Table 2. Range chart for stratigraphically important radiolarian species, Hole 998B.

Subepoch	Nannofossil zone	Radiolarian zone	Core, section, interval (cm)	Depth (mbsf)	Abundance	Preservation	No. of slides examined	*Anthocyrtoma* sp.	*Artophormis gracilis*	*Calocyclas bandyca*	*Calocyclas hispida*	*Calocyclas turris*	*Calocycloma ampulla*	*Centrobotrys petrushevskayae*	*Ceratospyris articulata*	*Cryptocarpium azyx*	*Dictyophimus craticula*	*Dictyoprora armadillo*	*Dictyoprora mongolfieri*	*Dictyoprora pirum*	*Eusyringium fistuligerum*	*Eusyringium lagena*	*Lithochytris vespertilio*	*Lithocyclia angusta*	*Lithocyclia aristotelis* grp.	*Lithocyclia ocellus*	*Lophocyrtis biaurita*	*Lophocyrtis (C.) milowi*	*Lychnocanoma amphitrite*	*Lychnocanoma babylonis* grp.	*Lychnocanoma bellum*	*Phormocyrtis striata striata*	*Podocyrtis (L.) chalara*	*Podocyrtis (L.) fasciolata*	*Podocyrtis (L.) goetheana*	*Podocyrtis (L.) mitra*	*Podocyrtis (L.) sinuosa*	*Podocyrtis (L.) trachodes*	*Podocyrtis (P.) ampla*	*Podocyrtis (P.) papalis*	*Rhopalocanium ornatum*	*Sethochytris triconiscus*	*Spongatractus pachystylus*	*Theocorys anapographa*	*Theocotyle conica*	*Theocotyle cryptocephala*	*Theocotylissa ficus*	*Theocyrtis tuberosa*	*Thyrsocyrtis (P.) tensa*	*Thyrsocyrtis (P.) tetracantha*	*Thyrsocyrtis (P.) triacantha*	*Thyrsocyrtis (T.) bromia*	*Thyrsocyrtis (T.) rhizodon*	*Tristylospyris triceros*
			165-998B-																																																							
early Oligocene	CP17		1R-1, 38-40	558.68	VR	M	4																																														?					
			1R-3, 38-40	561.68	VR	M	2																																																		
		RP20	1R-5, 33-35	564.63	F	M	3		+					+										+				?																							R					
			2R-1, 34-36	568.24	tr		2																																																	
	CP16c		2R-3, 33-35	571.23	F	M	4												X	X																															X					
			2R-5, 20-22	574.10	R	M	3												X											X			X			X														X					
			3R-1, 17-19	577.67	VR	M	3												X											X										X																
	CP		3R-3, 23-25	580.73	tr		2																																																	
	16a-b		3R-5, 40-42	583.90	B		4																																																		
			4R-1, 36-38	587.46	tr		2																																																	
			4R-3, 36-37	590.46	tr		2																																																	
late Eocene			4R-5, 34-35	593.44	R	P	5																						X																						X					
			5R-1, 50-52	597.30	tr		2												?										X																											
			5R-3, 41-43	600.21	tr		2																																																	
			5R-5, 25-27	603.05	VR	P	2												X		X								X																											
			6R-1, 21-23	606.51	R	P	2												X	–									X	X																											
		RP18	6R-3, 26-28	609.56	C	MG	2			F		R				+		+	R						+				R	X																									F		
			6R-5, 26-28	612.56	tr		4																																																	
			7R-1, 30-32	616.30	F	MG	4	+			R	–				–			R						R	+			–	R		+				–	+				R													R		
	CP15		7R-3, 13-15	619.13	R	P	2					X							X																						X													?		
		?RP17	7R-5, 4-6	622.04	R	P	6					X							X		X					X							R							X	X		X												
		?RP18	8R-1, 17-19	625.77	F	M	4			–		X							F												X		R							X									X			+		
		RP18	8R-3, 22-24	628.82	VF	M	2			F		R							F												X																							+		
		RP18	8R-5, 31-33	631.91	F	M	2			R		X						?	F	+									+																											
		?RP18	9R-1, 35-37	635.55	R	M	6			?		X							X				X														+								X							?		
			9R-3, 36-38	638.56	tr		4					X							X																																					
		?RP17/RP18	9R-5, 37-39	641.57	R	P	2					X							X											X																							X		
		l. EOC	10R-1, 36-38	645.16	R	M	2					+							X											X	X																							?		
