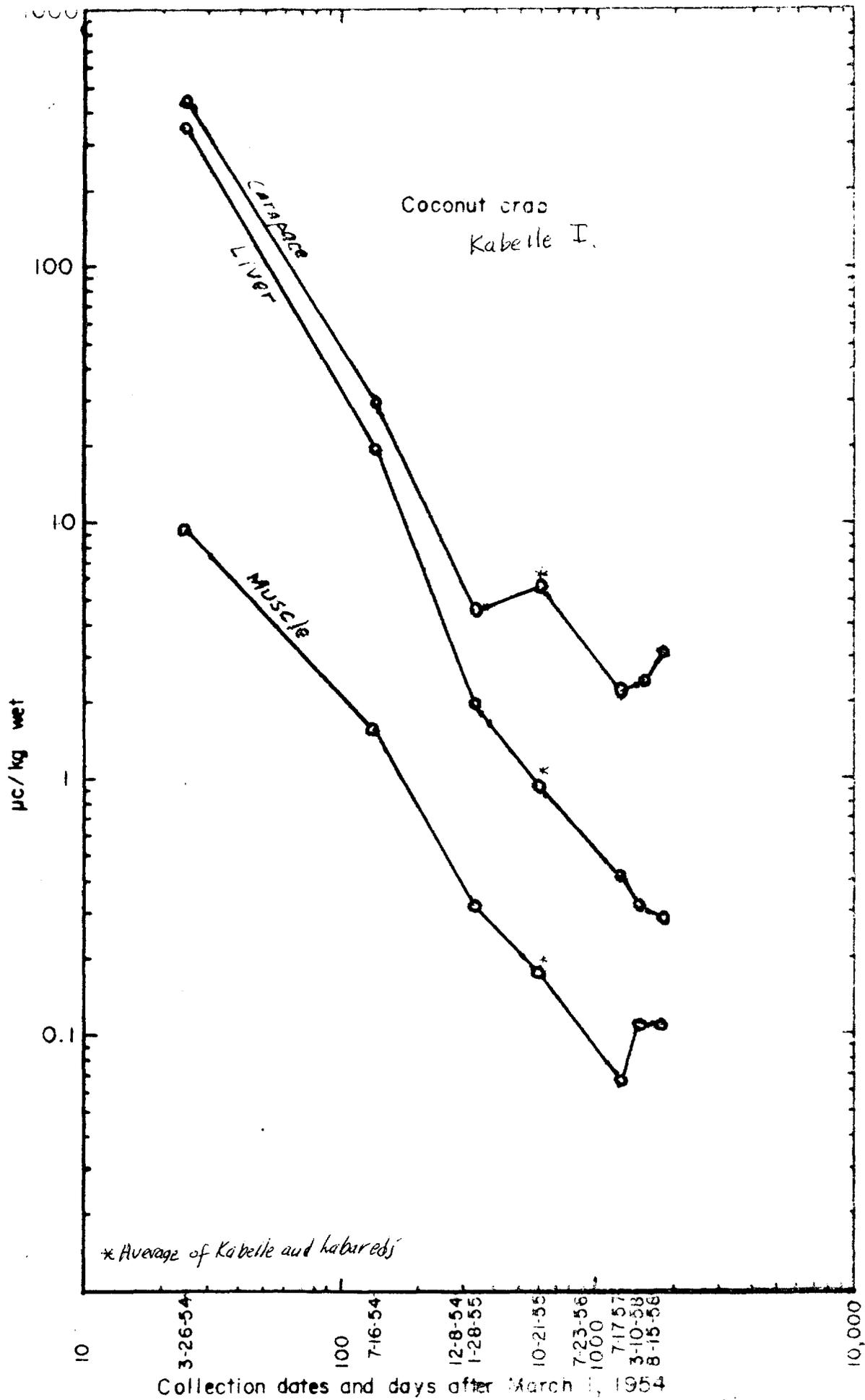
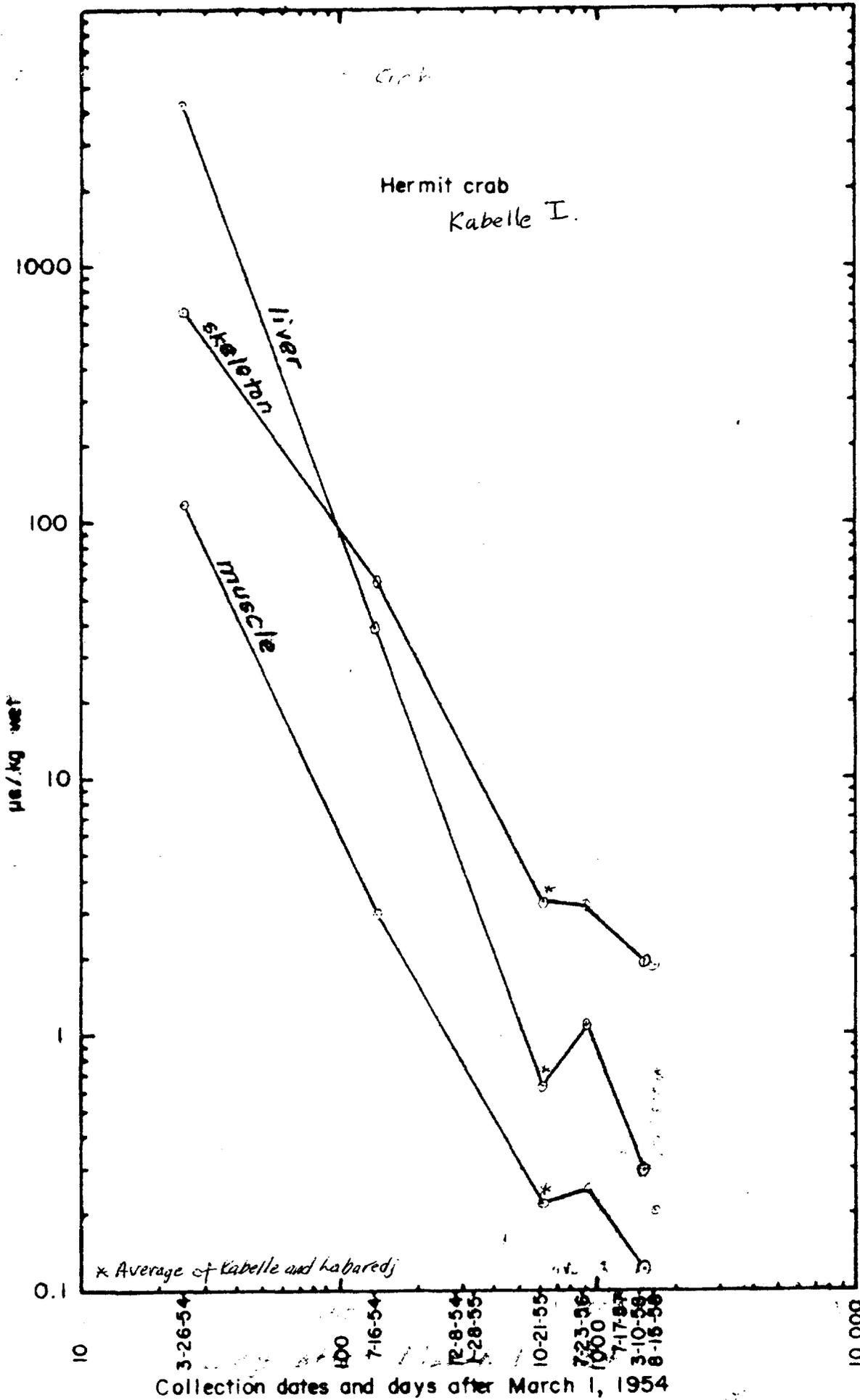


