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Archive of SID

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(P/B ratio)

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(Dimitrijević 1973)

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(Clapp 1940)

(Pilgrim 1924)

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(Huber and Stöcklin 1954)

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(Gansser 1955)

(Huckriede et al.1962)

(Mitchel 1996)

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(Fisher et al 1943)

(Mesh No)

(Murray 1973,1991)

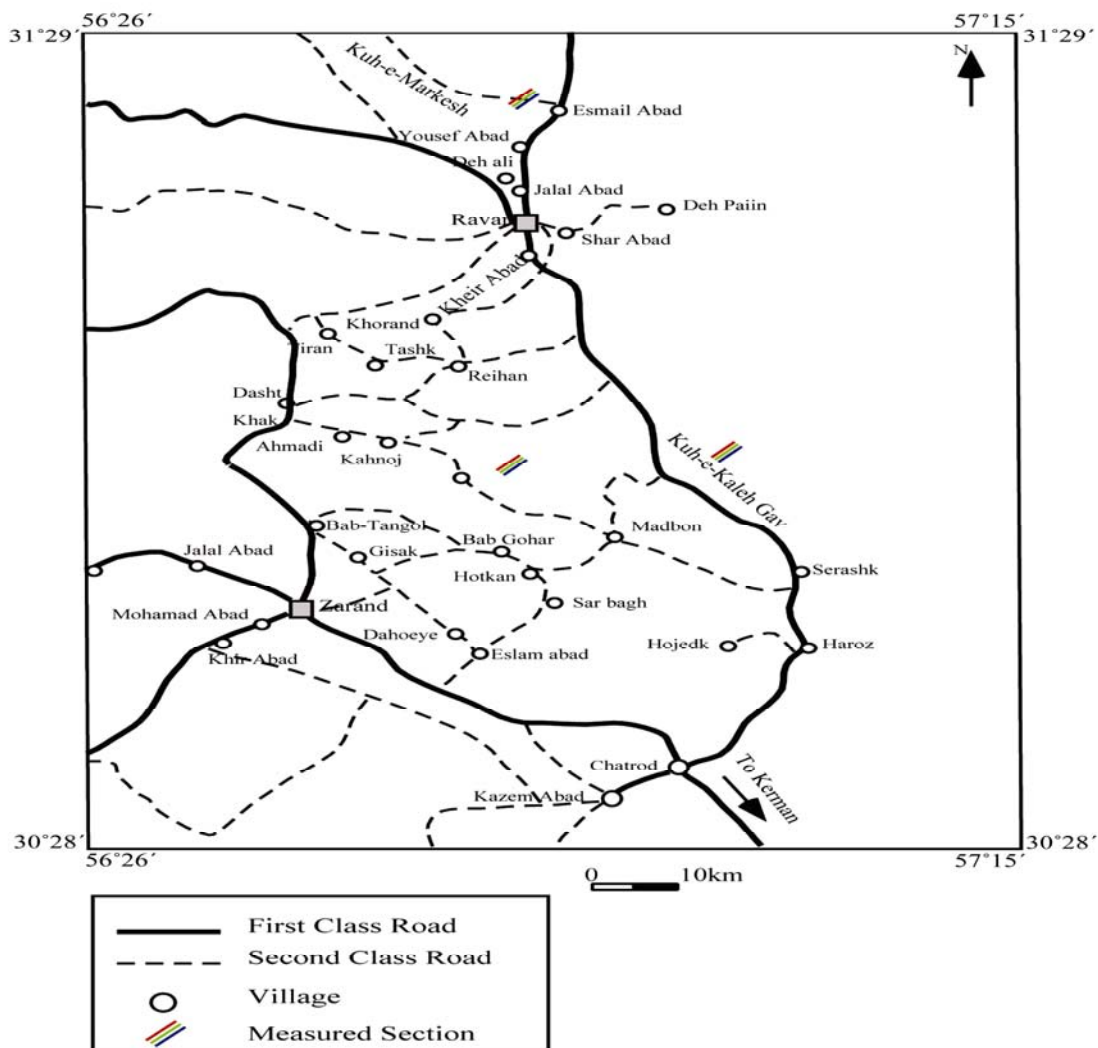
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Archive of SID

Exogyra





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Cuneolina,

Nezzazata Ammobaculites, Sabaudia

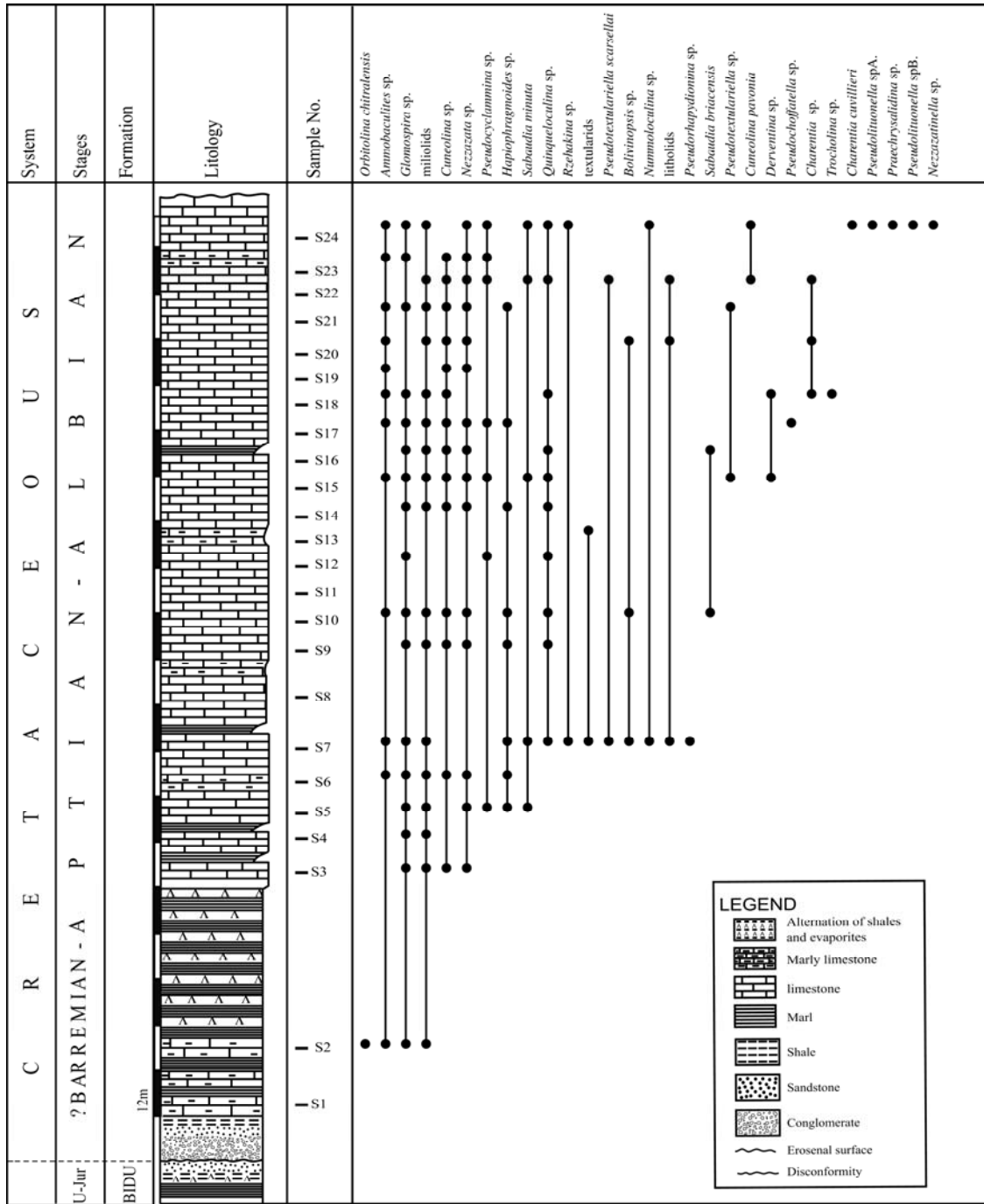
Acicularia sp., *Permocalculus* sp., *Rivularia*
lissaviensis, Salpingoporella sp.

