



1950

International Commission
for the
Northwest Atlantic Fisheries



1970

RESTRICTED

Serial No. 2384
(D.a. 69)

ICNAF Res. Doc. 70/15

ANNUAL MEETING - JUNE 1970

Norwegian Research Report, 1969

by Erling Bratberg

Subarea 1

Norwegian fisheries research was carried out off West Greenland from 19 April to 7 May. Four hydrographical stations were worked, and bottom longline with equal numbers of No. 2, 4 and 6 hooks was used on 10 localities (Fig. 1).

A. Status of the fisheries

I. Cod

1. Age and length composition of the commercial stock. In 1969 the 1961 year-class still dominated in the Norwegian research vessel catches on bottom longline with No. 6 hooks, but it has decreased from 34.4 % in 1968 to 28.7 % in 1969. The 1960 year-class has increased in strength since last year, from 9.2 % to 15.2 %, but this increase is most probably temporary as this year-class in 1966 and 1967 constituted 42.2 and 31.6 % of the catch respectively. Older year-classes play a minor part in the total catch, only 8.4 %. The promising 1963 year-class has decreased considerably, from 24.6 to 11.4 %. The 1965 year-class seems to be a bit promising as it has increased from less than 1 % in 1968 to 17.7 % in 1969 (Fig. 2).

The total research vessel catch on bottom longline, No. 2, 4 and 6 hooks combined, shows nearly the same picture as the total catch on No. 6 hooks (Fig. 3).

Fig. 4 shows the length composition of the catch on No. 6 hooks. The mean length is 69.2 cm. The mean length on No. 2, 4 and 6 hooks combined was 71.2 cm. These mean lengths are considerably higher than in 1968 when they were 64.2 and 65.3 cm. respectively.

2. Forecast for the cod fisheries. The commercial Norwegian bottom longline catches off West Greenland will also in 1970 most probably be dominated by the 1961 year-class, but this year-class is nevertheless expected to decrease. The younger year-classes will probably constitute more than 50 % of the total catch. The mean length in the catches is expected to be

approximately the same as in 1969.

B. Special research studies

I. Environmental studies

1. Hydrography. Between 19 and 24 April 4 hydrographical sections were workwd (Fig. 1). The ice conditions were very severe and the two innermost stations of the section off Nunarsuit had to be omitted. Further, the whole section across Fredrikshåb Bank and the innermost and the two outermost stations in the section off Sukkertoppen were omitted due to ice.

The sections across Dana Bank and across Fylla Bank are shown in Fig. 5 and 6. The distribution of temperature and salinity show that the Arctic component of the West Greenland current was well developed also in 1969. The Irminger component of the current seemed to have the same strength as in 1968, and temperatures above 5°C were observed only in the section off Sukkertoppen.

The mean temperature based on observations at the standard depths between 0 and 50 m at the 5 eastern stations in the section across the Fylla Bank was -0.86°C. This mean temperature indicates a weak tendency in increasing temperatures in the surface layers compared with 1967 and 1968 when the corresponding means were -0.95 and -0.91°C respectively. However, compared with the ten year mean 1959-1968, -0.04°C, the temperature is still very low.

II. Biological studies

1. Cod eggs. Sampling of cod eggs with a Juday net was carried out on all the stations. The preliminary examination of the sampled material indicates a poor result of the spawning as very few cod eggs were found, and as most of the cod had completed the spawning.

2. Cod distribution. Pelagic shoals of cod were not registered. The bottom longline fishing showed relatively good concentrations only on the southwestern slope of Lille Hellefisk Bank.

III. Selection experiments

Selection experiments with No. 2, 4 and 6 hooks on bottom longline were carried out on all the fishing stations. The results

(Table 1) confirm the results from the two previous years and indicate that the greatest number and smallest fish are caught on the No. 6 hooks, and that the smallest number but greatest lengths are found on the No. 2 hooks.

