

Opća paleontologija

PONAVLJANJE

Geološka vremenska skala

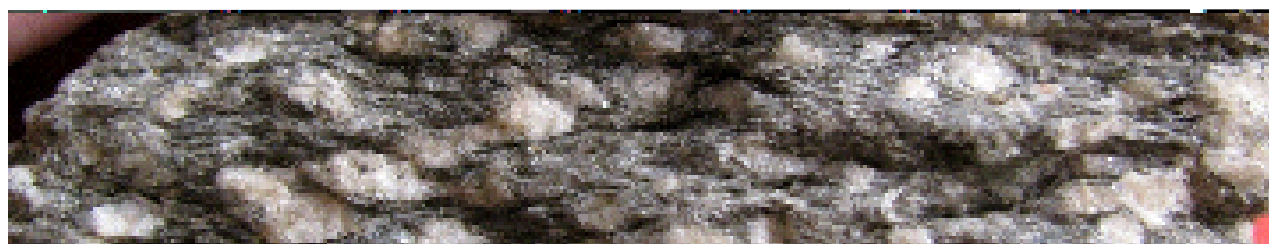
EON	ERA	PERIOD	Milijuna godina	
FANEROZOIK	KENOZOIK	? (Q)	2,6 – danas	
		? (Ng)	23 – 2,6	
		paleogen (Pg)	__ – 23	
	??	? (K)	145 – __	
		jura (J)	201 – 145	
		trijas (T)	___ – 201	
	PALEOZOIK	? (P)	300 – ___	
		karbon (C)	359 – 300	
		? (D)	419 – 359	
		silur (S)	444 – 419	
		? (O)	485 – 444	
		kambrij (Cm)	___ – 485	
	PRETKAMBRIJ (KRIPTOZOIK)	?		2500 – ___
		ARHAIK		4000 – 2500
		HADij		___ – 4000