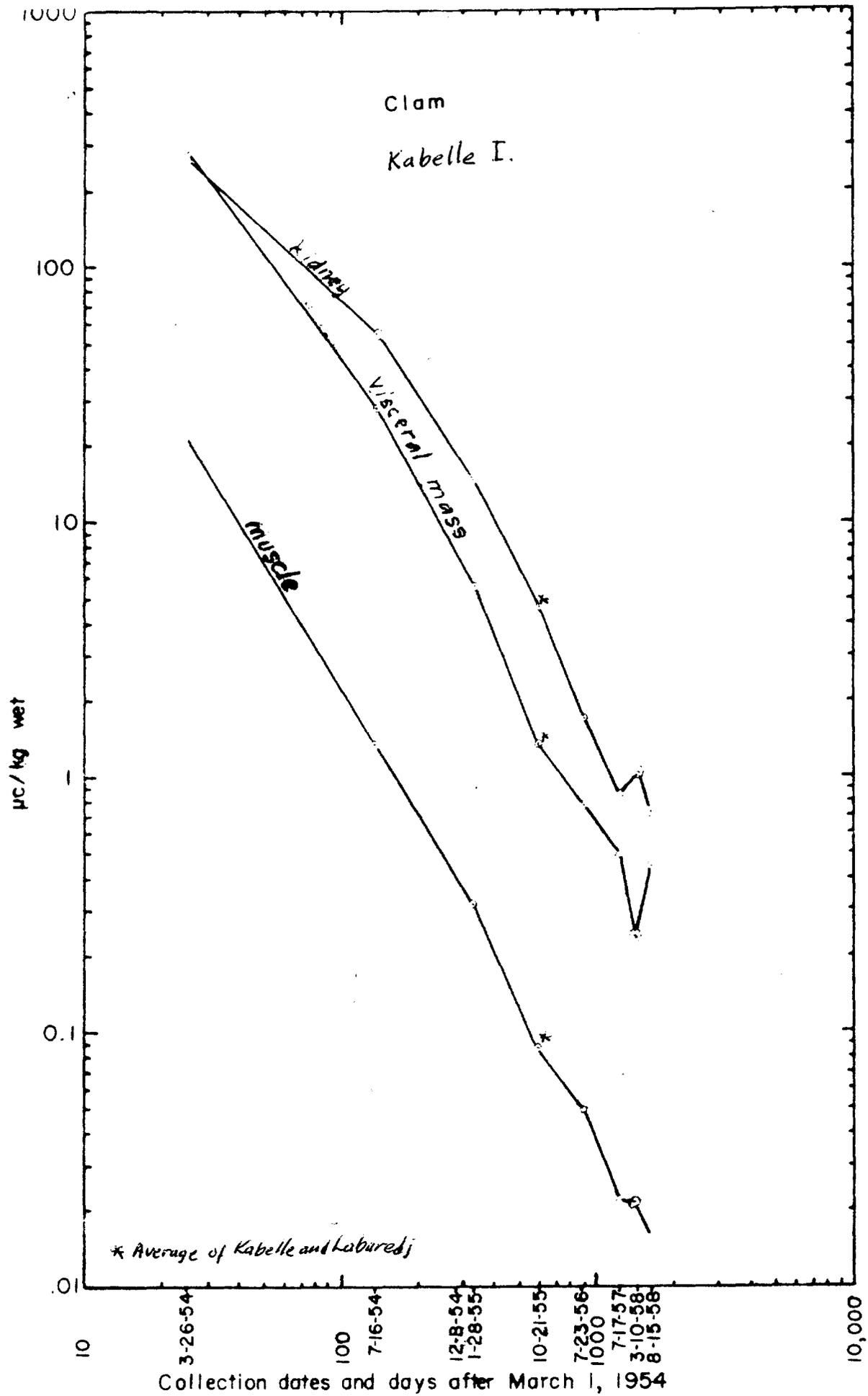
Comparison of levels of gross beta activity of invertebrates at Rongelap Atoll in March 1958 with those in August showed a slight rise to have occurred in the interim, due to the Hard Tack series of tests. This conclusion is based on a comparison of 39 tissues of various invertebrates (Table 5) at the two collecting periods. On the basis of wet tissue, 14 were higher in March than in August, and 25 were higher in August than in March, and, on the ash basis, results were almost the same, 13 and 26. Using chi-square this is significant at about the 5% level.

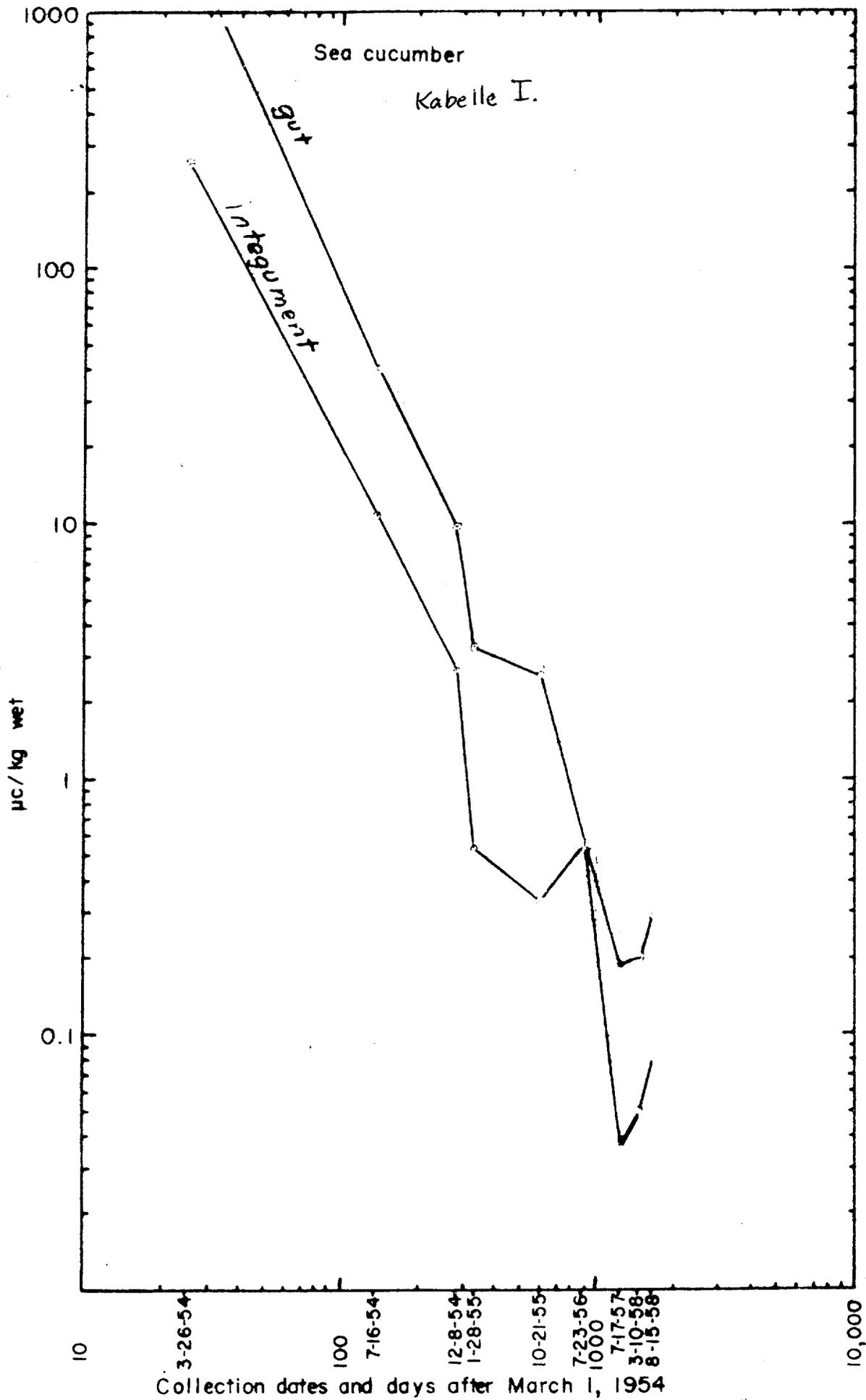
The presence of W^{185} in some of the samples provides positive evidence of contamination from the HARDTACK Series.