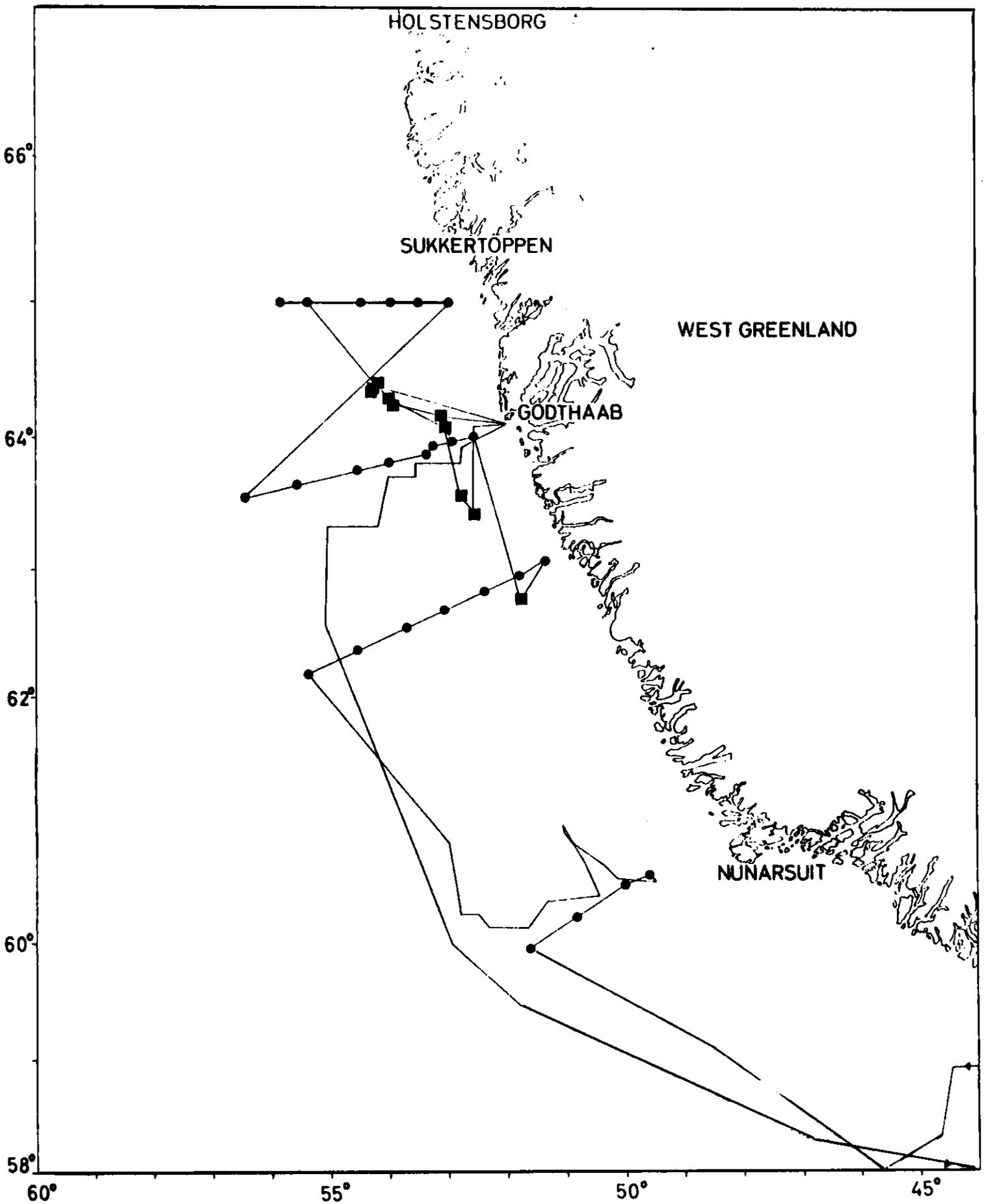


Fig. 1. R/V "G.O. Sars", West Greenland, April-May 1969. Route and net of stations. ● : hydrographical station, ■ : bottom longline station