Ammobaculites sp., *Bolivinopsis* sp., *Cuneolina*
pavonia, *Charentia* sp., *Derventina* sp.,
Glomospira sp., *Haplophragmoides*
sp., miliolids, *Nezzazata* sp., *Nummuloculina* sp.,
Orbitolina chitralensis, *Pseudocyclammina* sp.,
Pseudochoffatella sp., *Pseudolituonella*
sp., *Praechrysalidina* sp., *Pseudotextulariella*
scarsellai, *Pseudorhapydionina* sp., *Rzehakina*
sp., *Sabaudia briacensis*, *Sabaudia minuta*,
Trocholina sp., textularids.

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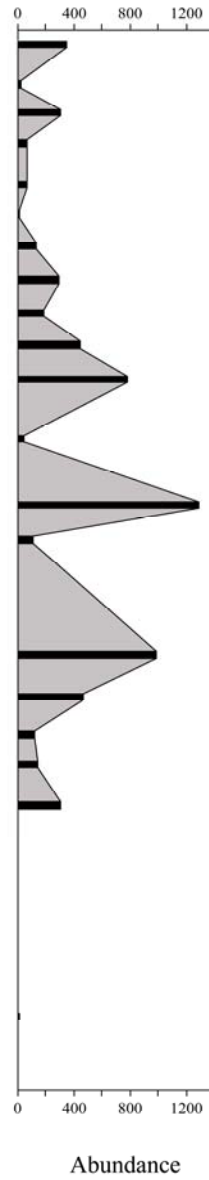
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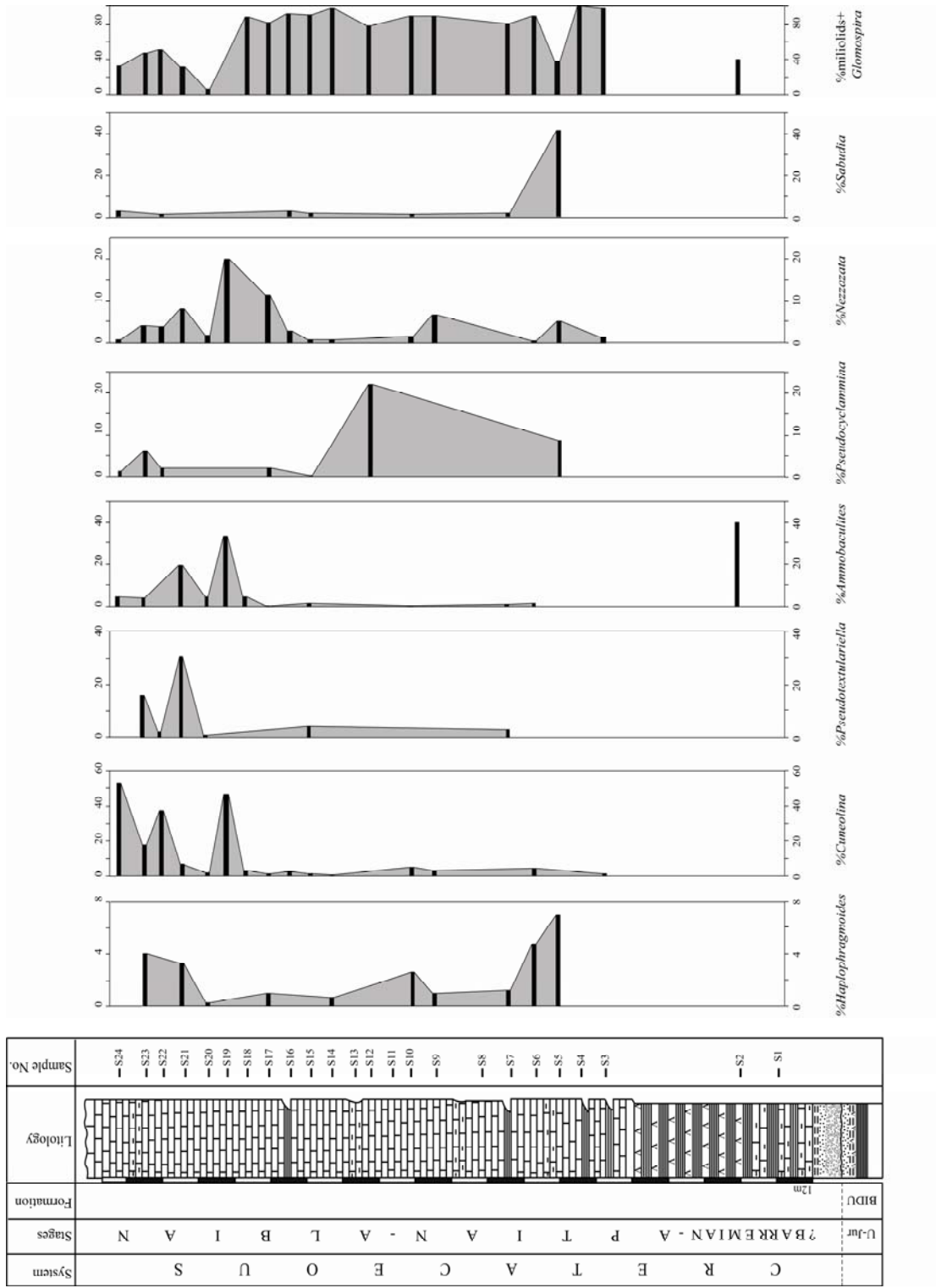
Glomospira miliolids

