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A. Biology

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IV. Redfish.

In Godthåb Fjord ($64^{\circ}25'N$, $50^{\circ}19'W$) hauls with ring trawl for redfish (*Sebastes*) were taken at various times during the 1957 season. A total of ten hauls distributed over eight months. The catch included a total of 14,282 redfish, all of which were measured. Otoliths were collected from a part of the redfish.

Measurements of redfish taken in prawn trawl in this locality have been made regularly since 1952.

From Tunugdliarfikfjord ($60^{\circ}56'N$, $45^{\circ}47'W$), 1,293 redfish caught with prawn trawl in seven hauls during the months January, February and March were measured. Otoliths were collected.

The data in tabular form will appear in the 1958 Sampling Yearbook.

V. Spotted Wolffish.

The following measurements of spotted wolffish (*Anarhichas minor* Olafsen) caught on longlines were made:

Søndre Upernavik ($72^{\circ}08'N$, $55^{\circ}28'W$), July; 2,694 specimens
Diskofjord ($69^{\circ}28'N$, $54^{\circ}07'W$), 2 August; 746 specimens

The length distribution curves of these two samples are shown in Figure 6 together with a length curve for 786 spotted wolffish caught in more southern fishing places off West Greenland in 1956.

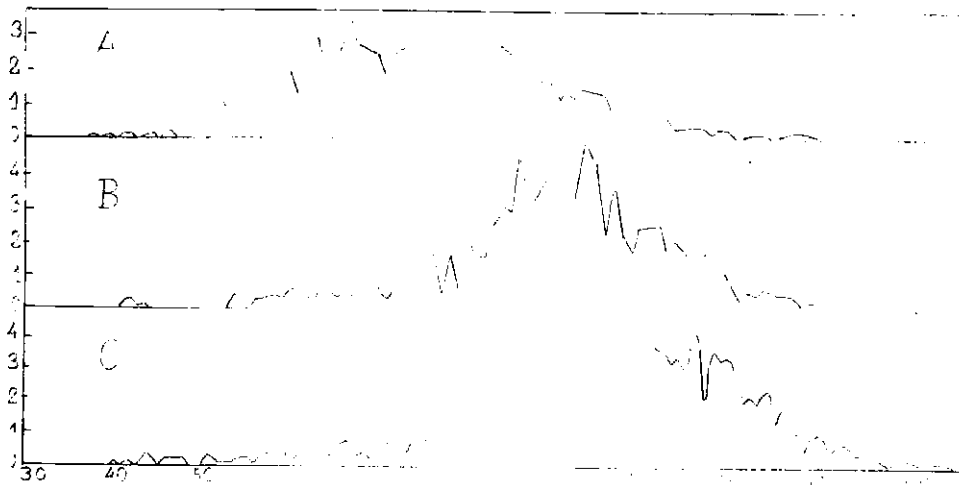


Figure 6. Spotted wolffish - Length distribution curves.
A - Sdr. Upernavik, July 1957, 2,694 specimens.
B - Diskofjord, 2 August 1957, 746 specimens.
C - Hbg. Skt. Ghb. St. Hellefiskebanke, August-September, 1956, 786 specimens.

It is apparent that the smallest wolffish are caught in the most northern fishing place, Søndre Upernavik. At Diskofjord the wolffish are considerably larger, however, still well below those from the most southern fishing places. At Søndre Upernavik 59 wolffish were tagged and at Diskofjord 56.

VI. Cod Tagging Experiments.

In 1957, 5,228 cod were tagged at West Greenland and 567 at East Greenland.

A total of 715 tagged cod were recaptured in 1957. Table 3 shows the recaptures of cod of various ages from several years' tagging experiments. 697 tagged cod were recaptured in West Greenland waters; 13 at Iceland, 3 in East Greenland and 2 on the Grand Bank of Newfoundland. Of the three recaptures from East Greenland one was from Anton Dohrn Bank, one from off Angmagssalik and one from north of Angmagssalik (66°48'N, 24°57'W).

The recapture of a cod tagged with hydrostatic (Lea) tag is of special interest. This cod was recaptured 12 June on Fyllas Bank (63°56'N, 52°32'W) and measured then 75 cm. It was tagged 5 August 1949 in Umanak Harbour (70°40'N, 52°05'W) with a length of only 20 cm. It is the fifth recapture from this tagging experiment which was carried out during 1-6 August 1949 and included 130 small cod (16-29 cm.), all apparently belonging to the 1947 year-class, which as I- and II Gr. had an unusual northern distribution. The five recaptures are from 1950, 1952, 1953, 1954 and 1957. The recapture in 1950 was made close to the place of liberation. The other four were from St. Hellefiske Bank 30-VIII-1952 and 26-VII-1954, and from Fyllas Bank 11-VIII-1953 and 12-VI-1957.

