

IX. AGE ASSIGNMENT OF THE SILTSTONE FRAGMENTS DREDGED

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During the present cruise, dredge sampling was carried out at 34 sites and 24 siltstone samples were obtained from 19 sites (Table IX-1). Siliceous microfossils were found in all samples, and calcareous in four samples.

We report the age of 15 samples from 13 sites, determined by planktonic foraminifera, calcareous nannoplankton and Radiolaria. Planktonic foraminifera and calcareous nannoplankton found in three samples are shown in Table IX-2, and occurrences of some radiolarians which are used to determine the age are shown in Table IX-3.

In this report, three foraminiferal, two nannoplankton and 12 radiolarian events or datum planes are used to know the relation with the paleomagnetic time scale (Figs. IX-1 ~ 3). These events or datum planes are selected from MAIYA *et al.* (1976) [planktonic foraminifera], GARTNER (1973) [calcareous nannoplankton], and HAYS (1970), KLING (1973), SAITO *et al.* (1975) [Radiolaria]. Then, the age of samples is assigned after the correlation to the paleomagnetic time scale with geochronological age proposed by BERGGREN and VAN COUVERING (1974). These correlation are shown as follows:

Brunhes Normal Epoch-Matuyama Reversed Epoch Boundary (0.7m.y.)*****Late-Early Pleistocene Boundary.

Base of Olduvai Event in Matuyama Reversed Epoch (1.6-1.8 m.y.)*****Pleistocene-Pliocene Boundary.

Gauss Normal Epoch-Gilbert Reversed Epoch Boundary (ca. 3.3 m.y.)*****Late-Early Pliocene Boundary.

Gilbert Normal Epoch-EPOCH 5 (Normal) (ca. 5.0 m.y.)*****Pliocene-Miocene Boundary.

Judging from the occurrences of the selected species, the age of the dredged siltstones is assigned within the interval shown as lines in Fig. IX-4. In these siltstones, it is estimated that the age of one sample D172 is in early to middle Pliocene, and the others are more younger than the latest Pliocene. Among these, 3 samples (D142, D143-3 and D160) are in late Pleistocene.

Although many diatoms are found in all of the samples, no analysis was made. Examination of diatom flora should give more confidence for the results in this report, and may suggest the age of the 9 samples remained.

References Cited

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Table IX-1 Sampling localities of rocks obtained in GH76-2 Cruise and analyzed microfossils. In right column, F, R and N designate planktonic foraminifera, Radiolaria and calcareous nannoplankton, respectively.

Sample No.	St. No.	Position		Depth (m)	Fossils analyzed
		Lat. (N)	Long. (E)		
D141-2 D141-3	437	36°24.6' 36°26.0'	141°58.4' 141°58.3'	2,850-3,050	F, R, N F, R, N
D142	439	37°40.6' 37°40.6'	143°01.6' 143°01.6'	2,500-2,520	F, R, N
D143-1 D143-3	440	37°39.8' 37°39.8'	143°26.1' 143°24.7'	4,950-4,980	F, R, N F, R, N
D145	443	37°55.2' 37°55.6'	142°57.8' 142°57.3'	1,700-1,710	F, R, N
D147	445	38°11.0' 38°11.7'	143°20.2' 143°20.3'	3,050-3,120	N
D149	448	38°40.6' 38°40.8'	143°28.1' 143°27.6'	2,500-2,520	F, R, N
D150-1 D150-2	451	42°56.0' 42°56.5'	146°20.7' 146°21.7'	2,475-2,500	F, R, N F
D153-1 D153-2 D153-3	454	42°14.9' 42°15.2'	145°42.8' 145°43.0'	3,557-3,600	F, R, N F, R, N F, R, N
D155-6	457	42°06.0' 42°06.2'	144°46.2' 144°46.4'	2,140-2,250	F, R, N
D156	458	42°30.3' 42°30.5'	144°28.3' 144°28.5'	1,550-1,600	F, R, N
D157	459	41°56.1' 41°56.1'	144°11.1' 144°11.6'	1,390-1,420	F, R, N
D160	462	41°16.5' 41°17.5'	144°38.4' 144°36.9'	4,000-4,020	F, R, N
D162	465	41°25.6' 41°25.8'	144°15.0' 144°15.2'	3,120-3,150	N
D164	468	40°56.5' 40°56.4'	142°57.2' 142°57.0'	1,730-1,740	N
D166	472	40°08.6' 40°09.4'	144°06.8' 144°05.5'	4,560-4,870	N
D167	473	39°54.6' 39°54.6'	143°47.1' 143°46.5'	3,050-3,100	F, R, N
D168	474	39°40.2' 39°39.6'	144°04.5' 144°04.0'	5,150-5,280	F, N
D171	478	39°10.5' 39°10.6'	143°36.8' 143°36.4'	3,380-3,400	N
D172	480	39°19.0' 39°18.6'	144°16.6' 144°17.2'	6,850-7,000	F, R, N

Table IX-2 Planktonic foraminifera and calcareous nannoplankton from dredged siltstone samples in GH76-2 Cruise.