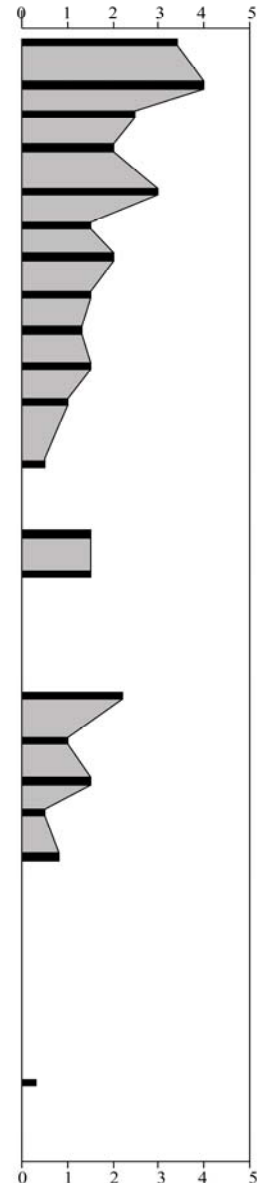
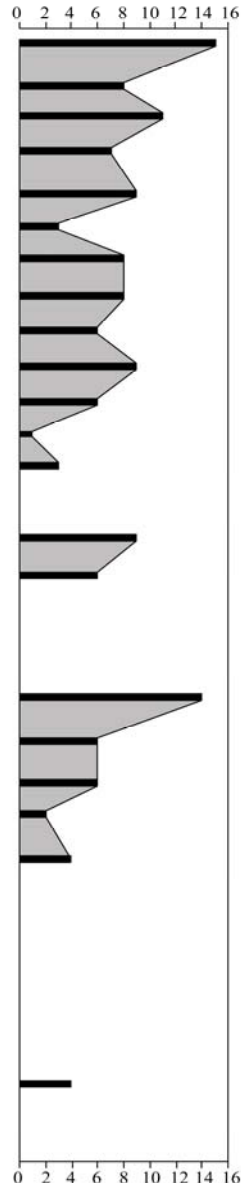
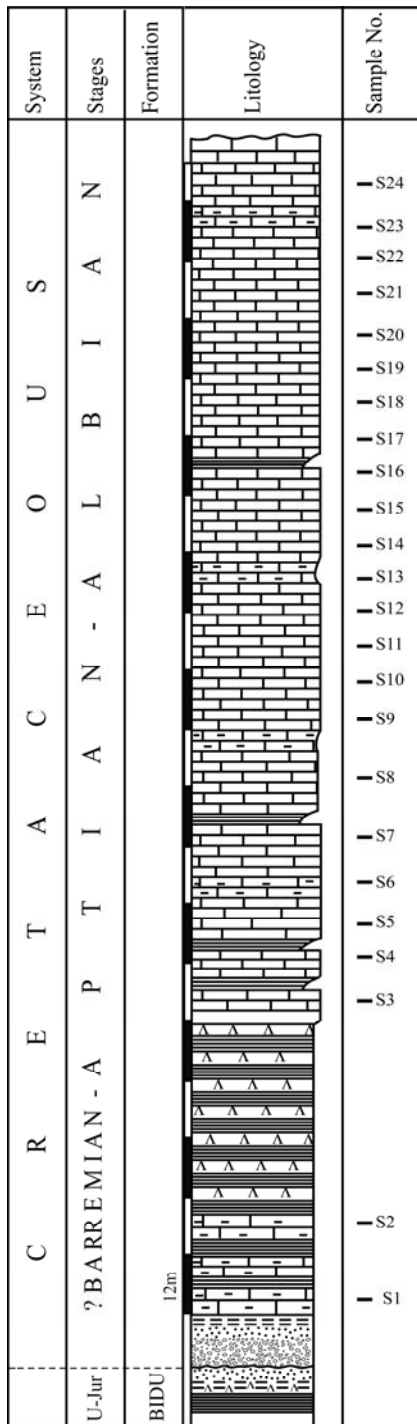


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System	Stations	Formation	Litology	Sample No.
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S24
				S23
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S22
				S21
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S20
				S19
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S18
				S17
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S16
				S15
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S14
				S13
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S12
				S11
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S10
				S9
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S8
				S7
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S6
				S5
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S4
				S3
CRETACEOUS	S A N I B I A N	? BARREMIAN - A		S2
				S1







Simple diversity

Fisher diversity

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Ammobaculites sp., *Balkhania balkhanica*,
Bolivinopsis sp., *Cuneolina laurentii*, *Charentia*
Cuvierlli, *Derventina* sp., *Dictyoconus arabicus*,
Glomospira sp., *Haplophragmoides* sp., *Iraqia*
simplex, *Nezzazata* sp., *Nummuloculina* sp.,
Mesorbitolina subconca, miliolids, *Orbitolina*
discoidea, *Palorbitolina* sp., *Pseudocyclammina*
lituus, *Pseudocyclammina hedbergi*,
Pseudolituonella sp., *Praechrysalidina* sp.,
Pseudotextulariella scarsellai, *Rotalia* sp.,
Rzehakina sp., *Sabaudia briacensis*, *Sabaudia*
minuta, textularids, *Tritaxia* sp., *Trochaminoidea*
sp.

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miliolids

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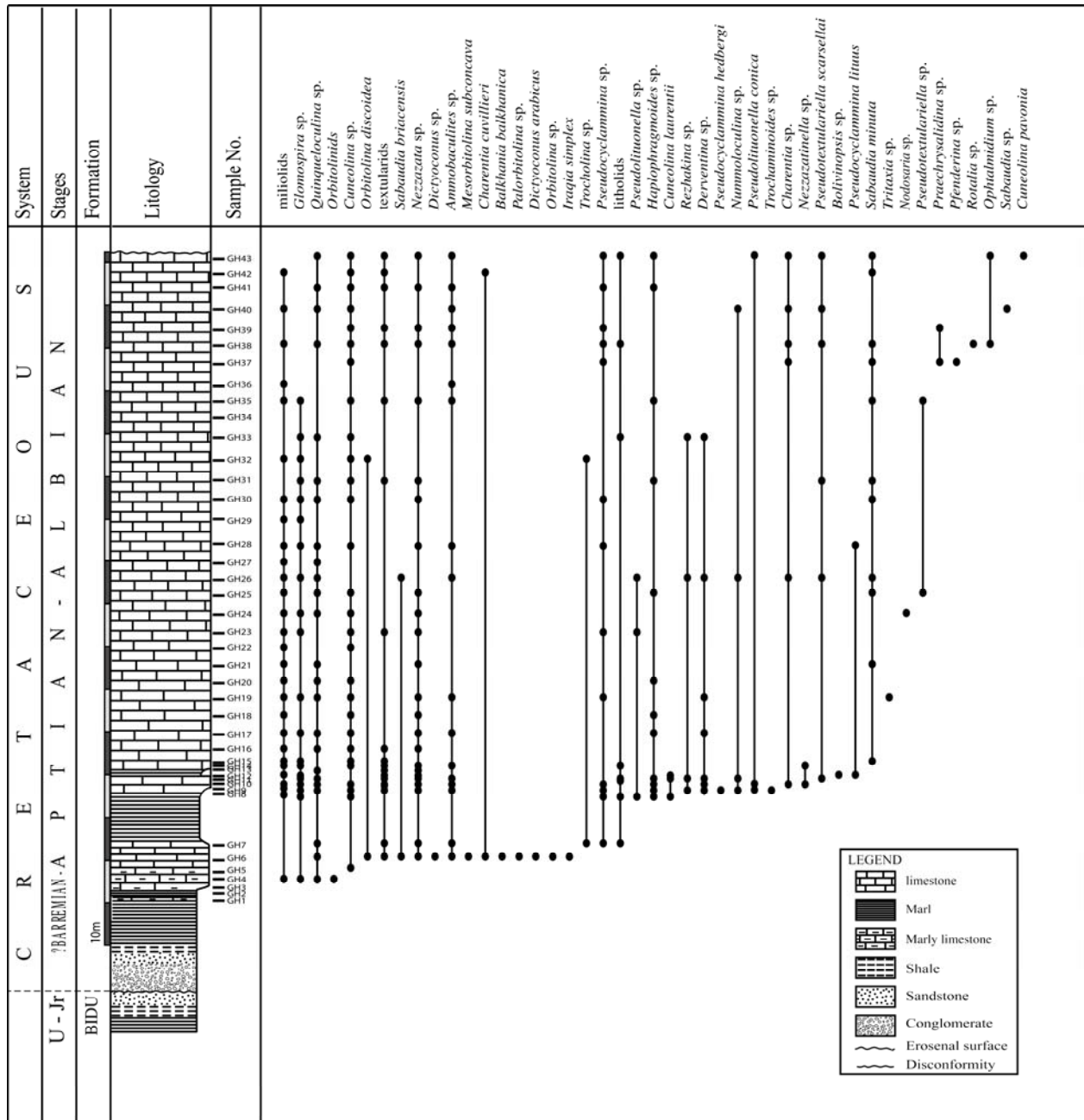
Glomospira

