MINAC – 48.263	*Cylindrophyma milleporata* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
164	MINAC – 48.264	*Cylindrophyma milleporata* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
165	MINAC – 48.265	*Cypellia rugosa* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
166	MINAC – 48.266	*Cypellia rugosa* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
167	MINAC – 48.267	*Hyalotragos* sp	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
168	MINAC – 48.268	*Hyalotragos* sp	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
169	MINAC – 48.269	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
170	MINAC – 48.270	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
171	MINAC – 48.271	*Hyalotragos* cf. *pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
172	MINAC – 48.272	*Cypellia* cf. *rugosa* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good

173	MINAC – 48.273	*Hyalotragos* cf. *pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
174	MINAC – 48.274	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
175	MINAC – 48.275	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
176	MINAC – 48.276	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
177	MINAC – 48.277	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
178	MINAC – 48.278	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
179	MINAC – 48.279	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
180	MINAC – 48.280	*Hyalotragos patella* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
181	MINAC – 48.281	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
182	MINAC – 48.282	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
183	MINAC – 48.283	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
184	MINAC – 48.284	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
185	MINAC – 48.285	*Hyalotragos pezizoides* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
186	MINAC – 48.286	*Hyalotragos* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
187	MINAC – 48.287	*Hyalotragos* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
188	MINAC – 48.288	*Hyalotragos* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
189	MINAC – 48.289	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
190	MINAC – 48.290	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
191	MINAC – 48.291	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
192	MINAC – 48.292	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
193	MINAC – 48.293	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
194	MINAC – 48.294	*Cribrospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
195	MINAC – 48.295	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
196	MINAC – 48.296	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
197	MINAC – 48.297	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
198	MINAC – 48.298	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
199	MINAC – 48.299	*Laocoetis paradoxa* (MÜNSTER)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
200	MINAC – 48.300	*Laocoetis schweiggeri* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
201	MINAC – 48.301	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
202	MINAC – 48.302	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
203	MINAC – 48.303	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
204	MINAC – 48.304	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
205	MINAC – 48.305	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good

206	MINAC – 48.306	*Laocoetis* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
207	MINAC – 48.307	*Platychonia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
208	MINAC – 48.308	*Platychonia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
209	MINAC – 48.309	*Platychonia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
210	MINAC – 48.310	*Platychonia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
211	MINAC – 48.311	*Porospongia* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
212	MINAC – 48.312	*Porospongia marginata* (MÜNSTER *in* GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
213	MINAC – 48.313	*Stauroderma lochense* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
214	MINAC – 48.314	*Stauroderma lochense* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
215	MINAC – 48.315	*Stauroderma lochense* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
216	MINAC – 48.316	*Stauroderma lochense* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
217	MINAC – 48.317	*Stauroderma lochense* (QUENSTEDT)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
218	MINAC – 48.318	*Stauroderma* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
219	MINAC – 48.319	*Stauroderma* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
220	MINAC – 48.320	*Tremadiction reticulatum* (GOLDFUSS)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
221	MINAC – 48.321	*Tremadictyon phylloideum* (ANTONESCU)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
222	MINAC – 48.322	*Tremadictyon phylloideum* (ANTONESCU)	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good to expose
223	MINAC – 48.323	*Trochobolus* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
224	MINAC – 48.324	*Trochobollus* sp.	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
225	MINAC – 48.325	*Platychonia* sp. 1	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
226	MINAC – 48.326	*Platychonia* sp. 2	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
227	MINAC – 48.327	*Platychonia* sp. 3	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
228	MINAC – 48.328	*Hyalotragos pezizoides* (GOLDFUSS)1	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	good
229	MINAC – 48.329	*Hyalotragos pezizoides* (GOLDFUSS)2	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
230	MINAC – 48.330	*Hyalotragos pezizoides* (GOLDFUSS)3	Hexactinellida	oxf	1, 2, 4, 8, 11, 16, 17, 18, 23, 25	fragment
231	MINAC – 48.331	*Agrovithyris stockari* (MOESCH)	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
232	MINAC – 48.332	*Lacunosella cracoviensis* (QUENSTEDT)	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
233	MINAC – 48.333	*Lacunosella cracoviensis* (QUENSTEDT)	Brachiopoda	oxf	8, 11, 14, 22, 23	good
234	MINAC – 48.334	*Lacunosella trilobataeformis* WISNIEWSKA	Brachiopoda	oxf	8, 11, 14, 22, 23	good
235	MINAC – 48.335	*Septaliphoria moravica* (UHLIG)	Brachiopoda	kimm	8, 11, 14, 22, 23	good
236	MINAC – 48.336	*Septaliphoria moravica* (UHLIG)	Brachiopoda	kimm	8, 11, 14, 22, 23	good
237	MINAC – 48.337	*Septaliphoria moravica* (UHLIG)	Brachiopoda	kimm	8, 11, 14, 22, 23	good to expose
238	MINAC – 48.338	*Septaliphoria moravica* (UHLIG)	Brachiopoda	kimm	8, 11, 14, 22, 23	fragment