Planktonic Foraminifera	
D141-2	Globorotalia inflata praeinflata Maiya, Saito and Sato Globoquadrina dutertrei d'Orbigny
D141-3	Globorotalia inflata praeinflata Maiya, Saito and Sato Globoquadrine dutertrei d'Orbigny Globigerina pachyderma (Ehrenberg) (right coiling)
D155-6	Globorotalia inflata inflata (d'Orbigny)
D156	Globigerina pachyderma (Ehrenberg) (left coiling) Globigerina bulloides d'Orbigny
Calcareous Nannoplankton	
D141-2	Coccolithus pelagicus (Wallich) Schiller Cyclococcolithus leptopora (Murray and Blackman) Kamptner Pontosphaera japonica (Takayama) Burns Pseudoemiliana lacunosa (Kamptner) Gartner Reticulofenestra pseudumbilica (Gartner) Gartner

Table IX-3 Occurrences of selected Radiolaria from dredged siltstone samples in GH 76-2 Cruise.

	D 141-2	D 141-3	D 142	D 143-1	D 143-3	D 145	D 149	D 150-1	D 153-1	D 153-2	D 155-6	D 160	D 167	D 172
Axoprunum angelinum (Campbell and Clark)		+		+	+		+		+	+	+		+	+
Eucrytidium matuyamai Hays		+		cf				+	+					+
Lamprocrytis haysi Kling			+		+							+	cf	
L. neoheteroporos Kling		+												+
L. heteroporos (Hays)	+													+
Ommatartus penultimus (Riedel)														+
O. tetrathalamus (Haeckel)		+	+	+	+	+		+	+	+		+	+	+
Pterocanium prismatium Riedel				+	+									+
Sphaeropyle langii Dreyer			+	+	+	+	+	+	+	+		+	+	cf
S. robusta Kling						+	cf	cf	+			cf		+
Stichocorys peregrina (Riedel)														+
Stylacontarium acquilonium (Hays)						+		+	+		+	+	+	cf

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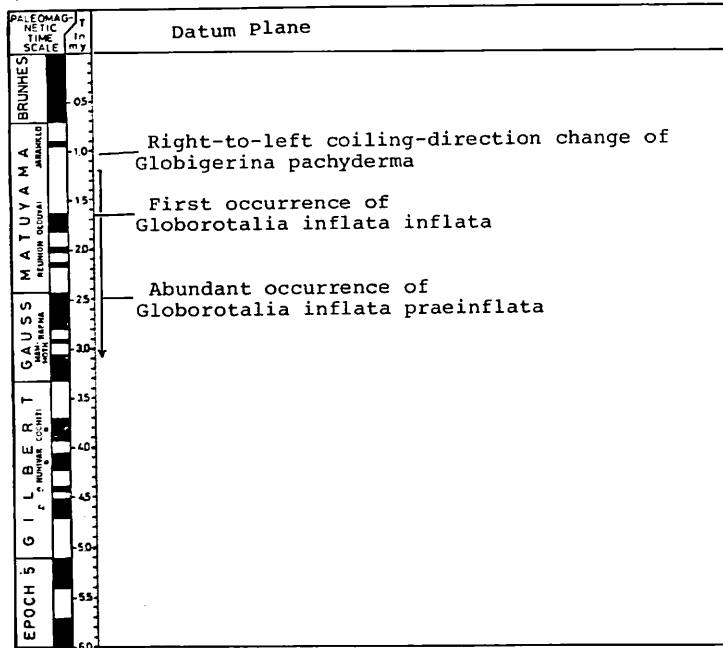


Fig. IX-1 Datum planes of planktonic foraminifera.