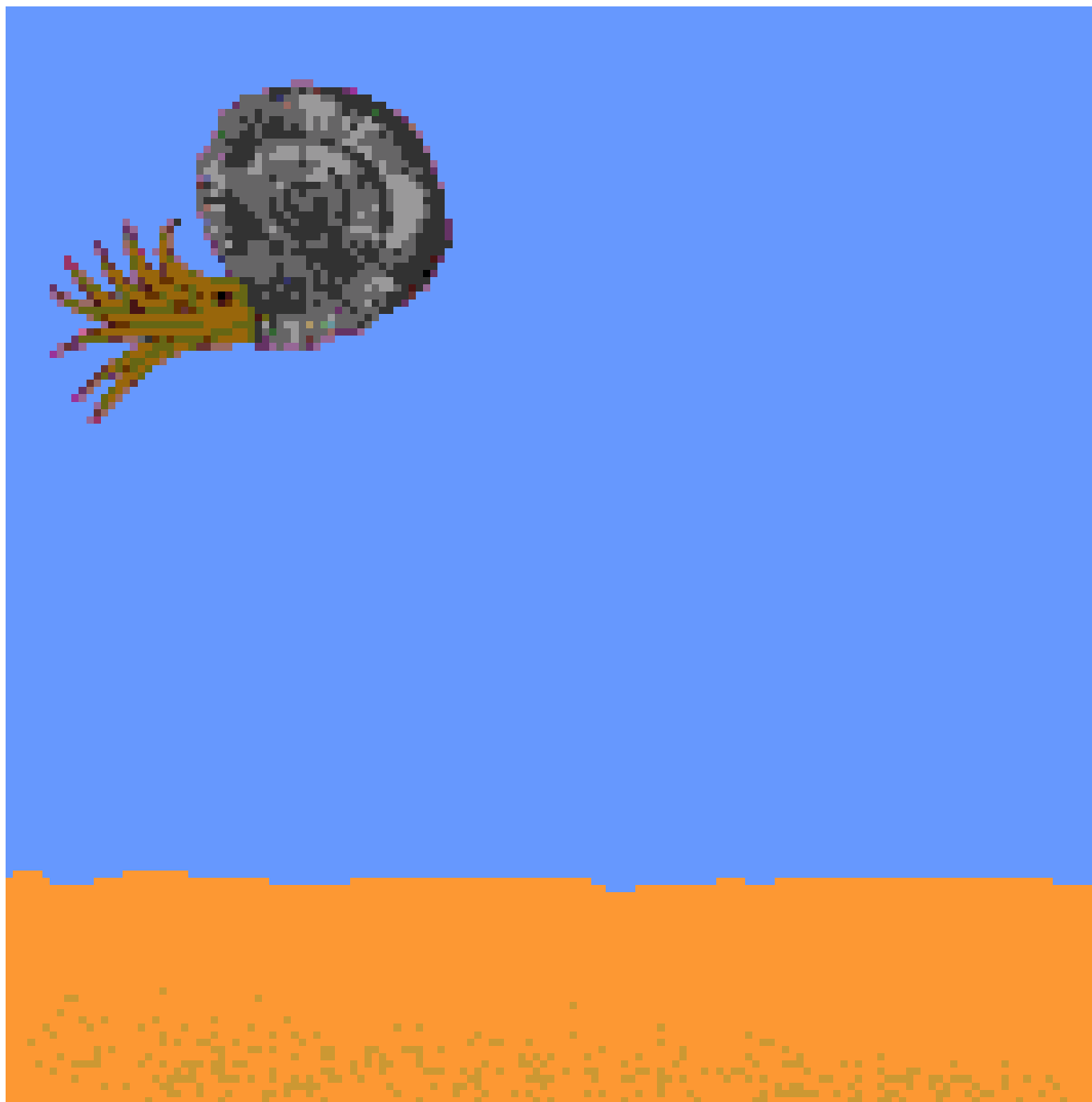


Masovna izumiranja??

	Geokronološki sustav
	eon
	era
sistem	
	epoha
kat	

Stijene, prema postanku?

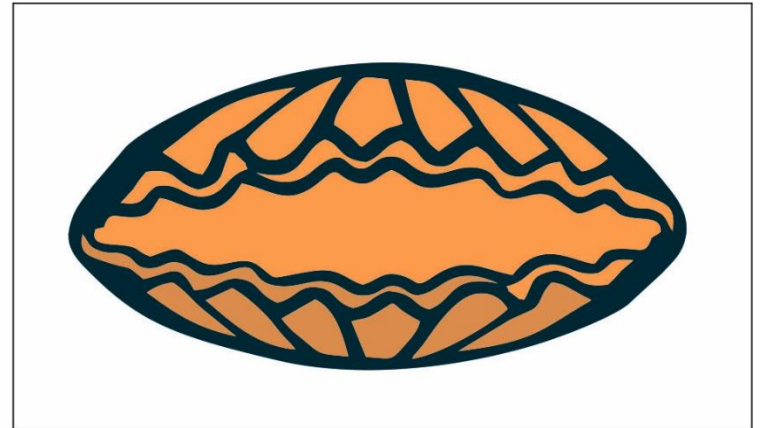
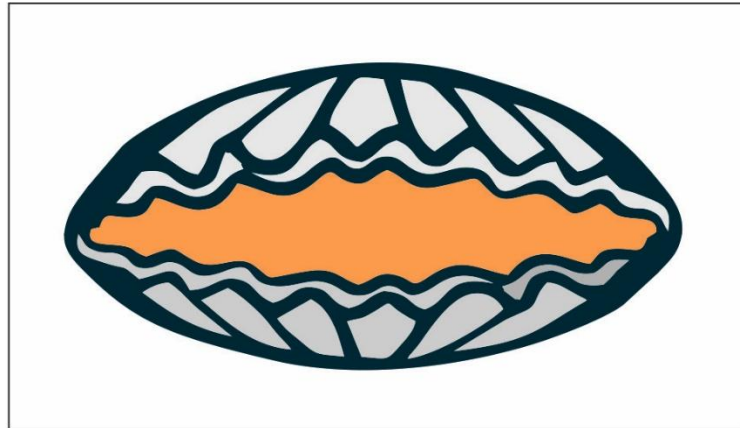
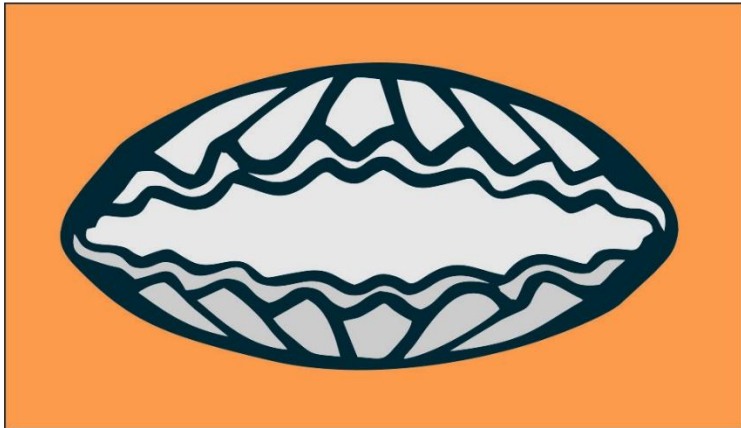