239	MINAC – 48.339	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
240	MINAC – 48.340	*Tubithyris* sp.	Brachiopoda	bj-bt	8, 11, 14, 22, 23	good to expose
241	MINAC – 48.341	*Torquirhynchia* aff. *torquata* (LAURIN)	Brachiopoda	bj-bt	8, 11, 14, 22, 23	fragment
242	MINAC – 48.342	*Torquirhynchia speciosa* (MÜNSTER)	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
243	MINAC – 48.343	*Torquirhynchia speciosa* (MÜNSTER)	Brachiopoda	oxf	8, 11, 14, 22, 23	good to expose
244	MINAC – 48.344	*Torquirhynchia speciosa* (MÜNSTER)	Brachiopoda	oxf	8, 11, 14, 22, 23	fragment
245	MINAC – 48.345	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	fragment
246	MINAC – 48.346	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
247	MINAC – 48.347	*Rhynchonella* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
248	MINAC – 48.348	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
249	MINAC – 48.349	*Rhynchonella* sp.	Brachiopoda	kimm	8, 11, 14, 22, 23	fragment
250	MINAC – 48.350	*Terebratula* sp.	Brachiopoda	kimm	8, 11, 14, 22, 23	good
251	MINAC – 48.351	*Terebratula* sp.	Brachiopoda	bj-bt	8, 11, 14, 22, 23	fragment
252	MINAC – 48.352	*Rhynchonella* sp.	Brachiopoda	bj-bt	8, 11, 14, 22, 23	good
253	MINAC – 48.353	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	fragment
254	MINAC – 48.354	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
255	MINAC – 48.355	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
256	MINAC – 48.356	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
257	MINAC – 48.357	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
258	MINAC – 48.358	*Terebratula* sp.	Brachiopoda	oxf	8, 11, 14, 22, 23	good
259	MINAC – 48.359	*Hybolites* sp.	Belemnitida	kimm	9, 11, 13, 15, 21	fragment
260	MINAC – 48.360	*Hybolites* sp.	Belemnitida	kimm	9, 11, 13, 15, 21	fragment
261	MINAC – 48.361	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
262	MINAC – 48.362	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
263	MINAC – 48.363	*Lithacosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
264	MINAC – 48.364	*Lithacoceras* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
265	MINAC – 48.365	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
266	MINAC – 48.366	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
267	MINAC – 48.367	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
268	MINAC – 48.368	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
269	MINAC – 48.369	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
270	MINAC – 48.370	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
271	MINAC – 48.371	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment

272	MINAC – 48.372	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
273	MINAC – 48.373	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
274	MINAC – 48.374	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
275	MINAC – 48.375	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
276	MINAC – 48.376	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
277	MINAC – 48.377	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
278	MINAC – 48.378	*Lithacoceras* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
279	MINAC – 48.379	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
280	MINAC – 48.380	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
281	MINAC – 48.381	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
282	MINAC – 48.382	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
283	MINAC – 48.383	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
284	MINAC – 48.384	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
285	MINAC – 48.385	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
286	MINAC – 48.386	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
287	MINAC – 48.387	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
288	MINAC – 48.388	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
289	MINAC – 48.389	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
290	MINAC – 48.390	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
291	MINAC – 48.391	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
292	MINAC – 48.392	*Orthosphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
293	MINAC – 48.393	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
294	MINAC – 48.394	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
295	MINAC – 48.395	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	good
296	MINAC – 48.396	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
297	MINAC – 48.397	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
298	MINAC – 48.398	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
299	MINAC – 48.399	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment
300	MINAC – 48.400	*Perisphinctes* sp.	Ammonoidea	oxf	9, 11, 13, 15, 21	fragment

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PLATE 1

Fig. 1 *Laocoetis schweiggeri* (CATULLO) (MINAC – 48.300); limestones, Oxfordian;
Fig. 2 *Porospongia marginata* (MÜNSTER) (MINAC – 48.312); limestones, Oxfordian;
Fig. 3 *Laocoetis paradoxa* (MÜNSTER) (MINAC – 48.162); limestones, Oxfordian;
Fig. 4 *Trochobolus* sp. (MINAC – 48.323); limestones, Oxfordian;
Fig. 5 *Cribrospongia* sp. (MINAC – 48.258); limestones, Oxfordian;
Fig. 6 *Laocoetis paradoxa* (MÜNSTER) (MINAC – 48.299); limestones, Oxfordian;
Fig. 7 *Laocoetis* sp. (MINAC – 48.301); limestones, Oxfordian;
Fig. 8 *Cribrospongia reticulata* (GOLDFUSS) (MINAC – 48.153); limestones, Oxfordian;
Fig. 9 *Stauroderma lochense* (QUENSTEDT) (MINAC – 48.155); limestones, Oxfordian.

PLATE 2

Fig. 1 *Cribrospongia* sp. (MINAC – 48.291); limestones, Oxfordian;
Fig. 2 *Cribrospongia cucullata* (QUENSTEDT) (MINAC – 48.250); limestones, Oxfordian;
Fig. 3 *Casearia articulata* (SCHMIDEL) (MINAC – 48.161); limestones, Oxfordian;
Fig. 4 *Hyalotragos* sp. 3 (MINAC – 48.156); limestones, Oxfordian;
Fig. 5 *Hyalotragos patella* (GOLDFUSS) (MINAC – 48.274); limestones, Oxfordian;
Fig. 6 *Tremadictyon phylloideum* (ANTONESCU) (MINAC – 48.322); limestones, Oxfordian;
Fig. 7 *Hyalotragos pezizoides* (GOLDFUSS) (MINAC – 48.283); limestones, Oxfordian;
Fig. 8 *Cylindrophyma milleporata* (GOLDFUSS) (MINAC – 48.263); limestones, Oxfordian;
Fig. 9 *Cribrospongia* sp. (MINAC – 48.160); limestones, Oxfordian.

PLATE 3

Fig. 1 *Cribrospongia tesselata* (QUENSTEDT) (MINAC – 48.152); limestones, Oxfordian;
Fig. 2 *Hyalotragos* sp. (MINAC – 48.287); limestones, Oxfordian;
Fig. 3 *Hyalotragos patella* (GOLDFUSS) (MINAC – 48.280); limestones, Oxfordian;
Fig. 4 *Hyalotragos* sp.1 (MINAC – 48.154); limestones, Oxfordian;
Fig. 5 *Cribrospongia reticulata* (GOLDFUSS) (MINAC – 48.257); limestones, Oxfordian;
Fig. 6 *Cribrospongia* sp. (MINAC – 48.259); limestones, Oxfordian;
Fig. 7 *Hyalotragos pezizoides* (GOLDFUSS) (MINAC – 48.281); limestones, Oxfordian;
Fig. 8 *Laocoetis* sp. (MINAC – 48.290); limestones, Oxfordian;
Fig. 9 *Cypellia* cf. *rugosa* (GOLDFUSS) (MINAC – 48.272); limestones, Oxfordian;
Fig. 10 *Platychonia* sp. (MINAC – 48.307); limestones, Oxfordian;
Fig. 11 *Stauroderma lochense* (QUENSTEDT) (MINAC – 48.313); limestones, Oxfordian;
Fig. 12 *Cypellia rugosa* (GOLDFUSS) (MINAC – 48.266); limestones, Oxfordian;
Fig. 13 *Laocoetis parallela* (GOLDFUSS) (MINAC – 48.166); limestones, Oxfordian;
Fig. 14 *Laocoetis* sp. (MINAC – 48.303); limestones, Oxfordian.