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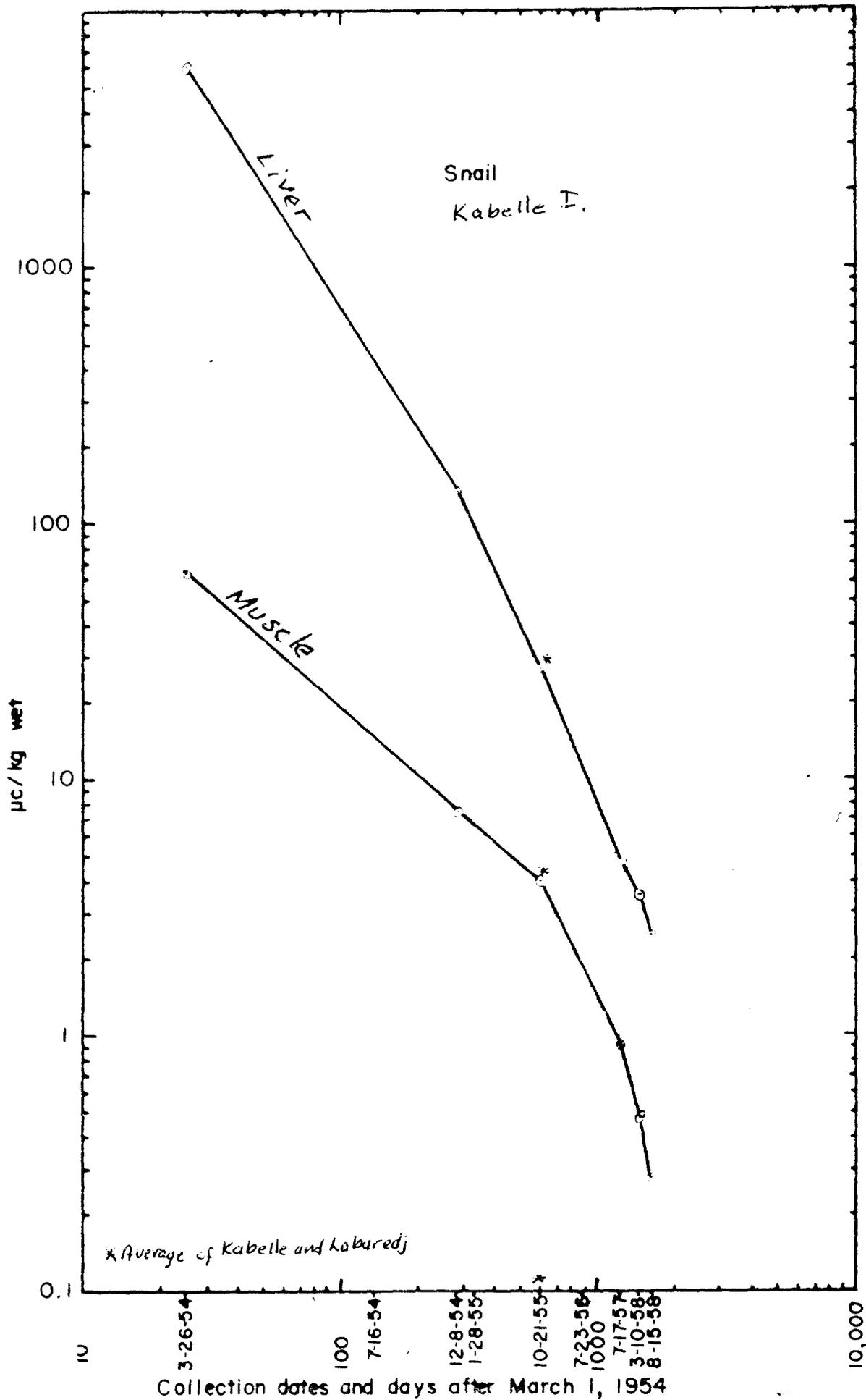


