NORTHERN ATLANTIC

V23-81

The study of this northern Atlantic core was undertaken to establish the chronology of surface water temperature changes in the northern Atlantic from 40,000 years ago to present (see Figs 3, 4; Table 4).

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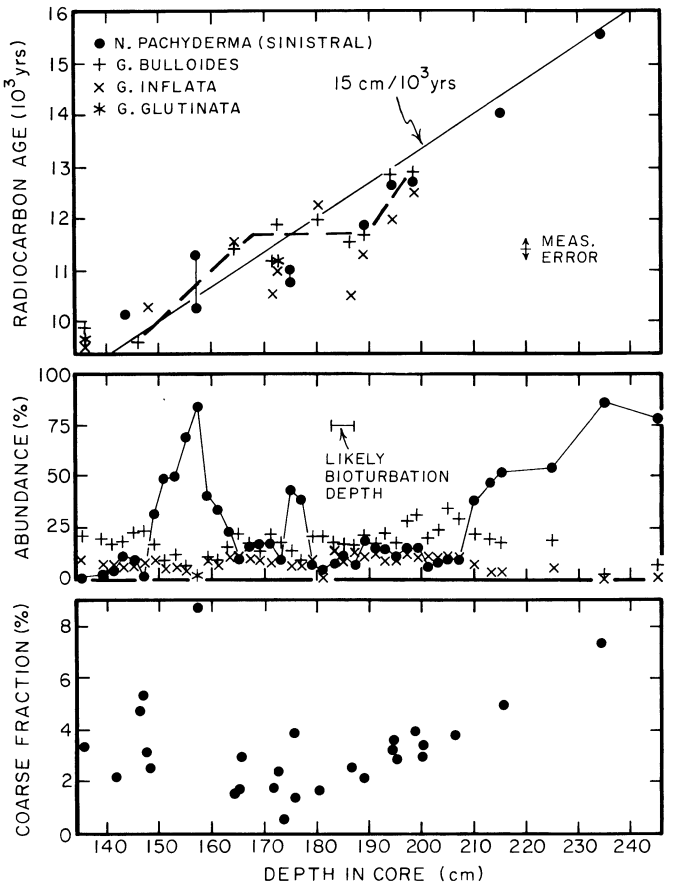

Fig 3. Plot of ^{14}C ages, relative abundances, and coarse fractions *vs* depth for the deglacial interval in core V23-81. As the coarse fraction is made up almost entirely of planktonic shells, the product of the coarse fraction percentage and the relative abundance percentage provides a measure of the absolute abundance of a given shell type (*ie,* gm shell/gm sediment). We do not graph this product for two reasons: 1) the abundances and coarse fractions were not done on the same samples, 2) the abundances are for shell number rather than shell weight. The ^{14}C ages are uncorrected for the $^{14}C/C$ ratio difference between atmospheric CO_2 and surface ocean ΣCO_2. The reference line shows the expected trend in age if the sedimentation rate and the $^{14}C/C$ ratio in surface ocean water remained constant with time.

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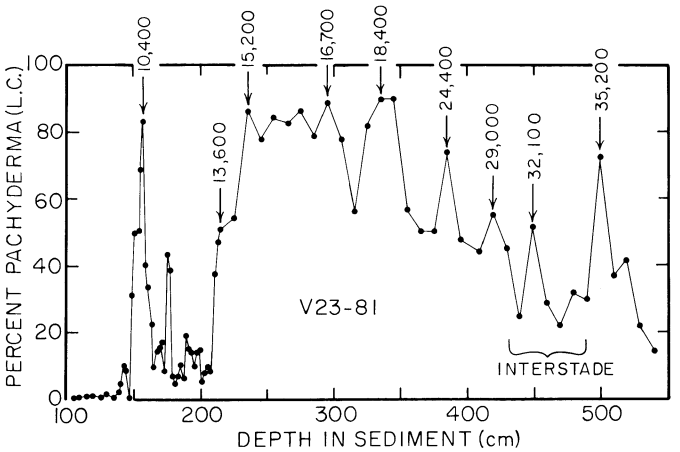

Fig 4. ^{14}C ages on the shells of *N pachyderma(s)* in northern Atlantic core V23-81