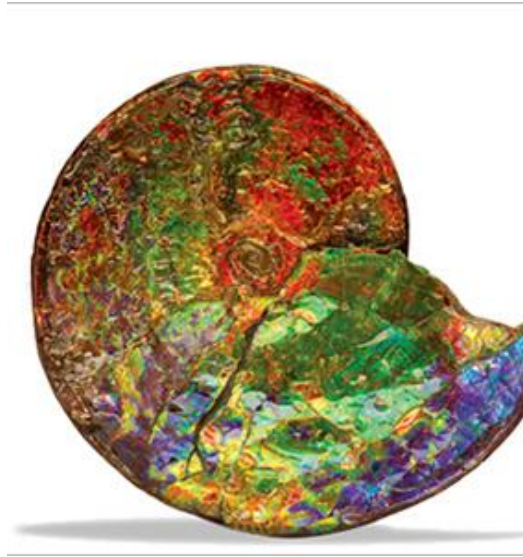
Fosili

- Izmijenjeni i neizmijenjeni ostaci?
 - Posredni i neposredni ostaci?
 - Provodni i facijesni fosili?
 - Mikrofosili i makrofosili?
 - Ihnofosili?
-
- Primjene paleontologije?

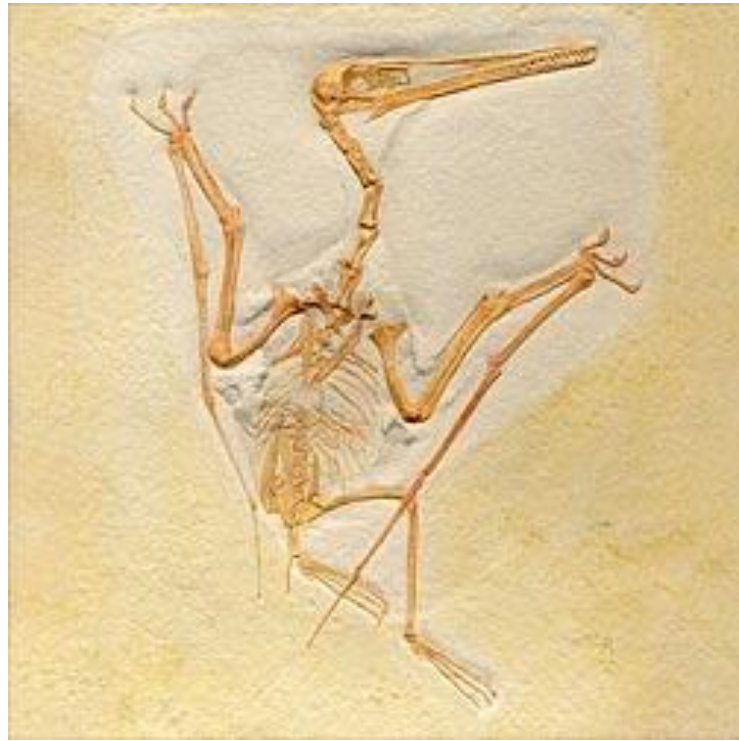
Otisak, kamena jezgra, skulpturirana kamena jezgra?



Načini fosilizacije

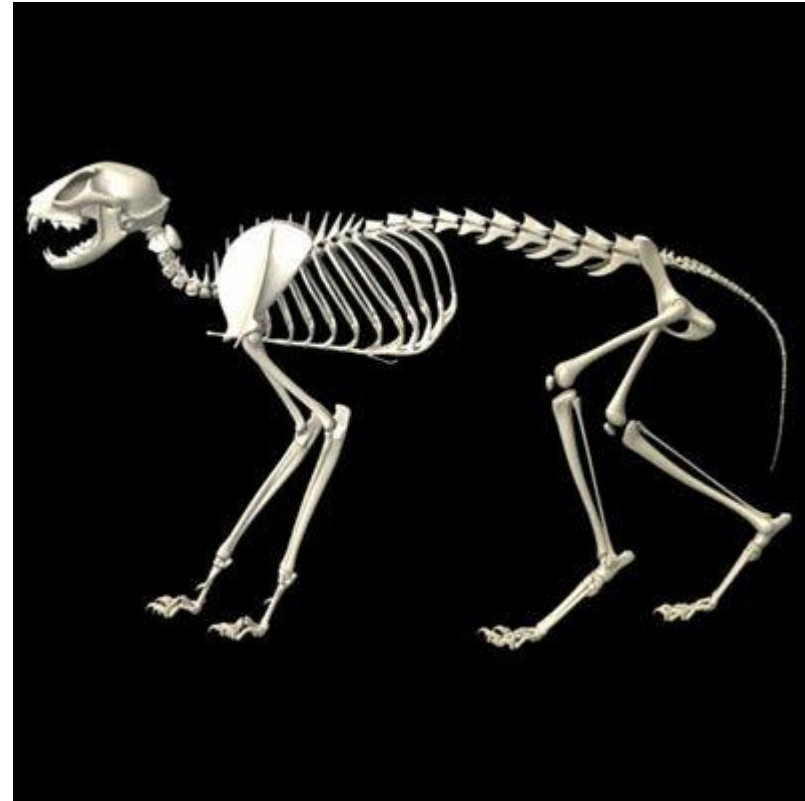


Fossilna ležišta



Određivanje vrste u paleontologiji

- Način imenovanja
- Problemi?