Cuneolina (0-63%) *Ammobaculites* (0-
Sabaudia (0-25%) 43%),

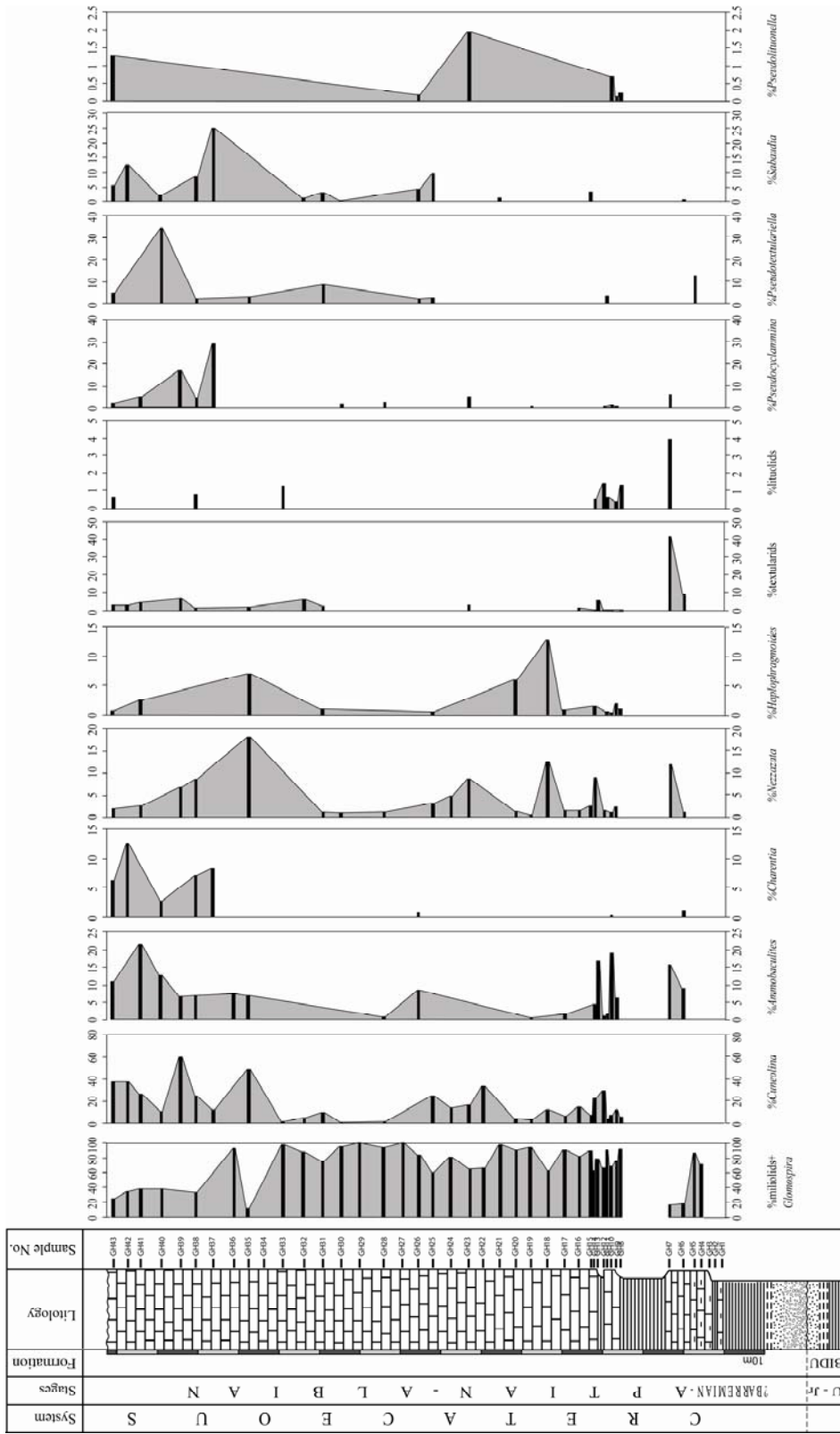
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Acicularia sp., *Cylindroporella sugdeni*,
Griphoporella piae, *Neomeris* sp.,
Permocalculus inopinatus, *Rivularia lissaviensis*,
Salpingoporella dinarica

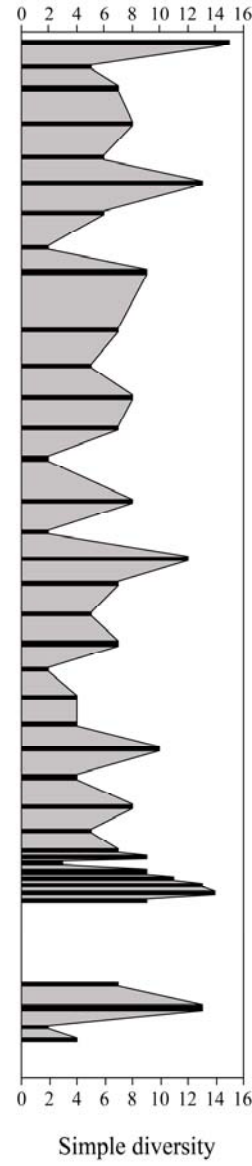
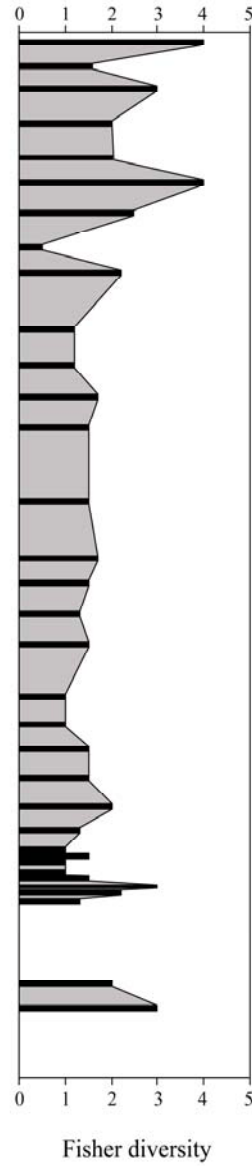
Exogyra



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System	Stages	Formation	Litology	Sample No.
C R E T A C E O U S	?BARREMIAN - A L B I A N	10m	[Brick pattern]	GH43
				GH42
U - J r	BIDU	[Dotted pattern]	[Brick pattern]	GH41
				GH40
				GH39
				GH38
				GH37
				GH36
				GH35
				GH34
				GH33
				GH32
				GH31
				GH30
				GH29
				GH28
				GH27
				GH26
				GH25
				GH24
				GH23
				GH22
				GH21
				GH20
				GH19
				GH18
				GH17
				GH16
				GH15
				GH14
				GH13
				GH12
				GH11
				GH10
				GH9
				GH8
				GH7
				GH6
				GH5
				GH4
				GH3
				GH2
				GH1
				GH0



