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German Democratic Republic Research Report for 1981

by

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INTRODUCTION

The overall nominal catch from G.D.R. in the NAFO Area amounted to 4 786 tons in 1981, therefore the nominal catch correspondet about the level in 1980 (4 898 tons). The fisheries were carried out in NAFO-subareas 2 and 3 only. The main species of the catches were Redfish, Roundnose Grenadier, and Greeland halibut (Table 1).

Table 1: GDR nominal catches (tons) of species in the NAFO-area for 1980 and 1981

	1980	1981
Cod	879	605
Redfish	2 767	1 302
Roundnose grenadier	898	1 407
Greenland halibut	320	1 350
Witch	16	32
Wolffish	3	51
Skates	14	39
American plaice	1	-
total	4 898	4 786

Sub-areas 2 and 3

A Status of the Fisheries

Also in 1981 the fishery activity was strongly connected with the quota regulations like in previous year, therefore the catches don't be reflected the stocksituations and stock-variations, but nevertheless the seasonal characteristics of fishery.

The fishery was carried out by factory trawlers (= 63 % of nominal catch in NAFO area) and by sterntrawler of the type "Zubringer-trawler". The bottom-trawl-fishery was dominated, only 1.4 per cent (14 tons Greenland halibut, 54 tons Roundnose Grenadier) of the nominal catches were taken by midwater trawlings.

Table 2: G.D.R. nominal catches (tons) of species by Division of Sub-areas 2 and 3 for 1981

	2G	2H	2J	3K	3L	3M	3N	total 1981
Cod	-	582	19	3	1	-	-	605
Redfish	12	49	400	259	509	15	58	1302
Roundnose grenadier	217	401	438	341	10	-	-	1407
Greenland halibut	221	834	182	106	7	-	-	1350
Witch	-	-	9	15	8	-	-	32
Wolffish	-	11	27	13	-	-	-	51
Skates	2	13	4	5	15	-	-	39
total	452	1 890	1 079	742	550	15	50	4786

1. Cod

A specialized cod fishery was carried out in Divisions 2H (96 per cent of nominal catch of cod) and 2G by factory ships in November and in December only. The catch per hour values situated between 0.38 (Nov.) and 1.05 (Dec.) tons, therefore again the catch per hour was smaller than in 1979 and 1980. May be it seemes to be an expression of an advanced slighthly decreasing tendency of stock which is to observe for the last years.

2. Redfish

The nominal catch of Redfish amounted 1 302 tons in 1981. Redfishes were cought by factory trawlers in the Divisions 3L, N and M up to middle of January and by factory trawlers and sterntrawlers of the Type "Zubringer-Trawler" in the Divisions 2 G H J, 3 K and 3 L from the end of September until December. The redfish-fishery was carried out in a fishery-depth between 350 and 850 m, generell by bottom-trawl. During a small period one factory-trawler carried out a fishery by bathy-pelagic trawling (water depth 1 000 - 1 200) in the Division 2J during October, the results amounted to about 5 tons per trawling in 5 trawling hours. A specialized Redfish-fishery was carried out in the Divisions 3L,N and 3 M in January only. During the period September/December Redfish was by-catch of the Grenadier/Halibut and Cod-fishery only, which the by-catch of Redfish amounted to about 2-3 per cent because untypical Redfish biotops were fished.

Therefore it's not possible to characterized a season of Redfish-fishery. Under this impression is to understand the decreasing tendency of nominal Redfish-catch in 1981, which amounted 47 per cent in comparison with 1980 only, simultaneous the c.p.u.e. in catch per day decreased from 7.6 tons to 2.5 tons.

Specialized fishery-activities in Division 3L,N,M only 6 days showed good results with an average of about 12.8 tons per day of factory-trawler, which it seemes originate in good stock condition.

3. Greeland halibut, Roundnose grenadier

Again - like in 1980 - a specialized fishery for one of these both species was not carried out in 1981, everytime a mixed fishery dominated.

