

Supplementary information to:

## **Taphonomy and palaeoenvironmental interpretation of a new amber-bearing outcrop from the mid-Cretaceous of the Maestrazgo Basin (E Iberian Peninsula)**

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**Table S1**

<b>Taxa</b>	<b>Nº</b>	<b>%</b>	<b>Taxonomic affinity</b>
<b>Acritarcha</b>			
<i>Michystridium</i> sp.	1	0.26	Acanthomorphytae
<b>Dinoflagellata</b>			
<i>Canningia</i> cf. <i>reticulata</i>	30	7.77	Areoligeraceae
<i>Florentinia</i> sp.	3	0.77	Gonyaulacaceae
<i>Oligosphaeridium</i> complex	97	25.13	Leptodiniaceae
<i>Palaeohystrichophora infusorioides</i>	2	0.52	Peridiniaceae
<i>Palaeohystrichophora</i> sp.	1	0.26	Peridiniaceae
<i>Palaeoperidinium</i> spp.	16	4.14	Peridiniaceae
<i>Spiniferites ramosus</i>	7	1.81	Gonyaulacaceae
<i>Spiniferites twistringiensis</i>	3	0.77	Gonyaulacaceae
<i>Tenua hystrix</i>	2	0.52	Gonyaulacaceae
<i>Trichodinium castanea</i>	1	0.26	Gonyaulacaceae
Undetermined dinocysts	60	15.54	-
<b>Chlorophyta</b>			
<i>Cymathiosphaera</i> sp.	1	0.26	Prasinophytina
<i>Tasmanites</i> sp.	1	0.26	Prasinophytina
<i>Ovoidites</i> sp.	1	0.26	Zygnemataceae
<b>Lycophyta</b>			
<i>Camazonosporites insignis</i>	5	1.3	Lycopodiaceae
<i>Camazonosporites</i> sp.	2	0.52	Lycopodiaceae
<b>Monilophyta</b>			
<i>Appendicisporites</i> cf. <i>crenimurus</i>	1	0.26	Anemiaceae
<i>Appendicisporites</i> sp.	1	0.26	Anemiaceae
<i>Biretisporites potoniaei</i>	1	0.26	Uncertain affinities
<i>Cicatricosisporites venustus</i>	1	0.26	Anemiaceae
<i>Cicatricosisporites</i> sp.	1	0.26	Anemiaceae
<i>Crybelosporites pannuceus</i>	2	0.52	Marsileaceae
<i>Cyathidites australis</i>	7	1.81	Uncertain affinities
<i>Cyathidites minor</i>	1	0.26	Uncertain affinities
<i>Gleicheniidites senonicus</i>	1	0.26	Gleicheniaceae
<i>Granulatisporites</i> sp.	1	0.26	Botryopteridales
<i>Laevigatosporites</i> spp.	2	0.52	Uncertain affinities
<i>Microreticulatisporites sacalii</i>	3	0.77	Botryopteridales
<i>Osmundacidites wellmanii</i>	2	0.52	Osmundaceae
<i>Patellasperites tavadensis</i>	2	0.52	Uncertain affinities