TABLE 4

V23-81 North Atlantic
Location (54°18'N, 16°48'W) Depth 2393m

Depth (cm)	Coarse fraction (%)	Foram Sp	Abund (no./gm)	Abund (mgm/gm)	No. tests analyzed	Weight analyzed (mgm)	Date of AMS analysis	Age (yr)	Ref*
0-3TW	5.0	G infla	309	6.31	270	5.5	Aug 86	2070 ± 90	12
7-8	10.0	G glut	72.8	-	-	-	-	-	
"	"	G quin	65.5	-	-	-	-	-	
"	"	G bull	328	3.34	542	5.5	Aug 86	2410 ± 100	12,15
"	"	G infla	386	9.04	410	9.6	"	1820 ± 90	12,15
"	"	M benth	14.1	-	-	-	-	-	
61-63	11.7	G bull	312	4.76	531	8.1	Nov 87	6930 ± 170	12
"	"	G infla	277	9.41	376	12.8	Mar 87	6260 ± 150	12
"	"	M benth	35.0	1.01	276	8.0	"	6990 ± 170	12
112.5-113.5	4.2	-	-	-	-	-	-	-	
122.5-123.5	7.0	-	-	-	-	-	-	-	
131-132	3.6	-	-	-	-	-	-	-	
135-136	3.4	G glut	107	0.55	1000	5.2	Aug 86	9610 ± 150	12
"	"	G quin	70.5	0.13	1570	3.0	-	-	
"	"	G bull	212	3.94	530	9.9	Aug 86	9890 ± 160	12,15
"	"	G infla	112	2.86	339	8.7	"	9490 ± 200	12,15
"	"	M benth	8.05	-	-	-	-	-	
143-144	2.2	N pach(s)	92.9	0.82	817	7.2	Jan 87	10,120 ± 180	12
"	"	G infla	71.2	1.76	304	7.5	Nov 87	10,450 ± 200	12
146.0-146.5	4.8	N pach(s)	138	-	-	-	-	-	
"	"	G bull	436	8.30	462	8.8	Mar 87	9600 ± 210	12
"	"	G infla	142	-	-	-	-	-	

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TABLE 4 (cont'd)

Depth (cm)	Coarse fraction (%)	Foram sp	Abund (no./gm)	Abund (mgm/gm)	No. tests analyzed	Weight analyzed (mgm)	Date of AMS analysis	Age (yr)	Ref*
147.5–148.0	2.6	N pach(s)	209	–	–	–	–	–	
"	"	G bull	232	–	–	–	–	–	
"	"	G infla	105	3.18	296	9.0	Mar 87	10,260 ± 190	12
157–158	8.7	N pach(s)	4130	25.0	1370	8.3	July 85	11,300 ± 140	12,13
"	"	"	4130	32.7	1400	11.1	Jan 87	10,230 ± 200	12,13
164–165	1.8	N pach(s)	167	–	–	–	–	–	
"	"	G bull	155	2.76	548	9.8	Mar 87	11,500 ± 210	12,15
"	"	G infla	97.3	2.16	316	7.0	"	11,500 ± 200	12,15
171–172	1.8	G bull	113	1.61	500	7.1	Aug 86	11,170 ± 180	12,15
"	"	G infla	64.0	1.39	350	7.6	"	10,530 ± 160	12,15
"	"	N pach(d)	–	–	–	–	–	–	
172–173	2.4	G glut	103.4	0.57	777	4.3	Aug 86	11,140 ± 190	12
"	"	G quin	207	0.47	1100	2.5	–	–	
"	"	G bull	219	3.64	479	8.0	Aug 86	11,860 ± 170	12,15
"	"	G infla	52.7	1.02	429	8.3	"	10,960 ± 200	12,15
"	"	N pach(d)	71.1	0.49	583	4.0	–	–	
173–174	0.6	G bull	31.2	–	100	–	–	–	
"	"	G infla	41.8	–	183	–	–	–	
175–176	3.9	N pach(s)	647	6.31	862	8.4	Aug 86	10,990 ± 190	12,13
"	"	"	647	7.34	837	9.5	Jan 87	10,780 ± 190	12
175–176	1.4	N pach(s)	43.2	–	133	–	–	–	
180–181	1.7	N pach(s)	38.5	–	–	–	–	–	
"	"	G bull	191	3.42	250	4.7	Mar 87	11,990 ± 280	12,15
"	"	G infla	78.6	1.90	300	7.2	"	12,240 ± 220	12,15
186–187	2.8	G bull	169	–	–	–	–	–	
"	"	G infla	109	2.96	294	8.0	Mar 87	10,500 ± 230	12,15
186–187	2.5	G bull	254	5.64	450	10.0	Mar 87	11,540 ± 210	12,15
"	"	G infla	109	–	–	–	–	–	
188–190	2.4	N pach(s)	185	1.69	900	8.2	Jan 87	11,850 ± 200	12,13
188–190	2.1	G bull	114	1.35	715	8.5	Mar 87	11,650 ± 210	12,15
"	"	G infla	75.3	1.13	535	8.0	"	11,330 ± 230	12,15
194.0–195.5	3.2	N pach(s)	289	3.41	687	8.1	Jan 87	12,660 ± 240	12
"	"	G bull	282	3.20	724	8.2	Mar 87	12,840 ± 230	12,15
194.0–195.5	3.5	G infla	145	3.17	474	10.4	Mar 87	11,940 ± 210	12,15
194.5–195.0	3.5	N pach(s)	353	–	–	–	–	–	
"	"	G bull	283	–	–	–	–	–	
"	"	G infla	180	–	–	–	–	–	