From the end of September until December the catches originated in the main part from SA 2 and Division 3 K. The fishery was carried out by factory-trawlers and sterntrawlers type "Zubringer-Trawler". Mainly the bottom-trawl was used, pelagic tests were without economical success. The relations of Grenadier and Halibut were different from time to time and from area to area in the catches. In the northern areas (2G, H) the part of Halibut amounted to 30 to 90 per cent, compared to the southern areas (2 J, 3K) the same one amounted to 10 to 20 per cent only.

Therefore, concerning c.p.u.e. of Roundnose grenadier, was obtained 48.5 per cent in 1981 in comparison with 1980. This decreasing of c.p.u.e. at simultaneous increasing of effort (increasing of effort about 220 per cent in 1981 in comparison with 1980) is not the result of stock-fluctuation but it seemes to be a problem at the foundation of environmental parameters. The result of observed decreasing of bottom-water-temperatures (USSR research papers 1980/1981) in southern tendency is the increasing of Greenland halibut part in the catches, especially in the northern part of fishing area. This constellation brought on the realization of Halibut-quota without to fulfil the Grenadier-quota. Therefore in December this fishery were finished on behalf of orientation at Redfish-sortiments.

B Special Research Studies

1. Environmental Studies

   No data

2. Biological Studies

   Cod:

   Dates of one commercial-Cod-sample show the year-classes 1975-1977 were the basis of fishery in Division 3 N in January. The year-class 1976 dominated.

   Redfish:

   Dates of one commercial-Redfish-sample show year-classes 1974 and 1975 as the dominating ones in Division 3 N in January.

Roundnose grenadier:
During catch period length-datas were collected on board of commercial vessels.

In all samples of all Divisions (2 G, H, J) the analfin-length-groups 12 to 15 cm (below) dominated with an increasing of average length to the south during September until November. Any significant variation of the male-female relations seem not to occur (see figures).

Simultaneous age-samplings (scales and otoliths) were collected in Divisions 2 G, H, J and 3 K. Present these samples were investigated. One sample (99 examples Div. 2 G) was prepared for international exchange of age-determating-material.

Greenland halibut:

During catch period (see Roundnose grenadier) length-datas were collected on board of commercial vessels.

In Division 2 G the main-length-frequency range amounted to 41-82 cm with a small dominance of length-group 70-78 cm, on the strength of the dominance of females (see figures)

In Division 2 H the length-groups 68-78 cm dominated during the period September/November . Proportional the females increased in the space of time (see figures).

In Division 2 J the 68-78 cm length-groups dominated in October. A decreasing of the average length was to observe in November. The 58-64 cm length-groups dominated, because proportional the males increased (see figures)

In Division 3 K the length-groups 52-68 cm dominated in November. The sex-ratio was about in balance (see figures).

