

18. MESOZOIC FORAMINIFERA, LEG 30, HOLE 288A AND SITE 289

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The zones and subzones used in this report are those proposed by Pessagno (1967, 1969). Due to the unfossiliferous nature of more than half of the samples examined and the sparsity of the fauna, the data were not tabulated.

TA = Total abundance of all planktonic foraminifera in the sample.

RA = Relative abundance of each taxon.

HOLE 288A

30-288A-9-1 63-66 cm	TA: 5
RA	
4 <i>Heterohelix striata</i> (Ehrenberg)	
3 <i>Heterohelix</i> sp.	
2 <i>Pseudotextularia deformis</i> (Kikoine)	
2 <i>Pseudoguembelina</i> sp. aff. <i>P. palpebra</i> Bronnimann and Brown	
2 <i>Pseudoguembelina</i> sp. aff. <i>P. cornuta</i> Seiglie	
1 <i>Racemiguembelina powelli</i> Smith and Pessagno	
5 <i>Globotruncana arca</i> (Cushman)	
5 <i>Globotruncana contusa</i> (Cushman)	
5 <i>Globotruncana stuarti</i> (De Lapparent)	
4 <i>Globotruncana stuartiformis</i> Dalbiez	
Biostratigraphic determination: Middle Maestrichtian <i>Globotruncana contusa-stuartiformis</i> Zone, <i>Globotruncana gansseri</i> Subzone.	
30-288A-9-3 100-102 cm	TA: 5
RA	
3 <i>Heterohelix striata</i> (Ehrenberg)	
2 <i>Heterohelix</i> sp.	
1 <i>Globigerinelloides volutus</i> (White)	
5 <i>Globotruncana arca</i> (Cushman)	
4 <i>Globotruncana contusa</i> (Cushman)	
4 <i>Globotruncana stuarti</i> (De Lapparent)	
5 <i>Globotruncana stuartiformis</i> Dalbiez	
Biostratigraphic determination: Same as above.	
30-288A-9-4, 100-102 cm	TA: 5
30-288A-9-5, 100-102 cm	TA: 5
30-288A-9-6, 100-102 cm	TA: 5
In the above three samples the following species were reported almost in identical relative abundance:	
RA	
5 <i>Heterohelix striata</i> (Ehrenberg)	
3 <i>Heterohelix</i> sp. cf. <i>H. palpebra</i> Bronnimann and Brown	
5 <i>Heterohelix</i> sp.	
2 <i>Pseudotextularia elegans</i> s. l. (Rzehak)	
1 <i>Pseudoguembelina costulata</i> (Cushman)	
1 <i>Pseudoguembelina excolata</i> (Cushman)	

1 <i>Ventilabrella multicamerata</i> de Klasz	
3 <i>Globigerinelloides</i> sp.	
5 <i>Globotruncana arca</i> (Cushman)	
3 <i>Globotruncana contusa</i> (Cushman)	
3 <i>Globotruncana fornicata</i> (Plummer)	
5 <i>Globotruncana stuarti</i> (De Lapparent)	
5 <i>Globotruncana stuartiformis</i> Dalbiez	
Biostratigraphic determination: Middle Maestrichtian <i>Globotruncana contusa-stuartiformis</i> Zone, <i>Globotruncana gansseri</i> Subzone.	
30-288A-10-1, 27-29 cm	TA: 3
30-288A-9-1, 63-66 cm	TA: 5
Biostratigraphic determination: Middle Maestrichtian <i>Globotruncana contusa-stuartiformis</i> Zone, <i>Globotruncana gansseri</i> Subzone.	
30-288A-9-3, 100-102 cm	TA: 5
30-288A-10-1, 27-29 cm	TA: 3
RA	
2 <i>Heterohelix striata</i> (Ehrenberg)	
2 <i>Heterohelix</i> sp.	
2 <i>Globotruncana arca</i> (Cushman)	
1 <i>Globotruncana contusa</i> (Cushman)	
3 <i>Globotruncana stuartiformis</i> Dalbiez	
Biostratigraphic determination: Same as above.	
30-288A-10-1, 111-113 cm	TA: 1
Poorly preserved <i>Globotruncana</i> sp.	
30-288A-10-2, 100-102 cm	TA: 0
30-288A-11-1, 116-119 cm	TA: 0
Rare benthonics.	
30-288A-11-2, 100-102 cm	TA: 0
30-288A-12-1, 122-125 cm	TA: 0
Rare benthonics.	
30-288A-13-1, 125-127 cm	TA: 0
30-288A-14-1, 126-128 cm	TA: 4
RA	
1 <i>Heterohelix striata</i> (Ehrenberg)	
1 <i>Heterohelix</i> sp.	
1 <i>Praeglobotruncana</i> sp.	
3 <i>Globotruncana arca</i> (Cushman)	
5 <i>Globotruncana lapparenti</i> Brotzen	
2 <i>Globotruncana</i> sp. cf. <i>G. hilli</i> Pessagno	