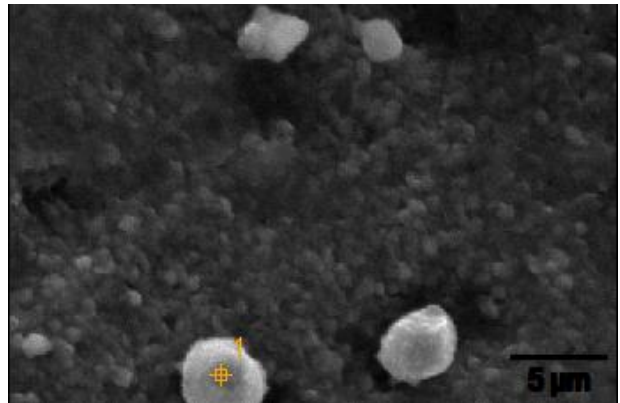
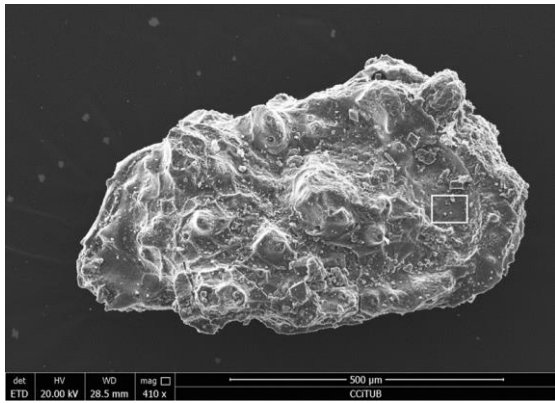
<i>Polypodiaceoisporites</i> sp.	1	0.26	Polypodiaceae?
Undetermined trilete spores	10	2.59	-
<i>Varirugosisporites</i> sp.	1	0.26	Uncertain affinities
<b>Gymnospermophyta</b>			
<i>Afropollis jardinus</i>	2	0.52	Uncertain affinities
<i>Araucariacites australis</i>	37	9.58	Araucariaceae
<i>Araucariacites</i> spp.	6	1.56	Araucariaceae
<i>Balmeiopsis limbata</i>	9	2.33	Araucariaceae
<i>Callialasporites dampieri</i>	1	0.26	Araucariaceae
<i>Classopollis major</i>	18	4.66	Cheirolepidiaceae
<i>Classopollis</i> spp.	8	2.07	Cheirolepidiaceae
<i>Inaperturopollenites dubius</i>	5	1.3	Cupressaceae
Undetermined bisaccate pollen grains	23	5.96	-
<b>Antophyta</b>			
<i>Dichastopollenites?</i> sp.	2	0.52	Uncertain affinities
<i>Tricolpites</i> sp.	1	0.26	Eudicots
Undetermined pollen grains of angiosperms	1	0.26	-
<b>Foraminifera</b>			
Undetermined test lining	2	0.52	-
<b>Total</b>	<b>386</b>	<b>100</b>	

**Table S1.** Full list of palynomorphs from interval 11 of the La Dehesa locality (late Albian–early Cenomanian; Estercuel, Aragón, Spain), present in the palynological sample EMD-11.1.

## Data S1–S4

Morphologies of pyrite crystals and framboids on microfossils and their EDX profiles, with the abundance of each element.

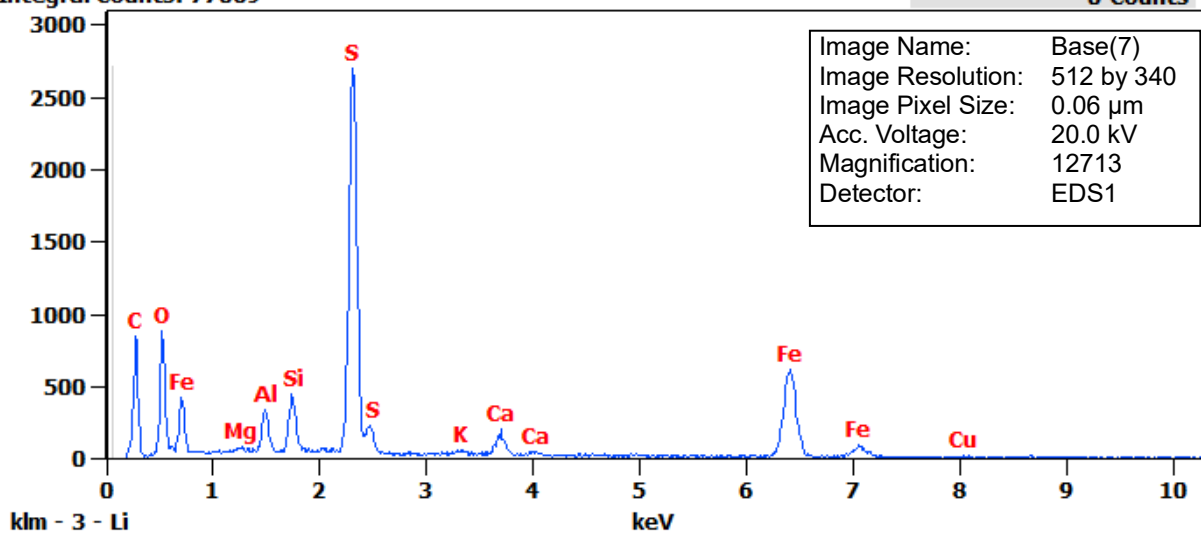
**Data S1:** Ostracod carapace *Cythereis* sp. Specimen MPZ 2024/31.