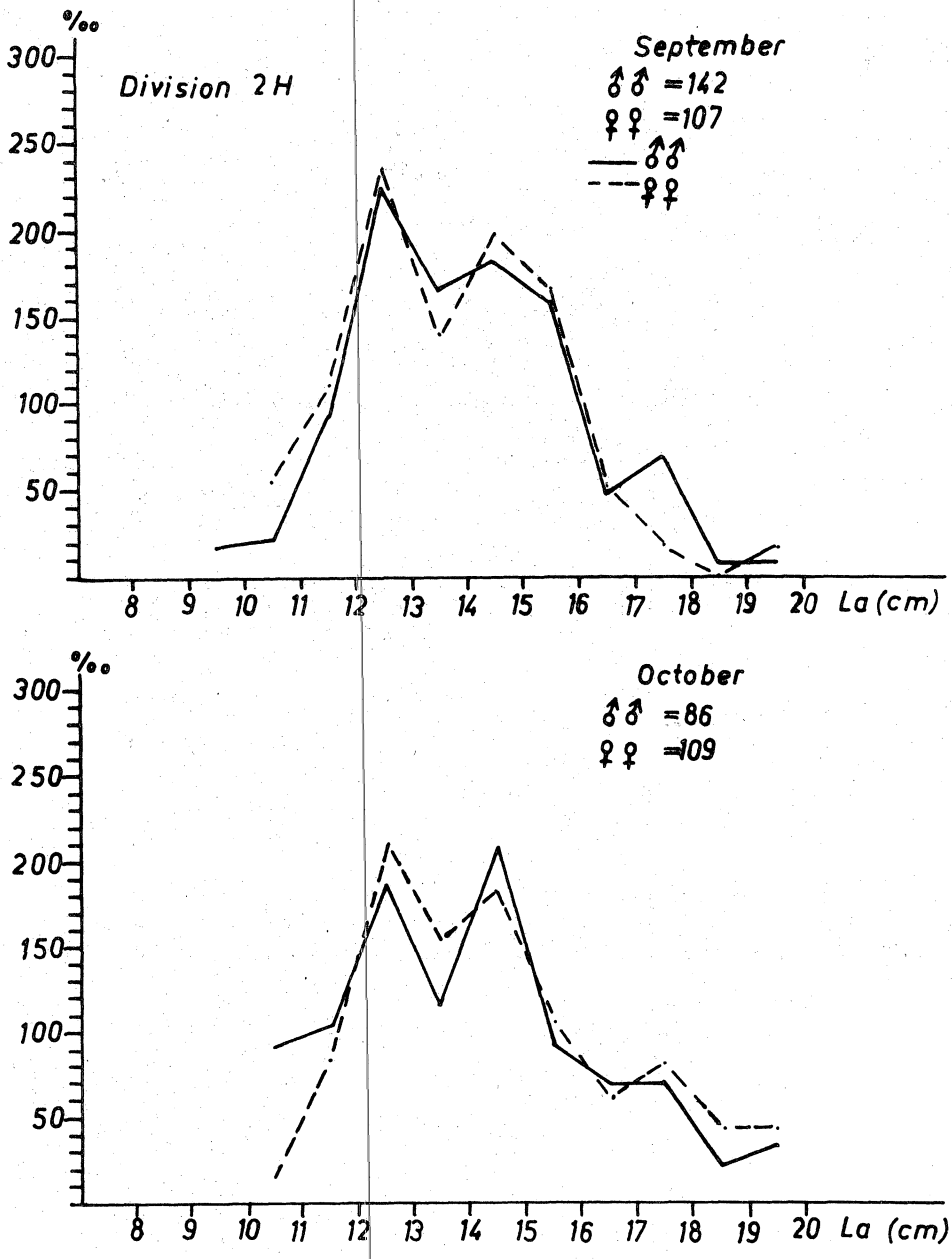

Fig. 1. Length distribution of roundnose grenadier in Div. 2H, September-October 1981.

