Supplement of Clim. Past Discuss., 10, 4085–4127, 2014
http://www.clim-past-discuss.net/10/4085/2014/
doi:10.5194/cpd-10-4085-2014-supplement

Climate of the Past Discussions
Open Access

Supplement of

The bivalve *Glycymeris planicostalis* as a high-resolution paleoclimate archive for Rupelian (Early Oligocene) of Central Europe

E. O. Walliser et al.

Correspondence to: E. O. Walliser (walliser@uni-mainz.de)

Supplements

Results of the oxygen stable isotope ($\delta^{18}O_{shell}$;VPDB) analyses of the three *Glycymeris planicostalis* (MB-Wht-2, -4, -7) and reconstructed temperatures (±0.3°C). Horizontal lines denoted the position of the growth line and beginning of the new ontogenetic year.

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 1	0.47	13.5	3
MB-Wht-2 2	0.43	13.7	3
MB-Wht-2 3	0.48	13.4	3
MB-Wht-2 4	0.21	14.6	3
MB-Wht-2 5	0.22	14.6	3
MB-Wht-2 6	0.23	14.5	3
MB-Wht-2 7	0.00	15.5	3
MB-Wht-2 8	-0.30	16.8	3
MB-Wht-2 9	-0.33	17.0	3
MB-Wht-2 10	-0.45	17.5	3
MB-Wht-2 11	-0.54	17.9	3
MB-Wht-2 12	-0.75	18.8	3
MB-Wht-2 13	-0.80	19.0	3
MB-Wht-2 14	-0.97	19.7	3
MB-Wht-2 15	-1.01	19.9	3
MB-Wht-2 16	-1.03	20.0	3
MB-Wht-2 17	-0.80	19.0	3
MB-Wht-2 18	-0.74	18.7	4
MB-Wht-2 19	-0.56	17.9	4
MB-Wht-2 20	-0.37	17.1	4
MB-Wht-2 21	0.21	14.6	4
MB-Wht-2 22	0.34	14.1	4
MB-Wht-2 23	0.52	13.2	4
MB-Wht-2 24	0.69	12.5	4
MB-Wht-2 25	0.47	13.5	4
MB-Wht-2 26	0.55	13.1	4
MB-Wht-2 27	0.36	14.0	4
MB-Wht-2 28	-0.06	15.8	4
MB-Wht-2 29	-0.25	16.6	4

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 30	-0.41	17.3	4
MB-Wht-2 31	-0.52	17.8	4
MB-Wht-2 32	0.13	14.9	5
MB-Wht-2 33	0.51	13.3	5
MB-Wht-2 34	0.36	14.0	5
MB-Wht-2 35	0.05	15.3	5
MB-Wht-2 36	-0.26	16.7	5
MB-Wht-2 37	-0.29	16.8	5
MB-Wht-2 38	-0.58	18.0	5
MB-Wht-2 39	-0.48	17.6	5
MB-Wht-2 40	-0.52	17.8	5
MB-Wht-2 41	-0.44	17.4	5
MB-Wht-2 42	-0.33	16.9	5
MB-Wht-2 43	-0.05	15.7	5
MB-Wht-2 44	0.37	13.9	6
MB-Wht-2 45	0.52	13.2	6
MB-Wht-2 46	0.51	13.3	6
MB-Wht-2 47	0.41	13.7	6
MB-Wht-2 48	0.36	14.0	6
MB-Wht-2 49	0.11	15.1	6
MB-Wht-2 50	-0.02	15.6	6
MB-Wht-2 51	-0.10	16.0	6
MB-Wht-2 52	-0.10	16.0	6
MB-Wht-2 53	-0.26	16.6	6
MB-Wht-2 54	-0.42	17.3	6
MB-Wht-2 55	-0.49	17.6	6
MB-Wht-2 56	-0.58	18.1	6
MB-Wht-2 57	-0.48	17.6	6
MB-Wht-2 58	-0.85	19.2	6