PLATE 4

Fig. 1 *Ampulina* sp. (MINAC – 48.209); Kimmeridgian;
Fig. 2 *Harpagodes* (*Jaccardites*) cf. *jaccardi* (PICTET & CAMPICHE) (MINAC – 48.171); Oxfordian;
Fig. 3 *Trochonatica helvetica* (PICTET & CAMPICHE) (MINAC – 48.170); Oxfordian;
Fig. 4 *Cardium* sp. (MINAC – 48.219); gray sandstone, sarmatian;
Fig. 5 *Liostrea* sp. (MINAC – 48.238); Early Kimmeridgian;
Fig. 6 *Isoarca* cf. *explicata* BOEHM (MINAC – 48.174); limestone, Oxfordian;
Fig. 7 *Pleuromya donacina* (ROEMER) (MINAC – 48.244); sandstone, Bajocian–Bathonian;
Fig. 8 *Chlamys textoria* (SCHLOTHEIM) (MINAC – 48.220); limestone, Oxfordian;
Fig. 9 *Diceras speciosum* (MÜNSTER) (MINAC – 48.176); sandstone, Early Kimmeridgian;
Fig. 10 *Meleagrinella echinata* (SMITH) (MINAC – 48.241); limestone, Oxfordian;
Fig. 11 *Ctenostreon proboscideum* (SOWERBY) (MINAC – 48.173); gray sandstone, Bajocian–Bathonian;
Fig. 12 *Pleuromya jurassy* BROGNIART (MINAC – 48.175); gray sandstone, Bajocian–Bathonian;
Fig. 13 *Minervapecten* sp. (MINAC – 48.178); sandstone, Early Kimmeridgian;
Fig. 14 *Ctenostreon substriatum* (MUNSTER) (MINAC – 48.182); sandstone, Early Kimmeridgian;
Fig. 15 *Protocardia corallinum* (LEYMERIE) (MINAC – 48.181); gray sandstone, Early Kimmeridgian;
Fig. 16 *Chlamys textoria* (SCHLOTHEIM) (MINAC – 48.230); gray sandstone, Bajocian–Bathonian;
Fig. 17 *Stylodacna heberti* (COBALCESCU) (MINAC – 48.179); yellow sandstone, Pliocen;
Fig. 18 *Cardium* sp. (MINAC – 48.246); yellow sandstone, Pliocen.

PLATE 5

Fig. 1 *Argovithyris stoekari* (MOESCH) (MINAC – 48.331); limestone, Oxfordian;
Fig. 2 *Tubithyris* sp.(MINAC – 48.340); sandstone, Bajocian–Bathonian;
Fig. 3 *Terebratula* sp. (MINAC – 48.350); gray sandstone, Early Kimmeridgian;
Fig. 4 *Juralina topalensis* (SIMIONESCU) (MINAC – 48.195); gray sandstone, Early Kimmeridgian;
Fig. 5 *Moeschia granulata* BOULLIER (MINAC – 48.199); limestone, Oxfordian;
Fig. 6 *Terebratula* sp. (MINAC – 48.358); limestone, Oxfordian;
Fig. 7 *Torquirhynchia speciosa* (MÜNSTER) (MINAC – 48.193); limestone, Oxfordian;
Fig. 8 *Terebratula* sp. (MINAC – 48.346); limestone, Oxfordian;

Fig. 9 *Lacunosella trilobataeformis* WISNIEWSKA (MINAC – 48.190); limestone, Oxfordian;
Fig. 10 *Septaliphoria moravica* (UHLIG) (MINAC – 48.337); sandstone, Early Kimmeridgian;
Fig. 11 *Rhynchonella* sp. (MINAC – 48.352); gray sandstone, Bajocian–Bathonian;
Fig. 12 *Lacunosella cracoviensis* (QUENSTEDT) (MINAC – 48.332); limestone, Oxfordian;
Fig. 13 *Septaliphoria moravica* (UHLIG) (MINAC – 48.336); sandstone, Early Kimmeridgian;
Fig. 14 *Ctenostreon* (OPPEL) (MINAC – 48.342); gray sandstone, Early Kimmeridgian;
Fig. 15 *Lacunosella cracoviensis* QUENSTEDT (MINAC – 48.192); limestone, Oxfordian;
Fig. 16 *Torquirhynchia speciosa* (MÜNSTER) (MINAC – 48.343); limestone, Oxfordian;
Fig. 17 *Paracidaris blumenbachi* (MÜNSTER) (MINAC – 48.184); limestone, Oxfordian;
Fig. 18 *Millericrinus muensterianus* (D'ORBIGNY) (MINAC – 48.188); limestone, Oxfordian;
Fig. 19 *Plegiocidaris coronata* (SCHLOTHEIM) – radiole (MINAC – 48.185); gray sandstone, Bajocian–Bathonian;
Fig. 20 *Plegiocidaris coronata* (SCHLOTHEIM) – radiole (MINAC – 48.200); limestone, Oxfordian;
Fig. 21 *Plegiocidaris cervicalis* (MÜNSTER) (MINAC – 48.186); limestone, Oxfordian;
Fig. 22 *Coral* (MINAC – 48.217); limestone, Oxfordian;
Fig. 23 *Hybolites* sp. (MINAC – 48.359); gray sandstone, Early Kimmeridgian;
Fig. 24 *Cyathophora* sp. (MINAC – 48.169); limestone, Oxfordian;
Fig. 25 *Stephanastraea jurassica* RONIEWICZ (MINAC – 48.168); gray sandstone, Early Kimmeridgian.