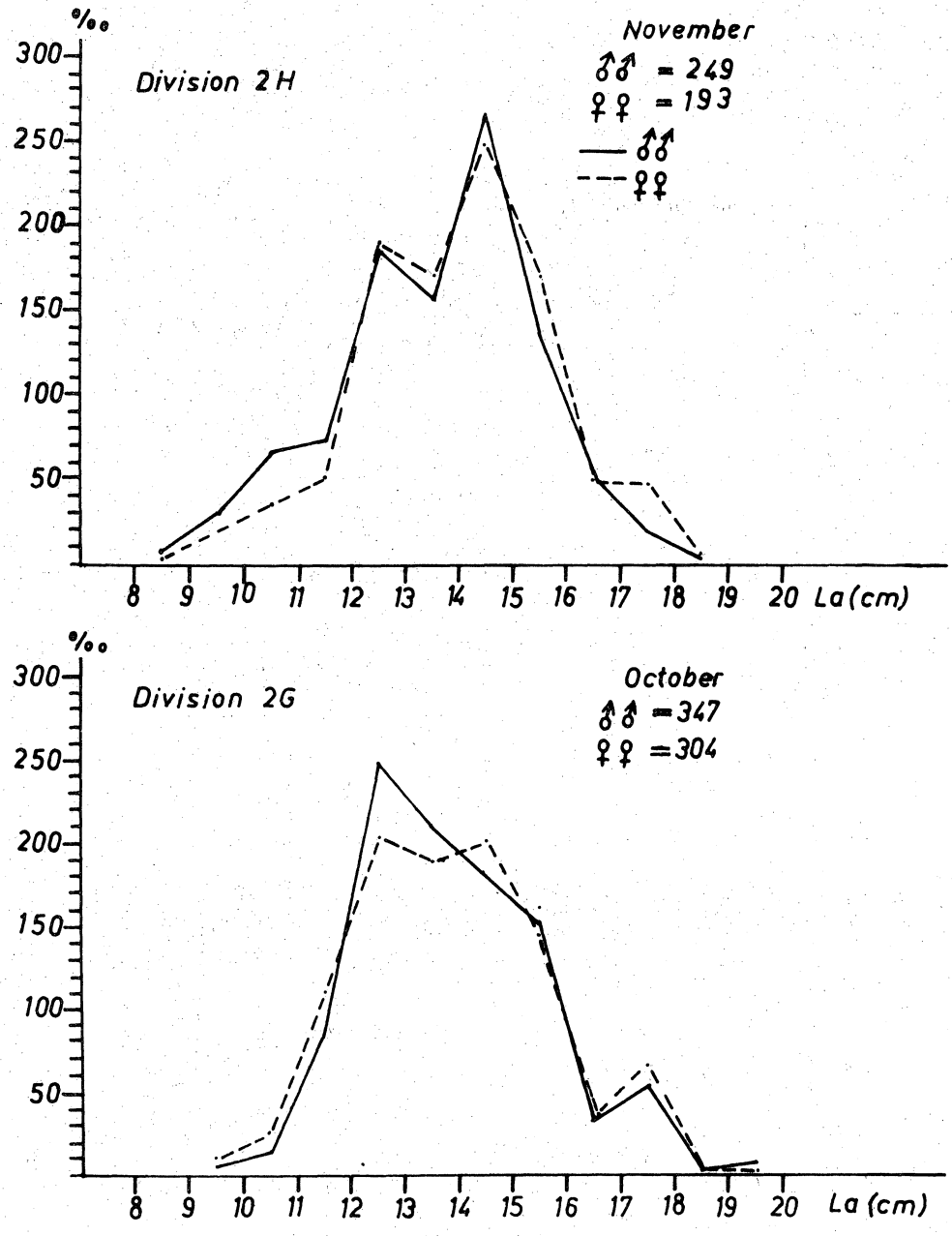

Fig. 2. Length distribution of roundnose grenadier in Div. 2H, November 1981 and Div. 2G, October 1981.