			10R-3, 36-38	648.16	tr		4																																																	
middle Eocene			10R-5, 36-38	651.16	tr		3												X											X	X																									
			11R-1, 45-47	654.95	VR	M	4					?			X				X											X											X															
		m-l. EOC	11R-3, 32-34	657.82	VR	MG	4												X						?					X	X										X			X									+		
	CP14b	?RP17/RP18	12R-1, 34-36	664.44	R	M	4					X							X		X										X	X									X	X												X		
			12R-3, 39-41	667.49	VR	M	4												X																						X															
			13R-1, 34-36	674.14	tr		2																																																	
		?RP16	13R-3, 40-42	677.20	R	M	2					?							X		X				X					X			?								X	X	X						X			X		
		?RP16	13R-5, 33-35	680.13	R	M	4											X	X		X									X	X		?			X					X	X													
	CP14a		14R-1, 29-31	683.79	F	M	3				R							R	F		R		+								+		R								X	R								X					
		RP16	14R-3, 32-34	686.82	F	G	4				R								F		R		+							MR	R		R		?							R								X			R		
		?RP15	15R-1, 37-39	693.47	F	M	4				R								F		R		+			+				R	+		R							+	+			+				+						
		?RP15/RP16	15R-3, 34-36	696.44	F	M	2	X			MR								F		R		+			+					+		R									+		+	+							?		
			15R-5, 21-23	698.51	R	M	2				X		+						X		X												X																							
		RP15/RP16	16R-1, 49-51	703.19	F	M	2	+			R								F		R		R		?	+				R			R								+	+	R											
		RP15/RP16	16R-3, 19-21	705.89	F	M	2	+			R								F		R		R			+					+		R								+		+											
			17R-1, 81-83	713.11	tr		4																																																
			17R-3, 37-39	715.67	VR	M	2				X		X										X			X				X											X		X											
			18R-1, 27-29	722.27	tr		2																																																
			18R-3, 53-55	725.53	tr		4																																																
			18R-5, 70-73	728.70	tr		4												X							X																													
			19R-1, 41-43	732.01	tr		4																X			X																													
			19R-3, 41-43	735.01	C	P	1				X								X																																				
			19R-5, 31-33	737.91	tr		2																																																
		?RP14	20R-1, 41-43	741.61	C	MG	4				R								+		R		R			R				R		–					R	+	–	–			–	+				+						
		RP14	20R-3, 38-39	744.58	C	P	6				R		+						F		R	+	R			R				R					?		F			R	R	+		+				+						
		?RP13/RP14	21R-1, 37-39	751.17	F	MG	4								R				F		R	R	R				+			R		+	+				+				R	R		+				+						
			21R-3, 35-37	754.15	F	P	6												F		R	?				+				R							+	+				R							+		+			

Table 2 (continued).

Subepoch	Nannofossil zone	Radiolarian zone	Core, section, interval (cm)	Depth (mbsf)	Abundance	Preservation	No. of slides examined	*Anthocyrtoma* sp.	*Artophormis gracilis*	*Calocyclas bandyca*	*Calocyclas hispida*	*Calocyclas turris*	*Calocycloma ampulla*	*Centrobotrys petrushevskayae*	*Ceratospyris articulata*	*Cryptocarpium azyx*	*Dictyophimus craticula*	*Dictyoprora armadillo*	*Dictyoprora mongolfieri*	*Dictyoprora pirum*	*Eusyringium fistuligerum*	*Eusyringium lagena*	*Lithochytris vespertilio*	*Lithocyclia angusta*	*Lithocyclia aristotelis* grp.	*Lithocyclia ocellus*	*Lophocyrtis biaurita*	*Lophocyrtis (C.) milowi*	*Lychnocanoma amphitirite*	*Lychnocanoma babylonis* grp.	*Lychnocanoma bellum*	*Phormocyrtis striata striata*	*Podocyrtis (L.) chalara*	*Podocyrtis (L.) fasciolata*	*Podocyrtis (L.) goetheana*	*Podocyrtis (L.) mitra*	*Podocyrtis (L.) sinuosa*	*Podocyrtis (L.) trachodes*	*Podocyrtis (P.) ampla*	*Podocyrtis (P.) papalis*	*Rhopalocanium ornatum*	*Sethochytris triconiscus*	*Spongatractus pachystylus*	*Theocorys anapographa*	*Theocotyle conica*	*Theocotyle cryptocephala*	*Theocotylissa ficus*	*Theocyrtis tuberosa*	*Thyrsocyrtis (P.) tensa*	*Thyrsocyrtis (P.) tetracantha*	*Thyrsocyrtis (P.) triacantha*	*Thyrsocyrtis (T.) bromia*	*Thyrsocyrtis (T.) rhizodon*	*Tristylospyris triceros*
middle Eocene	CP13c	?RP13/RP14	21R-5, 96-98	757.76	A	MG	5	R					R		MR		R				R	R	R			+	+				+	R	?		MR	R		+	+			+		R			R								
		?	22R-1, 36-38	760.86	A	P	5								R				F		R	R	R							R		+				+			+	–		+						+							
		RP13	22R-3, 35-37	763.85	A	P-VP	5												F		R	R	R			+	+			R						+	+	–	+	+								+							