Full scale counts: 2706  
Integral Counts: 77069

Base(7)\_pt1

Cursor: 0.000 keV  
0 Counts



Weight %

	C	O	Mg	Al	Si	S	K	Ca	Fe	Cu
<b>Base(7)_pt1</b>	24.38	20.57	0.23	2.00	2.72	21.59	0.38	2.01	25.66	0.45

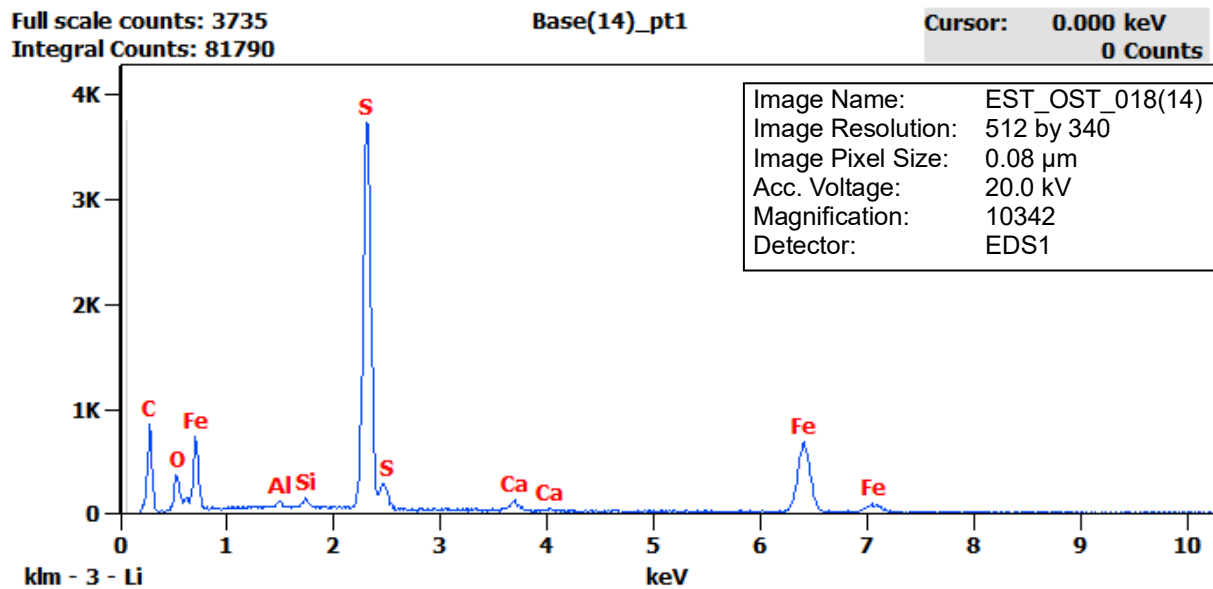
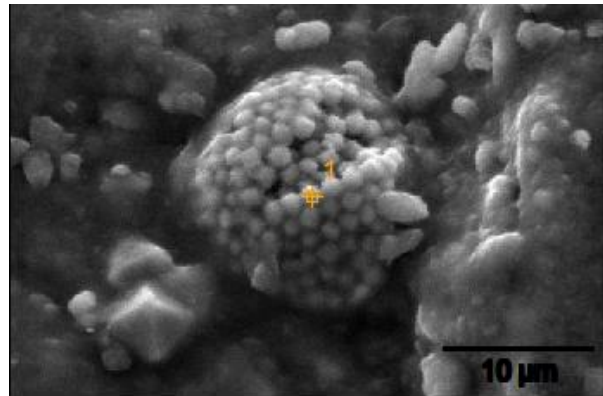
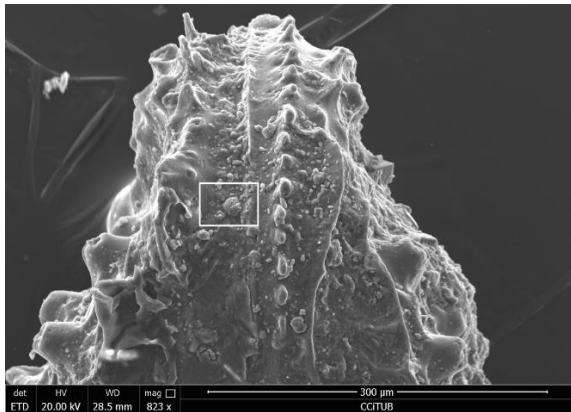
Atom %