Mineralogija skeleta

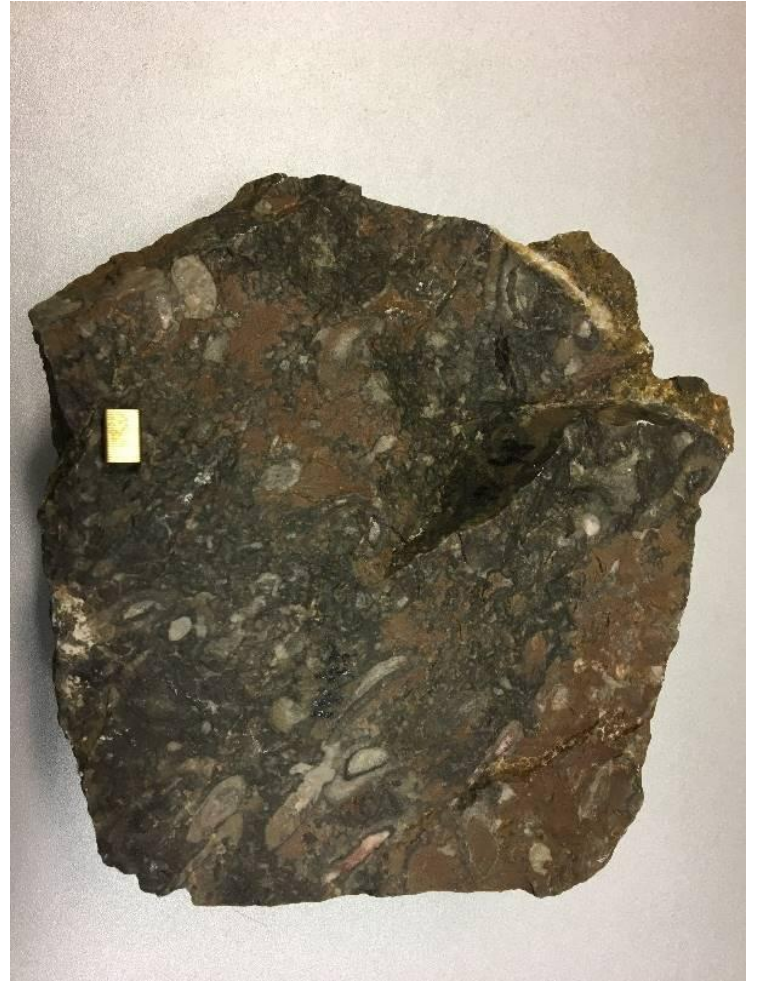
Organizam	Aragonit	Kalcit	Fosfat	Kvarc; opal	Fe- oksidi	Hitin	Celuloza	Kolagen	Keratin
Prokariota	XX	X	X		X		X		
Alge	XX	XX		X		X	XX		
«Više biljke»		X		X	X		XX		
Praživi		XX		XX	XX	X	X		
Gljive		X	X		X	XX	XX		
Spužve	X	XX		XX	X			XX	
Žarnjaci	XX	XX				X		X	
Mahovnjaci	XX	XX	X			XX		X	
Ramenonošci		XX	XX			XX		X	
Mekušci	XX	X	X	X	X	X		X	
Kolutićavci	XX	XX	XX		X	X		XX	
Člankonošci		XX	XX	X	X	XX		X	
Bodljikaši		XX	X	X				XX	
Kralješnjaci		X	XX		X	X		XX	XX

XX=često; X=rijetko

Grada skeleta

- Vrh
- Ušće
- Pupak
- Kolumela
- Septi
- Sifonski skelet
- Lobna linija
- Variksi