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TABLE 4 (cont'd)

Depth (cm)	Coarse fraction (%)	Foram sp	Abund (no./gm)	Abund (mgm/gm)	No. tests analyzed	Weight analyzed (mgm)	Date of AMS analysis	Age (yr)	Ref*
195.0-195.5	3.6	N pach(s)	499	-	568	-	-	-	
"	"	G bull	251	-	269	-	-	-	
"	"	G infla	145	-	160	-	-	-	
195.5-196.0	2.9	N pach(s)	193	-	438	-	-	-	
"	"	G bull	304	-	294	-	-	-	
"	"	G infla	87.0	-	184	-	-	-	
198-199	3.6	-	-	-	-	-	-	-	
198-199	4.1	N pach(s)	366	3.84	905	9.5	Jan 87	12,270 ± 220	12,13
"	"	G bull	423	7.49	593	10.5	Mar 87	12,910 ± 240	12,15
"	"	G infla	168	4.06	327	7.9	"	12,530 ± 220	12,15
200.0-200.5	3.0	G bull	255	-	-	-	-	-	
"	"	G infla	131	-	-	-	-	-	
201-202	2.9	G bull	272	5.24	451	8.7	Nov 87	12,860 ± 240	12
"	"	G infla	118	4.31	335	12.2	Nov 87	12,390 ± 240	12
206-207	3.8	G bull	277	5.34	550	10.6	Nov 87	13,180 ± 240	12
"	"	G infla	97.7	2.60	432	11.5	Nov 87	13,240 ± 310	12
"	"	N pach(s)	_	-	-	-	-	-	
215-216	5.0	N pach(s)	789	8.66	930	10.2	Aug 86	14,060 ± 210	12,13
234-235	4.5	N pach(s)	1860	20.7	771	8.6	July 85	15,600 ± 190	12,13
293-294	6.7	N pach(s)	2610	32.9	706	8.9	July 85	17,140 ± 240	12,13
313-315	1.9	N pach(s)	105	-	-	-	-	-	
"	"	G bull	39.6	-	400	-	-	-	
"	"	G infla	8.40	-	113	-	-	-	
335-336	7.7	N pach(s)	2130	23.7	845	9.4	July 85	18,790 ± 280	13
384-385	5.6	N pach(s)	1230	15.0	813	9.9	Sept 85	24,820 ± 870	13
385-386	6.8	N pach(s)	898	11.2	900	11.2	Aug 86	24,400 ± 540	13
418-419	9.2	N pach(s)	1780	21.3	916	10.9	Aug 86	29,400 ± 960	13
449-450	5.4	N pach(s)	328	3.56	810	8.8	Aug 86	32,540 ±1240	13
499-500	9.8	N pach(s)	1480	18.0	861	10.5	Aug 86	35,640 ±1810	13

*Publication no. in which radiocarbon date has been published.

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