PLATE 6

Fig. 1 *Decipia topalensis* (SIMIONESCU) (MINAC – 48.107); limestones, Kimmeridgian;
Fig. 2 *Neumania cyrilli* NEUMANN (MINAC – 48.101); limestones, Oxfordian;
Fig. 3 *Perisphinctes* aff. *martelli* OPPEL (MINAC – 48.102); limestones, Oxfordian;
Fig. 4 *Crussoliceras* sp. (MINAC – 48.116); gray sandstone, Early Kimmeridgian.

PLATE 7

Fig. 1 *Lithacosphinctes* sp. (MINAC – 48.119); gray sandstone, Early Kimmeridgian;
Fig. 2 *Decipia pseudobreviceps* (SIMIONESCU) (MINAC – 48.133); limestones, Kimmeridgian;
Fig. 3 *Pachydiscus* sp. (MINAC – 48.137); gray marlstone, Campanian;
Fig. 4 *Liosphinctes* cf. *paucicosta* (SIMIONESCU) (MINAC – 48.108); limestones, Oxfordian;
Fig. 5 *Arisphinctes cotovui* (SIMIONESCU) (MINAC – 48.104); limestones, Oxfordian.

PLATE 8

Fig. 1 *Perisphinctes* sp.1 (MINAC – 48.117); limestone, Oxfordian;
Fig. 2 *Orthosphinctes* sp 2 (MINAC – 48.121); limestone, Oxfordian;
Fig. 3 *Creniceras* cf. *lophotum* (OPPEL) (MINAC – 48.140); limestones, Oxfordian;
Fig. 4 *Progeronia gerontoides* (SIEMIRADSZKI) (MINAC – 48.109); gray sandstone, Early Kimmeridgian;
Fig. 5 *Euaspidoceras* sp (MINAC – 48.128); limestones, Oxfordian;
Fig. 6 *Gregoryceras* cf. *fouquei* (KILLIAN) (MINAC – 48.114); limestones, Oxfordian;
Fig. 7 *Ochetoceras marantianum* (D'ORBIGNY) (MINAC – 48.135); limestones, Oxfordian.

PLATE 9

Fig. 1 *Decipia* sp. (CATULLO) (MINAC – 48.125); gray sandstone, Early Kimmeridgian;
Fig. 2 *Neumannia sapunovi* (BROCHWICZ-LEWINSKI&ROZAK) (MINAC – 48.110); limestones, Oxfordian;
Fig. 3 *Epipeltoceras bimmamatum* (QUENSTEDT) (MINAC – 48.139); limestones, Oxfordian;
Fig. 4 *Subdiscosphinctes* cf. *richei* (RIAZ) (MINAC – 48.136); limestone, Oxfordian;
Fig. 5 *Parawedekindia arduennensis* (D'ORBIGNY) (MINAC – 48.132); limestones, Oxfordian;
Fig. 6 *Euaspidoceras* cf. *rotari* (OPPEL) (MINAC – 48.113); limestones, Oxfordian;
Fig. 7 *Physodoceras circumspinosum* (QUENSTEDT) (MINAC – 48.115); gray sandstone, Early Kimmeridgian;
Fig. 8 *Orthosphinctes* sp.3 (MINAC – 48.127); limestone, Oxfordian.

