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ICNAF Halibut Otolith Exchange Programme

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Following a recommendation from the Ninth Annual Meeting of ICNAF in June 1959, a Halibut Otolith Exchange Programme was carried out during 1959-1961. Four samples of halibut otoliths, each containing ten otoliths from commercial-sized fish and/or ten otoliths from smaller fish, were exchanged among interested scientists in three countries. This document contains, in the appended tables, a synopsis of their age analyses of the samples.

Table I. Showing for each sample the location from which it was taken, the date, the country which collected the sample, and the countries to which the otoliths have been sent as part of the exchange programme

Sample Letter	A	B	C	D
No. Commercial Size	10	10	-	10
No. Small Size	10	-	10	10
Location	(a)	(b)	(c)	(d)
Month and Year	Aug. '58 Sept. '55	June '52	May '57	Feb. '60 March '60
Canada (M)				
Denmark (G)				
Iceland				

- (a) 1955 - West Greenland (60°40'N, 46°13'W); 1958 - East Greenland (65°24'N, 37°13'W).
 (b) East Greenland (ca. 70 miles NW off Latrabjorg, ca. 65°52'N, 27°18'W).
 (c) Faxa Bay, Iceland (64°06'N, 22°32'W)
 (d) ICNAF Division 4W (Western and Emerald Bank Areas)



Source of otoliths



Samples sent



Readings by two scientists

In the tables which follow, where two or more age-estimates are given and no indication is made as to which is the more probable, one has been chosen randomly to use in determining the mode and the deviation from the mode. This one is underlined. Where no single age dominated, either the median was chosen instead of the mode or the nearest whole number to the median. This procedure has been followed to conform with that of an earlier report on cod otoliths. However, in view of the small number of otolith samples in this calculation, one should not put too much dependence on these averages and deviations.

The results of these calculations show that of the 30 commercial-size otoliths aged, there were only two occasions in which all scientists agreed; while of the 30 small-size otoliths aged, they all agreed on twelve occasions.

The total mean deviation of otoliths aged for the commercial-size samples is much less for Division 4W than those for the waters off Iceland and Greenland. This difference is not so obvious in the case of the small-size samples

Total Mean Deviation

	<u>Commercial Size</u>	<u>Small Size</u>
Canada	3.7	2.2
Iceland	15.5	1.9
Denmark	17.6	3.2

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ICNAF HALIBUT OTOLITH EXCHANGE PROGRAMME

SAMPLE A

LOCATION West and East Greenland

DATE COLLECTED September 7, 1955
August 28, 1958

COLLECTED BY Denmark

Serial No.	Sex	Length (cm)	Maturity	Canada Kohler	Denmark Hansen Horsted	Iceland Sigurdsson	Mode	Total Deviation	Mean Deviation
1	♀	158		20	20	16	20	4	1.3
2	♀	163		15?	17	14	15	3	1.0
3	♂	172		18	14	15	15	4	1.3
4	♂	145		14	12-14	15-16	14	1	.3
5	♀	110		12	12?	8	12	4	1.3
6	♀	133		16?	17	12	16	5	1.7
7	♀	204		23?	21?	15	21	8	2.7
8	♀	185		24	23?	13	23	11	3.7
9	♀	147		21?	14	11	14	10	3.3
10	♀	143		18	15	15	15	3	1.0
11	♂	72		5	4	5	5	1	.3
12	♀	94		10	8	9	9	2	.7
13	♀	97		7?	8	7	7	1	.3
14	♂	81		9	10	8	9	2	.7
15	♂	81		8	7-8	7	7	1	.3
16	♀	76		6	6	6	6	0	
17	♂	67		6	6-7	6	6	0	
18	♂	80		8	8	7	8	1	.3
19	♂	74		9	8	8	8	1	.3
20	♂	65		6	6	7	6	1	.3

SAMPLE B

LOCATION East Greenland

DATE COLLECTED June 20-27, 1952

COLLECTED BY Iceland

Serial No.	Sex	Length (cm)	Maturity	Canada Kohler	Denmark Hansen	Denmark Horsted	Iceland Sigurdsson	Mode	Total Deviation	Mean Deviation
1	♀	191		18?	23?	23?	16-19	23	9	2.3
2	♀	150		16?	12?	12-17	14	14	6	1.5
3	♀	133		11	14-15	15	10	15	9	2.3
4	♀	123		11?	12	14-17	11	11	4	1.0
5	♀	119		9	13-14	14-15	11	14	8	2.0
6	♂	145		13	11-12	12(15)	14-15	12	3	.8
7	♂	138		15	9	9	13	9	10	2.5
8	♂	127		14	15	15	11	15	5	1.3
9	♂	116		13	13	13	10	13	3	.8
10	♂	102		13	16	14	13	13	4	1.0

ICNAF HALIBUT OTOLITH EXCHANGE PROGRAMME

SAMPLE C

LOCATION Faxa Bay, Iceland

DATE COLLECTED May 19, 1957

COLLECTED BY Iceland

Serial No.	Sex	Length (cm)	Maturity	Canada Kohler	Denmark Hansen	Denmark Horsted	Iceland Sigurdsson	Mode	Total Deviation	Mean Deviation
1	♀	26	Immature	2	2	2	2	2	0	
2	♂	28	"	2	2	2	2	2	0	
3	♂	33	"	2	3	2-3	3	3	1	.3
4	♀	34	"	2	2	2(3)	3	2	1	.3
5	♂	38	"	3	3	3	3	3	0	
6	♀	42	"	3	3	3	3	3	0	
7	♂	44	"	3	3	3	3	3	0	
8	♀	48	"	3	4	4	3	4	2	.5
9	♂	51	"	3?	4?	4?	3	4	2	.5
10	♀	58	"	3?	4?	4	4	4	1	.3

SAMPLE D

LOCATION ICNAF Division 4W

DATE COLLECTED Feb./March, 1960

COLLECTED BY Canada

Serial No.	Sex	Length (cm)	Maturity	Canada Kohler	Denmark Hansen	Denmark Horsted	Iceland Sigurdsson	Mode	Total Deviation	Mean Deviation
1	♀	70	Immature	5	5	5	5	5	0	
2	♂	103	Recovering	14	10-12	11-12	12-14	12	2	.5
3	♀	96	Immature	10	8-9	9	10	10	2	.5
4	♀	103	—	11	12?	12?	12	12	1	.3
5	♀	128	—	11	11	11	9	11	2	.5
6	♂	97	Spent	15+	12?	12	12	12	3	.8
7	♂	71	"	5+	5	5(6)	7	5	2	.5
8	♀	75	Immature	9+	8	8(9)	8	8	1	.3
9	♂	81	Spent	7	7	7	7	7	0	
10	♀	100	Recovering	9	9	9	10-11	9	1	.3
11	♂	61	Immature	6	5	5	6	5	2	.5
12	?	20	"	2	2	2	2	2	0	
13	♂	50	"	5	4	4	6	4	3	.8
14	♀	46	"	4	4	4	4	4	0	
15	♀	18	"	2	2	2	2	2	0	
16	♂	18	"	1+	2	2	2	2	1	.3
17	♂	62	"	6	6	6	6	6	0	
18	♂	60	"	6	5-6	6	6	6	0	
19	♂	46	"	4	4	4	5	4	1	.3
20	♂	27	"	2	2	2	3	2	1	.3