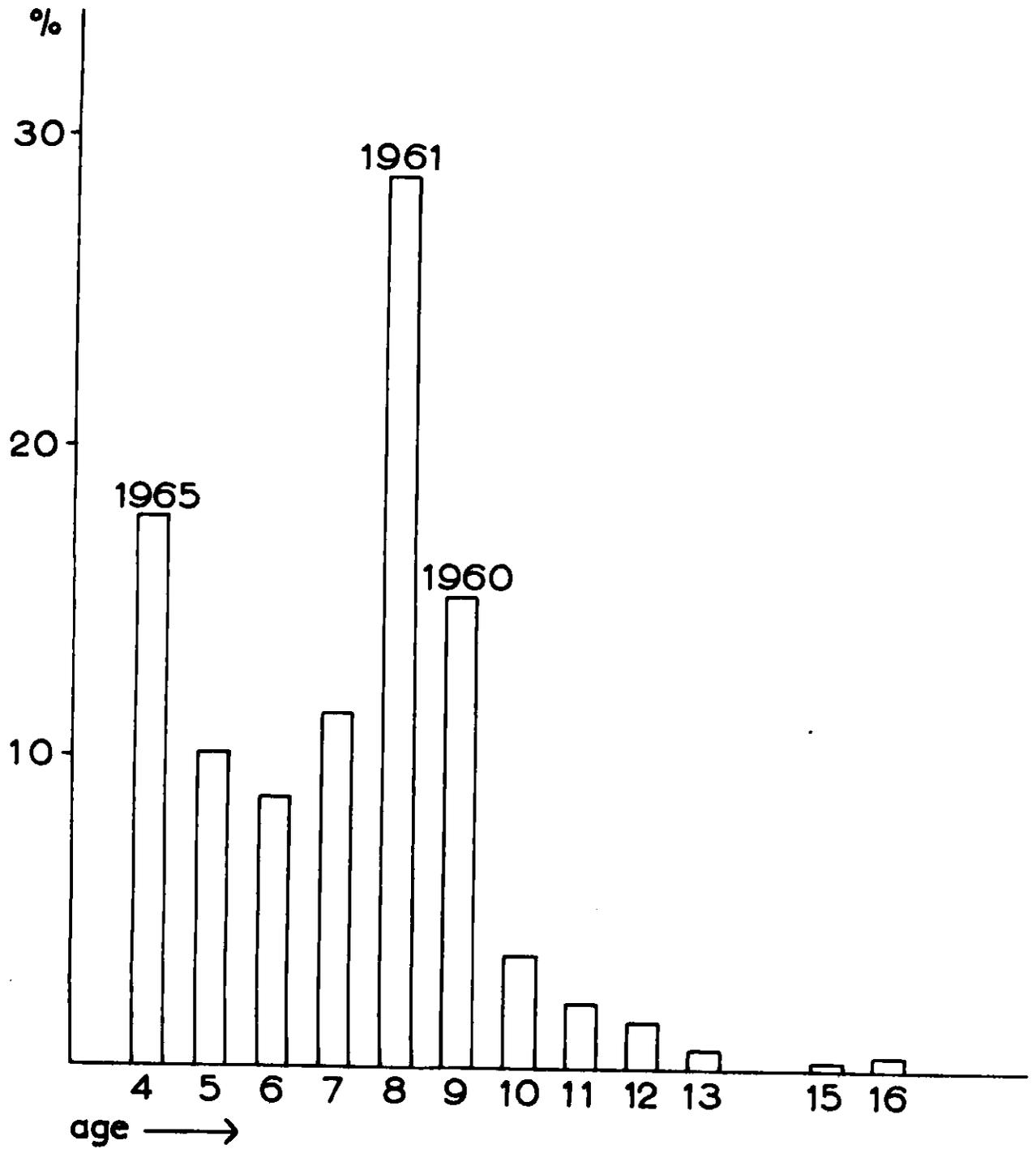


Fig. 2

Fig. 2. R/V "G.O. Sars", West Greenland, April-May 1969. Cod. Age distribution. Total bottom longline catch, No. 6 hock.