PLATE 1

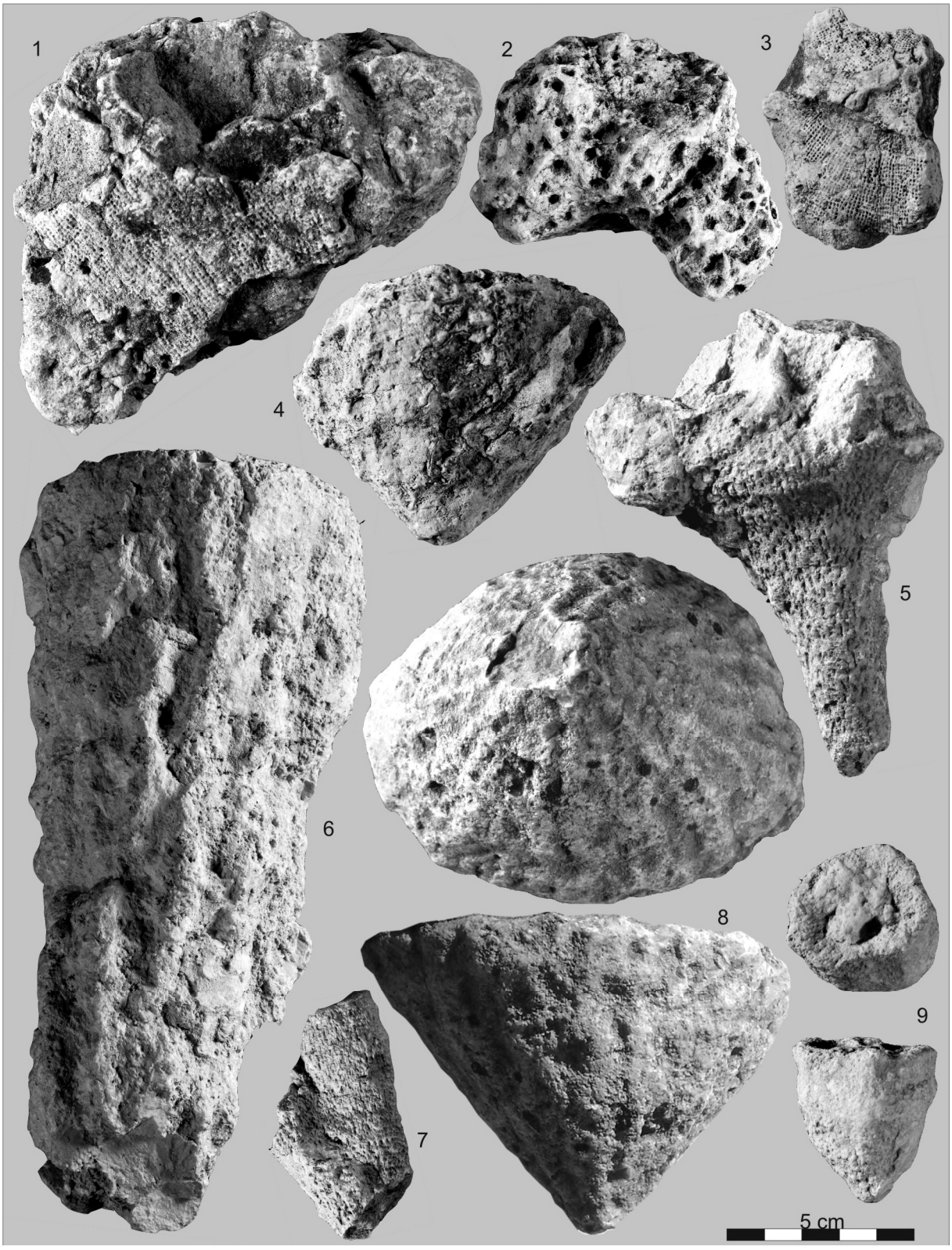


PLATE 2

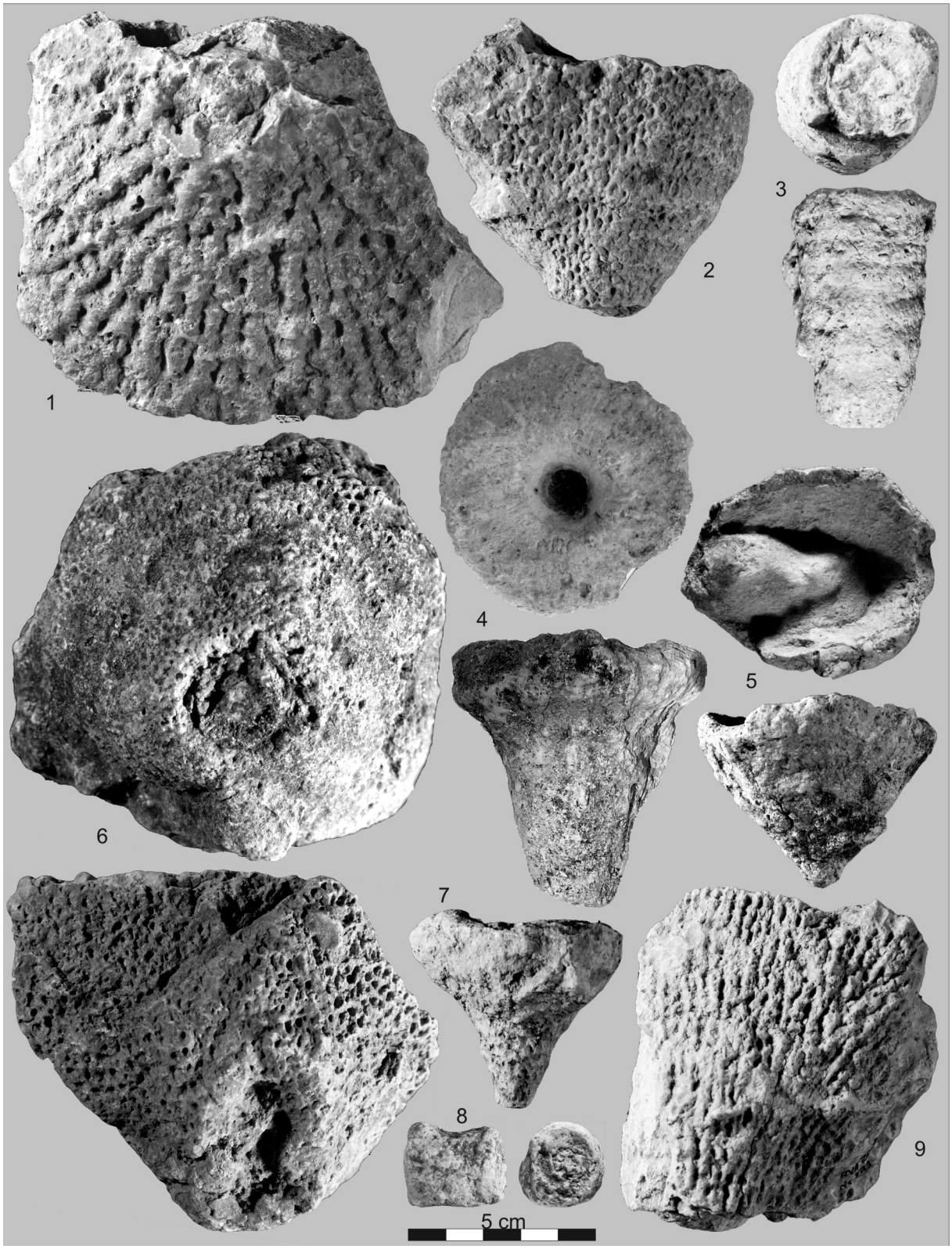
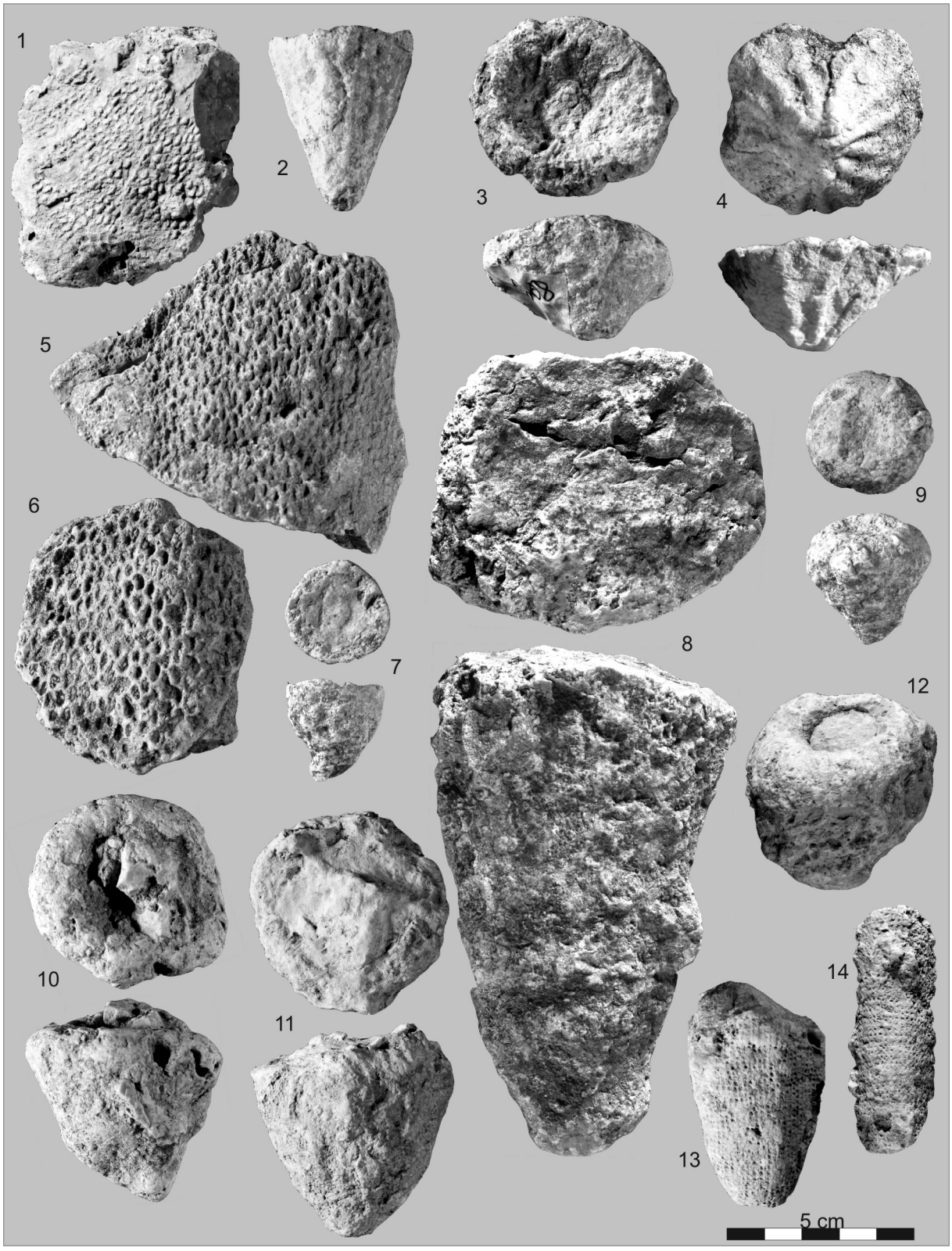