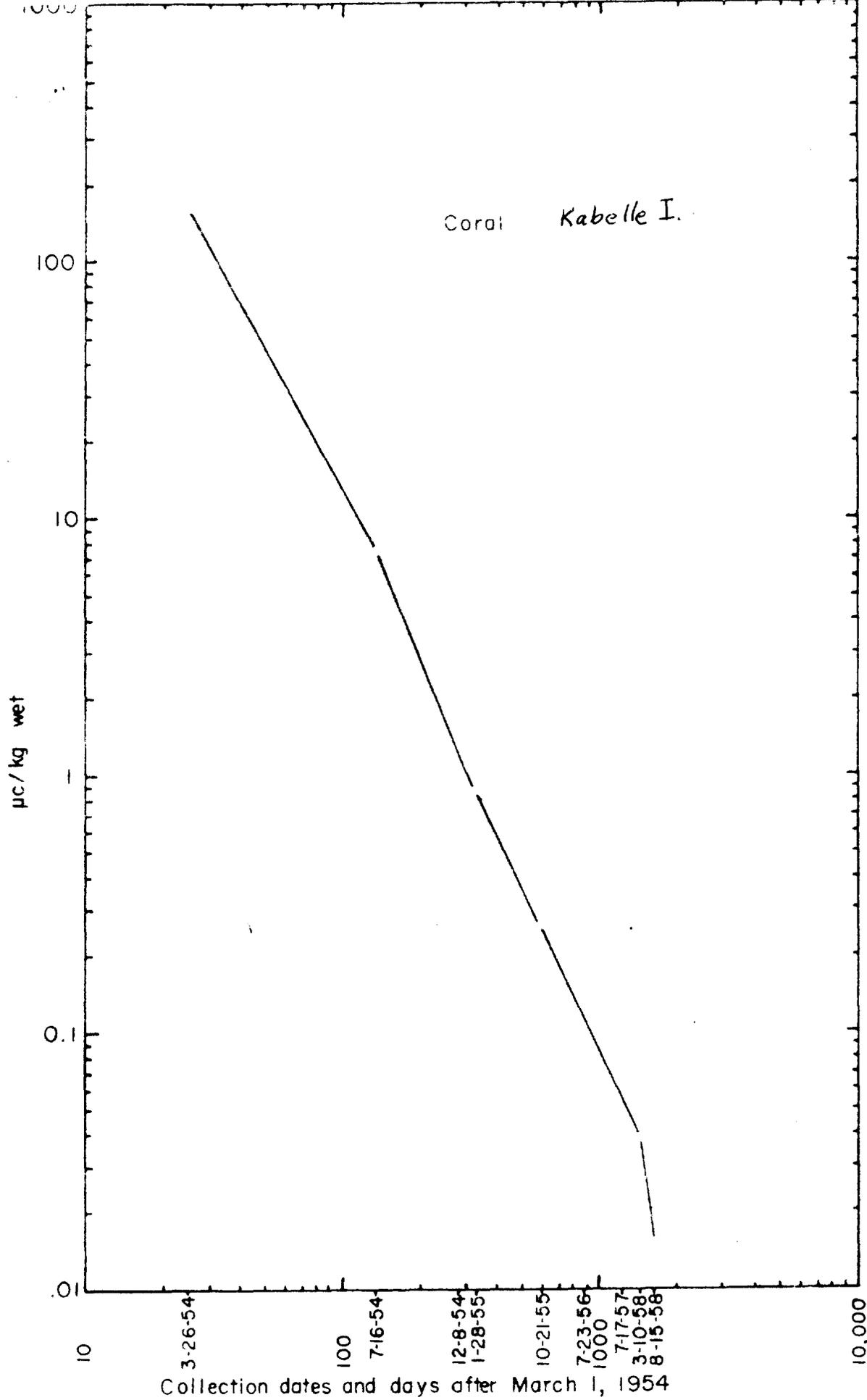






Collection dates and days after March 1, 1954





Collection dates and days after March 1, 1954

Table 1. Gross beta radioactivity of invertebrates in $\mu\text{c}/\text{kg}$ of wet tissue at time of counting about one month after collecting at Rongelap Atoll on July 23 and 24, 1956

Name of organism		Island	Specimen number	$\mu\text{c}/\text{kg}$ of wet tissue				
Common	Scientific			Mantle	Muscle	Visceral Mass	Kidney	Gill
Clam								
	<u>Tridacna gigas</u>	Kabelle	184	.12	.064	.79	1.95	
	" "	"	185	.10	.025			.073
	<u>Tridacna sp?</u>	"	182	.17	.045			
	" "	"	183	.13	.045			
	<u>Hippopus</u>	"	180	.13	.059			
	" "	"	181	.12	.059		1.4	
			Mean	.13	.050	.79	1.7	.073
Sea cucumber								
	<u>Holothuria atra</u>	Kabelle	177	.26	.68	.50		
	" "	"	178	--	.45	.33		
	" "	"	179	--	.59	.86		
			Mean	.26	.57	.56		
	" "	Rongelap	171	1.2	1.0	.50		
	" "	"	172	--	.82	.32		
	" "	"	173	--	1.4	.28		
			Mean	1.2	1.1	.37		
Land hermit crab								
	<u>Coenobita perlatus</u>	Kabelle	186		Liver 1.1	Exoskeleton 2.4)	Muscle .19	
	" "	"	187		.91	6.4)		
	" "	"	188		1.6	2.9)		
	" "	"	189		1.4	2.5)	.45	
	" "	"	190		1.0	2.7)		
			Mean		1.2	3.4	.35	
	" "	Rongelap	174		.86	3.0)		
	" "	"	175		1.4	3.1)	.17	
	" "	"	176		.64	3.1)		
			Mean		.97	3.1	.17	

Table 2. Gross beta radioactivity in $\mu\text{c}/\text{kg}$ of wet tissue at time of counting of invertebrates collected at Rongelap Atoll on July 17 and 18, 1957

Name of organism		Island	Specimen number	$\mu\text{c}/\text{kg}$ of wet tissue		
Common	Scientific					
Sponge	-	Kabelle	77	(Entire 0.18)		
Clam				Mantle and Muscle	Visceral mass	Kidney
	<u>Tridacna gigas</u>	Kabelle	70	.009	.44	.17
	<u>Tridacna noea</u>	"	71	.040	.40	2.2
	<u>Hippopus hippopus</u>	"	72	.018	.68	.25
	<u>Tridacna noea</u>	Rongelap	59	.052	.039	1.4
	" "	"	60	.027	.086	4.0
	" "	"	61	.027	.096	2.8
	<u>Macoma</u> (sp. ?)	"	63	(Entire, soft 0.031)		
Snail				Foot and mantle	Viscera	
	<u>Lambis lambis</u>	Kabelle	74	1.2	4.5	
	" "	"	75	.59	3.0	
	<u>Lambis truncata</u>	"	76	12.1	6.8	
	<u>Nerita plicata</u>	"	73	.17	.41	
Sea cucumber				Gonad	Gut	Integument
	<u>Holothuria atra</u>	Kabelle	67	.14	.26	.034
	" "	"	68	.31	.18	.021
	" "	"	69	.15	.14	.053
	" "	Rongelap	56	.027	.068	.017
	" "	"	57	.034	.10	.012
	" "	"	58	.038	.050	.015

Table 2. continued

Name of organism		Island	Specimen number	$\mu\text{c}/\text{kg}$ of wet tissue			
Common	Scientific			Muscle	Liver	Gill	Skeleton
Crab							
	<u>Birgus latro</u>	Kabelle	64	.068	.39	-	1.9
	" "	"	65	.064	.42	.18	1.8
	" "	"	66	.059	.41	.14	2.8
	" "	Rongelap	53	.029	.038	-	.73
	" "	"	54	.059	.30	.13	1.2
	<u>Coenobita perlatus</u>	"	55	.10	.049	-	1.2
	<u>Ocypode ceratophthalma</u>	"	62	.036	.015	-	.0004

Levels of beta-radioactivity in invertebrates at Rongelap Atoll March 1958 shown as both $\mu\text{c}/\text{kg}$ wet (left entry) and $\mu\text{c}/\text{kg}$ ash (right entry).

