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Data report: radiolarian occurrences at IODP Expedition 329 Site U1371. Table T2. Minimum and maximum depth of occurrence for radiolarian marker species in Hole U1371D and age estimates for radiolarian datum events from both the middle- and high-latitude zonations.

Species	Type	Top depth (mbsf)	Bottom depth (mbsf)	Top core, section, interval (cm)	Bottom core, section interval (cm)	Zone (base)	Ages (Ma)	Basin	Age source	Notes
Middle-latitude zonation				329-U1371D-						
<i>Stylacotarium acquilonium</i>	LAD	0.00	4.00	1H-1, 0–0	1H-3, 100–102					
<i>Stylatractus univertus</i>	LAD	9.19	9.90	2H-2, 27–29	2H-2, 100–102	RN16	0.43 ; 0.4/0.6	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	The format for Kamikuri's age calibration is: X.XX (age at Site 1150); X.XX (age at Site 1151). Both sites are off Japan.
<i>Lamprocyrtis neoheteroporos</i>	LAD	9.92	10.67	2H-2, 100–102	2H-3, 27–29		1.06 ; 1.04; 0.97; 0.95	East central Pacific ODP Leg 138	Shackleton et al., 1995	
<i>Theocorythium vetulum</i>	LAD	27.39	29.58	4H-1, 97–99	4H-3, 18–20		1.22 ; 1.20; 1.13; 1.09	East central Pacific ODP Leg 138	Shackleton et al., 1995	
<i>Eucyrtidium matuyamai*</i>	LAD						1.03; 1.0/1.1	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Not observed; North Pacific species (Bering Sea to 34°N)
<i>Lamprocyrtis heteroporos</i>	LAD	29.60	30.37	4H-3, 18–20	4H-3, 97–99		1.5/1.6 ; 1.7/1.9	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Alternative age: 1.61; 1.60; 1.50 (Shackleton et al., 1995)
<i>Lamprocyrtis nigrinae*</i>	FAD						1.23; 1.22; 1.14; 1.29	East central Pacific ODP Leg 138	Shackleton et al., 1995	Not observed, not found at latitudes higher than 45°, rare even at lower latitudes
<i>Lamprocyrtis neoheteroporos</i>	FAD	27.37	29.60	4H-1, 97–99	4H-3, 18–20		3.06; 3.06; 2.92; 2.9	East central Pacific ODP Leg 138	Shackleton et al., 1995	Very rare specimens (max. 1–2 per slide), so event probably not reliable
<i>Sphaeropyle robusta</i>	LAD	29.60	30.37	4H-3, 18–20	4H-3, 97–99		1.4/1.5	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	
<i>Eucyrtidium matuyamai*</i>	FAD						1.98; 1.5/1.6; 1.7/1.9	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Not observed, North Pacific species (Bering Sea to 34°N)
<i>Stichocorys peregrina</i>	LAD	62.67	64.65	7H-6, 25–27	8H-1, 25–27	RN12	<3.0; 3.2/3.3; 2.7/2.9	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Alternative age: 2.76; 2.76; 2.63; 2.5 (Shackleton et al., 1995)
<i>Stylacotarium acquilonium</i>	FAD	98.4	99.93	11H-4, 100–102	11H-5, 100–102					Questionable event, taxonomic problem?
<i>Stichocorys delmontensis</i>	LAD	67.67	70.65	8H-3, 25–27	8H-5, 25–27		<3.0; 3.2/3.3; 2.7/2.9	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	
<i>Theocorythium vetulum</i>	FAD	104.95	105.67	12H-2, 105–107	12H-3, 25–27					Range anomalously long? Probably truncated range, as radiolarian abundance drops dramatically below 104.97 mbsf
<i>Lamprocyrtis heteroporos</i>	FAD	90.40	91.92	10H-5, 100–102	10H-6, 100–102		3.06 ; 3.06; 2.93	East central Pacific ODP Leg 138	Shackleton et al., 1995	
<i>Didymocyrtis penultima</i>	LAD	87.42	88.90	10H-3, 100–102	10H-4, 100–102	RN10	4.2; 4.04; 3.89	East central Pacific ODP Leg 138	Shackleton et al., 1995	Alternative ages: 7.9/8.1 (Kamikuri et al., 2004), or 4.24, value for low latitudes. Calibration reference: GTS2012 (4.26 Ma with GTS2004; 4.19 Ma with C&K1995). Datum reference: Sanfilippo and Nigrini, 1998
<i>Theocorys redondoensis</i>	LAD	74.17	75.65	9H-1, 25–27	9H-2, 25–27					Questionable event, taxonomic problem?