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 59	-0.85	19.2	6
MB-Wht-2 60	-0.94	19.6	6
MB-Wht-2 61	-0.56	18.0	6
MB-Wht-2 62	-1.19	20.7	6
MB-Wht-2 63	-0.17	16.3	6
MB-Wht-2 64	0.20	14.7	7
MB-Wht-2 65	0.42	13.7	7
MB-Wht-2 66	0.51	13.3	7
MB-Wht-2 67	0.70	12.5	7
MB-Wht-2 68	0.55	13.1	7
MB-Wht-2 69	0.74	12.3	7
MB-Wht-2 70	0.75	12.3	7
MB-Wht-2 71	0.73	12.4	7
MB-Wht-2 72	0.61	12.9	7
MB-Wht-2 73	0.43	13.6	7
MB-Wht-2 74	0.44	13.6	7
MB-Wht-2 75	-0.12	16.0	7
MB-Wht-2 76	0.12	15.0	7
MB-Wht-2 77	-0.05	15.7	7
MB-Wht-2 78	0.00	15.5	7
MB-Wht-2 79	-0.22	16.5	7
MB-Wht-2 80	-0.63	18.2	7
MB-Wht-2 81	-0.46	17.5	7
MB-Wht-2 82	-0.24	16.5	7
MB-Wht-2 83	-0.23	16.5	7
MB-Wht-2 84	-0.21	16.4	8
MB-Wht-2 85	-0.22	16.5	8
MB-Wht-2 86	-0.14	16.1	8
MB-Wht-2 87	0.13	15.0	8

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 88	-0.02	15.6	8
MB-Wht-2 89	0.16	14.8	8
MB-Wht-2 90	0.29	14.3	8
MB-Wht-2 91	0.45	13.6	8
MB-Wht-2 92	0.63	12.8	8
MB-Wht-2 93	0.54	13.2	8
MB-Wht-2 94	0.51	13.3	8
MB-Wht-2 95	0.42	13.7	8
MB-Wht-2 96	0.15	14.9	8
MB-Wht-2 97	0.03	15.4	8
MB-Wht-2 98	-0.26	16.7	8
MB-Wht-2 99	-0.23	16.5	8
MB-Wht-2 100	-0.52	17.8	8
MB-Wht-2 101	-0.49	17.7	8
MB-Wht-2 102	-0.56	18.0	8
MB-Wht-2 103	-0.74	18.7	8
MB-Wht-2 104	-1.02	19.9	8
MB-Wht-2 105	-1.48	22.0	8
MB-Wht-2 106	-1.19	20.7	9
MB-Wht-2 107	-0.50	17.7	9
MB-Wht-2 108	0.21	14.6	9
MB-Wht-2 109	0.21	14.6	9
MB-Wht-2 110	0.35	14.0	9
MB-Wht-2 111	0.38	13.9	9
MB-Wht-2 112	0.38	13.9	9
MB-Wht-2 113	0.34	14.1	9
MB-Wht-2 114	0.27	14.3	9
MB-Wht-2 115	0.17	14.8	9
MB-Wht-2 116	0.13	14.9	9

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 117	-0.45	17.5	9
MB-Wht-2 118	-0.61	18.2	9
MB-Wht-2 119	-0.70	18.5	9
MB-Wht-2 120	-0.62	18.2	9
MB-Wht-2 121	-0.63	18.2	9
MB-Wht-2 122	-0.41	17.3	9
MB-Wht-2 123	-0.65	18.3	9
MB-Wht-2 124	-0.66	18.4	9
MB-Wht-2 125	-0.51	17.7	9
MB-Wht-2 126	-0.47	17.6	9
MB-Wht-2 127	-0.50	17.7	9
MB-Wht-2 128	-0.32	16.9	9
MB-Wht-2 129	-0.32	16.9	9
MB-Wht-2 130	-0.18	16.3	10
MB-Wht-2 131	0.13	15.0	10
MB-Wht-2 132	0.35	14.0	10
MB-Wht-2 133	0.64	12.7	10
MB-Wht-2 134	0.54	13.2	10
MB-Wht-2 135	0.42	13.7	10
MB-Wht-2 136	0.24	14.5	10
MB-Wht-2 137	0.30	14.2	10
MB-Wht-2 138	0.05	15.3	10
MB-Wht-2 139	-0.22	16.5	10
MB-Wht-2 140	-0.41	17.3	10
MB-Wht-2 141	-0.40	17.3	10
MB-Wht-2 142	-0.26	16.6	10
MB-Wht-2 143	-0.43	17.4	10
MB-Wht-2 144	-0.71	18.6	10
MB-Wht-2 145	-0.13	16.1	11

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 146	0.36	13.9	11
MB-Wht-2 147	0.50	13.4	11
MB-Wht-2 148	0.52	13.3	11
MB-Wht-2 149	0.59	13.0	11
MB-Wht-2 150	0.50	13.3	11
MB-Wht-2 151	0.44	13.6	11
MB-Wht-2 152	0.17	14.8	11
MB-Wht-2 153	-0.02	15.6	11
MB-Wht-2 154	-0.21	16.4	11
MB-Wht-2 155	-0.47	17.6	11
MB-Wht-2 156	-0.60	18.1	11
MB-Wht-2 157	-0.51	17.7	11
MB-Wht-2 158	-0.72	18.6	11
MB-Wht-2 159	-0.91	19.5	11
MB-Wht-2 160	-0.91	19.5	11
MB-Wht-2 161	-0.23	16.5	11
MB-Wht-2 162	-0.22	16.5	11
MB-Wht-2 163	0.15	14.9	12
MB-Wht-2 164	0.30	14.2	12
MB-Wht-2 165	0.30	14.2	12
MB-Wht-2 166	0.35	14.0	12
MB-Wht-2 167	0.40	13.8	12
MB-Wht-2 168	0.36	14.0	12
MB-Wht-2 169	0.27	14.3	12
MB-Wht-2 170	0.21	14.6	12
MB-Wht-2 171	0.21	14.6	12
MB-Wht-2 172	0.14	14.9	12
MB-Wht-2 173	0.08	15.2	12
MB-Wht-2 174	-0.21	16.4	12