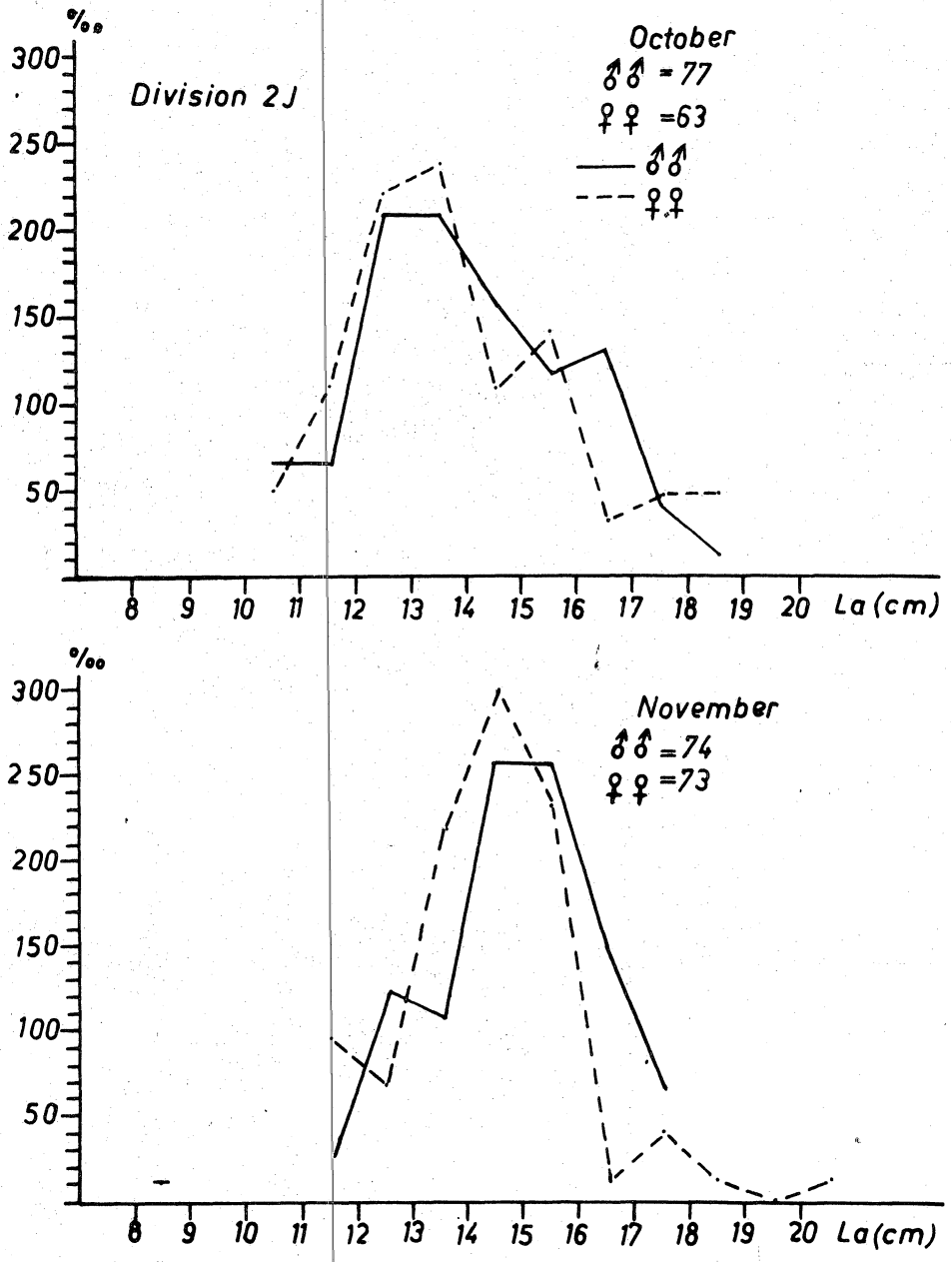

Fig. 3. Length distribution of roundnose grenadier in Div. 2J, October-November, 1981.