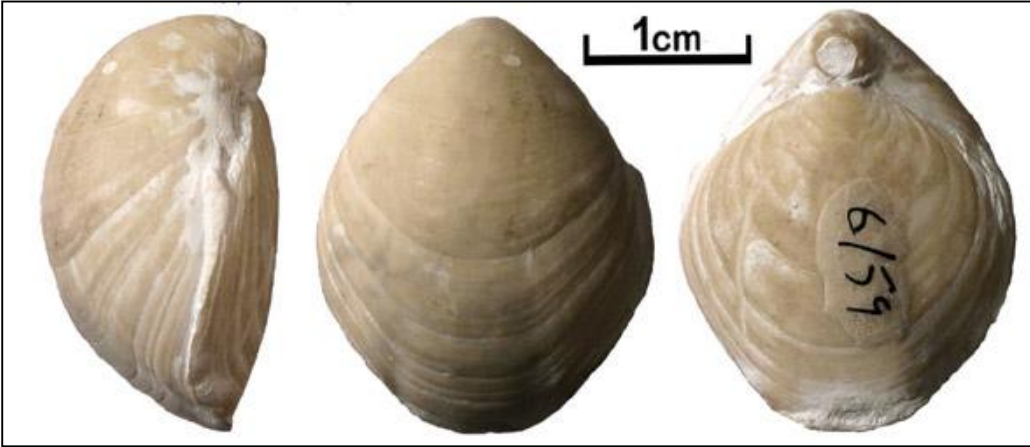




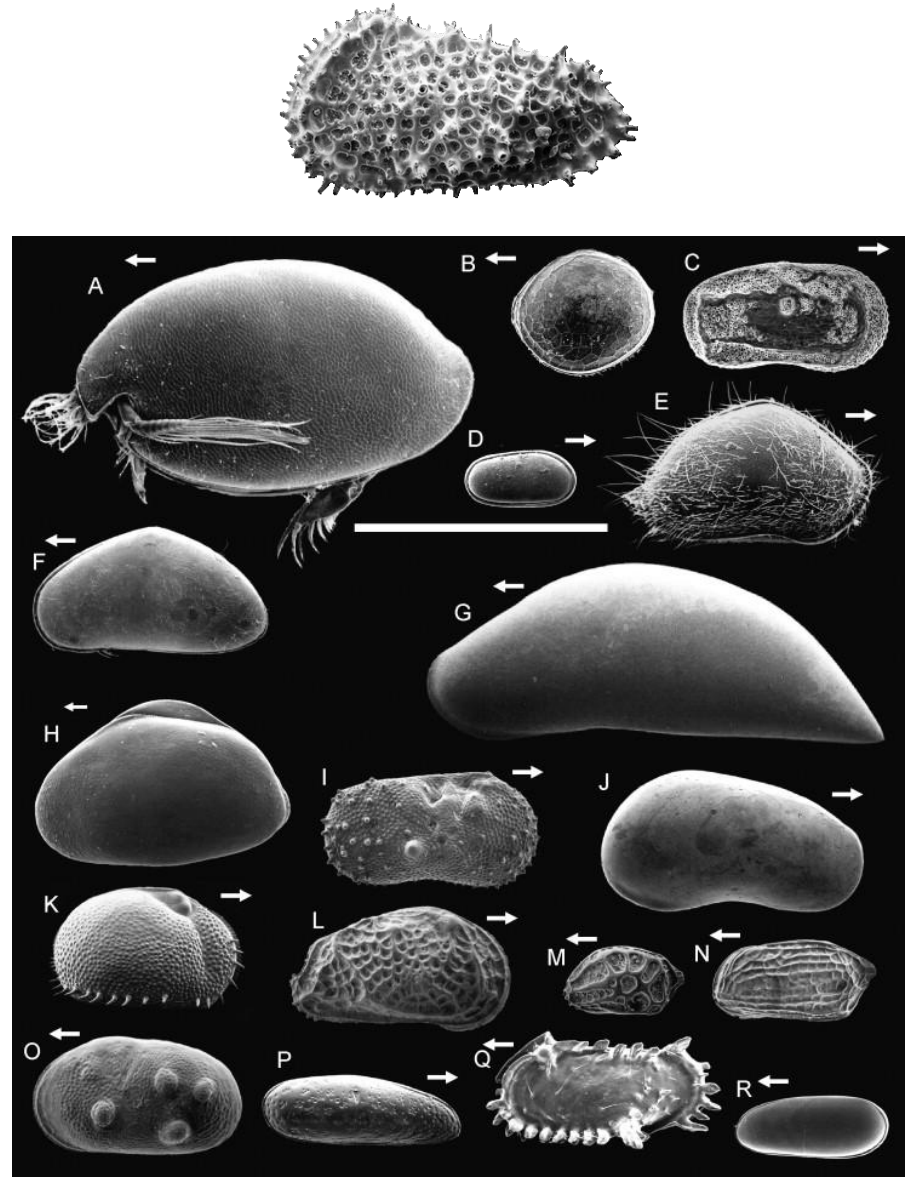
















VERTEBRATA

(KRALJEŽNJACI)

(*Columna vertebralis = kralježnica*)

AGNATHA

(bezčeljusnice)

Cm - Rec.