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 175	-0.38	17.2	12
MB-Wht-2 176	-0.57	18.0	12
MB-Wht-2 177	-0.65	18.3	12
MB-Wht-2 178	-0.77	18.9	12
MB-Wht-2 179	-0.60	18.1	12
MB-Wht-2 180	-0.62	18.2	12
MB-Wht-2 181	-0.60	18.1	12
MB-Wht-2 182	-0.31	16.9	12
MB-Wht-2 183	-0.37	17.1	12
MB-Wht-2 184	-0.35	17.1	12
MB-Wht-2 185	-0.16	16.2	12
MB-Wht-2 186	-0.20	16.4	13
MB-Wht-2 187	-0.22	16.5	13
MB-Wht-2 188	-0.11	16.0	13
MB-Wht-2 189	-0.03	15.6	13
MB-Wht-2 190	0.02	15.4	13
MB-Wht-2 191	0.05	15.3	13
MB-Wht-2 192	0.15	14.9	13
MB-Wht-2 193	0.18	14.8	13
MB-Wht-2 194	0.16	14.8	13
MB-Wht-2 195	0.20	14.6	13
MB-Wht-2 196	0.16	14.8	13
MB-Wht-2 197	0.16	14.8	13
MB-Wht-2 198	-0.09	15.9	13
MB-Wht-2 199	-0.05	15.7	13
MB-Wht-2 200	-0.06	15.8	13
MB-Wht-2 201	-0.14	16.1	13
MB-Wht-2 202	-0.20	16.4	13
MB-Wht-2 203	-0.38	17.2	13

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 204	-0.48	17.6	13
MB-Wht-2 205	-0.55	17.9	13
MB-Wht-2 206	-0.35	17.0	13
MB-Wht-2 207	-0.25	16.6	13
MB-Wht-2 208	0.03	15.4	13
MB-Wht-2 209	0.12	15.0	13
MB-Wht-2 210	-0.03	15.6	14
MB-Wht-2 211	-0.21	16.4	14
MB-Wht-2 212	0.14	14.9	14
MB-Wht-2 213	0.11	15.0	14
MB-Wht-2 214	0.06	15.3	14
MB-Wht-2 215	-0.05	15.7	14
MB-Wht-2 216	0.16	14.8	14
MB-Wht-2 217	0.04	15.4	14
MB-Wht-2 218	0.08	15.2	14
MB-Wht-2 219	0.11	15.0	14
MB-Wht-2 220	-0.04	15.7	14
MB-Wht-2 221	0.09	15.1	14
MB-Wht-2 222	-0.16	16.2	14
MB-Wht-2 223	-0.12	16.1	14
MB-Wht-2 224	-0.12	16.0	14
MB-Wht-2 225	-0.26	16.6	14
MB-Wht-2 226	-0.28	16.7	14
MB-Wht-2 227	-0.40	17.3	14
MB-Wht-2 228	-0.18	16.3	14
MB-Wht-2 229	-0.43	17.4	15
MB-Wht-2 230	-0.18	16.3	15
MB-Wht-2 231	-0.35	17.0	15
MB-Wht-2 232	-0.17	16.3	15

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 233	-0.29	16.8	15
MB-Wht-2 234	-0.23	16.5	15
MB-Wht-2 235	-0.18	16.3	15
MB-Wht-2 236	-0.26	16.6	15
MB-Wht-2 237	-0.19	16.4	15
MB-Wht-2 238	-0.11	16.0	15
MB-Wht-2 239	-0.22	16.5	15
MB-Wht-2 240	-0.24	16.6	15
MB-Wht-2 241	-0.18	16.3	15
MB-Wht-2 242	-0.29	16.8	15
MB-Wht-2 243	-0.14	16.1	15
MB-Wht-2 244	-0.29	16.8	15
MB-Wht-2 245	-0.17	16.2	15
MB-Wht-2 246	-0.20	16.4	15
MB-Wht-2 247	-0.30	16.8	15
MB-Wht-2 248	-0.17	16.3	15
MB-Wht-2 249	-0.31	16.9	15
MB-Wht-2 250	-0.34	17.0	15
MB-Wht-2 251	-0.53	17.8	15
MB-Wht-2 252	-0.63	18.3	15
MB-Wht-2 253	-0.39	17.2	15
MB-Wht-2 254	-0.48	17.6	15
MB-Wht-2 255	-0.53	17.8	15
MB-Wht-2 256	-0.60	18.1	15
MB-Wht-2 257	-0.53	17.8	15
MB-Wht-2 258	-0.56	18.0	15
MB-Wht-2 259	-0.55	17.9	15
MB-Wht-2 260	-0.13	16.1	16
MB-Wht-2 261	-0.03	15.6	16