			22R-5, 35-37	766.85	C	MG	6				+		+		R				C		R	MR	R			R	+			MR	R	R				+	MR	?	+	R		R					R							
		?RP12	23R-1, 123-125	771.33	A	M	2				R								F		R	MR	R			+				MR	+	+					R											R							
		?RP12	23R-3, 39-41	773.49	C	VP	5												X			X	X			X											X		X									X							
			23R-5, 45-47	776.21	A	P	5				+				R		R		F		?	MR				R	+			MR		+					MR		X	X		R						F							
			24R-1, 35-37	777.45	A	VP	4												?		X	X	X			X											X		X			X				X	X								
	CP13b		25R-3, 28-30	783.08	A	VP	4																																																	
			25R-5, 46-48	786.26	B		2																																																	
			26R-1, 34-36	789.74	A	P-M	2															X								X							X											X							
			26R-3, 63-65	793.03	B		2																																																	
			26R-5, 33-35	795.73	B		2																																																	
			27R-1, 35-37	799.25	B		2																																																	
			27R-3, 35-37	802.25	B		2																																																	
			27R-5, 36-38	805.26	B		2																																																	
			28R-1, 36-37	808.86	B		2																																																	
	CP13a		28R-3, 36-38	811.86	B		2																																																	
			28R-5, 50-52	815.00	B		2																																																	
			29R-1, 25-27	818.45	B		2																																																	
			29R-3, 25-27	821.43	tr		2																																																	
			29R-5, 28-30	824.46	B		2																																																	
			30R-1, 32-34	828.12	B		2																																																	
			30R-3, 24-26	831.04	B		2																																																	
			30R-5, 12-14	833.92	B		2																																																	
	CP12		31R-1, 28-30	837.78	tr		2																																																	
			31R-3, 29-31	840.79	R	VP	2																																																	
			31R-5, 45-47	843.93	C	VP	4															?	X							X							X										X									
			32R-1, 36-38	847.46	B		2																																																	
			32R-3, 2-4	850.07	B		4																																																	
			32R-5, 41-43	853.46	B		2																																																	
			33R-1, 39-41	857.09	B		2																																																	
	CP11		33R-3, 39-41	860.09	tr		2																																																	
			33R-5, 36-38	863.02	B		2																																																	
early Eocene		?RP8	34R-1, 35-37	866.65	C	VP	2																																																	
	CP10		34R-3, 36-38	869.66	B		2																																																	
			34R-5, 36-38	872.66	B		2																																																	
			35R-1, 31-33	876.21	B		2																																																	
			35R-3, 31-33	879.21	B		4																																																	
			35R-5, 31-33	882.21	F	VP	2																																																	
			36R-1, 42-44	885.92	B		2																																																	
			36R-3, 25-27	888.75	B		2																																																	
			36R-5, 21-23	891.71	B		2																																																	
			37R-1, 13-15	895.23	B		2																																																	
			37R-3, 6-8	898.16	A	VP	3																																																	
			37R-5, 35-37	901.45	B		2																																																	

Notes: Radiolarian abundances are shown as A = abundant, C = common, F = few, VF = very few, R = rare, VR = very rare, tr = trace, and B = barren. Radiolarian preservation is shown as G = good, MG = moderately good, M = moderate, and P = poor. Species abundances are shown as C = common, F = few, MR = moderately rare, R = rare, + = single specimen, – = searched for but not found, ? = dubious identification, and X = present in undetermined quantities. Radiolarian zones determined only for isolated samples. Shaded rows indicates barren samples. See text for key to radiolarian zonal codes.