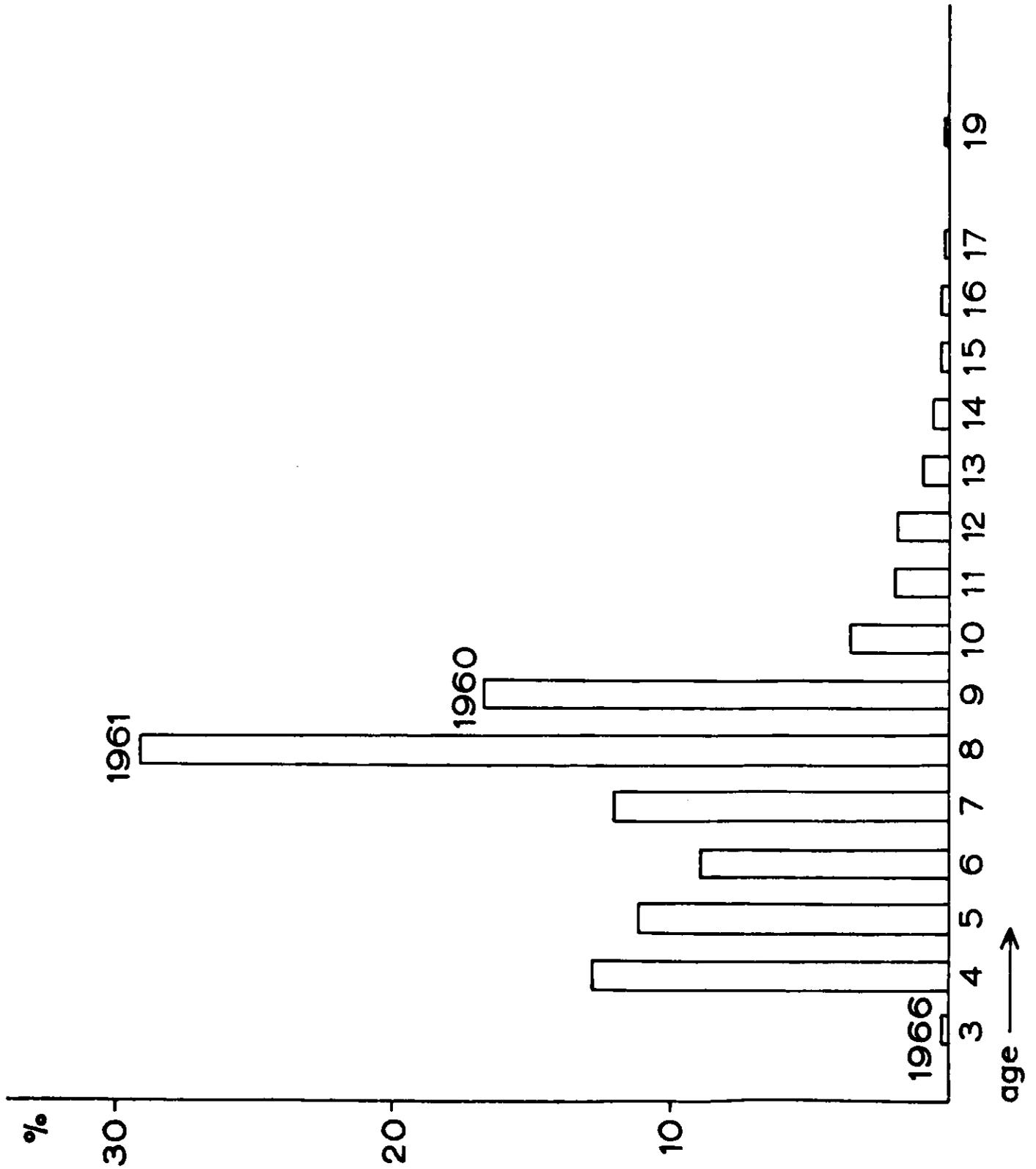


Fig. 3

Fig. 3. R/V"G.O. Sars", West Greenland, April-May 1969. Cod. Age distribution. Total bottom longline catch, No.2, 4 and 6 hooks combined.