<i>Sphaeropyle langii</i>	FAD	93.90	95.42	11H-1, 100–102	11H-2, 100–102		7.6; 6.2/6.3; 6.0/6.0	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	
<i>Botryostrobus aquilonaris</i>	FAD	102.39	103.47	11H-CC	12H-1, 105–107		2.4/2.6; 2.6/2.7	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Anomalously long range, maybe taxonomic problem (included another species, probably <i>Artostrobus miralestensis?</i>). Approximate CC mbsf
<i>Stichocorys peregrina</i>	FAD	104.95	105.67	12H-2, 105–107	12H-3, 25–27		6.66; 6.48; 6.02; 6.10	East central Pacific ODP Leg 138	Shackleton et al., 1995	Probably truncated range, as radiolarian abundance drops dramatically below 104.97 mbsf
<i>Stichocorys delmontensis</i>	FAD	105.65	106.47	12H-3, 25–27	12H-3, 105–107					Probably truncated range, as radiolarian abundance drops dramatically below 104.97 mbsf
<i>Didymocyrtis penultima</i>	FAD	101.41	102.39	11H-6, 100–102	11H-CC		8.6/9.2	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	
<i>Didymocyrtis antepenultima</i>	LAD	99.93	101.41	11H-5, 100–102	11H-6, 100–102		8.2 ; 8.2/8.2	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Extremely rare (only observed one specimen in one slide), so event not reliable
<i>Diartus hughesi*</i>	LAD						8.5; 8.6/9.2	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Not observed. Alternative age: 7.67; 7.52; 6.90; 6.70 (Shackleton et al., 1995)
<i>Eucyrtidium calvertense</i>	FAD	106.93	107.75	12H-4, 25–27	12H-4, 105–107					Probably truncated range, as radiolarian abundance drops dramatically below 104.97 mbsf
<i>Didymocyrtis laticonus</i>	LAD	98.42	99.91	11H-4, 100–102	11H-5, 100–102					Extremely rare (only observed one specimen in one slide), so event not reliable
<i>Eucyrtidium inflatum</i>	LAD	62.67	64.65	7H-6, 25–27	8H-1, 25–27		~11.6; 14.2/14.6	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	Questionable event, taxonomic problem and/or range anomalously long?
<i>Diartus petterssoni*</i>	LAD						8.43; 8.31; 7.66; 8.10	East central Pacific ODP Leg 138	Shackleton et al., 1995	Not observed
<i>Dorcadospyrus alata*</i>	LAD						11.86; 11.87; 11.57; 13.50	East central Pacific ODP Leg 138	Shackleton et al., 1995	Not observed
<i>Dorcadospyrus dentata*</i>	LAD									Not observed
<i>Calocycletta costata*</i>	LAD									Not observed
High-latitude zonation										
<i>Stylatractus univertus</i>	LAD	9.19	9.90	2H-2, 27–29	2H-2, 100–102		0.43 ; 0.4/0.6	NW Pacific, ODP Leg 186	Kamikuri et al., 2004	
<i>Antarctissa cylindrica</i>	LAD	0.00	4.00	1H-1, 0–0	1H-3, 100–102		0.61	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	Taxonomic problems and local extinction in Southern Ocean
<i>Pterocanium carybdeum trilobum</i>	LAD	29.60	30.37	4H-3, 18–20	4H-3, 97–99		0.8	Southern Ocean	Hays and Opdyke, 1967	
<i>Cycladophora plicenica</i>	LAD	74.17	75.65	9H-1, 25–27	9H-2, 25–27		1.73	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	Not reliable event, taxonomic problems (grades into other extant species), and not traced well enough upward
<i>Eucyrtidium calvertense</i>	LAD	0.00	4.00	1H-1, 0–0	1H-3, 100–102		1.85	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	Not reliable event, LAD not used at middle latitudes, local extinction in Southern Ocean?
<i>Triceraspyris antarctica</i>	FAD	96.90	98.42	11H-3, 100–102	11H-4, 100–102		1.85	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	Taxonomic problems, as older forms look different from extant
<i>Helotholus vema*</i>	LAD						2.32	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	
<i>Desmospyris spongiosa*</i>	LAD						2.34	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	
<i>Cycladophora davisiana</i>	FAD	95.40	96.92	11H-2, 100–102	11H-3, 100–102		2.5	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	Not reliable event, taxonomy, local appearance Southern Ocean?