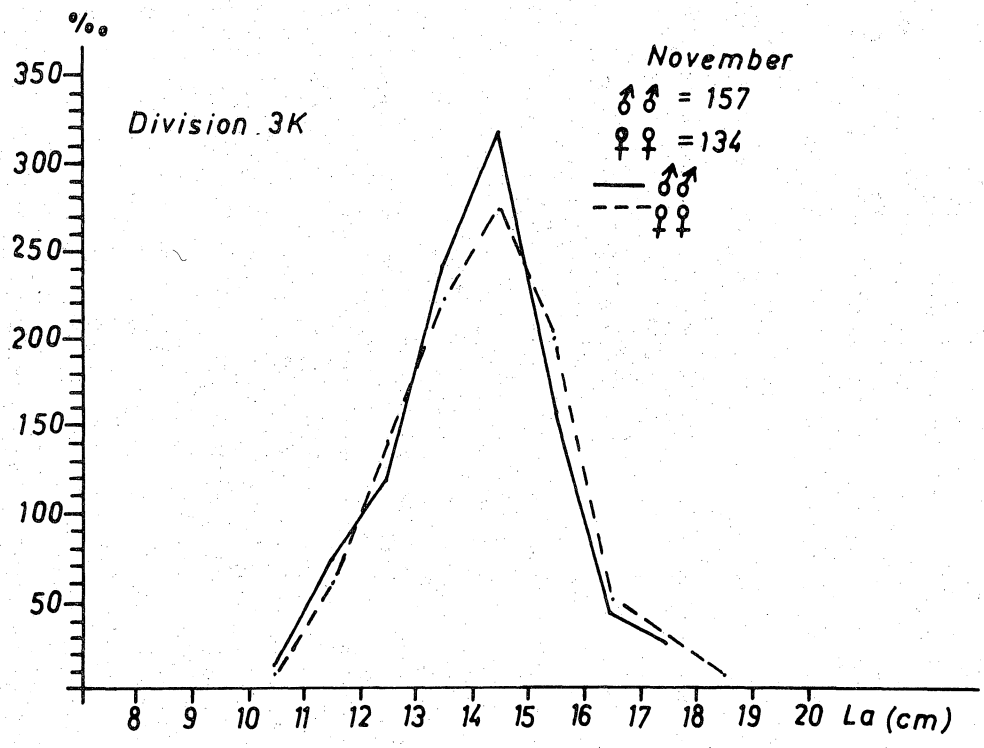

Fig. 4. Length distribution of roundnose grenadier in Div. 3K, November 1981.