Biostratigraphic determination: Early Maestrichtian, *Globotruncana fornicata-stuartiformis* Zone, *Rugotruncana subcircumnodifer* Subzone.

30-288A-15-1, 130-132 cm TA: 0

30-288A-15-2, 103-104 cm TA: 0

30-288A-16-1, 71-73 cm TA: 0

Rare benthonics.

30-288A-17-1, 133-135 cm TA: 0

30-288A-20-1, 38-40 cm TA: 3

RA

2 *Praeglobotruncana turbinata* (Reichel)

2 *Praeglobotruncana stephani* (Gandolfi)

1 *Rotalipora appenninica* (O. Renz)

2 *Rotalipora cushmani* (Morrow)

3 *Rotalipora greenhornensis* (Morrow)

Biostratigraphic determination: Late Cenomanian, *Rotalipora s.s.* Zone, *Rotalipora cushmani-greenhornensis* Subzone.

30-288A-20-2, 72-74 cm TA: 1

Few broken, recrystallized *Hedbergella* sp.?

30-288A-20-3, 134-138 cm TA: 0

30-288A-21-1, 148-150 cm TA: 1

Hard, indurated limestone with few *Hedbergella* sp.

30-288A-21-2, 85-87 cm TA: 1

Hedbergella sp.

30-288A-21-3, 39-41 cm TA: 1

RA

1 *Hedbergella planispira* (Tappan)

Rare, badly preserved, spherical Radiolaria.

Biostratigraphic determination: Possibly Cenomanian.

Due to the difficulty of isolating foraminifera from the following three samples, they were examined in thin sections. Although the thin sections showed fossiliferous limemud, it was not possible to identify any of the foraminifera to the species level.

30-288A-22-2, 91-93 cm

Globigerina-type forms and rounded Radiolaria are abundant and recrystallized.

30-288A-23-1, 80-82 cm

In thin section some keeled forms were recognized, *Rotalipora* sp.

30-288A-23-2, 2-4 cm

This section showed *Hedbergella* sp. and doubtful recrystallized keeled forms.

30-288A-23-3, 77-79 cm TA: 0

30-288A-24-1, 73-75 cm TA: 0

30-288A-25-1, 91-92 cm TA: 1

Small, badly preserved *Hedbergella* sp. and few spherical radiolarian sp.

30-288A-26-1, 121-123 cm

In thin section: fossiliferous limemud with recrystallized sponge spicules and Radiolaria.

30-288A-27-1, 122-126 cm

In this section: few recrystallized, badly preserved Radiolaria and *Hedbergella*-type forms.

30-288A-27-2, 100-102 cm TA: 1

Small, badly preserved *Hedbergella* sp. ?

30-288A-28-1, 42-44 cm

In thin section: few *Hedbergella*-type forms with frequent recrystallized Radiolaria and sponge spicules.

30-288A-29-1, 107-109 cm

In thin section: badly crystallized *Hedbergella*-type forms with rare benthonics and Radiolaria.

Biostratigraphic determination: Core 20, Section 2, through Core 29, Section 1, no specific age can be assigned. Via superposition these cores are pre-late Cenomanian, possibly no older than Albian.

30-288A-30-1, 96-97 cm TA: 0

SITE 289

30-289-122-1, 119-121 cm TA: 0

30-289-122-2, 46-48 cm TA: 5

RA

4 *Heterohelix striata* (Ehrenberg)

3 *Heterohelix* sp.

2 *Pseudotextularia* sp. cf. *P. elegans* (Rzehak)

2 *Pseudoguembelina excolata* (Cushman)

2 *Pseudoguembelina* sp. cf. *P. palpebra* Bronnimann and Brown

1 *Racemiguembelina* sp. cf. *R. powelli* Smith and Pessagno

5 *Globotruncana arca* (Cushman)

5 *Globotruncana contusa* (Cushman)

1 *Globotruncana stuarti* (De Lapparent)

5 *Globotruncana stuartiformis* Dalbiez

Biostratigraphic determination: Middle Maestrichtian, *Globotruncana contusa-stuartiformis* Zone, *Globotruncana gansseri* Subzone.