<i>Prunopyle titan</i>	LAD	64.67	67.65	8H-1, 25–27	8H-3, 25–27		3.32	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	
<i>Triceraspyris coronata</i>	LAD	74.17	75.65	9H-1, 25–27	9H-2, 25–27		3.5	Kerguelen Plateau, ODP Leg 120	Harwood et al., 1992	
<i>Helotholus vema*</i>	FAD						4.2	Kerguelen Plateau, ODP Leg 119	Caulet, 1991	
<i>Lychnocanoma grande</i>	LCO	88.92	90.40	10H-4, 100–102	10H-5, 100–102		4.6	Weddell Sea, ODP Leg 113	Gersonde et al., 1990	
<i>Acrosphaera labrata</i>	FAD	98.40	99.93	11H-4, 100–102	11H-5, 100–102		7	Kerguelen Plateau/Prydz Bay, ODP Leg 119	Barron et al., 1991	Last five events are all FADs for substantially older species, so either (option "a" is the most likely): (a) the observed occurrences are due to a truncated record linked to very low abundances of radiolarians below 104.97 mbsf (b) or the interval from 95.42 to 103.47 mbsf encompasses a huge unconformity (spanning from 7 to 14 Ma)
<i>Amphimedium challengerae*</i>	LAD						5.5	Kerguelen Plateau/Prydz Bay, ODP Leg 119	Barron et al., 1991	
<i>Amphimedium challengerae*</i>	FAD						6	Kerguelen Plateau/Prydz Bay, ODP Leg 119	Barron et al., 1991	
<i>Cycladophora spongothorax*</i>	LAD						8.3	Kerguelen Plateau/Prydz Bay, ODP Leg 119	Barron et al., 1991	
<i>Stichocorys peregrina</i>	FCO	102.39	103.47	11H-CC	12H-1, 105–107		8.4	Kerguelen Plateau/Prydz Bay, ODP Leg 119	Barron et al., 1991	See note above for <i>Acrosphaera labrata</i> , approximate CC mbsf
<i>Lithomelissa stigi*</i>	LCO						8.49	Kerguelen Plateau, ODP Leg 120	Harwood et al., 1992	
<i>Lithomelissa stigi*</i>	FCO						8.98	Kerguelen Plateau, ODP Leg 120	Harwood et al., 1992	
<i>Acrosphaera australis</i>	FAD	95.40	96.92	11H-2, 100–102	11H-3, 100–102		9.7	Weddell Sea, ODP Leg 113; Kerguelen Plateau, ODP Leg 120	Gersonde et al., 1990; Harwood et al., 1992	See note above for <i>Acrosphaera labrata</i> , very few (2–3) identified specimens
<i>Cycladophora humerus*</i>	LAD						9.9	Weddell Sea, ODP Leg 113; Kerguelen Plateau, ODP Leg 120	Gersonde et al., 1990; Harwood et al., 1992	
<i>Eucyrtidium pseudoinflatum*</i>	FAD						10	Weddell Sea, ODP Leg 113; Kerguelen Plateau, ODP Leg 120	Gersonde et al., 1990; Harwood et al., 1992	
<i>Actinomma golownini*</i>	LAD						10.2	Weddell Sea, ODP Leg 113; Kerguelen Plateau, ODP Leg 120	Gersonde et al., 1990; Harwood et al., 1992	
<i>Cycladophora spongothorax*</i>	FAD						12.3	Weddell Sea, ODP Leg 113; Kerguelen Plateau, ODP Leg 120	Gersonde et al., 1990; Harwood et al., 1992	
<i>Actinomma golownini*</i>	FAD						13.4	Weddell Sea, ODP Leg 113; Kerguelen Plateau, ODP Leg 120	Gersonde et al., 1990; Harwood et al., 1992	
<i>Dendrospyrus megaloccephalis</i>	FAD	96.90	98.42	11H-3, 100–102	11H-4, 100–102		12.45	Kerguelen Plateau, ODP Leg 120	Abelmann, 1992	See note above for <i>Acrosphaera labrata</i>
<i>Antarctissa dellandrei</i>	FAD	103.45	104.97	12H-1, 105–107	12H-2, 105–107		14	Kerguelen Plateau, ODP Leg 120	Abelmann, 1992	See note above for <i>Acrosphaera labrata</i> . Probably truncated range, as radiolarian abundance drops dramatically below 104.97 mbsf
<i>Cycladophora humerus*</i>	FAD						14.2	Kerguelen Plateau, ODP Leg 120	Abelmann, 1992	

* = marker taxa not recognized/found. Taxa and ages in bold are those that were used to develop an age model for this location (see also Figure F3). GTS2012 = Gradstein et al., 2012, timescale; GTS2004 = Gradstein et al., 2004, timescale; C&K1995 = Cande and Kent, 1995, timescale. FAD = first appearance datum, LAD = last appearance datum, FCO = first common occurrence, LCO = last common occurrence. All age sources as cited in Lazarus (1992).