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 262	0.08	15.2	16
MB-Wht-2 263	-0.12	16.1	16
MB-Wht-2 264	-0.19	16.3	16
MB-Wht-2 265	0.13	15.0	16
MB-Wht-2 266	0.20	14.7	16
MB-Wht-2 267	0.05	15.3	16
MB-Wht-2 268	-0.04	15.7	16
MB-Wht-2 269	-0.24	16.6	16
MB-Wht-2 270	-0.33	16.9	16
MB-Wht-2 271	-0.45	17.5	16
MB-Wht-2 272	-0.53	17.8	16
MB-Wht-2 273	-0.10	16.0	16
MB-Wht-2 274	0.10	15.1	16
MB-Wht-2 275	0.24	14.5	17
MB-Wht-2 276	0.21	14.6	17
MB-Wht-2 277	0.40	13.8	17
MB-Wht-2 278	0.34	14.1	17
MB-Wht-2 279	0.18	14.7	17
MB-Wht-2 280	0.00	15.5	17
MB-Wht-2 281	0.00	15.5	17
MB-Wht-2 282	0.08	15.2	17
MB-Wht-2 283	0.19	14.7	17
MB-Wht-2 284	0.30	14.2	17
MB-Wht-2 285	-0.01	15.6	18
MB-Wht-2 286	0.08	15.2	18
MB-Wht-2 287	0.29	14.3	18
MB-Wht-2 288	0.33	14.1	18
MB-Wht-2 289	0.53	13.2	18
MB-Wht-2 290	0.49	13.4	18

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-2 291	0.32	14.1	18
MB-Wht-2 292	0.31	14.2	18
MB-Wht-2 293	0.20	14.6	18
MB-Wht-2 294	-0.06	15.8	18
MB-Wht-2 295	-0.48	17.6	18
MB-Wht-2 296	-0.50	17.7	18
MB-Wht-2 297	-0.70	18.6	18
MB-Wht-2 298	-0.54	17.8	18
MB-Wht-2 299	-0.28	16.7	18
MB-Wht-2 300	-0.13	16.1	19
MB-Wht-2 301	0.21	14.6	19
MB-Wht-2 302	0.62	12.8	19
MB-Wht-2 303	0.60	12.9	19
MB-Wht-2 304	0.44	13.6	19
MB-Wht-2 305	0.25	14.4	19
MB-Wht-2 306	-0.21	16.4	19
MB-Wht-2 307	0.10	15.1	19
MB-Wht-2 308	-0.02	15.6	19
MB-Wht-2 309	0.14	14.9	19
MB-Wht-2 310	-0.19	16.3	19
MB-Wht-2 311	-0.09	15.9	19
MB-Wht-2 312	0.06	15.3	19
MB-Wht-2 313	-0.14	16.1	19
MB-Wht-2 314	-0.08	15.8	19
MB-Wht-2 315	0.42	13.7	20
MB-Wht-2 316	0.52	13.3	20

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-4 1	-0.27	16.7	5
MB-Wht-4 2	-0.75	18.7	6
MB-Wht-4 3	-0.60	18.1	6
MB-Wht-4 4	-0.27	16.7	6
MB-Wht-4 5	-0.08	15.8	6
MB-Wht-4 6	0.25	14.4	6
MB-Wht-4 7	0.16	14.8	6
MB-Wht-4 8	0.43	13.6	6
MB-Wht-4 9	0.45	13.5	6
MB-Wht-4 10	0.51	13.3	6
MB-Wht-4 11	0.43	13.6	6
MB-Wht-4 12	0.18	14.7	6
MB-Wht-4 13	0.16	14.8	6
MB-Wht-4 14	0.03	15.3	6
MB-Wht-4 15	-0.45	17.4	6
MB-Wht-4 16	-0.26	16.6	6
MB-Wht-4 17	-0.62	18.2	6
MB-Wht-4 18	-0.87	19.3	6
MB-Wht-4 19	-0.64	18.3	6
MB-Wht-4 20	-0.79	18.9	6
MB-Wht-4 21	-0.84	19.1	6
MB-Wht-4 22	-1.16	20.5	6
MB-Wht-4 23	-1.03	20.0	7
MB-Wht-4 24	-0.47	17.5	7
MB-Wht-4 25	0.01	15.4	7
MB-Wht-4 26	0.26	14.4	7
MB-Wht-4 27	0.34	14.0	7
MB-Wht-4 28	0.33	14.1	7
MB-Wht-4 29	0.42	13.7	7