	C	O	Mg	Al	Si	S	K	Ca	Fe	Cu
<b>Base(7)_pt1</b>	43.22	27.38	0.20	1.58	2.06	14.34	0.21	1.07	9.78	0.15

Compound %

	C	O	Mg	Al	Si	S	K	Ca	Fe	Cu
<b>Base(7)_pt1</b>	24.38	20.57	0.23	2.00	2.72	21.59	0.38	2.01	25.66	0.45

**Data S2:** Ostracod carapace of *Cythereis (Rehacythereis) cf. pseudobartensteini*.  
Specimen MPZ 2024/32.



Weight %

	C	O	Al	Si	S	Ca	Fe
<b>Base(14)_pt1</b>	27.96	12.01	0.37	0.55	29.05	1.34	28.72

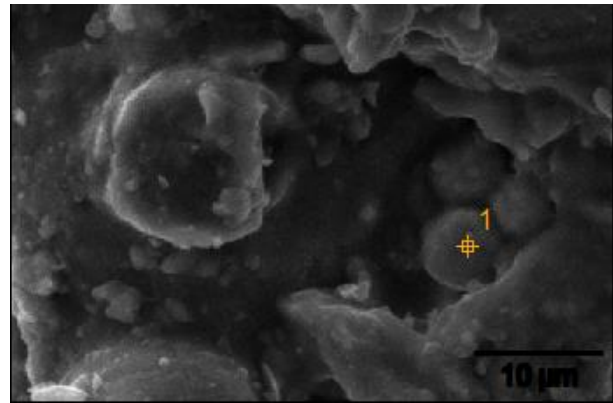
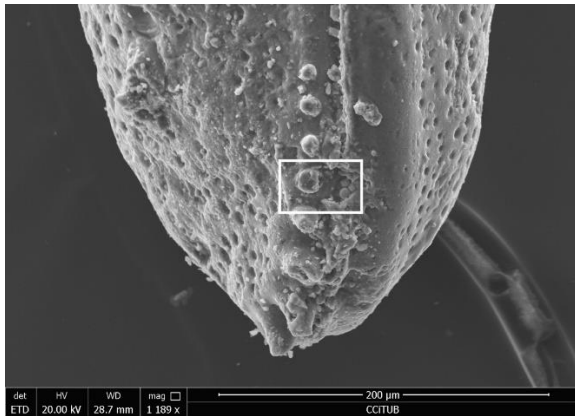
Atom %