PLATE 3



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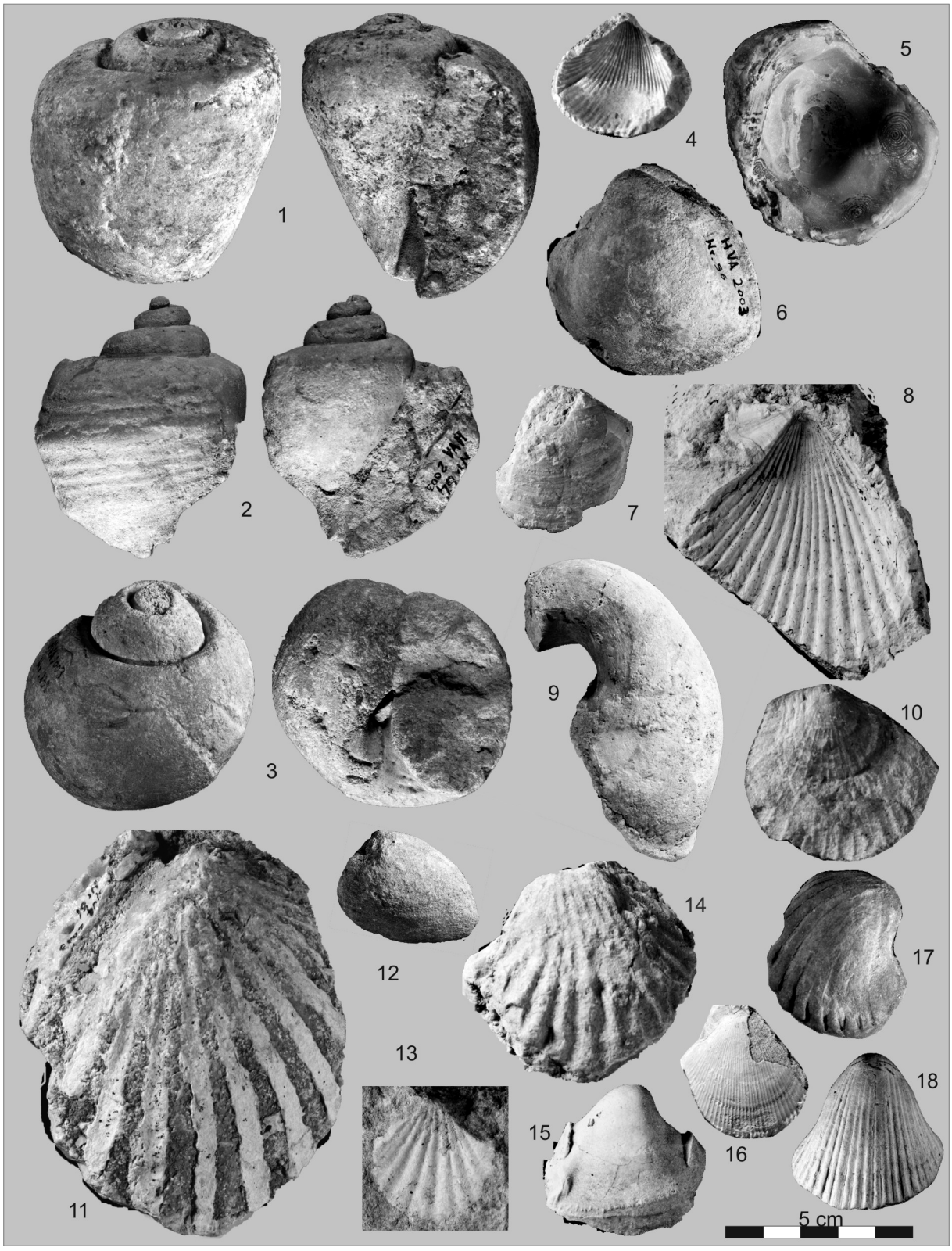

