

Mid-Eocene Thermals record in Istrian Paleogene Basin (Outer Dinarides, Croatia), Neotethys

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Data management plan / Plan upravljanja istraživačkim podacima

Publication year / Godina izdavanja: **2023**

Permanent link / Trajna poveznica: <https://um.nsk.hr/um:nbn:hr:217:467647>

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Download date / Datum preuzimanja: **2024-07-06**



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Nannofossils samples following standard preparation procedure described by Perch-Nielsen (1985). All slides were investigated using light microscope LEICA DMLP with 1000x magnification (applied cross and parallel nicols). From each slide at least 300 specimens were counted to get data for quantitative analyses. To define the stratigraphic position Paleogene biozonations of Agnini et al (2014) and Martini (1971) were applied.

List of identified calcareous nannofossil species from Jakomići locality and number of species. Also see Lukić, R., 2022, Biostratigraphy of the Flysch deposits in the Pazin basin based on calcareous nannoplankton. Diploma Thesis, 71 p., Faculty of Science, Zagreb (supervised by V. Čosović and I. Galović). [urn:nbn:hr:217:237000](https://nbn-resolving.org/urn:nbn:hr:217:237000)

		uzorci	
JAK3		+ <i>Blackites gladius</i>	
JAK1		+ <i>B. inversus</i>	
J3		+ <i>B. spiculiformis</i>	
J2		+ <i>B. spinosus</i>	
		+ <i>B. tenuis</i>	
		+ <i>B. tortilis</i>	
		+ <i>Braarudosphaera bigelowii</i>	
		+ <i>Br. perampla</i>	
		+ <i>Campylosphaera dela</i>	
		+ <i>Chiasmolithus eoaitus</i>	
		+ <i>Ch. grandis</i>	
		+ <i>Ch. modestus</i>	
		+ <i>Ch. nitidus</i>	
		+ <i>Chiasmolithus</i> spp.	
		+ <i>Clausiococcus fenestratus</i>	
		+ <i>Cl. vanheckiae</i>	
		+ <i>Coccolithus braarudii</i>	
		+ <i>Coccolithus cachaoui</i>	
		+ <i>Coccolithus cf. crassus</i>	
		+ <i>C. eoepelagicus</i>	
		+ <i>C. formosus</i>	
		+ <i>C. miopelagicus</i>	
		+ <i>C. tenuiforatus</i>	
		+ <i>Cruciplacolithus klausii</i>	
		+ <i>Cr. sfigranus</i>	
		+ <i>Cyclicargolithus floridanus</i>	
		+ <i>D. multiradiatus</i>	
		+ <i>D. nodifer</i>	
		+ <i>D. spinescens</i>	
		+ <i>Discoaster</i> spp.	
		+ <i>Furcatolithus celsus</i>	
		+ <i>Furcatolithus cuniculus</i>	
		+ <i>Furcatolithus obisus</i>	
		+ <i>F. predistentus</i>	
		+ <i>Helicosphaera bramlettei</i>	
		+ <i>H. compacta</i>	
		+ <i>H. lophota</i>	
		+ <i>Helicosphaera</i> sp.	
		+ <i>Lanternithus minutus</i>	
		+ <i>Micrantholithus flos</i>	
		+ <i>Pemma</i> sp.	
		+ <i>Planolithus mihajlovicii</i>	
		bogatstvo vrsta	52
JAK3		+ <i>Pontosphaera exilis</i>	
JAK1		+ <i>P. multipora</i>	
J3		+ <i>P. plana</i>	
J2		+ <i>P. pulchra</i>	
		+ <i>P. versa</i>	
		+ <i>Pontosphaera</i> sp.	
		+ <i>R. bisecta</i>	
		+ <i>R. daviesii</i>	
		+ <i>R. dictyoda</i>	
		+ <i>R. erbae</i>	
		+ <i>R. flewiczii</i>	
		+ <i>R. hillae</i>	
		+ <i>R. lockeri</i>	
		+ <i>R. minuta</i>	
		+ <i>R. perplexa</i>	
		+ <i>R. producta</i>	
		+ <i>R. reticulata</i>	
		+ <i>R. stavenisi</i>	
		+ <i>R. umbilicus</i>	
		+ <i>Reticulofenestra wadeae</i>	
		+ <i>R. westerholdii</i>	
		+ <i>R. sp.</i>	
		+ <i>Rhabdosphaera</i> spp.	
		+ <i>S. conicus</i>	
		+ <i>S. furcatolithoides</i>	
		+ <i>S. milanetti</i>	
		+ <i>S. moriformis</i>	
		+ <i>S. pseudoradians</i>	
		+ <i>S. radians</i>	
		+ <i>S. spiniger</i>	
		+ <i>Sph. Strigosus</i>	
		+ <i>S. tanzanensis</i>	
		+ <i>Sphenolithus</i> spp.	
		+ <i>Syracosphaera tanzanensis</i>	
		+ <i>Syracosphaera</i> sp.	
		+ <i>Triquetrorhabdulus challengeri</i>	
		+ <i>Toweius gemmation</i>	
		+ <i>Umbilicosphaera bramlettei (larger)</i>	
		+ <i>U. detecta</i>	
		+ <i>U. protoannulus</i>	
		+ <i>Zygrhablithus bijugatus</i>	
		+ pretaloženi	52
		+ bogatstvo vrsta	43
			49
			55