	C	O	Al	Si	S	Ca	Fe
<b>Base(14)_pt1</b>	50.98	16.45	0.30	0.43	19.85	0.73	11.26

Compound %

	C	O	Al	Si	S	Ca	Fe
<b>Base(14)_pt1</b>	27.96	12.01	0.37	0.55	29.05	1.34	28.72

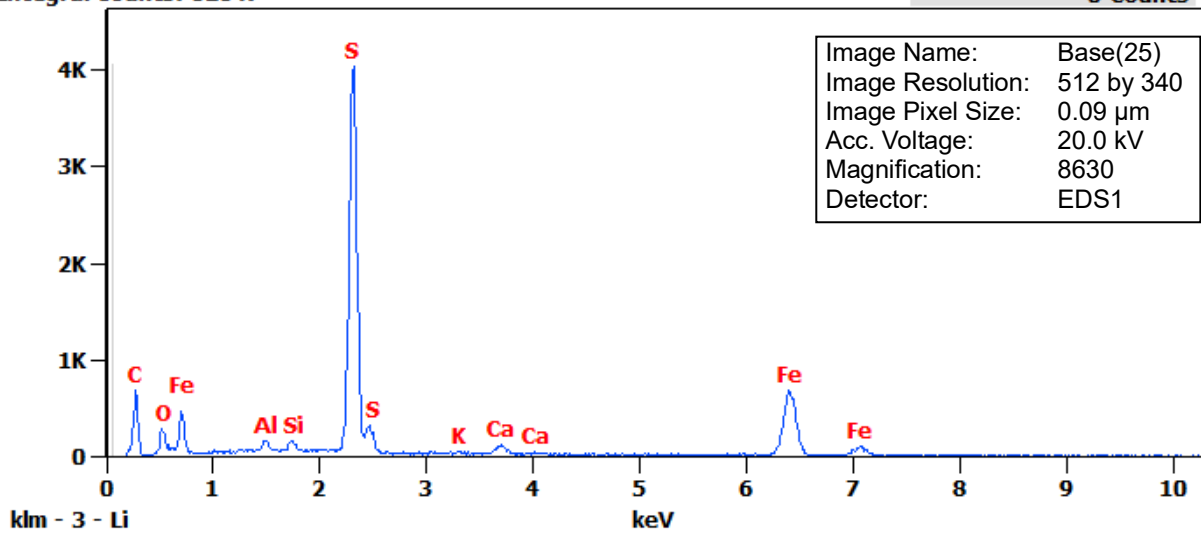
**Data S3:** Ostracod carapace of *Schuleridea* sp. Specimen MPZ 2024/45.



Full scale counts: 4048  
Integral Counts: 82847

Base(25)\_pt1

Cursor: 0.000 keV  
0 Counts



Weight %

	C	O	Al	Si	S	K	Ca	Fe
<b>Base(25)_pt1</b>	25.42	9.98	0.77	0.82	32.01	0.16	1.32	29.52