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-4 30	0.31	14.1	7
MB-Wht-4 31	0.35	14.0	7
MB-Wht-4 32	0.31	14.1	7
MB-Wht-4 33	0.22	14.5	7
MB-Wht-4 34	0.15	14.8	7
MB-Wht-4 35	-0.33	16.9	7
MB-Wht-4 36	-0.20	16.3	7
MB-Wht-4 37	-0.23	16.5	7
MB-Wht-4 38	-0.24	16.5	7
MB-Wht-4 39	-0.36	17.0	7
MB-Wht-4 40	-0.49	17.6	7
MB-Wht-4 41	-0.51	17.7	7
MB-Wht-4 42	-0.56	17.9	7
MB-Wht-4 43	-0.68	18.4	7
MB-Wht-4 44	-0.90	19.4	7
MB-Wht-4 45	-0.67	18.4	8
MB-Wht-4 46	-0.20	16.3	8
MB-Wht-4 47	0.27	14.3	8
MB-Wht-4 48	0.42	13.7	8
MB-Wht-4 49	0.28	14.3	8
MB-Wht-4 50	0.31	14.1	8
MB-Wht-4 51	0.40	13.7	8
MB-Wht-4 52	0.30	14.2	8
MB-Wht-4 53	0.34	14.0	8
MB-Wht-4 54	0.12	15.0	8
MB-Wht-4 55	0.03	15.3	8
MB-Wht-4 56	-0.11	15.9	8
MB-Wht-4 57	-0.14	16.1	8
MB-Wht-4 58	-0.12	16.0	8

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-4 59	-0.47	17.5	8
MB-Wht-4 60	-0.49	17.6	8
MB-Wht-4 61	-0.42	17.3	8
MB-Wht-4 62	-0.54	17.8	9
MB-Wht-4 63	0.02	15.4	9
MB-Wht-4 64	0.08	15.1	9
MB-Wht-4 65	0.25	14.4	9
MB-Wht-4 66	0.58	13.0	9
MB-Wht-4 67	0.67	12.6	9
MB-Wht-4 68	0.06	15.2	9
MB-Wht-4 69	0.54	13.1	9
MB-Wht-4 70	0.38	13.8	9
MB-Wht-4 71	0.49	13.4	9
MB-Wht-4 72	0.17	14.8	9
MB-Wht-4 73	0.26	14.3	9
MB-Wht-4 74	-0.20	16.3	10
MB-Wht-4 75	-0.12	16.0	10
MB-Wht-4 76	0.16	14.8	10
MB-Wht-4 77	0.14	14.9	10
MB-Wht-4 78	0.06	15.2	10
MB-Wht-4 79	0.26	14.4	10
MB-Wht-4 80	0.24	14.5	10
MB-Wht-4 81	0.35	13.9	10
MB-Wht-4 82	0.07	15.2	10
MB-Wht-4 83	0.20	14.6	10
MB-Wht-4 84	-0.02	15.6	10
MB-Wht-4 85	-0.26	16.6	10
MB-Wht-4 86	-0.34	17.0	10
MB-Wht-4 87	-0.17	16.2	10

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-4 88	-0.19	16.3	10
MB-Wht-4 89	-0.38	17.1	10
MB-Wht-4 90	0.21	14.6	11
MB-Wht-4 91	0.09	15.1	11
MB-Wht-4 92	0.26	14.4	11
MB-Wht-4 93	0.39	13.8	11
MB-Wht-4 94	0.30	14.2	11
MB-Wht-4 95	0.06	15.2	11
MB-Wht-4 96	0.05	15.3	11
MB-Wht-4 97	-0.15	16.1	11
MB-Wht-4 98	-0.17	16.2	11
MB-Wht-4 99	-0.19	16.3	11
MB-Wht-4 100	-0.24	16.5	11
MB-Wht-4 101	-0.16	16.2	11
MB-Wht-4 102	-0.23	16.5	12
MB-Wht-4 103	0.08	15.1	12
MB-Wht-4 104	0.04	15.3	12
MB-Wht-4 105	0.11	15.0	12
MB-Wht-4 106	0.27	14.3	12
MB-Wht-4 107	0.27	14.3	12
MB-Wht-4 108	0.44	13.6	12
MB-Wht-4 109	0.43	13.6	12
MB-Wht-4 110	0.16	14.8	12
MB-Wht-4 111	-0.09	15.9	12
MB-Wht-4 112	-0.16	16.2	12
MB-Wht-4 113	-0.08	15.8	12
MB-Wht-4 114	-0.01	15.5	12
MB-Wht-4 115	0.01	15.4	12
MB-Wht-4 116	-0.09	15.9	12