30-289-123-1, 129-130 cm TA: 3

30-289-124-1, 123-125 cm TA: 3

The following species were recognized, almost in the same abundance, in the above two samples.

RA

1 *Heterohelix striata* (Ehrenberg)

1 *Heterohelix* sp.

1 *Pseudoguembelina* sp.

4 *Globotruncana arca* (Cushman)

3 *Globotruncana contusa* (Cushman)

1 *Globotruncana stuarti* (De Lapparent)

3 *Globotruncana stuartiformis* Dalbiez

Biostratigraphic determination: Same as above.

30-289-124-2, 148-150 cm TA: 4

RA

- 2 *Heterohelix striata* (Ehrenberg)
- 2 *Heterohelix* sp.
- 1 *Pseudoguembelina* sp.
- 4 *Globotruncana arca* (Cushman)
- 3 *Globotruncana contusa* (Cushman)
- 1 *Globotruncana stuarti* (De Lapparent)
- 3 *Globotruncana stuartiformis* Dalbiez
- 3 *Globotruncana* sp.

Biostratigraphic determination: Same as above.

30-289-125-1, 142-144 cm TA: 5

RA

- 5 *Heterohelix striata* (Ehrenberg)
- 5 *Heterohelix* sp.
- 1 *Pseudotextularia elegans* (Rzehak)
- 1 *Pseudoguembelina excolata* (Cushman)
- 1 *Pseudoguembelina* sp. cf. *P. kempensis* Esker
- 1 *Pseudoguembelina* sp. cf. *P. palpebra* Bron-

nimann and Brown
1 *Racemiguembelina* sp. cf. *R. powelli* Smith and Pessagno

- 5 *Globotruncana arca* (Cushman)
- 4 *Globotruncana contusa* (Cushman)
- 1 *Globotruncana stuarti* (De Lapparent)
- 5 *Globotruncana stuartiformis* Dalbiez

Biostratigraphic determination: Middle Maestrichtian, *Globotruncana contusa-stuartiformis* Zone, *Globotruncana gansseri* Subzone.

30-289-126-1, 140-142 cm TA: 0

30-289-127-1, 129-131 cm TA: 0

30-289-128-1, 122-124 cm TA: 0

30-289-129-1, 128-130 cm TA: 5

Badly preserved fauna, mainly Heterohelids.

RA

- 5 *Heterohelix striata* (Ehrenberg)
- 5 *Heterohelix* sp.
- 5 *Pseudoguembelina costulata* (Cushman)
- 5 *Pseudoguembelina excolata* (Cushman)

3 *Globigerinelloides volutus* (White)5 *Globigerinelloides* sp.2 *Globotruncana arca* (Cushman)2 *Globotruncana* sp.

Biostratigraphic determination: Early Maestrichtian to late Campanian.

SUMMARY

Samples from Hole 288A, Cores 9 and 10 (Section 1 only), contain fauna of middle Maestrichtian age, *Globotruncana gansseri* Zone. Cores 10 through 13 are almost barren. Core 14, Section 1, contains fauna of early Maestrichtian age. Cores 15, 16, and 17 are barren. Core 20, Section 1, is rich in late Cenomanian fauna of the *Rotalipora cushmani-greenhormensis* Subzone. Cores 21 to 30 are barren in most parts. The few fossiliferous samples are hard and indurated. No isolated foraminifera were obtained through processing. In this sections some keeled forms and *Hedbergella* sp. were recognized. No precise age can be assigned to this part of the section. However, via superposition, these cores possibly range in age from Cenomanian to Albian.

Samples from Site 289, Cores 122 (Section 2) through 125, contain fauna of middle Maestrichtian age, *Globotruncana contusa-stuartiformis* Zone, *Globotruncana gansseri* Subzone. The assemblages are very similar to those reported in Cores 9 and 10 of Site 288A. Cores 126 to 128 are barren. Core 129, Section 1, contains a poorly preserved fauna of predominant Heterohelids. On the basis of negative evidence (e.g., absence of *Globotruncana contusa*) it is possibly of early Maestrichtian to latest Campanian.

REFERENCES

- Pessagno, E.A., Jr., 1967. Upper Cretaceous foraminifera from the Western Gulf Coastal Plain: Paleontogr. Am., v. 5, p. 245-445.
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