Organism	Locality	Speci- men No.	Plate No.	Tissue							
Sponge	Rongelap, ocean	39	2115	.083	1.4						
"	Eniaetok, lagoon	48	2074	-	2.0						
" white	Kabelle, lagoon	30	2107	.91	4.4						
Coral											
<u>Acropora</u>	Eniaetok, lagoon	52	2082	.47	1.8						
" "	Kabelle	105	2149	.039	.058						
Sea cucumber						<u>Gonad</u>	<u>Gut</u>	<u>Integument</u>			
" <u>Holothuria atra</u>	Rongelap, ocean	3	2101-	.12	3.8	.058	.14	.022	.56	.002	.039 fluid
" " "	" "	41	2052-	.009	.29			.011	.26	.024	.72 gut w/o sand
" <u>Stichopus</u>	" "	40	2116-			.015	.052	.010	.23		
" <u>Actinopyga</u> <u>mauritiana</u>	" "	42	2118-	.014	.39	.051	.18	.005	.13	.014	.25 gut w/o sand
" <u>Holothuria atra</u>	Eniaetok	117	2129-	.12	4.0	.048	.11	.011	.34	.002	.085 fluid
" " "	" ocean	50	2076					.016	.39		
" <u>Holothuria atra</u>	Kabelle, lagoon	33	2049-			.25	3.0	.050	1.2	.14	4.8 gut w/o sand
" " "	"	68	2125-	.037	.94	.096	.18	.014	.38	.035	1.0 gut w/o sand
" " "	"	98	2146-			.037	.11	.036	.80		
" <u>Stichopus</u>	"	32	2114					.096	2.1		
" " "	"	67	2122-	.022	.53	.066	.29	.005	.11		
" <u>White Actinopyga</u> <u>mauritiana</u>	"	96	2144					.13	2.9		
" <u>Holothuria</u> <u>gyrifer</u>	"	97	2145					.094	2.1		
" <u>Ophiodesoma</u> <u>spectabilis</u>	"	91	2143					.032	.70		

Table 3, cont'd

Organism	Locality	Speci- men No	Plate No.	Tissue										
				Mantle	Muscle	Gill	Visc mass	Kidney						
Clam														
<u>Tridacna</u>														
<u>noea</u>	Rongelap lagoon	2	2001-	.0073	.26	.030	1.1			.066	2.4	1.6	13	
"	"	43-47	2055-	.0098	.35	(.017	.61)	.013	.48	(.023	.85)			
<u>Tridacna</u>														
<u>crocea</u>	Eniaetok lagoon	51	2078-	.017	.60	.011	.42	.039	1.4	.072	2.5	1.6	13	
<u>Tridacna</u>														
<u>noea</u>	"	53	2059-	.093	3.3	.44	16	.076	2.7	.105	3.8	.87	7.1	
<u>Tridacna</u>														
<u>crocea</u>	Kabelle	8&9	2005-	.033	1.2	.033	1.2	10	3.5	.24	8.6	.88	7.2	
"	"	10	2010-	.062	2.2	.021	.74	.076	2.6	.22	8.8	2.2	18.	
"	"	11&12	2015-			.034	1.2					1.8	16.	
"	"	75	2091-	.031	.89	.046	1.6	.17	6.5	.14	4.2	1.0	16.	
"	"	76	2096-	.029	1.1	.014	.49	.052	1.2	.033	1.0	.36	2.7	
"	"	75-78	2105	(Fluid	069,	1.1)								
<u>Tridacna</u>														
<u>noea</u>	"	24	2022-	.032	1.2	.013	.48	.025	86	1.0	35	.90	7.4	
"	"	71	2064-	.0090	.32	.024	.84	.064	2.3	.11	4.1	1.3	11.	
<u>Tridacna</u>														
<u>gigas</u>	"	13	2017-	.020	.72	.0098	.33	.092	.33	.20	6.9	.33	2.7	
<u>Hippopus</u>	"	89	2133-	.013	.42	.010	.30	.036	1.3	.42	15	.30	2.5	
"	"	25	2027-	.013	.68	.010	.58	.045	1.6	.43	15	.72	5.9	
"	"	26	2032-	.021	.75	.017	.61	.041	1.5	1.4	51	.84	6.8	
"	"	72	2069-	.010	.36	.010	.40	.021	.73	.062	2.2	.38	2.5	
Oyster														
<u>Chama</u>	Eniaetok	49		Entire	-----		2	1						
Spider snail														
<u>Lambis</u>	Eniaetok lagoon	83	2083			.0066	.022							
<u>lambis</u>	Kabelle	27	2037-	6.1	100	.06	23	1.2	19					
"	"	28	2040-	3.1	51	.25	8.4	.38	6.5					
"	"	29	2043-	1.8	29	.27	9.0	.94	16					
"	"	106-108	2046-	2.3	46	.47	17	1.1	18					

Table 4.

Levels of beta-radioactivity in invertebrates at Rongelap Atoll August 1958 shown as both $\mu\text{c}/\text{kg}$ wet (left entry) and $\mu\text{c}/\text{kg}$ ash (right entry).

Organism	Locality	Speci- men No.	Plate No.	Tissue		
				Entire		
Sponge, tan	Eniaetok, ocean	272	2291	.066	.99	
Sponge, black	Kabelle, lagoon	327	2388	1.69	27.	
Sponge, yellow	" "	328	2389	1.48	9.5	
Coral, <u>Heliopora</u> blue	w. end Rongelap, ocean	256	2282	.19	.31	
Coral, soft	" "	257	2283	.049	.10	
Coral, <u>Acropora</u>	! lagoon	259	2290	.042	.047	
" "	Eniaetok, "	278-284	2293	.065	.070	
" <u>Acropora</u>	Kabelle, channel	398	8026	.012	.013	
" <u>Acropora</u>	" "	399	8027	.019	.020	
Nemertean worm	Kabelle, lagoon	330	2387	.65	9.1	
Sea cucumber				<u>Gonad</u>	<u>Gut</u>	<u>Integument</u>
<u>Holothuria atra</u>	Rongelap, ocean	220	2243	.080	3.5	.145 .33 .037 1.0
" " "	" N. reef	258	2284	-	-	.20 .33 .086 2.4
" " "	Roggutsu, lagoon	241	2272	.13	12	.093 .17 .050 1.9
" " "	Eniaetok, lagoon	285	2294	.15	12	.20 .37 .021 .55
" " "	" ocean	286	2297	.041	1.8	.25 .62 .038 1.1
" " "	Kabelle, lagoon	312	2357	-	-	.23 .39 .067 1.9
" " "	" ocean	314	2359	.18	4.8	.36 1.3 .114 2.5
" " "	" "	315	2362	.19	4.9	.29 1.0 .098 2.2
" " "	" "	316	2365	.067	1.8	.49 1.7 .080 1.7
" " "	" lagoon	319	2368	.17	10	.14 .28 .061 1.7
Sea <u>Actinopyga</u> cucumber <u>mauritiana</u>	Rongelap, ocean	221	2246	.065	1.7	.14 .28 .003 .075
" <u>Holothuria</u> <u>fusco rubra</u>	Roggutsu, lagoon	240	2270	-	-	.27 .43 .058 1.4
" <u>Thelenotus</u> <u>ananas</u>	Busch, Lagoon	260	2286	.20	19	.10 .15 .011 .60
" <u>Actinopyga</u> white	Eniaetok, lagoon	277	2292	-	-	(Gut only, not content .038 1.5)
" <u>Stichopus</u>	Kabelle, "	313	2242	-	-	- - .021 .62

Table 4, cont'd.