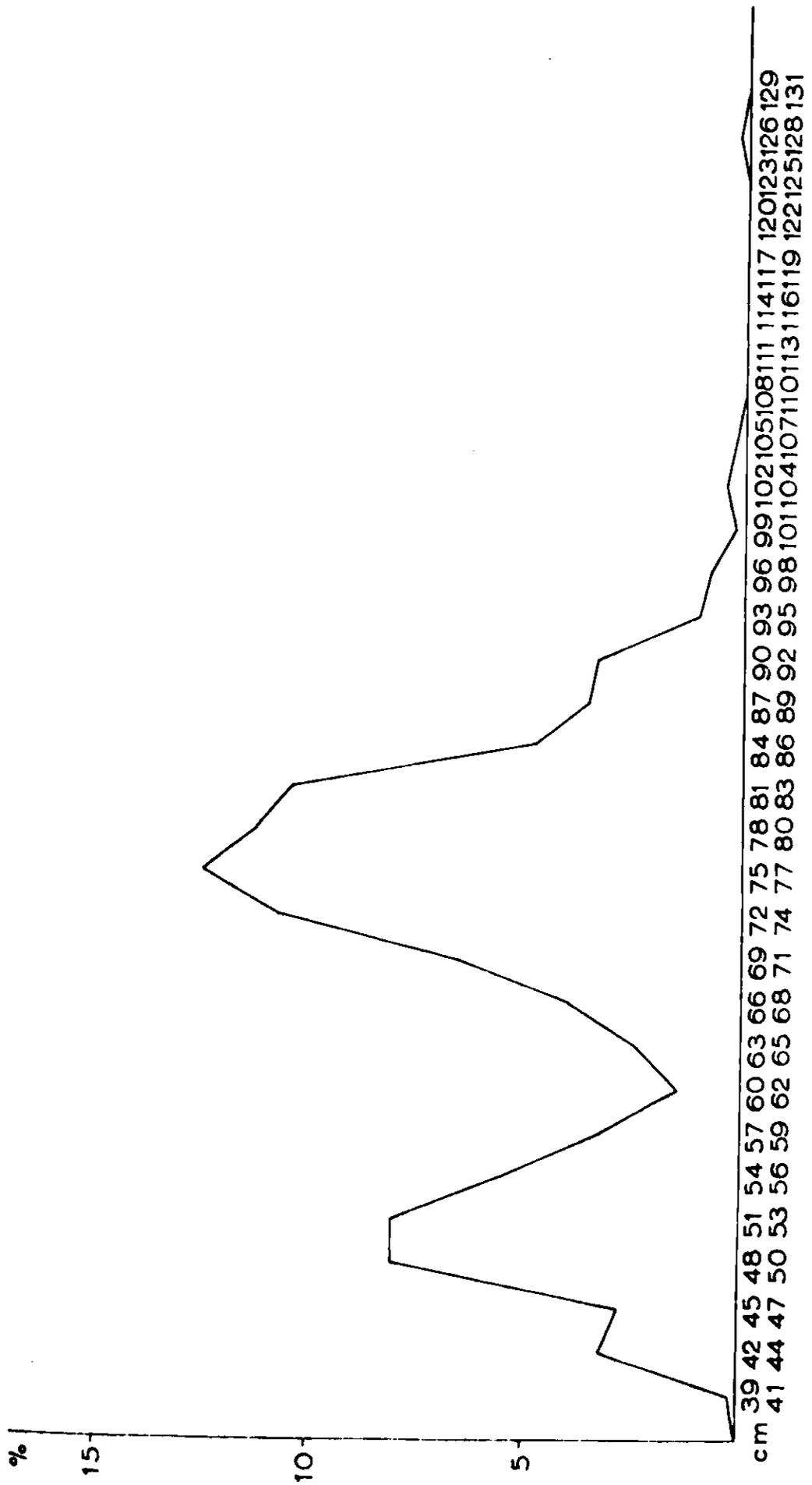


Fig. 4

Fig. 4. R/V "G.O. Sars", West Greenland, April-May 1969. Cod. Length composition. Total bottom longline catch, No.6 hook.