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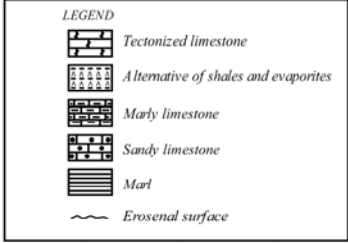
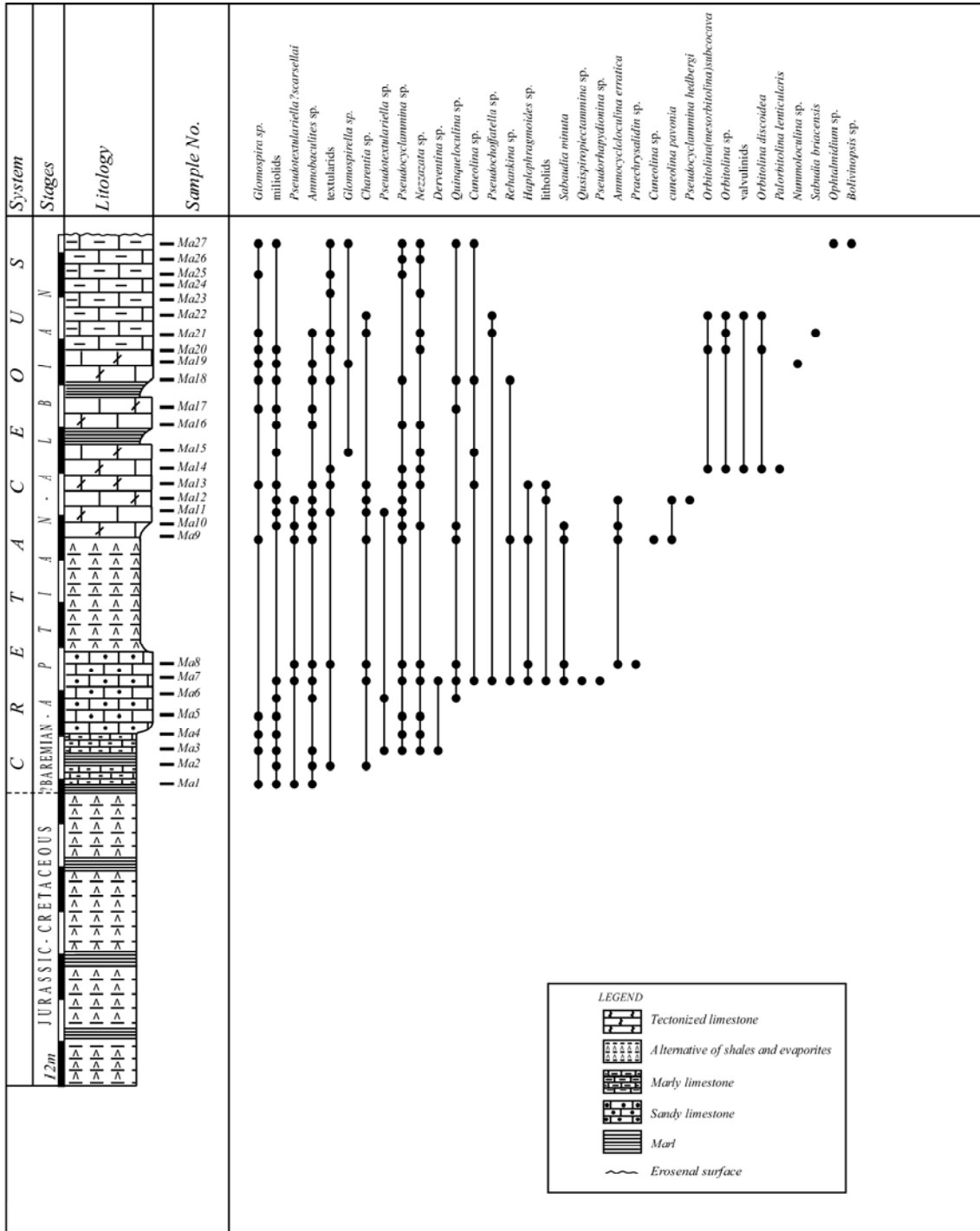
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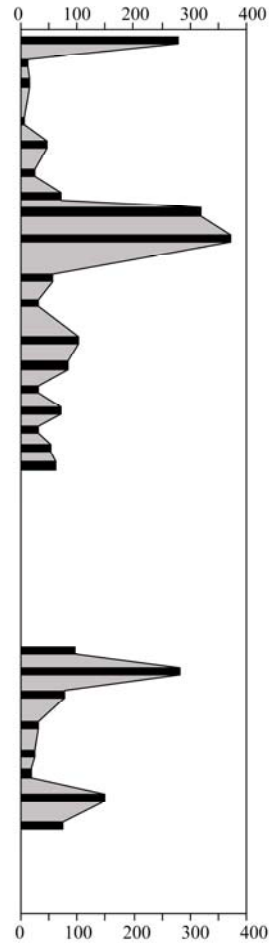
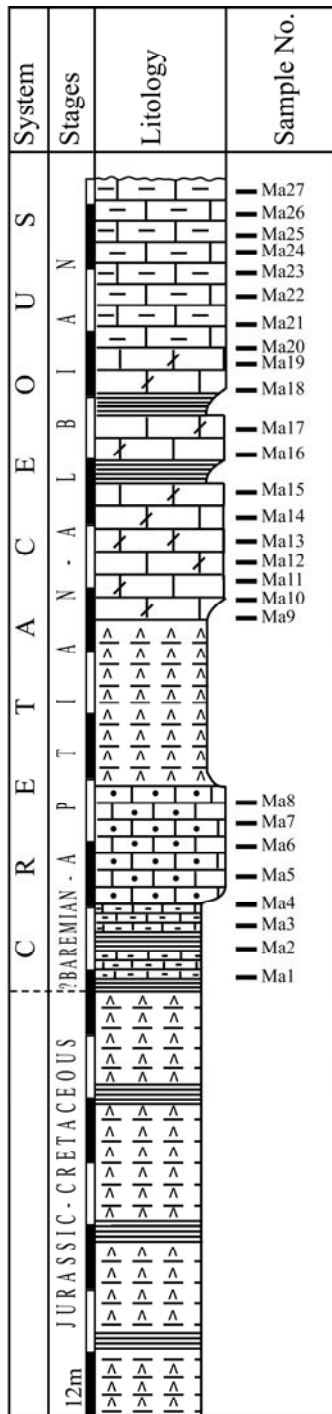
Ammobaculites sp., *Ammocycloloculina*
erratica, *Bolivinopsis* sp., *Cuneolina pavonia*,
Charentia sp., *Derventina* sp., *Glomospira* sp.,
Glomospirella sp., *Haplophragmoides* sp.,
Mesorbitolina subconcava, miliolids, *Nezzazata*
sp., *Nummoloculina* sp., *Orbitolina discoidea*,
Ophthalmidium sp., *Palorbitolina lenticularis*,
Pseudocyclammina hedbergi, *Praechrysalidina*
sp., *Pseudotextulariella scarsellai*,
Pseudorhapydionina sp., *Quesispiroplectammina*
sp., *Rzehakina* sp., *Sabaudia briacensis*,
Sabaudia minuta, *Trocholina* sp., textularids,
valvulinids.