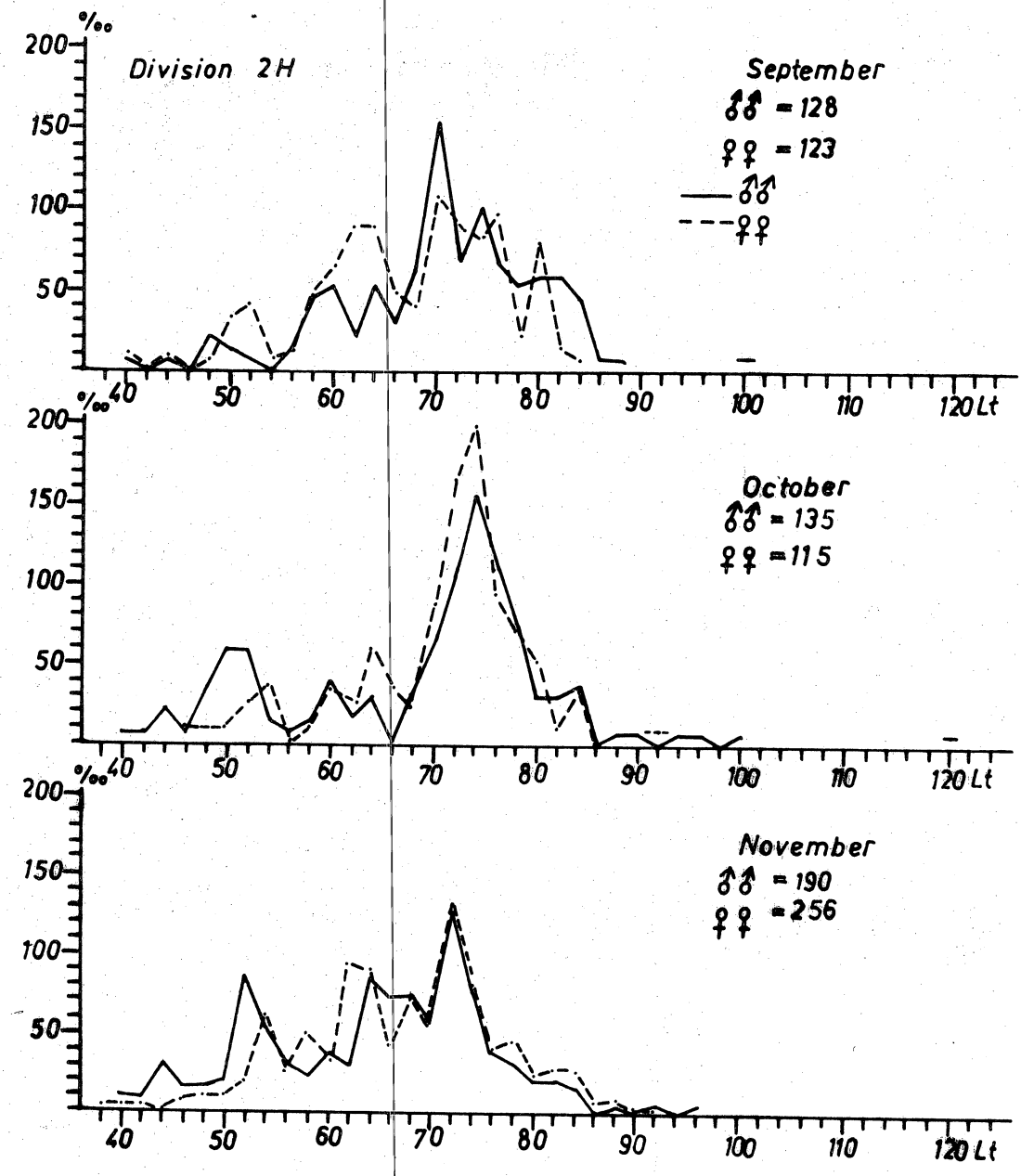

Fig. 5. Length distribution of Greenland halibut in Div. 2H, September-October-November 1981.