List of identified calcareous nannofossil species from Racani locality (listed by alphabetic order) and their abundances in samples. Additionally all smear slides were investigated for rare specimens that could be important for the biostratigraphy (x in Table).

Blackites inversus (Bukry & Bramlette, 1969) Bown & Newsam 2017

Blackites tenuis (Bramlette & Sullivan, 1961) Sherwood, 1974

Blackites tortilis Bown & Dunkley Jones, 2006

Blackites sp.

Braarudosphaera bigelowii (Gran & Braarud, 1935) Deflandre, 1947

Bramletteius serraculoides Gartner, 1969

Calcidiscus pacificanus (Bukry, 1971) Varol, 1989

Calcidiscus? sp.

Campylosphaera dela (Bramlette & Sullivan, 1961) Hay & Mohler, 1967

Chiasmolithus grandis (Bramlette & Riedel, 1954) Radomski, 1968

Chiasmolithus nitidus Perch-Nielsen, 1971

Chiasmolithus solitus (Bramlette and Sullivan, 1961) Locker, 1968

Clausicoccus fenestratus (Deflandre and Fert, 1954) Prins, 1979

Clausicoccus subdistichus (Roth & Hay in Hay et al., 1967) Prins, 1979

Clausicoccus vanheckiae (Perch-Nielsen, 1986)

Coccolithus cachaoi Bown, 2005

Coccolithus crucis Bown, 2005

Coccolithus eopelagicus (Bramlette & Riedel, 1954) Hay, Mohler & Wade 1966

Coccolithus formosus (Kamptner, 1963) Wise, 1973

Coccolithus pelagicus (Wallich, 1877) Schiller, 1930
Coronocyclus sp.
Cribrocentrum reticulatum (Gartner & Smith, 1967) Perch-Nielsen, 1971
Cyclicargolithus floridanus (Roth & Hay, in Hay et al., 1967) Bukry, 1971
Dictyococcites hesslandii Haq, 1971
Discoaster barbadiensis Tan Sin Hok, 1927
Discoaster binodosus Martini, 1958
Discoaster deflandrei Bramlette & Riedel, 1954
Discoaster distinctus Martini, 1958
Discoaster nodifer (Bramlette & Riedel, 1954) Bukry, 1973
Discoaster saipanensis Bramlette & Riedel, 1954
Discoaster spp.
Helicosphaera bramlettei (Müller, 1970) Jafar & Martini, 1975
Helicosphaera lophota (Bramlette & Sullivan, 1961) Locker, 1973
Helicosphaera proluxa Bown & Newsam, 2017
Helicosphaera reticulata Bramlette & Wilcoxon, 1967
Helicosphaera seminulum Bramlette & Sullivan, 1961
Helicosphaera sp.
Lanternithus minutus Stradner, 1962
Lanternithus procerus Bown, 2005
Pedinocyclus larvalis (Bukry & Bramlette, 1969) Loeblich & Tappan, 1973
Pontosphaera exilis (Bramlette & Sullivan, 1961) Romein, 1979

Pontosphaera multipora (Kamptner, 1948 ex Deflandre in Deflandre & Fert, 1954) Roth, 1970

Pontosphaera sp.