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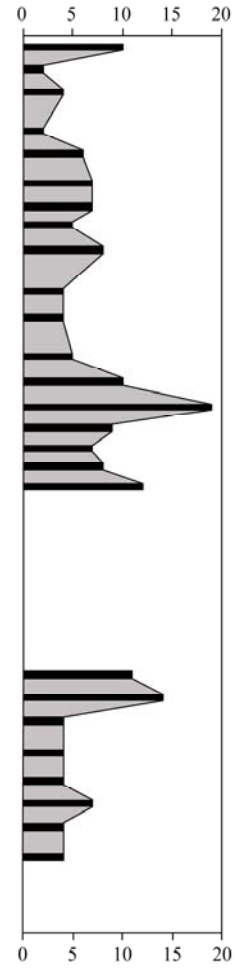
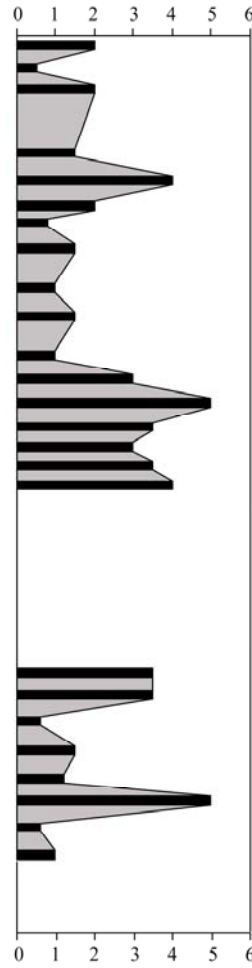
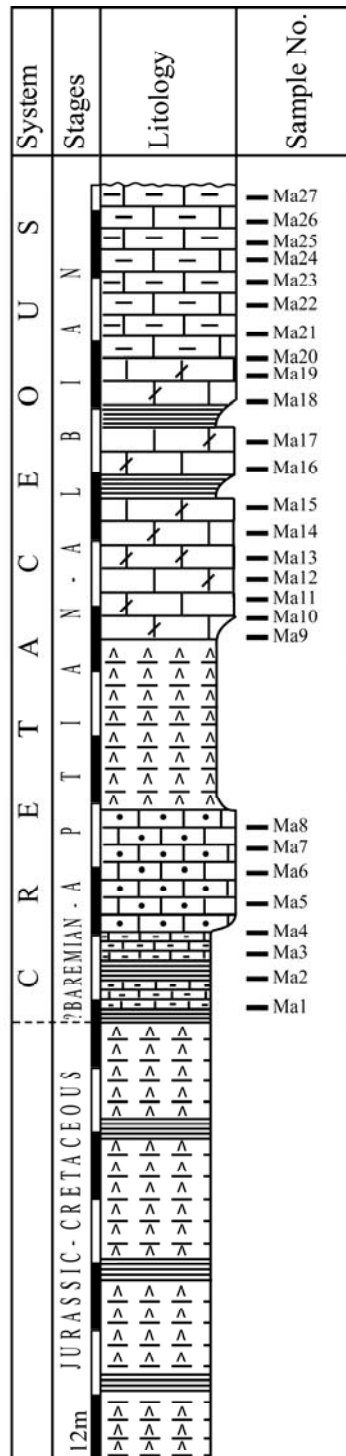
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Abundance



Fisher Diversity

Simple diversity

(*Exogyra*)

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(Morphogroups)

Bairdoppilata sp., *Baythoceratina* spA.,
Baythoceratina spB., *Cytherella truncata* ,
Cytherella sp., *Cytherella chatamensis* ,
Cytherelloidea spA., *Cytherelloidea*
spB., *Dordoniella* sp., *Paracypris* sp.,
Pontocyprilla harrisiana , *Rehacyptheris* sp.,
Xestoleberis spp.

Cytherella

(Koutsoukos et al.

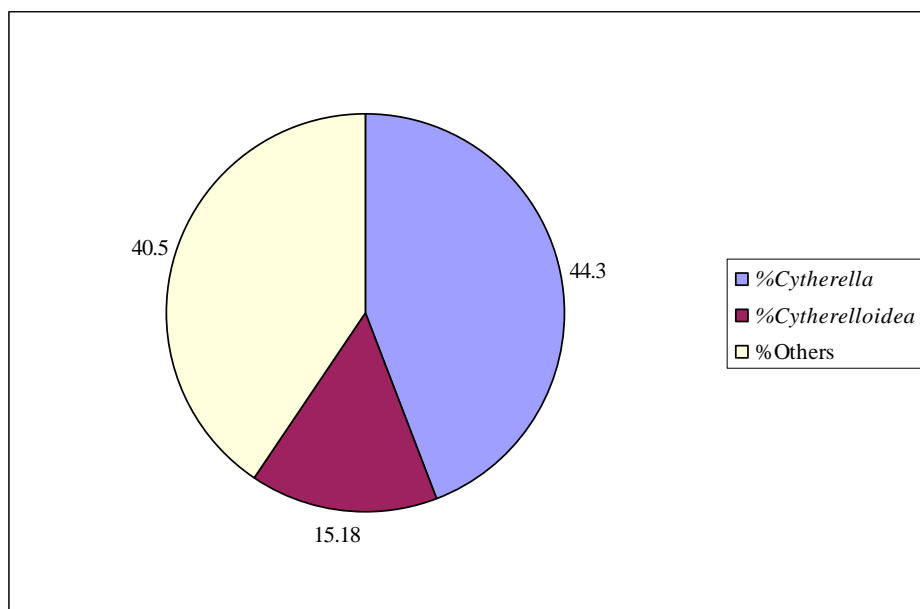
1990)

(Jones and (Koutsoukos and Hart 1990),

Charnock 1985)

Acicularia sp., *Cylindroporella* sp., *Griphoporella*
piae , *Neomeris* sp., *Salpingoporella* sp.

System		Stages		Lithology	Sample No.
C	R	E	S		
JURASSIC - CRETACEOUS		BAREMIAN - APTIAN			<i>Paracypris</i> sp. <i>Bythoceratina</i> sp. A <i>Rehacythereis</i> sp. <i>Cytherella</i> spp. <i>Cytherelloidea</i> spp. <i>Xestoleberis</i> spp. <i>Dordoniella</i> sp. <i>Bythoceratina</i> sp. B <i>Pontocyprilla harrisiana</i> <i>Bairdoppilata</i> sp.
CRETACEOUS		APTIAN			



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miliolids, *Haplophragmoides*, *Glomospirella*,

Glomospira, *Trochaminoides*, *Nezzazata*,

Rzehakina

Cp-A

Nezzazata

Nezzazatinella

Ammobaculites,

Bolivinopsis, *Cuneolina*, *Sabaudia*,

Pseudotextulariella, *Pseudolituonella*, lituolids,

textularids, *Pseudorhapidionina*,

Praechrysalidina

Jones and Charnock 1985 ;)