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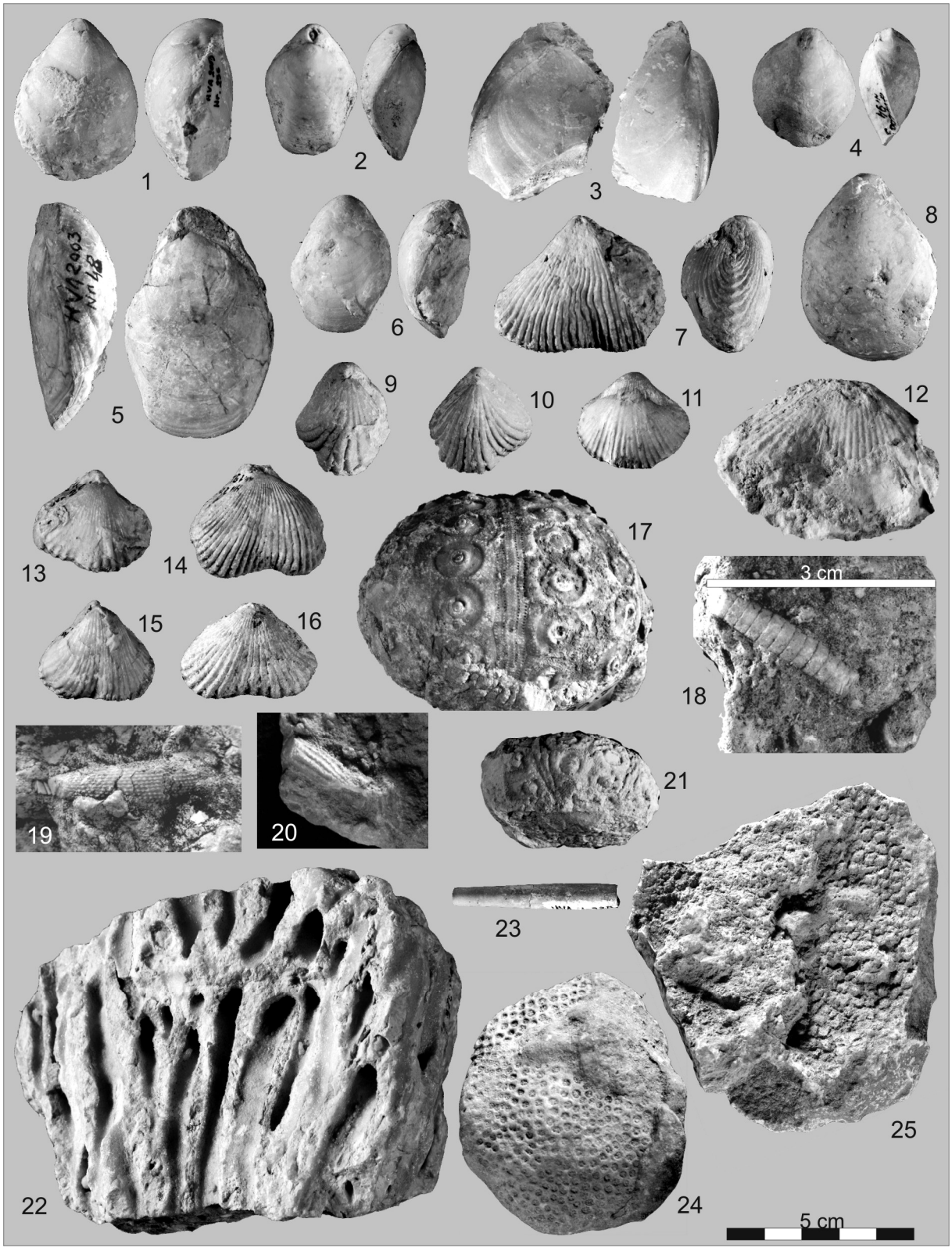