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-4 117	0.34	14.0	12
MB-Wht-4 118	0.33	14.1	12
MB-Wht-4 119	0.30	14.2	12
MB-Wht-4 120	0.17	14.7	12
MB-Wht-4 121	0.14	14.9	12
MB-Wht-4 122	-0.03	15.6	12
MB-Wht-4 123	0.04	15.3	12
MB-Wht-4 124	-0.07	15.8	12
MB-Wht-4 125	0.04	15.3	12
MB-Wht-4 126	0.10	15.1	12
MB-Wht-4 127	0.34	14.0	13
MB-Wht-4 128	0.34	14.0	13
MB-Wht-4 129	0.34	14.0	13
MB-Wht-4 130	0.04	15.3	13
MB-Wht-4 131	-0.03	15.6	13
MB-Wht-4 132	0.06	15.2	13
MB-Wht-4 133	-0.03	15.6	13
MB-Wht-4 134	-0.06	15.7	13
MB-Wht-4 135	0.00	15.5	13
MB-Wht-4 136	-0.26	16.6	13
MB-Wht-4 137	-0.05	15.7	14
MB-Wht-4 138	0.03	15.4	14
MB-Wht-4 139	0.12	15.0	14
MB-Wht-4 140	0.11	15.0	14
MB-Wht-4 141	-0.03	15.6	14
MB-Wht-4 142	0.05	15.3	14
MB-Wht-4 143	-0.06	15.7	14
MB-Wht-4 144	-0.28	16.7	14
MB-Wht-4 145	-0.10	15.9	15

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C	Ontogenetic year
MB-Wht-4 146	-0.11	16.0	15
MB-Wht-4 147	0.09	15.1	15
MB-Wht-4 148	0.06	15.2	15
MB-Wht-4 149	0.11	15.0	15
MB-Wht-4 150	0.10	15.1	15
MB-Wht-4 151	0.06	15.2	15
MB-Wht-4 152	0.13	14.9	15
MB-Wht-4 153	-0.24	16.5	15
MB-Wht-4 154	-0.02	15.6	16
MB-Wht-4 155	-0.13	16.0	16
MB-Wht-4 156	-0.04	15.6	16
MB-Wht-4 157	0.18	14.7	16
MB-Wht-4 158	0.09	15.1	16
MB-Wht-4 159	0.11	15.0	16
MB-Wht-4 160	-0.06	15.7	16
MB-Wht-4 161	-0.16	16.2	16
MB-Wht-4 162	-0.14	16.1	16
MB-Wht-4 163	-0.24	16.5	16
MB-Wht-4 164	-0.45	17.4	16
MB-Wht-4 165	-0.43	17.3	16
MB-Wht-4 166	-0.45	17.4	16
MB-Wht-4 167	-0.39	17.2	17
MB-Wht-4 168	-0.17	16.2	17
MB-Wht-4 169	-0.23	16.5	17
MB-Wht-4 170	0.00	15.5	17
MB-Wht-4 171	-0.05	15.7	17
MB-Wht-4 172	-0.07	15.8	17
MB-Wht-4 173	0.07	15.2	17
MB-Wht-4 174	-0.01	15.5	17

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C	Ontogenetic year
MB-Wht-4 175	-0.08	15.8	17
MB-Wht-4 176	-0.24	16.5	17
MB-Wht-4 177	-0.31	16.8	17
MB-Wht-4 178	-0.18	16.3	17
MB-Wht-4 179	-0.29	16.8	18
MB-Wht-4 180	-0.02	15.6	18
MB-Wht-4 181	0.24	14.4	18
MB-Wht-4 182	0.35	14.0	18
MB-Wht-4 183	0.36	13.9	18
MB-Wht-4 184	0.27	14.3	18
MB-Wht-4 185	0.26	14.4	18
MB-Wht-4 186	-0.04	15.6	19
MB-Wht-4 187	-0.09	15.9	19
MB-Wht-4 188	-0.15	16.1	19
MB-Wht-4 189	-0.02	15.6	19
MB-Wht-4 190	0.38	13.8	19
MB-Wht-4 191	-0.56	17.9	19
MB-Wht-4 192	-0.60	18.1	19
MB-Wht-4 193	-0.07	15.8	20