Koutsoukos et al 1990 ; Koutsoukos and Hart

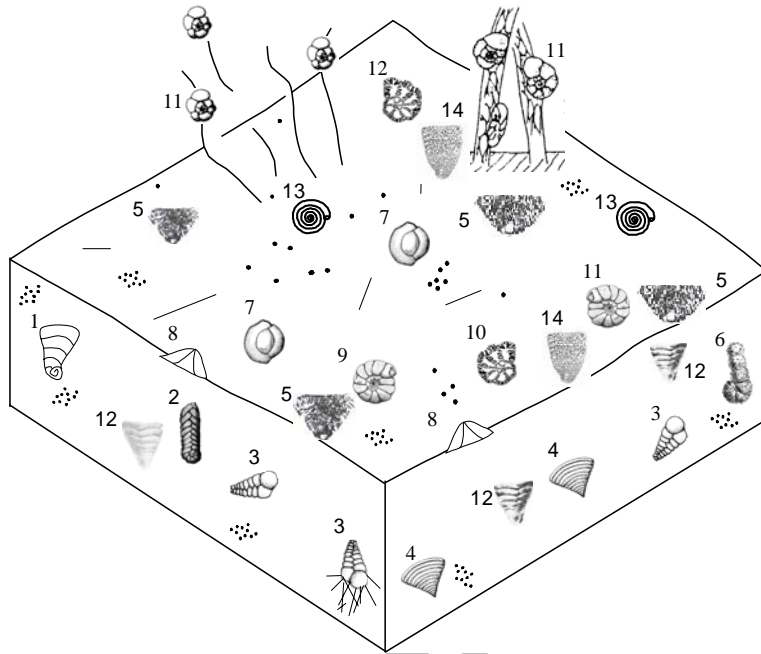
(1990

Orbitolina,

Iraqia, *Dictyoconus*, *Charentia* ,

Pseudocyclamina, *Pseudochoffatella*,

مثال	نحوه تغذیه	نحوه زیست	شکل پوسته	تعداد حجرات	مورفولوژی
<i>miliolids</i>	رسوب خوار	سطح زی	 <p>پیش کرایستکولوگولین</p>	چند حجره ای	CP-A
<i>Bolivinitopsis, Ammobaculites</i>	رسوب خوار	درون زی	 <p>طول، مرحله اول پیچیده، مرحله بعد مستقیم و بدون پیش</p>	چند حجره ای	A1
<i>Textulariids, Tritaxia</i>	رسوب خوار	درون زی	 <p>طول مخروطی، دوردینی یا سه ردینی</p>	چند حجره ای	A2
<i>Cuneolin, Sabaudi Pseudotextulariella</i>	رسوب خوار	درون زی	 <p>مخروطی، مرحله اول تروکواسپیرال و در مرحله بعد دو ردینی</p>	چند حجره ای	AG-B
<i>Orbitolina, Dictyoconus, Iraqia</i>	رسوب خوار	سطح زی	 <p>مخروطی</p>	چند حجره ای	AG-C
<i>Haplophragmoides Trochamminoides Pseudocyclammina Charentia</i>	گیاه خوار فعال ذره خوار و همه چیز خوار	سطح زی	 <p>پیش پلاتیسپیرال یا تروکواسپیرال</p>	چند حجره ای	D1
<i>Glomospira Glomospirella Rzehakina</i>	رسوب خوار	سطح زی	 <p>پیش پلاتیسپیرال</p>	دو حجره ای	D2
<i>Nezzazata Nezzazatinella</i>	رسوب خوار	سطح زی	 <p>مخروط تروکواسپیرال</p>	چند حجره ای	D3



1- *Pseudolituonella*
 2- *Bolivinopsis*
 3- textularids
 4- *Cuneolina*
 5- *Orbitolina*

6- *Ammobaculites*
 7- miliolids
 8- *Nezzazata*, *Nezzazinella*
 9- *Haplophragmoides*
 10- *Pseudocyclammina*

11- *Trochaminoides*
 12- *Pseudotextulariella*
 13- *Glomospira*
 14- *Dictyoconus*

(Gooday et al 2000; Culver 2003; Corliss 1985;
 Corliss 1991; Jorissen 1999; Corliss and Emerson
 1990; Corliss and Chen 1988).

(Whatley

1991)

.(Scott 1978)

(*Cytherelloidea*, *Cytherella*)

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Cytherella

Rehacythereis *Bairdopillata* , *Xestoleberis*

(P/B ratio)

.(Corliss & Chen 1988)

P/B ratio

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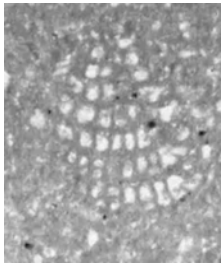
-Jones, R.W. and M.A. Charnock, 1985, "Morphogroups" of agglutinating foraminifera, their life positions and feeding habits and potential applicability in (paleo) ecological studies. *Revue de Paléobiologie*, v.4 , p. 311-320.

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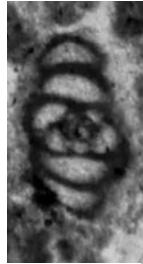
Plate 1



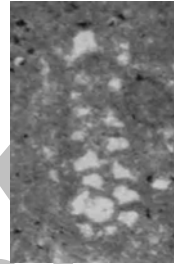
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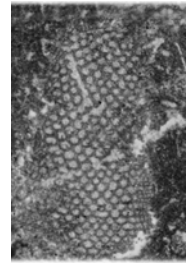
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3



4



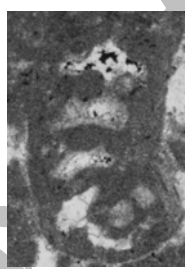
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6



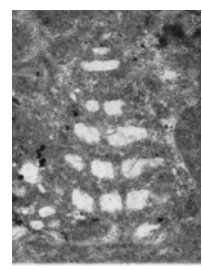
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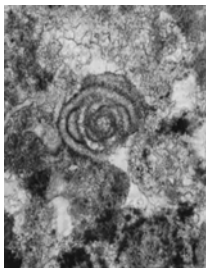
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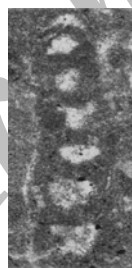
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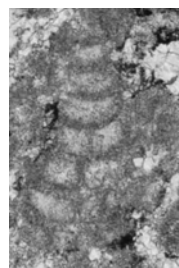
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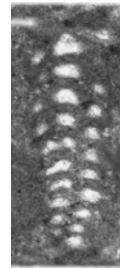
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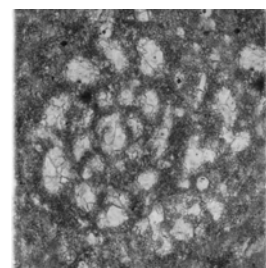
12



13



14



15

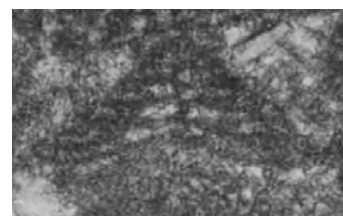
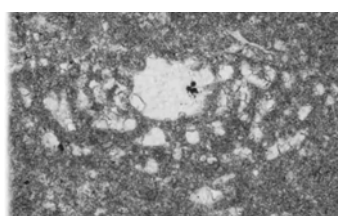
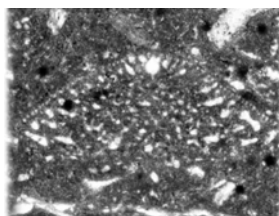
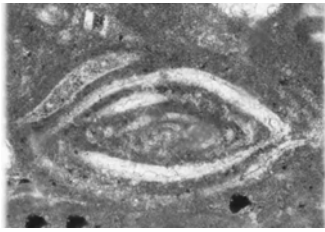