The two recaptured cod from Store Hellefiske Bank belonged when recaptured to the V- and VII-Gr., whilst those recaptured on Fylla Bank belonged to the VI- and X-Gr. When tagged they measured 20, 19, 24 and 20 cm respectively. For three of these the reported length at recapture is not sufficiently reliable. The recapture from 1957 is reported as 75 cm, which appears reasonable for a X-Gr. cod.

The distances between place of liberation and of recapture were for the cod recaptured on Store Hellefiske Bank 200-250 miles; for those recaptured on Fyllas Bank around 450 miles.

The experiment is of interest partly because it shows that cod as small as only ca. 20 cm can be tagged with hydrostatic tags, and partly because it gives evidence to the effect that the cod stock that is the base for the fishery on the banks in the Davis Strait in certain years is recruited to a great extent from areas north of the banks.

A cod tagged with a hydrostatic tag 21 July 1950 in the harbour of Christianshab (68°50'N, 51°00'W) was recaptured 9 July on Store Hellefiske Bank; when tagged it measured 27 cm, when recaptured 75 cm. The distance between liberation and recapture was ca. 120 miles.

Another cod tagged 18 August 1949 with hydrostatic tag at Qutdligssat (70°N, 53°W) was recaptured 5 May 1957 in trawl off Frederikshab (61°50'N, 50°30'W). The distance between the two positions is ca 480 miles. When tagged the cod measured 47 cm, at the recapture 83 cm (probably 1945 year-class).

Otoliths of 385 recaptured cod were collected.

TABLE 3

Method Cod recaptured at Greenland (Gr.) and at Iceland (Ic.) in 1957, tabulated according to Age and Year of Liberation

Year-class	Age-Group	1948 Gr. Ic.	1949 Gr. Ic.	1950 Gr. Ic.	1951 Gr. Ic.	1952 Gr. Ic.	1953 Gr. Ic.	1954 Gr. Ic.	1955 Gr. Ic.	1956 Gr. Ic.	1957 Gr. Ic.	Gr.	Total %	Ic.					
1939	XVIII	2											1	0.3					
1940	XVII												7	1.9					
1941	XVI												15	4.0					
1942	XV				1								4	1.1					
1943	XIV												3	0.8					
1944	XIII												27	7.2					
1945	XII		1		1								5	1.3					
1946	XI												117	31.3					
1947	X		1										11	2					
1948	IX					6							50	13.3					
1949	VIII												14	3.6					
1950	VII												14	3.6					
1951	VI												4	1.0					
1952	V												5	1.3					
1953	IV						1						10	2.6					
1954	III												22	5.9					
1955	II												27	7.2					
		1	2	1	3	1	10	2	8	32	46	23)	148	1					
Total number		3	3	1	1	5	3 ¹⁾	16	3	15	88	6 ²⁾	119	3 ³⁾	297	2	150	697	1 ¹⁾ 2 ³⁾
																			18

1) One cod recaptured at Angmagssalik.
 2) One cod recaptured on the Debra Bank and one cod recaptured in the Denmark Strait.
 3) Two cod recaptured on the Grand Bank.

Of 12 tagged cod recaptured outside Subarea 1, and whose age could be ascertained, seven belonged to the XII-Gr. (1945 year-class), two the X-Gr. (1947), two to the VIII-Gr. (1949), and one to the VII-Gr. (1950).

Otoliths were collected from 373 cod recaptured in Subarea 1. The 1947 year-class still predominated (31.3%), the 1950 year-class was next (20.6%).

Table 4 shows the number of recaptures by the various countries. As in previous years Portugal reports the highest number (73%), next come the Greenlanders' (19%), recaptures by other nations total to ca. 8%.

Table 4

Cod recaptured in 1957

	<u>Greenland</u>	<u>Iceland</u>	<u>Other areas</u>
Denmark	3		
Greenland	132		
Faroe Islands	4		
Norway	4		
Iceland	8	13	
United Kingdom	6		
France	5		
Germany	6		3 (off East Greenland)
U.S.S.R.	1		
Spain	19		
Portugal	509		2 (Grand Banks)
TOTAL	697	13	5

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