

THE EOCENE/OLIGOCENE BOUNDARY AS REFLECTED BY THE
PLANKTONIC FORAMINIFERS AND THE NANNOPLANKTONIC
FORMS

M. Báldi-Beke, M. Horváth, K. Horváth-Kollányi

Summary

The present work, after reviewing historically the plankton foraminifer and nannoplankton zonation, gives a characterization on the Upper Eocene - Lower Oligocene nannoplankton and plankton-foraminifer zones, and nannofloras and planktonic faunas of the type areas and type sections.

In Hungary the Upper Eocene nannoplanktonic, as well as plankton-foraminifer associations can be well compared to those of the type Priabonian. The Upper Eocene can be divided into two nannozones, while at the Eocene/Oligocene boundary the limit of the NP 20 and NP 21 zones is marked with the disappearance of Discoaster barbadiensis and D. saipanensis. The isolation /i. e. the developed Eoparatethys/, which began during the Early Oligocene, is reflected with mass occurrence of Lanternithus minutus. There is no possibility to distinguish the NP 21 and NP 22 zones.

In the plankton-foraminifer faunas, the Eocene/Oligocene boundary is marked approximately with the disappearance of Globorotalia increbescens and the appearance of Globigerina tapuriensis. The characteristic Mediterranean species of the Buda Marl disappear gradually, and after a transitional part with their final disappearance, the subsequent plankton-foraminifer fauna corresponds to the Globigerina posteretacea zone.

FIGURE CAPTIONS

- Fig. 1: The parallelization of the zonations of BLOW and BOLLI.
/After BLOW, 1969/
- Fig. 2: The parallelization of the zonations of BUKRY and MARTINI.
/After MÜLLER, 1974/
- Fig. 3: Distribution of the nannoplanktonic forms in the Hungarian Upper Eocene - Lower Oligocene formations. /Solid lines: distribution; broken lines: Warm-water elements; dotted lines: cold-water elements; wavy lines: local /Paratethyan/ elements/

		Blow /1969/	Bolli /1957/	Bolli /1966/
Oligocén	P 20	Globigerina ampliapertura zóna	Globigerina ampliapertura zóna	Globigerina ampliapertura zóna
	P 19	Globigerina sellii-Pseudohastigerina barbadoensis zóna	Globigerina rétegtani felosztásból hiányzik	Cassigerinella chipolensis - -Hastigerina micra zóna
	P 18	Globigerina tapuriensis zóna		
Felső eocén	P 17	Globigerina gortanii gortanii - Globorotalia /T./ centralis zóna	Globorotalia coccaensis zóna	Globorotalia cerroazulensis zóna
	P 16	Cribrohantkenina inflata zóna	Globigerapsis semiinvoluta zóna	Globigerapsis semiinvoluta - zóna
	P 15	Globigerapsis mexicana zóna		

1.ábra. Blow és Bolli zonációjának párhuzamosítása
Blow /1969/ alapján

		Martini 1971	B u k r y 1971	
			zóna	alzóna
Clicocén	NP 23	Sphenolithus predistentus zóna	Sphenolithus predistentus zóna	
	NP 22	Helicoponthos- phaera reticulata zóna	Helicoponthos- phaera reticulata zóna	Reticulofenestra hillae alzóna
	NP 21	Ericsonia subdisticha zóna		Cyclococcolithus formosus
				Coccolithus subdisticus
Felső eocén	NP 20	Sphenolithus pseudoradians zóna	Discoaster barbadiensis zóna	
	NP 19	Isthmolithus recurvus zóna		
	NP 18	Chiasmolithus oamaruensis zóna		

2. ábra. Bukry és Martini zonációjának párhuzamosítása
Müller /1974/ után

		Oligocén			Felsőecén		
		NP 23	NP 22	NP 21	NP 20	NP 19	
					NP 18		
elterjedés ----- meleg ----- hideg ~~~~~ lokális /Paratethys/		Discoaster barbadiensis					
		Discoaster saipanensis					
		Discoaster tani					
		Chiasmolithus aomaruensis					
		Isthmolithus recurvus					
		Cyclococcolithus formosa					
		Reticulofenestra placomorpha					
		Sphenolithus pseudoradians					
		Ellipsolithus subdistichus					
		Reticulofenestra lockeri					
		Lanternithus minutus					
		Reticulofenestra ornata					
							Priabonien
							Kiscellien

3. abra