Plate 1

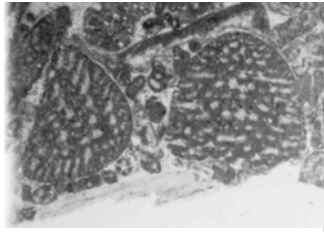
- 1- *Cuneolina pavonia*, ($\times 37$).
Axial section, Kaleh Gav section, ?Barremian – Aptian – Albian.
- 2- *Tritaxia* sp., ($\times 100$).
Longitudinal section, Ghadroon section, ?Barremian – Aptian – Albian.
- 3- *Glomospirella* sp., ($\times 52$).
Axial section, Markesh section, ?Barremian – Aptian – Albian.
- 4- *Bolivinopsis* sp., ($\times 64$).
Longitudinal section, Ghadroon section, ?Barremian – Aptian – Albian.
- 5- *Iraqia simplex*, ($\times 40$).
Subaxial section, Ghadroon section, ?Barremian – Aptian – Albian.
- 6- *Atactolituolla* sp., ($\times 100$).
Longitudinal section, Ghadroon section, ?Barremian – Aptian – Albian.
- 7- *Sabaudia minuta*, ($\times 100$).
Axial section, Ghadroon section, ?Barremian – Aptian – Albian.
- 8- *Ammobaculites* sp. ($\times 100$).
Longitudinal section, Markesh section, ?Barremian – Aptian – Albian.
- 9- *Charentia* sp., ($\times 40$).
Equatorial section, Kaleh Gav section, ?Barremian – Aptian – Albian.
- 10- *Pseudotextulariella scarsellai* ($\times 100$).
Longitudinal oblique section, Ghadroon section, ?Barremian – Aptian – Albian.
- 11- *Glomospira* sp. (100).
Axia section, Ghadroon section, ?Barremian – Aptian – Albian.
- 12- *Ammocycloloculina erratica*. ($\times 100$).
Subaxial section, Markesh section, ?Barremian – Aptian – Albian.
- 13- *Cuneolina laurentii*, ($\times 100$).
Axial section, Ghadroon section, ?Barremian – Aptian – Albian.
- 14- *Pseudotextulariella scarsellai*, ($\times 100$).
Subaxial section, Ghadroon section, ?Barremian – Aptian – Albian.
- 15- *Charentia cuvillieri*, ($\times 100$).
Equatorial section, Ghadroon section, ?Barremian – Aptian – Albian.
- 16- *Palorbitolina lenticularis*, ($\times 40$).
Axial section, Markesh section, ?Barremian – Aptian – Albian.
- 17- Proloculus of *Palorbitolina lenticularis*, ($\times 100$).
Markesh section, ?Barremian – Aptian – Albian.

18- *Sabaudia briacensis*, ($\times 100$).
Subaxial section, Markesh section, ?Barremian – Aptian – Albian.

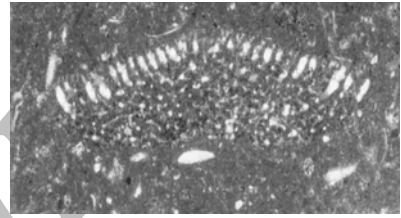
Plate 2



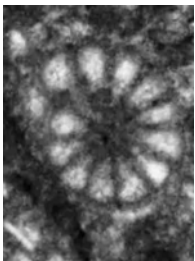
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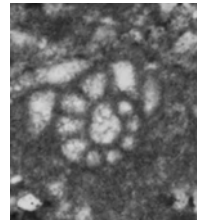
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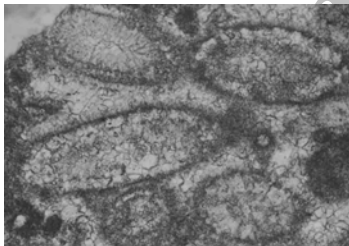
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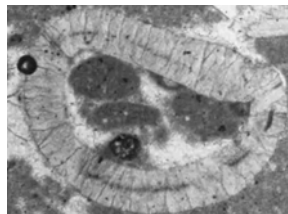
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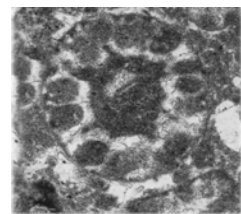
7



8



9



10

Plate 2

1- *Rzehakina* sp. (×100).

Axial section, Ghadroon section, ?Barremian – Aptian – Albian.

2- *Dictyoconus arabicus*, (×18).

Subaxial section, Ghadroon section, ?Barremian – Aptian – Albian.

3- *Orbitolina discoidea*, (×40).

Subaxial section, Markesh section, ?Barremian – Aptian – Albian.

4- *Haplophragmoides* sp., (×100).

Equatorial section, Ghadroon section, ?Barremian – Aptian – Albian.

5- *Sabaudia minuta*, (×100).

Cross section, Ghadroon section, ?Barremian – Aptian – Albian.

6- *Praechrysalidina* sp., (×100).

Longitudinal section, Markesh section, ?Barremian – Aptian – Albian.

7- *Nezzazata* sp., (×100).

Equatorial section, Ghadroon section, ?Barremian – Aptian – Albian.

8- *Salpingoporella dinarica*, (×100).

Ghadroon section, ?Barremian – Aptian – Albian.

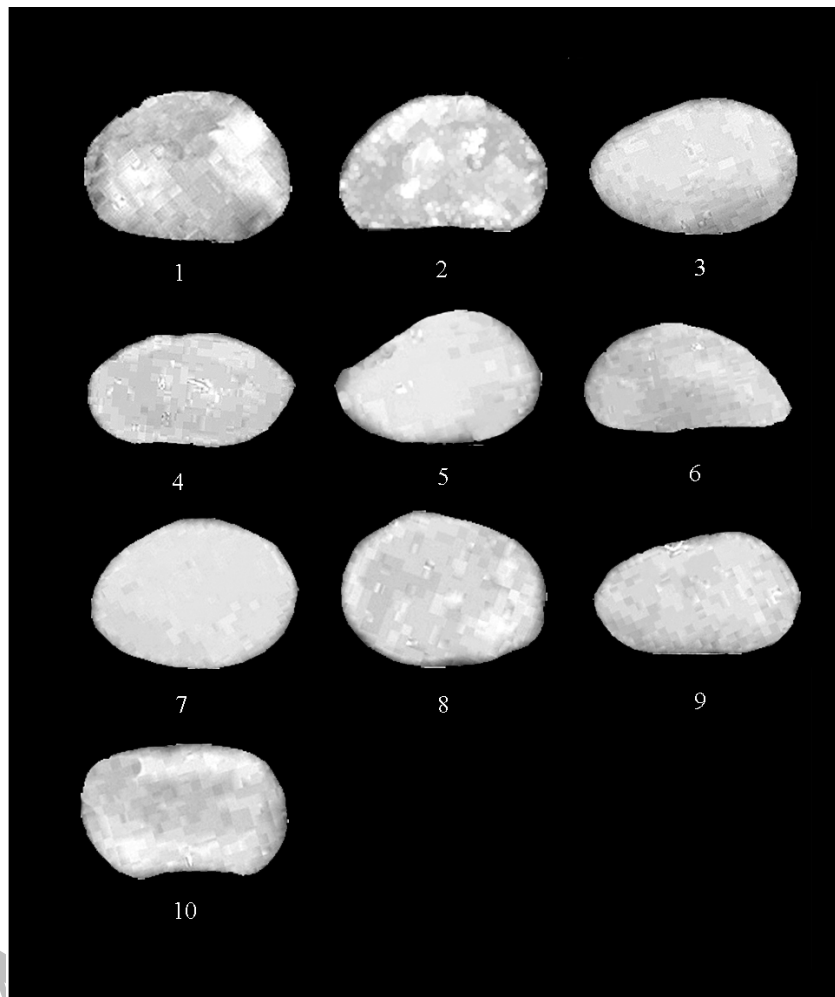
9- *Griphoporella piae*, (×26).

Ghadroon section, ?Barremian – Aptian – Albian.

10- *Neomeris* sp., (×100).

Markesh section, ?Barremian – Aptian – Albian.

Plate 3



1- *Dordoniella* sp., (×17.5).

2- *Xestoleberis* sp., (×17.5).

3- *Cytherella truncate*, (×17.5).

4- *Pontocyprrella harrisiana*, (×17.5).

5- *Bairdoppilata* sp., (×17.5).

6- *Paracypris* sp., (×17.5).

7- *Cytherella* sp., (×17.5).

8- *Cytherella chatamensis.*, (×17.5).

9- *Rehacythereis* sp., (×17.5).

10- *Cyterelloidea* sp., (×17.5).