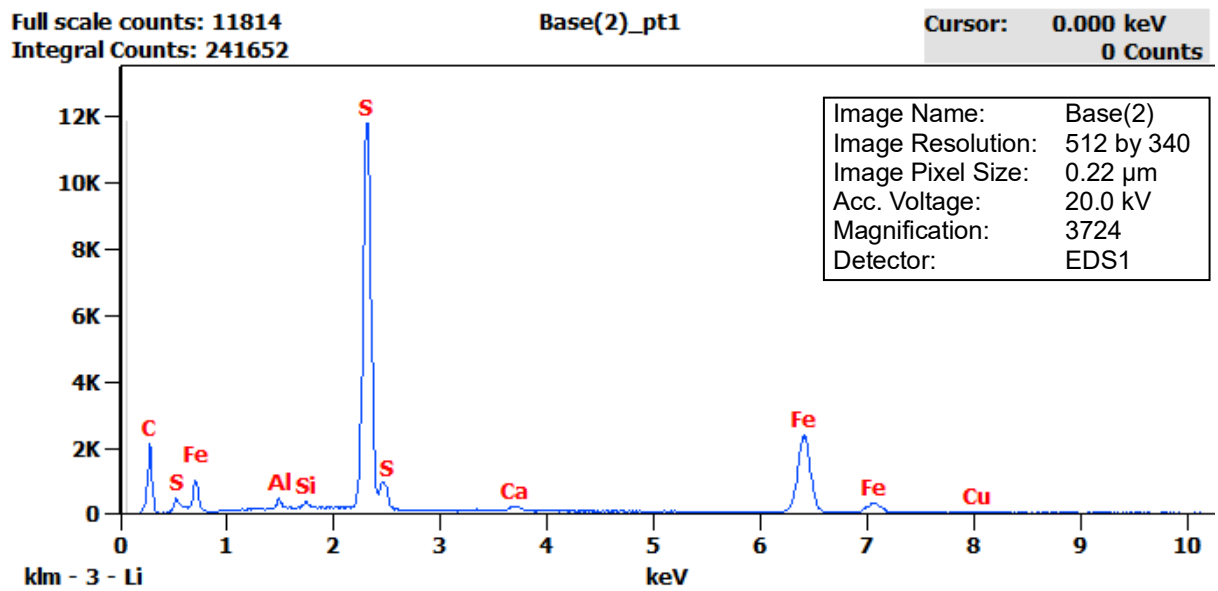
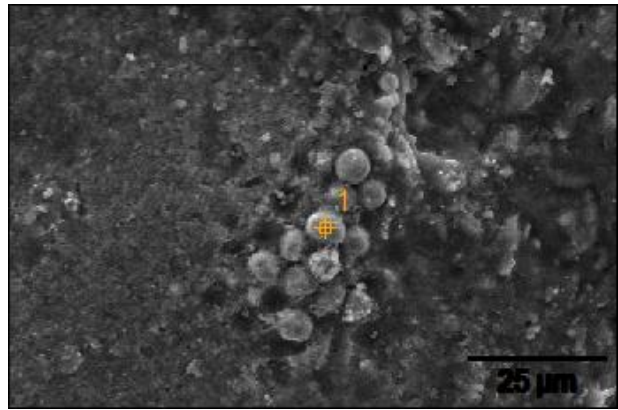
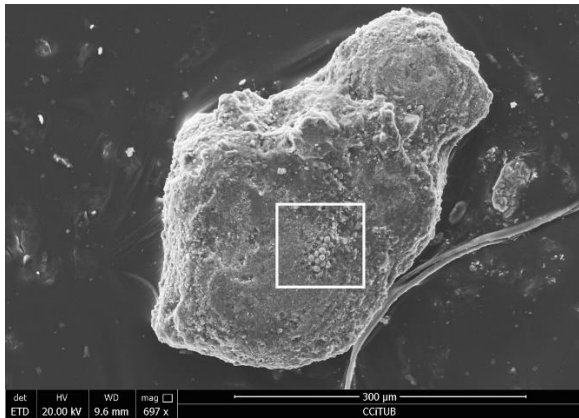
Atom %

	C	O	Al	Si	S	K	Ca	Fe
<b>Base(25)_pt1</b>	48.52	14.29	0.65	0.67	22.89	0.09	0.76	12.12

Compound %

	C	O	Al	Si	S	K	Ca	Fe
<b>Base(25)_pt1</b>	25.42	9.98	0.77	0.82	32.01	0.16	1.32	29.52

**Data S4:** Echinoid remain. Specimen MPZ 2024/25.



Weight %

	C	Al	Si	S	Ca	Fe	Cu
<b>Base(2)_pt1</b>	32.43	0.63	0.52	32.45	0.70	32.65	0.63

Atom %

	C	Al	Si	S	Ca	Fe	Cu
<b>Base(2)_pt1</b>	61.84	0.53	0.43	23.18	0.40	13.39	0.23

Compound %

	C	Al	Si	S	Ca	Fe	Cu
<b>Base(2)_pt1</b>	32.43	0.63	0.52	32.45	0.70	32.65	0.63