Reticulofenestra dictyoda (Deflandre in Deflandre & Fert, 1954) Stradner in Stradner & Edwards, 1968

Reticulofenestra hillae Bukry & Percival, 1971

Reticulofenestra minuta Roth, 1970

Reticulofenestra umbilicus (Levin, 1965) Martini & Ritzkowski, 1968

Reticulofenestra wadeae Bown, 2005

Reticulofenestra sp.

Sphenolithus furcatolithoides Locker, 1967

Sphenolithus moriformis (Brönnimann & Stradner, 1960) Bramlette & Wilcoxon, 1967

Sphenolithus pseudoradians Bramlette & Wilcoxon, 1967

Sphenolithus radians Deflandre in Grassé, 1952

Sphenolithus spiniger Bukry, 1971

Sphenolithus strigosus Bown & Dunkley Jones, 2006

Sphenolithus sp.

Thoracosphaera sp.

Umbilicosphaera bramlettei (Hay & Towe, 1962) Bown *et al.*, 2007

Umbilicosphaera protoannulus (Gartner, 1971) Young & Bown 2014

Youngilithus sp.

Zygrhablithus bijugatus (Deflandre in Deflandre and Fert, 1954) Deflandre, 1959

Reworked Paleocene/lowere Eocene

Discoaster multiradiatus Bramlette & Riedel, 1954

Prinsius sp.

Reworked Cretaceous

Micula staurophora (Gardet, 1955) Stradner, 1963

Watznaueria barnesiae (Black in Black & Barnes, 1959) Perch-Nielsen, 1968

<i>Pedinocyclus larvalis</i>					7	9	18	17	5		16	10		3		7						22										2
<i>Pontosphaera exilis</i>					7	2	19	5	2		15	9	1	x		11	1	1				1	31								8	
<i>Pontosphaera formosa</i>	x				7	7	12	7	1	2	8	14		1		12	x	2		1	1		36							x		
<i>Pontosphaera multipora</i>		x			1	5	8	4	8	x	x	8	13		x	18	x	x		1	x		28							x	2	
<i>Pontosphaera</i> sp.			x		4	2	4	8	x		9	3		x		13	x		x	x	1		44		x					1	1	
<i>Reticulofenestra dictyoda</i>				1	7	3	10	7	x	x	7	5		1		13	x	x	x		x	x	34								2	
<i>Reticulofenestra hillae</i>				x	11	3	7	11	x		7	16		1	x	8	1	1	x			39									3	
<i>Reticulofenestra minuta</i>																																
<i>Reticulofenestra umbilicus</i>																																
<i>Reticulofenestra wadeae</i>																																
<i>Reticulofenestra</i> sp.																																
<i>Sphenolithus furcatolithoides</i>																																
<i>Sphenolithus moriformis</i>																																
<i>Sphenolithus pseudoradians</i>																																
<i>Sphenolithus radians</i>																																
<i>Sphenolithus runus</i>																																
<i>Sphenolithus spiniger</i>																																
<i>Sphenolithus strigosus</i>																																
<i>Sphenolithus</i> spp.																																
<i>Thoraosphaera</i> spp.																																
<i>Umbilicosphaera bramlettei</i>																																
<i>Umbilicosphaera protoannulus</i>																																
<i>Youngolithus?</i> sp.																																
<i>Zygrhablithus bijugatus</i>																																
reworked Paleocene																																
<i>Prinsius</i> sp.																																
reworked Cretaceous																																
<i>Micula staurophora</i>																																
<i>Watznaueria barnesiae</i>																																
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