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-7 1	-0.98	19.8	5
MB-Wht-7 2	-1.19	20.7	5
MB-Wht-7 3	-0.94	19.6	6
MB-Wht-7 4	-0.68	18.5	6
MB-Wht-7 5	-0.29	16.8	6
MB-Wht-7 6	0.18	14.8	6
MB-Wht-7 7	0.26	14.4	6
MB-Wht-7 8	0.24	14.5	6
MB-Wht-7 9	0.24	14.5	6
MB-Wht-7 10	0.14	14.9	6
MB-Wht-7 11	0.26	14.4	6
MB-Wht-7 12	0.06	15.3	6
MB-Wht-7 13	-0.11	16.0	6
MB-Wht-7 14	-0.11	16.0	6
MB-Wht-7 15	-0.46	17.5	6
MB-Wht-7 16	-0.26	16.7	6
MB-Wht-7 17	-0.59	18.1	6
MB-Wht-7 18	-0.43	17.4	6
MB-Wht-7 19	-1.17	20.6	6
MB-Wht-7 20	-0.75	18.8	6
MB-Wht-7 21	-0.70	18.5	6
MB-Wht-7 22	-0.34	17.0	6
MB-Wht-7 23	-0.15	16.2	6
MB-Wht-7 24	0.14	14.9	7
MB-Wht-7 25	0.35	14.0	7
MB-Wht-7 26	0.54	13.2	7
MB-Wht-7 27	0.45	13.6	7
MB-Wht-7 28	0.57	13.0	7
MB-Wht-7 29	0.26	14.4	7

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-7 30	-0.20	16.4	7
MB-Wht-7 31	-0.15	16.2	7
MB-Wht-7 32	-0.15	16.2	7
MB-Wht-7 33	-0.58	18.0	7
MB-Wht-7 34	-0.44	17.4	7
MB-Wht-7 35	-0.64	18.3	7
MB-Wht-7 36	-0.86	19.3	7
MB-Wht-7 37	-0.58	18.0	7
MB-Wht-7 38	-0.25	16.6	7
MB-Wht-7 39	-0.68	18.5	7
MB-Wht-7 40	-0.76	18.8	7
MB-Wht-7 41	-0.40	17.3	7
MB-Wht-7 42	-0.42	17.4	7
MB-Wht-7 43	-0.30	16.8	7
MB-Wht-7 44	0.16	14.8	8
MB-Wht-7 45	0.38	13.9	8
MB-Wht-7 46	0.60	12.9	8
MB-Wht-7 47	0.38	13.9	8
MB-Wht-7 48	0.11	15.0	8
MB-Wht-7 49	-0.18	16.3	8
MB-Wht-7 50	-0.18	16.3	8
MB-Wht-7 51	-0.39	17.2	8
MB-Wht-7 52	-0.28	16.7	8
MB-Wht-7 53	-0.39	17.2	8
MB-Wht-7 54	-0.34	17.0	8
MB-Wht-7 55	-0.25	16.6	8
MB-Wht-7 56	-0.62	18.2	8
MB-Wht-7 57	-0.45	17.5	8
MB-Wht-7 58	-0.46	17.5	8

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-7 59	-0.55	17.9	8
MB-Wht-7 60	-0.33	17.0	9
MB-Wht-7 61	-0.15	16.2	9
MB-Wht-7 62	0.06	15.3	9
MB-Wht-7 63	0.06	15.3	9
MB-Wht-7 64	0.22	14.6	9
MB-Wht-7 65	0.29	14.2	9
MB-Wht-7 66	0.25	14.5	9
MB-Wht-7 67	0.25	14.4	9
MB-Wht-7 68	0.19	14.7	9
MB-Wht-7 69	-0.31	16.9	9
MB-Wht-7 70	-0.43	17.4	9
MB-Wht-7 71	-0.50	17.7	9
MB-Wht-7 72	-0.56	18.0	9
MB-Wht-7 73	-0.48	17.6	9
MB-Wht-7 74	-0.33	16.9	9
MB-Wht-7 75	-0.32	16.9	9
MB-Wht-7 76	-0.66	18.4	9
MB-Wht-7 77	-0.58	18.0	9
MB-Wht-7 78	-0.33	17.0	9
MB-Wht-7 79	-0.44	17.5	9
MB-Wht-7 80	-0.08	15.9	10
MB-Wht-7 81	-0.49	17.7	10
MB-Wht-7 82	0.08	15.2	10
MB-Wht-7 83	0.41	13.7	10
MB-Wht-7 84	0.41	13.7	10
MB-Wht-7 85	0.13	15.0	10
MB-Wht-7 86	-0.23	16.5	10
MB-Wht-7 87	-0.24	16.6	10