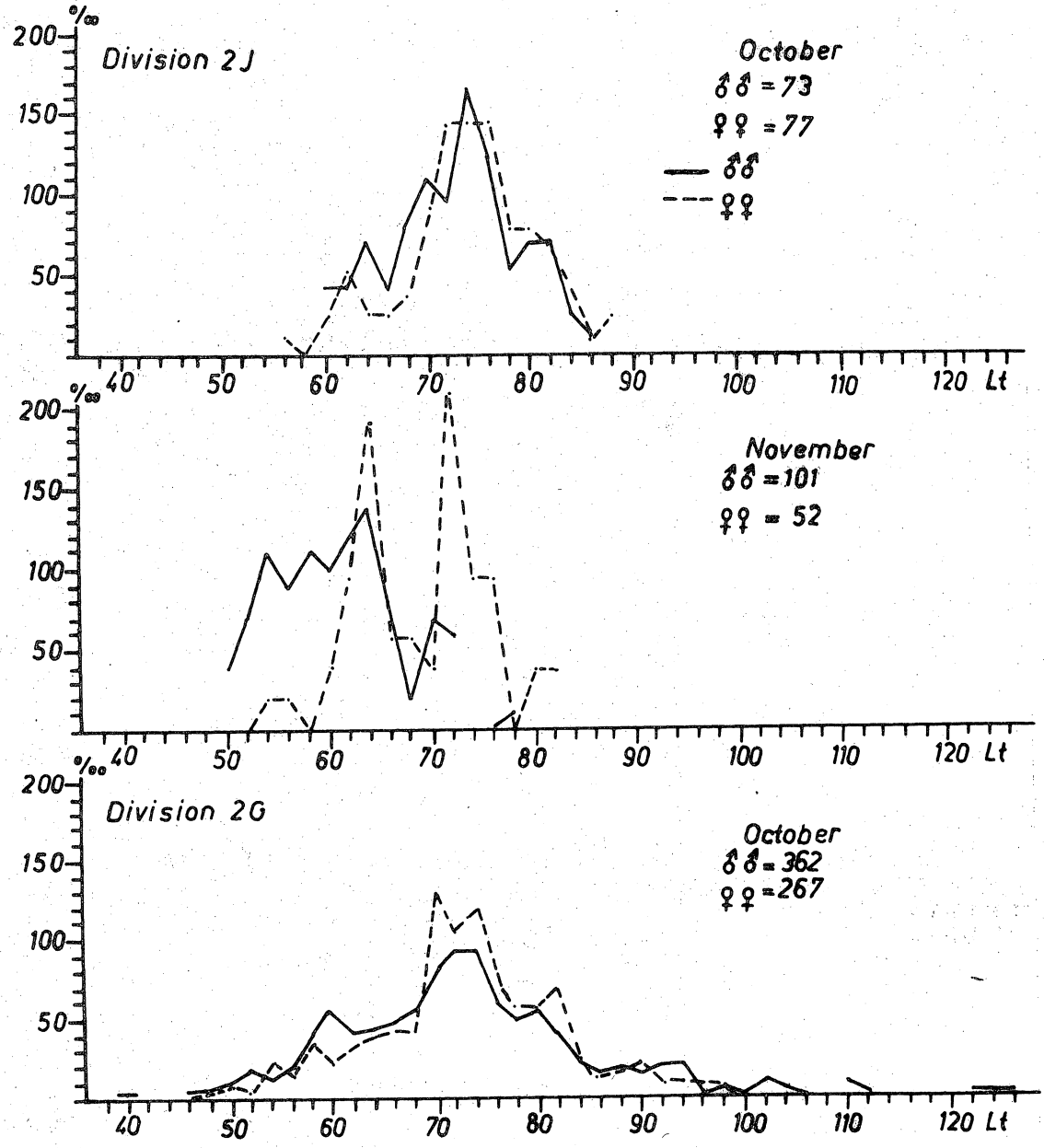

Fig. 6. Length distribution of Greenland halibut in Div. 2J, October-November 1981 and in Div. 2G, October 1981.

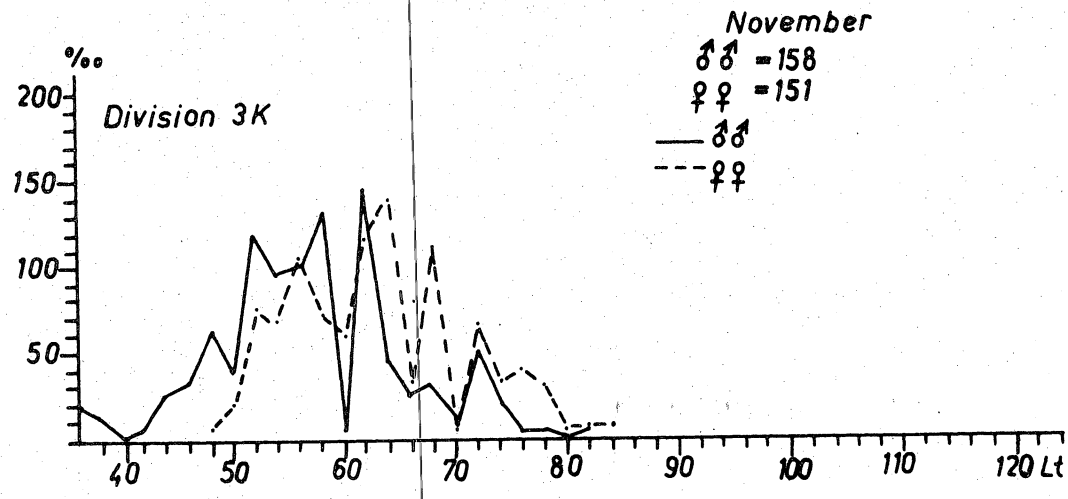

Fig. 7. Length distribution of Greenland halibut in Div. 3K, November 1981.