Česti fosilni nalazi
izumrlih predstavnika
vezani za:

(Cm₂₃ - C) †

Primjer:

Rod: **ANATOLEPIS**
(fragment kosti nađen u
WYOMING - USA
star 520 - 505 mil. god.)

GNATHOSTOMATA

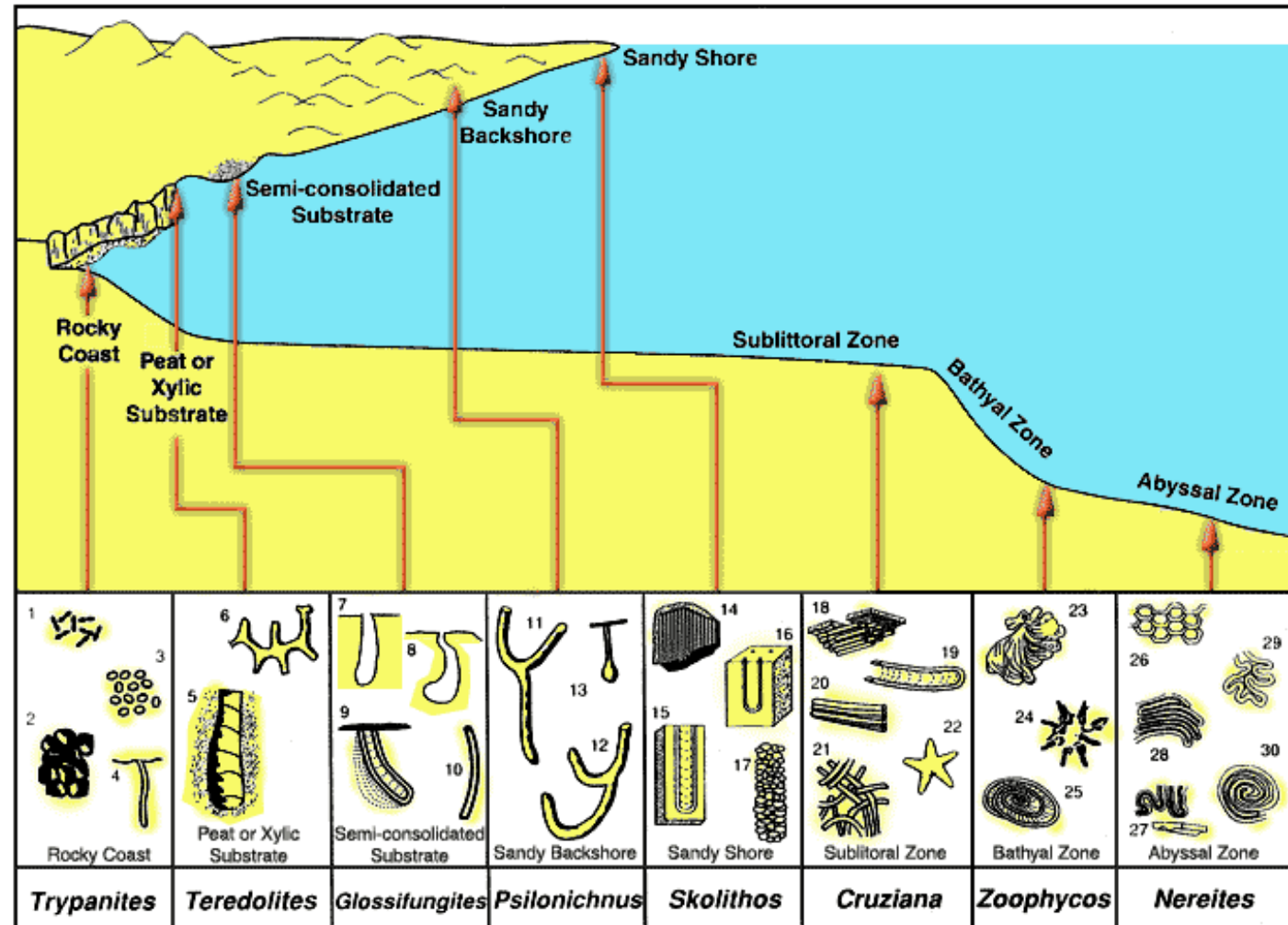
(čeljusnice)

1. **PLACODERMI** (S - D) †
(ribe oklopnjače)
2. **CHONDRICHTHYES** (D - Rec.)
(hrskavične ribe)
3. **ACANTHODII** (S - P) †
(prakoštunjače)
4. **OSTEICHTHYES** (D - Rec.)
(koštunjače)
5. **AMPHIBIA** (D₃ - Rec.)
6. **REPTILIA** (C₁ - Rec.)