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-7 88	-0.76	18.8	10
MB-Wht-7 89	-0.91	19.5	10
MB-Wht-7 90	-0.69	18.5	10
MB-Wht-7 91	-0.98	19.8	10
MB-Wht-7 92	-0.78	18.9	10
MB-Wht-7 93	-0.89	19.4	10
MB-Wht-7 94	-0.71	18.6	10
MB-Wht-7 95	-0.73	18.7	10
MB-Wht-7 96	-0.79	19.0	10
MB-Wht-7 97	-0.70	18.6	10
MB-Wht-7 98	-0.62	18.2	10
MB-Wht-7 99	-0.72	18.7	10
MB-Wht-7 100	-0.52	17.8	11
MB-Wht-7 101	-0.38	17.2	11
MB-Wht-7 102	-0.47	17.6	11
MB-Wht-7 103	-0.34	17.0	11
MB-Wht-7 104	0.02	15.5	11
MB-Wht-7 105	-0.21	16.4	11
MB-Wht-7 106	-0.09	15.9	11
MB-Wht-7 107	0.04	15.3	11
MB-Wht-7 108	-0.03	15.7	11
MB-Wht-7 109	-0.14	16.1	11
MB-Wht-7 110	-0.28	16.7	11
MB-Wht-7 111	-0.23	16.5	11
MB-Wht-7 112	-0.33	16.9	11
MB-Wht-7 113	-0.48	17.6	11
MB-Wht-7 114	-0.47	17.6	11
MB-Wht-7 115	-0.61	18.2	11
MB-Wht-7 116	-0.73	18.7	11

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-7 117	-0.74	18.8	11
MB-Wht-7 118	-0.56	18.0	11
MB-Wht-7 119	-0.47	17.6	11
MB-Wht-7 120	-0.36	17.1	11
MB-Wht-7 121	-0.09	15.9	12
MB-Wht-7 122	-0.10	16.0	12
MB-Wht-7 123	0.09	15.1	12
MB-Wht-7 124	-0.09	15.9	12
MB-Wht-7 125	0.04	15.3	12
MB-Wht-7 126	0.04	15.3	12
MB-Wht-7 127	-0.26	16.6	12
MB-Wht-7 128	-0.20	16.4	12
MB-Wht-7 129	-0.27	16.7	12
MB-Wht-7 130	-0.19	16.3	12
MB-Wht-7 131	-0.30	16.8	12
MB-Wht-7 132	-0.14	16.1	12
MB-Wht-7 133	-0.03	15.7	12
MB-Wht-7 134	-0.13	16.1	12
MB-Wht-7 135	-0.17	16.3	12
MB-Wht-7 136	-0.08	15.9	12
MB-Wht-7 137	-0.13	16.1	12
MB-Wht-7 138	0.09	15.1	13
MB-Wht-7 139	-0.08	15.9	13
MB-Wht-7 140	-0.01	15.6	13
MB-Wht-7 141	0.15	14.9	13
MB-Wht-7 142	-0.06	15.8	13
MB-Wht-7 143	0.00	15.5	13
MB-Wht-7 144	-0.08	15.9	13
MB-Wht-7 145	-0.29	16.8	13

Sample no.	$\delta 18O_{shell}$ [‰]	T [°C]	Ontogenetic year
MB-Wht-7 146	-0.40	17.2	13
MB-Wht-7 147	-0.52	17.8	13
MB-Wht-7 148	-0.42	17.3	13
MB-Wht-7 149	-0.12	16.1	13
MB-Wht-7 150	-0.03	15.7	13
MB-Wht-7 151	0.02	15.5	14
MB-Wht-7 152	0.09	15.1	14
MB-Wht-7 153	0.15	14.9	14
MB-Wht-7 154	-0.02	15.6	14
MB-Wht-7 155	-0.14	16.1	14
MB-Wht-7 156	-0.18	16.3	14
MB-Wht-7 157	-0.12	16.1	14
MB-Wht-7 158	-0.16	16.2	14
MB-Wht-7 159	-0.33	16.9	14
MB-Wht-7 160	-0.08	15.9	14
MB-Wht-7 161	0.15	14.9	15
MB-Wht-7 162	0.19	14.7	15
MB-Wht-7 163	0.26	14.4	15
MB-Wht-7 164	0.25	14.4	15
MB-Wht-7 165	0.07	15.2	15
MB-Wht-7 166	-0.11	16.0	15
MB-Wht-7 167	-0.30	16.8	15
MB-Wht-7 168	-0.23	16.5	15
MB-Wht-7 169	-0.07	15.8	15
MB-Wht-7 170	0.13	15.0	15
MB-Wht-7 171	-0.07	15.8	15