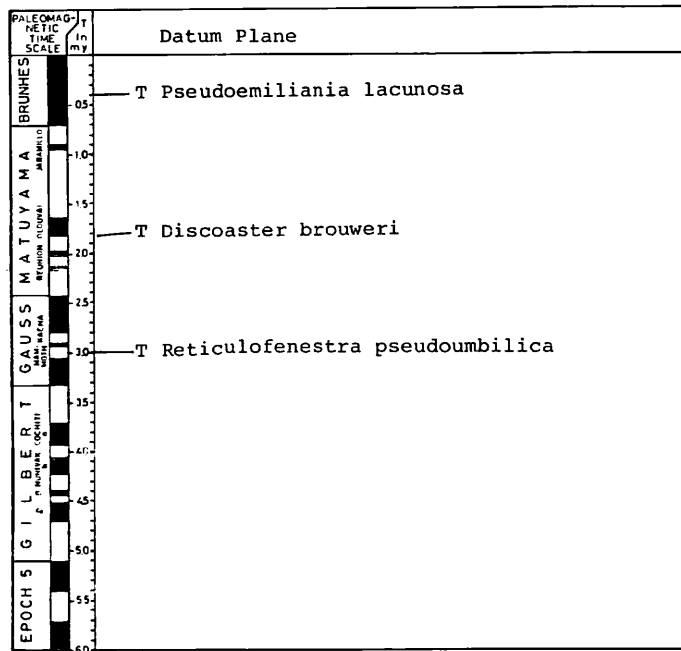


Fig. IX-2 Datum planes of calcareous nannoplankton. T: top (or extinction).

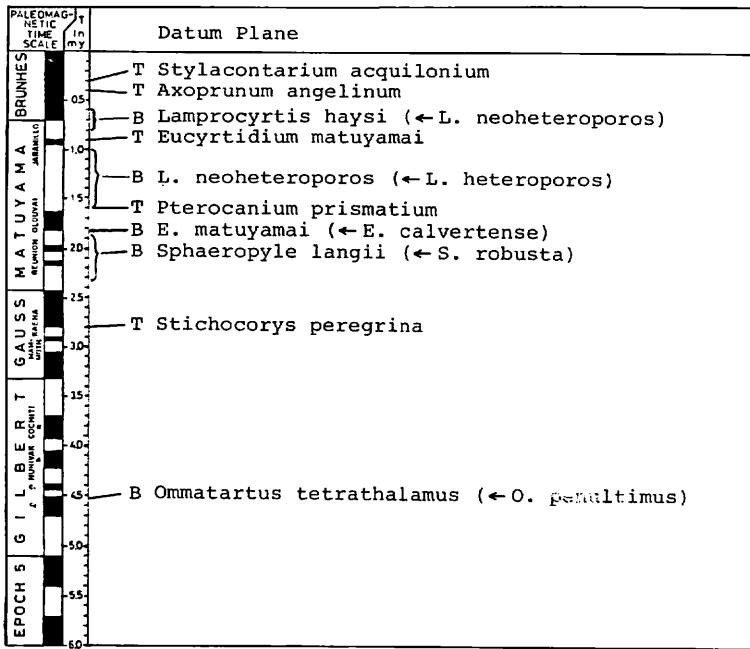


Fig. IX-3 Datum planes of radiolaria. T: top (or extinction), B: (evolutionary) first appearance.

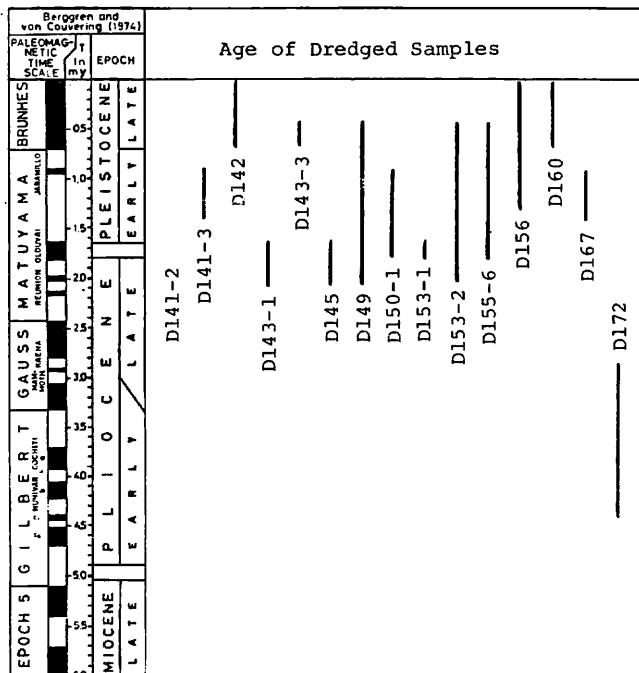


Fig. IX-4 Age of dredged samples from GH76-2 Cruise. It is estimated within the interval shown as solid lines.

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