Organism	Locality	Speci- men No.	Plate No.	Tissue										
				Mantle		Muscle		Gill		Visc. mass		Kidney		
Clam, <u>Tridacna</u> <u>crocea</u>	Rongelap, lagoon	207	2203	0.042	1.3	.030	1.1	.049	1.7	.062	2.2	4.0	31	
"	"	208	2208	.081	2.0	.030	1.1	.027	.95	.16	5.7	4.0	50	
"	"	209	2213	.044	1.5	.032	1.2	.083	2.9	.066	2.4	1.8	14	
"	"	210	2218	.033	1.1	.015	.56	.038	1.3	.11	4.0	1.4	11	
"	"	210	2218	(Organs of attachment .1 2.2)										
"	"	211	2224	.061	2.1	.13	4.9	.067	2.4	.76	2.8	.87	7.1	
"	<u>Tridacna</u> <u>noea</u>	"	"	.042	1.4	.008	.29	-	-	.040	1.4	.40	3.3	
"	"	226	2264	.020	.84	.008	.49	.036	1.8	.13	4.8	1.0	8.7	
"	"	248	2275	.015	.95	.008	.41	.036	1.3	.072	2.6	1.7	26	
Clam, <u>Tridacna</u> <u>gigas</u>	Eniaetok, lagoon	271	2320	.021	.76	.008	.37	-	-	.12	4.0	.39	5.2	
"	Anielap, "291 etc.	2252		-	-	-	-	-	-	-	-	1.8	15	
"	<u>Tridacna</u> <u>noea</u>	"	"	.035	1.4	.010	.61	-	-	.030	1.2	1.3	25	
"	"	294	2324	.041	1.6	.014	.72	-	-	.045	1.4	1.2	11	
"	"	303	2328	.051	2.0	.020	.91	-	-	.21	9.0	.95	17	
"	"	304	2332	.080	2.4	.020	.92	-	-	.28	13	.95	17	
"	"	326	2371	.061	2.9	.055	1.8	.19	8.0	.34	18	.59	6.5	
"	"	324	2377	.026	1.3	.013	.91	.031	1.46	.23	7.7	.87	6.9	
"	"	325	2382	.044	2.9	.013	.56	.042	2.1	.24	10	.82	8.1	
"	"	355	8005	.026	.86	.008	.30	.037	1.3	.87	29	.64	8.8	
"	<u>Hippopus</u>	297	2306	.029	.94	.020	1.0	-	-	.32	11	1.3	8.5	
"	"	306	2336	.027	1.3	.013	.51	-	-	.87	32	.48	8.0	
"	"	307	2340	.047	2.0	.010	.52	-	-	1.2	43	.60	6.7	
"	"	308	2344	.044	1.3	.015	.65	-	-	.95	23	.47	5.0	
"	"	351	2390	.027	.86	.011	.42	.13	4.7	.43	13	.41	2.4	
"	"	351A	2395	.016	.51	.008	.31	.055	2.0	.20	7.4	.37	2.5	
"	"	352	2400	.028	1.0	.010	.41	.044	1.3	.99	32	.46	7.0	
"	"	364	8016	.020	.82	.014	.60	.030	1.4	.035	.80	.85	7.6	
"	"	365	8021	.026	1.0	.014	.64	.032	1.3	.057	2.4	.26	4.4	

Table 4, cont'd.

Organism	Locality	Speci- men No.	Plate No.	Tissue					
Snail <u>Lambis</u>				<u>Liver</u>		<u>Muscle</u>		<u>Visc. mass</u>	
" <u>lambis</u>	Rongelap, lagoon	215	2233	.80	13	.083	2.9	.11	1.8
" "	" "	216	2236	.68	12	.083	2.9	.24	4.0
" "	" "	217	2239	3.2	53	.39	14	.46	7.6
" "	Eniaetok "	309	2348	1.2	25	.13	6.2	.62	18
" "	" "	310	2351	.80	24	.085	3.4	.35	5.8
" "	" "	311	2354	.48	16	.063	2.3	.72	19
" "	Kabelle "	362	8010	3.6	39	.34	12	1.3	7.4
" "	" "	363	8013	1.4	43	.22	7.1	.90	4.8
" <u>Lambis</u>									
" <u>chiragra</u>	Busch "	234	2258	.63	5.8	.077	5.0	.29	3.1
Auger snail <u>Terebra</u>	Rongelap "	201-202	2201	.58	9.5	-	-	(Remainder	.092 1.8)
Snail <u>Vasum</u>	"								
" <u>turbinarium</u>	Busch, lagoon	222	2249	.23	5.9	.013	.72	.17	4.1
" " "	"	236	2261	.32	19	.033	2.3	.26	8.0
(Murex) <u>Chicoreus</u>	" "	229-231	2254	1.9	79				
" <u>asianus</u>	" "		2253	1.5	58	.013	.68	.12	5.4
			2255	2.2	57				
Crab, <u>Ocypode</u>				<u>Muscle</u>		<u>Exoskeleton</u>		<u>Liver</u>	
ghost <u>ceratophthalma</u>	Eniaetok, ocean	268	2300	.017	.73	0	0	.13	2.7
Hermit crab <u>Coenobita</u>	" N. end	269	2303	.068	2.5	1.9	2.9	.21	4.6
Crab, <u>Eriphia</u>	" ocean	287	2314	.010	.23	.0071	.017	.025	.28
red-eye <u>laevimana</u>	" "	288	2317	.004	.17	.021	.038	.013	.47
Rock Grapsus <u>grapsus</u>	" "								
Clam, <u>Lima</u>	Rongelap, lagoon	225	2280	(Entire soft		.13 3.8)			
" <u>sower byi</u>	" "	242-244	2281	(" "		.088 2.7)			

Table 5.

Comparison of levels of β -radioactivity in invertebrates at Rongelap Atoll in March with those in August 1958 on both wet and ash weight basis expressed in $\mu\text{c}/\text{kg}$.

Organism	Tissue	Locality	March		August	
			Wet	Ash	Wet	Ash
Sponge		Rongelap	.083	1.4		
"		Eniaetok		2.0	.066	.99
"		Kabelle	.91	4.4	1.6	18.
Coral		Rongelap			.094	.15
"		Eniaetok	.47	1.8	.065	.070
"		Kabelle	.039	.058	.016	.017
Sea cucumber		Rongelap &				
<u>Holothuria atra</u>	gonad	Roggutsu	.064	2.0	.10	8.2
"	gut	"	.058	.14	.14	.42
"	integument	"	.016	.41	.058	1.8
"	gonad	Eniaetok	.12	4.0	.10	6.9
"	gut	"	.048	.11	.22	.50
"	integument	"	.014	.36	.030	.82
"	gonad	Kabelle	.037	.94	.15	5.3
"	gut	"	.13	1.1	.30	.93
"	integument	"	.033	.79	.084	2.0
<u>Actinopyga</u>						
<u>mauritiana</u>	gonad	Rongelap	.014	.39	.065	1.7
"	gut	"	.05	.18	.14	.28
"	integument	"	.005	.13	.003	.075
<u>Stichopus</u>	integument	Kabelle	.096	2.1	.021	.62
Clam						
<u>Tridacna noea</u>	mantle	Rongelap	.0086	.30	.026	1.1
"	muscle	"	.030	1.1	.008	.40
"	gill	"	.013	.48	.036	1.6
"	visc. mass	"	.066	2.4	.084	2.9
"	kidney	"	1.6	13.	1.0	13.
<u>Tridacna noea</u>		Kabelle &				
"	mantle	Anielap	.020	.76	.046	2.0
"	muscle	"	.018	.66	.019	.96
"	gill	"	.044	1.6	.075	3.2
"	visc. mass	"	.56	20.	.32	11.
"	kidney	"	1.1	9.2	.92	13.
<u>Hippopus</u>	mantle	"	.014	.55	.029	1.08
"	muscle	"	.012	.48	.013	.56
"	gill	"	.035	1.3	.052	2.1
"	visc. mass	"	.58	21.	.56	18.
"	kidney	"	.56	4.4	.58	5.8
<u>Tridacna gigas</u>	mantle	Kabelle	.020	.72	.021	.76
"	muscle	"	.0098	.33	.008	.37
"	gill	"	.092	.33	-	-
"	visc. mass	"	.20	6.9	.12	4.0
"	kidney	"	.33	2.7	1.1	10.