7. **AVES** (J₃ - Rec.)

8. **MAMMALIA** (T₃ - Rec.)

Ihnofosili i ihnofacijesi



after Seilacher image from <http://research.eas.ualberta.ca/ichnology/>

Distribution of Common Marine Ichnofacies

Typical trace fossils include: 1) *Caulostrepsis*; 2) *Entobia*; 3) echinoid borings; 4) *Trypanites*; 5) *Teredolites*; 6) *Thalassinoides*; 7, 8) *Gastrochaenolites* or related genera; 9) *Diplocraterion* (*Glossifungites*); 10) *Skolithos*; 11, 12) *Psilonichnus*; 13) *Macanopsis*; 14) *Skolithos*; 15) *Diplocraterion*; 16) *Arenicolites*; 17) *Ophiomorpha*; 18) *Phycodes*; 19) *Rhizocorallium*; 20) *Teichichmus*; 21) *Planolites*; 22) *Asteriacites*; 23) *Zoophycos*; 24) *Lorenzina*; 25) *Zoophycos*; 26) *Paleodictyon*; 27) *Taphrhelminthopsis*; 28) *Helminthoida*; 29) *Cosmorhappe*; 30) *Spirorhappe*.

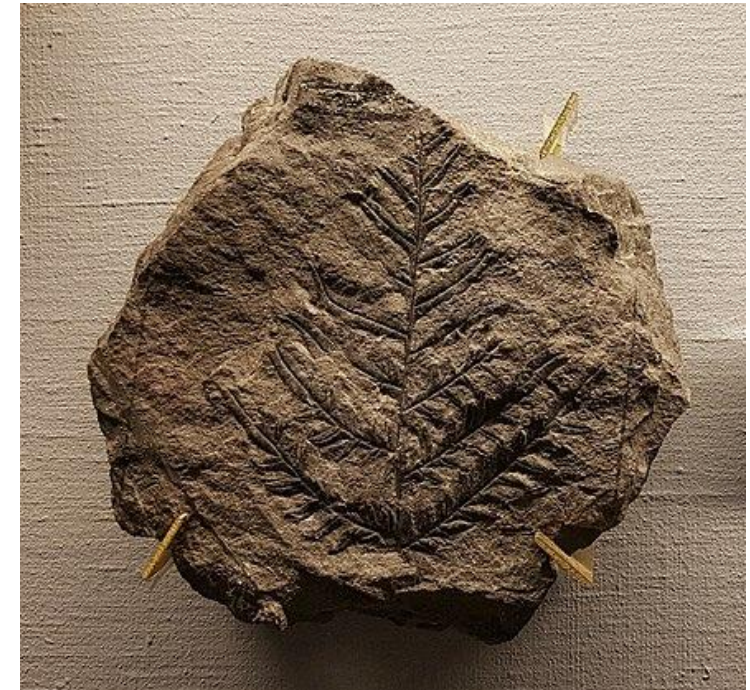
Primjeri ihnofosila





Odjeljak sjemenjača uključuje:

- PTERIDOSPERME
(PTERIDOSPERMATOPSIDA)
- IGLIČASTE
GOLOSJEMENJAČE
(CONIFEROPHYTINA)
- PERASTOLISNE
GOLOSJEMENJAČE
(CYCADOPHYTINA)
- KRITOSJEMENJAČE
(MAGNOLIOPHYTINA)



Povežite:

papratnjače

igličaste gołosjemenjače

perastolisne gołosjemenjače

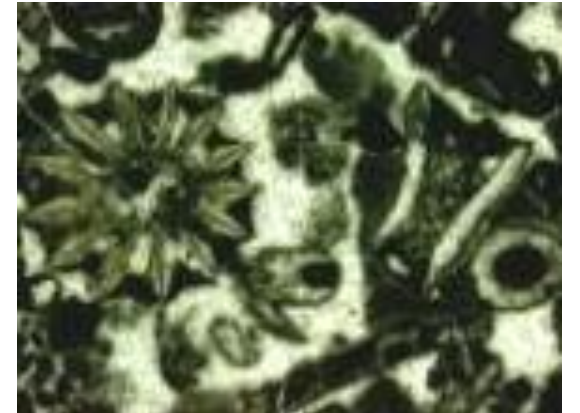
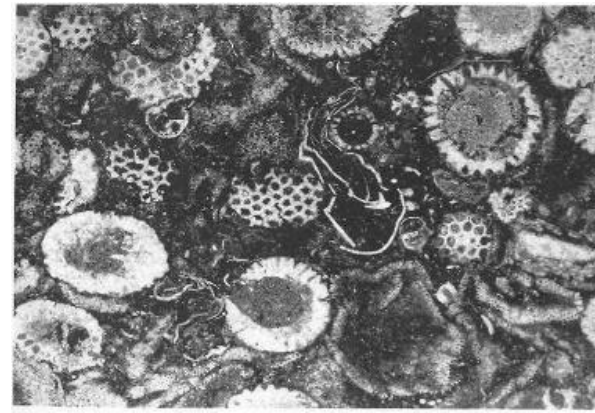
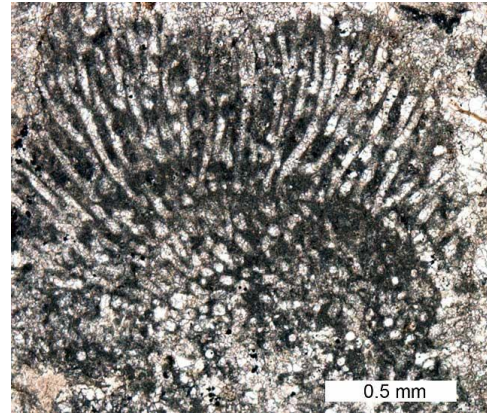
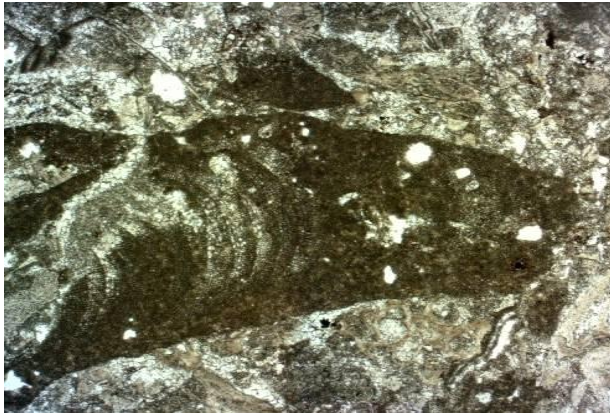
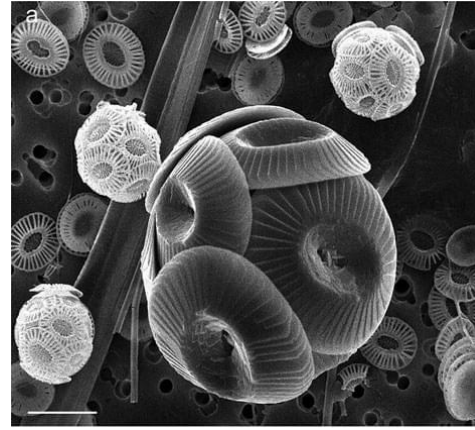
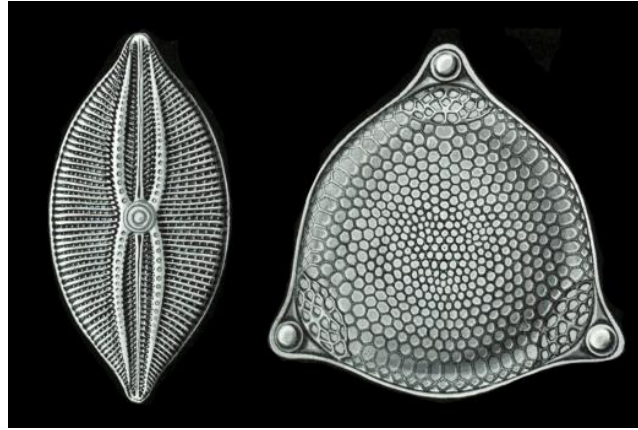
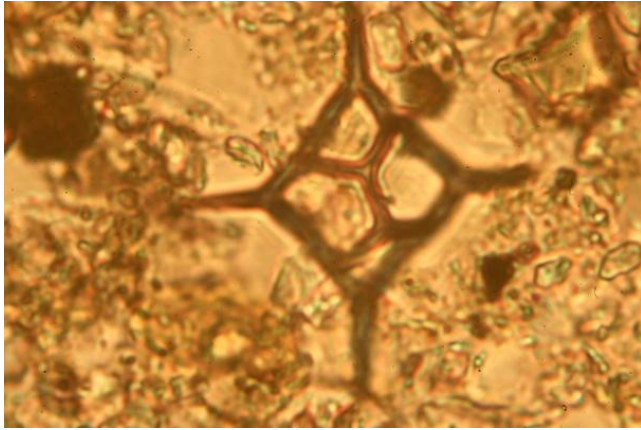
kritosjemenjače

kenofitik

paleofitik

mezofitik

Na slikama su...



Na slikama su...