PLATE 6

PLATE 7

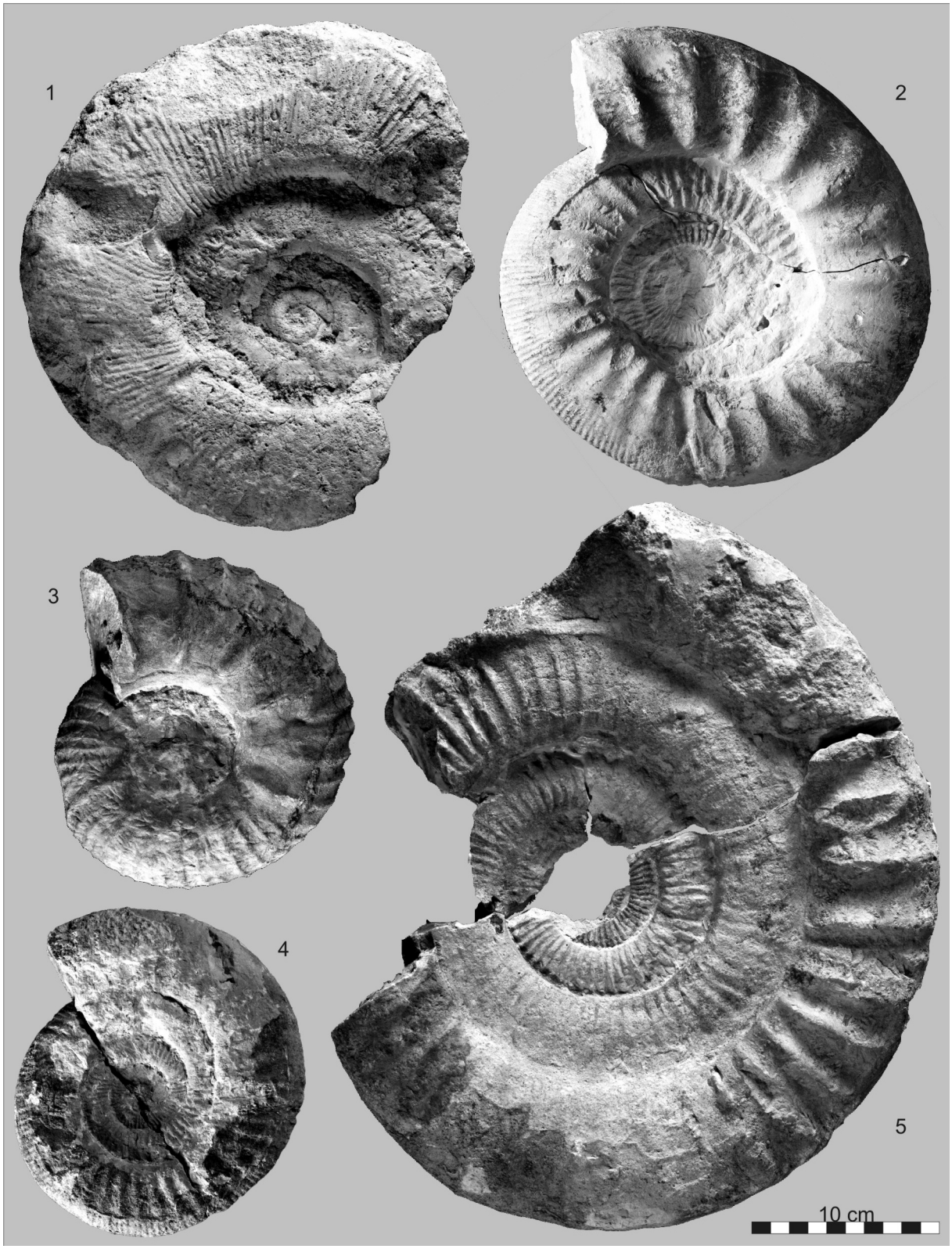

PLATE 8

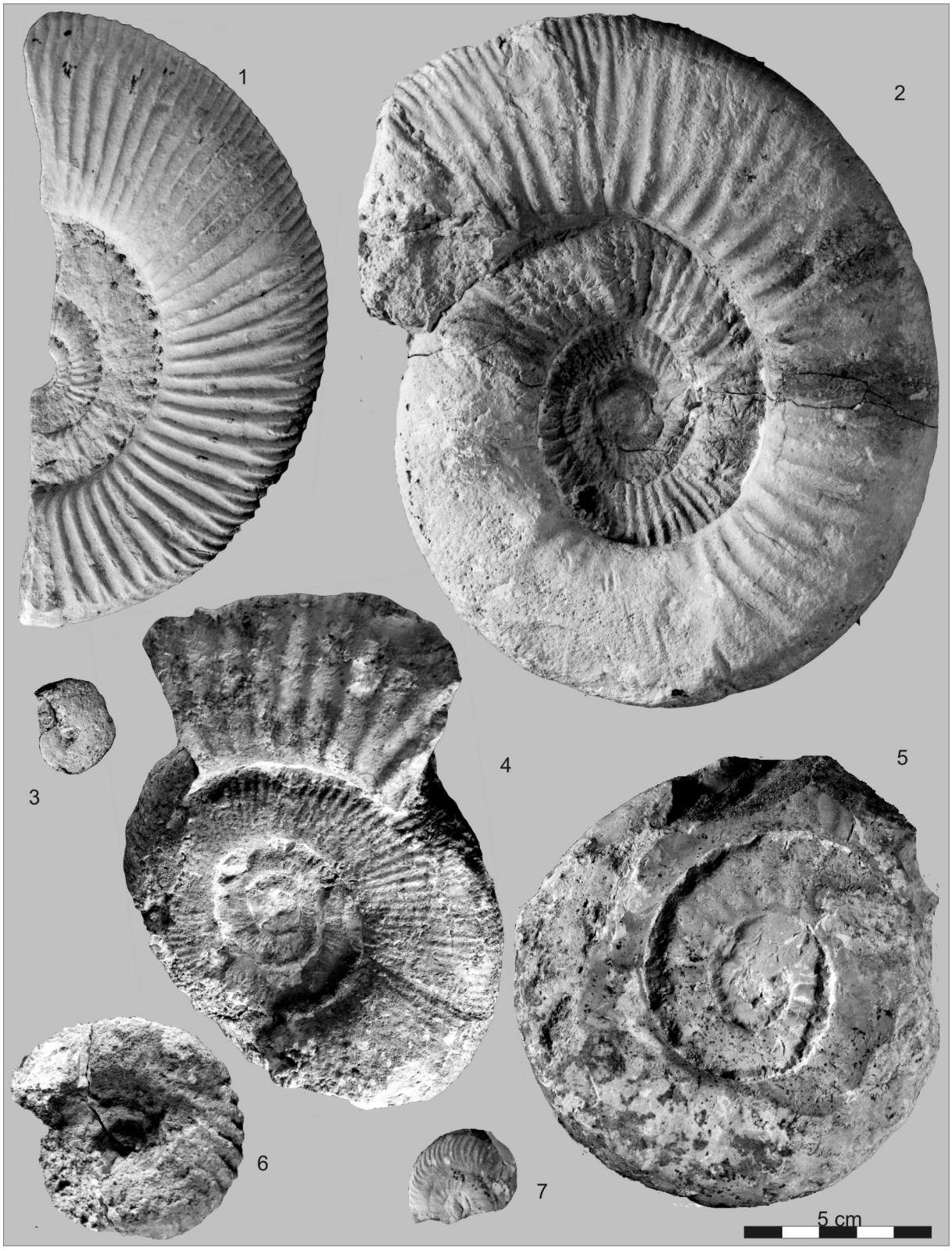

PLATE 9