Table 5, cont'd.

Organism	Tissue	Locality	March		August	
			Wet	Ash	Wet	Ash
<u>Lambis lambis</u>	liver	Kabelle	3.6	76.	2.5	41.
" "	muscle	"	.64	14.	.28	9.6
" "	visc. mass	"	1.2	20.	1.1	6.1
" "	muscle	Eniaetok	.0066	.022	.13	6.2

Sr⁹⁰ in the Muscle of Land Crabs Collected
at Rongelap Atoll

Island	Date of Collection	Laboratory	No. of Samples	Sr ⁹⁰ d/m/g dry	Sr ⁹⁰ d/m/g wet	Sunshine units
Kabelle	July 1956	NYO	2		12.8 [±] 3.2	3730 [±] 870
	"	U. W.	3		58.7 [±] 27	6307 [±] 1830
	July 1957	U. W.	3	44.3 [±] 8.6	10.2 [±] 0.05	2470 [±] 1480
	March 1958	U. W.	5	145 [±] 12	37.4 [±] 4.2	7700 [±] 1830
	August 1958	U. W.	6	124 [±] 30	31.9 [±] 10	4311 [±] 309
Rongelap	July 1957	U. W.	2	19.5 [±] 9.5	4.25 [±] 1.65	1025 [±] 875
	March 1958	U. W.	5	33.6 [±] 11	8.22 [±] 3.7	3650 [±] 1500
	August 1958	U. W.	5	40.7 [±] 13	9.56 [±] 3.44	1696 [±] 1860
Eniaetok	March 1958	U. W.	2	51 [±] 2	12 [±] 0	5270 [±] 1860
Erapuotsu	August 1958	U. W.	1	34.7	7.29	1783

Sr⁹⁰ in the Liver of Land Crabs Collected
at Rongelap Atoll

Island	Date of Collection	Laboratory	No. of Samples	Sr ⁹⁰ d/m/g dry	Sr ⁹⁰ d/m/g wet	Strontium units
Kabelle	July 1956	NYO	2		29.5 [±] 4.5	3610 [±] 990
	" "	U.W.	2		44.5 [±] 2.5	4680 [±] 1570
	July 1957	U.W.	2	245 [±] 65	119 [±] 41	4800 35000
	March 1958	U.W.	5	218 [±] 103	121 [±] 52	3830 [±] 1152
	August 1958	U.W.	4	204 [±] 176	96 [±] 38	2400 [±] 1790
Rongelap	July 1957	U.W.	2	61.5 [±] 5.5	21.5 [±] 6.5	1800 [±] 200
	March 1958	U.W.	5	67 [±] 23	46 [±] 13	2497 [±] 668
	August 1958	U.W.	4	44 [±] 13	31 [±] 4	1700 [±] 427
Eriaetok	March 1958	U.W.	2	136 [±] 17	79 [±] 12	4727 [±] 1055
	August 1958	U.W.	1	41	36	1500

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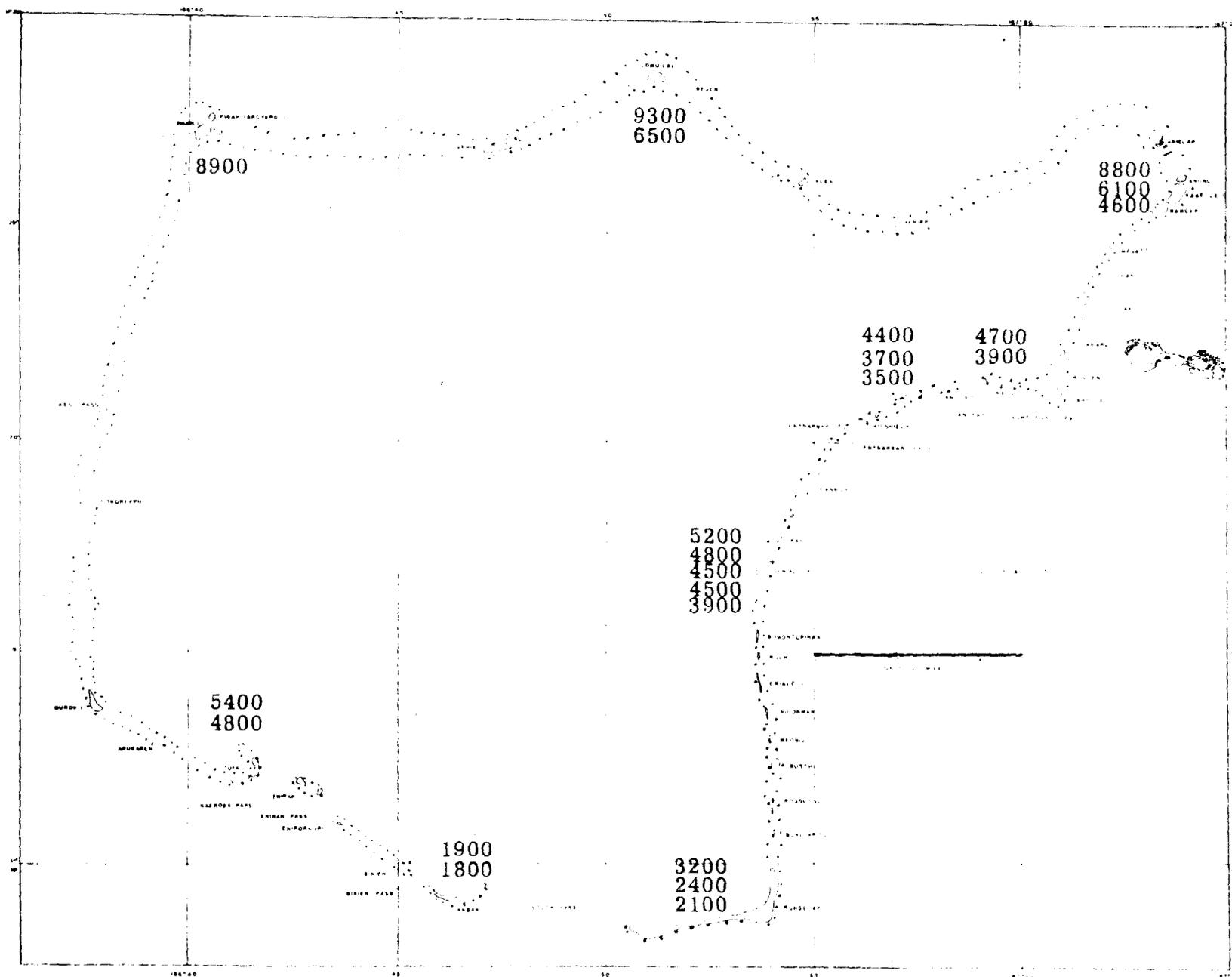
Sr⁹⁰ in the Skeletons of Land Crabs Collected
at Rongelap and Uterik Atolls

Island	Date of Collection		Labo- ratory	No. of Samples	Sr ⁹⁰ d/m/g dry	Sr ⁹⁰ d/m/g wet	Strontium units
Kabelle	July	1956	NYO	3		1300 [±] 280	3240 [±] 760
	"	"	U. W.	3		1950 [±] 470	4240 [±] 970
	July	1957	U. W.	3	3570 [±] 610	2430 [±] 420	5830 [±] 920
	March	1958	U. W.	5	3280 [±] 300	2360 [±] 210	6300 [±] 550
	August	1958	U. W.	6	3462 [±] 780	2708 [±] 685	6300 [±] 1375
	March	1959	U. W.	4	3110 [±] 593	2360 [±] 294	5680 [±] 914
Rongelap	July	1956	NYO	1		750	2200
			U. W.	1		1310	3360
	July	1957	U. W.	2	1500 [±] 350	955 [±] 245	2350 [±] 650
	March	1958	U. W.	5	1660 [±] 441	1180 [±] 309	3140 [±] 860
	August	1958	U. W.	5	1211 [±] 156	939 [±] 117	2200 [±] 294
Eniaetok	March	1958	U. W.	2	3200 [±] 800	2250 [±] 550	6000 [±] 1200
	August	1958		1	1782	1414	3200
Uterik	March	1959	U. W.	2	140 [±] 0	111 [±] 2	255 [±] 5

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Strontium units in Birgus latro (coconut crab) skeleton at Rongelap Atoll, September, 1959

Strontium-90 in Sargassum (coconut crab) skeleton
Collected at Rongelap, Atoll September 1959
Mean Values

Island	Sample numbers	Str ⁹⁰ Mean d/mg dry	Standard deviation	Mean strontium units	Standard deviation
Rongelap	554, 553, 552	1400	216	2570	566
Enaetok	555, 559, 557 558, 556	2570	334	4580	151
Gogon	650, 651, 653	2130	262	3870	468
Melia	659, 652	2400	387	4300	566
Kabelle	649, 648, 653	3500	1044	5500	2128
Gajon	655, 656	4600	1011	7900	1980
Naon	661	5200	--	6900	--
Tufa	660, 662	3000	117	5100	424
Arbar	657, 654	1000	14	1050	71

Note: The counting error (95%) ranges from 3.5 to 4%.

Sr^{90} in Birgus latro (Coconut Crab) Skeleton

Collected at Rongelap Atoll September, 1959
Individual Values

<u>Island</u>	<u>Sample Number</u>	Sr^{90} <u>d/m/g dry</u>	Ca <u>mg/g dry</u>	<u>Strontium Units</u>
Rongelap	552	1250	275.1	2100
	553	1380	267.3	2400
	554	1670	238.6	3200
Eniaetok	555	2140	251.0	3900
	556	3030	262.8	5200
	557	2390	239.9	4500
	558	2600	264.1	4500
	559	2710	256.2	4800
Gogon	650	2430	253.0	4400
	651	1870	228.2	3700
	653	2080	268.9	3500
Mellu	652	2300	265.5	3900
	659	2680	258.8	4700
Kabelle	648	3100	230.2	6100
	649	4690	243.2	8800
	653	2720	267.5	4600
Gejen	655	5240	257.5	9300
	656	3830	267.5	6500
Naen	661	5250	267.5	8900
Tufa	660	3180	268.9	5400
	662	3010	284.3	4800
Arbar	654	1060	264.2	1800
	657	1080	264.2	1900

Note: Counting error (95%) ranges from 3.6 to 4%.

Table 2. Distribution of Strontium-90 in coconut crab (Birgus latro) liver collected at Rongelap Atoll in March 1958

Sample Number	Location of Collection	Non-fat solids d/m/g		Total Solids d/m/g	
		Wet	Dry	Wet	Dry
34	Kabelle Island	260±10*	458±17*	55±2*	97± 4*
35		353±13	544±20	90±3	140± 5
36		276±12	484±20	130±5	288±10
37		605±35	1080±44	194±8	347±14
38		420±20	674±33	134±6	216±11
Mean		383	648	121	218
Standard deviation		140	255	52	103
84	Rongelap Island	236±10	350±15	40±2	59± 3
85		245±11	332±13	30±1	41± 2
86		159± 8	222±10	46±2	64± 3
87		409±23	589±33	47±3	87± 4
88		224±13	362±21	65±4	105± 6
Mean		255	371	48	67
Standard deviation		93	134	13	23
61	Eniaetok Island	248± 9	442±17	70±3	124± 5
62		321±20	548±34	87±5	148± 9
Mean		285	495	79	136
Standard deviation		52	75	12	17

*Counting error is less than 5%

Table 3. Gross beta activity of fat and non-fat fractions of coconut crab (*Birgus latro*) liver collected at Rongelap Atoll in March 1958.

Sample Number	Location of Collection	Fat d/m/g*	Non-Fat d/m/g*		Percentage of gross Beta activity due to fat	
			Wet weight basis	Dry weight basis	Wet weight basis	Dry weight basis
34	Kabelle Island	4	1116	1967	0.29	0.77
35		8	1086	1674	0.67	1.36
36		6	618	1086	0.45	0.68
37		14	1929	3446	0.44	0.84
38		2	1219	1958	0.11	0.22
Mean		7	1194	2026	0.39	0.77
84	Rongelap Island	1	753	1117	0.18	0.42
85		0	661	897	0.00	0.00
86		-2	513	718	0.00	0.00
87		1	1169	1684	0.13	0.45
88		1	545	882	0.13	0.26
Mean		0.2	728	1060	0.09	0.23
61	Eniaetok Island	6	824	1466	0.49	0.99
62		6	984	1681	0.45	0.97
Mean		6	904	1573	0.47	0.98

* Counting error is less than 8%

Table 5. Strontium units and calcium in coconut crab (Birgus latro)
liver collected at Rongelap Atoll in March 1958

Sample Number	Location of Collection	Sr ⁹⁰ d/m/g wet weight basis	mg. Ca/gm wet weight basis	Strontium units
34	Kabelle Island	55	7.25	3448
35		90	10.03	4079
36		130	23.93	2469
37		194	15.72	5609
38		134	17.18	3545
Mean		121	14.82	3830
Standard deviation		52	6.51	1152
Standard deviation of Mean		23	2.91	515
84	Rongelap	40	8.39	2167
85		30	5.40	2525
86		46	12.67	1650
87		47	6.18	3457
88		65	10.99	2688
Mean		46	8.73	2497
Standard deviation		13	3.09	668
Standard deviation of Mean		6	1.38	299
61	Eniaetok	70	8.00	3977
62		87	7.22	5477
Mean		79	7.61	4727
Standard deviation		12	0.55	1055
Standard deviation of Mean		8	0.39	746