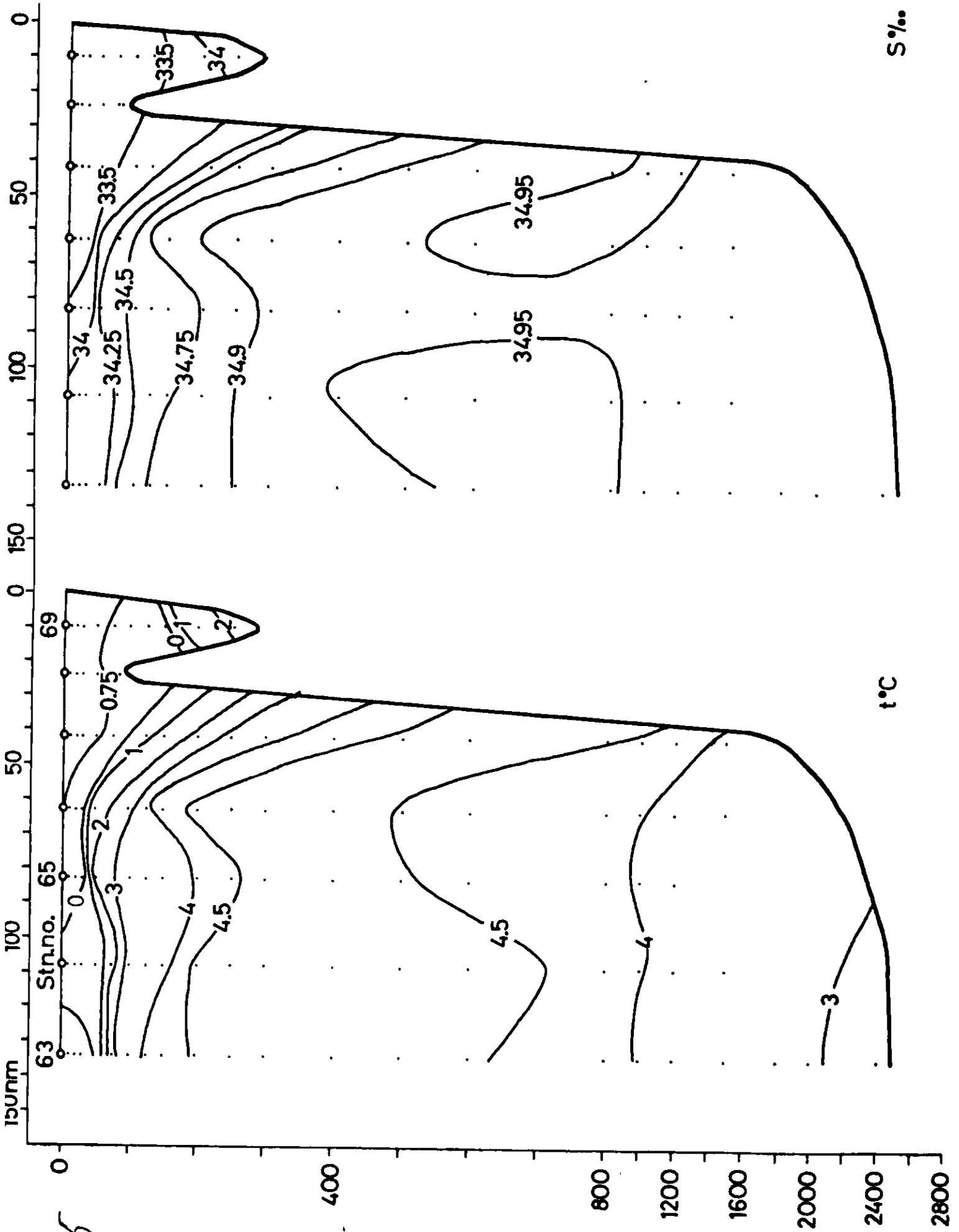


Fig. 5

Fig. 5. R/V "G.O.Sars", West Greenland, April 1969. Hydrographical section across Dana Bank.

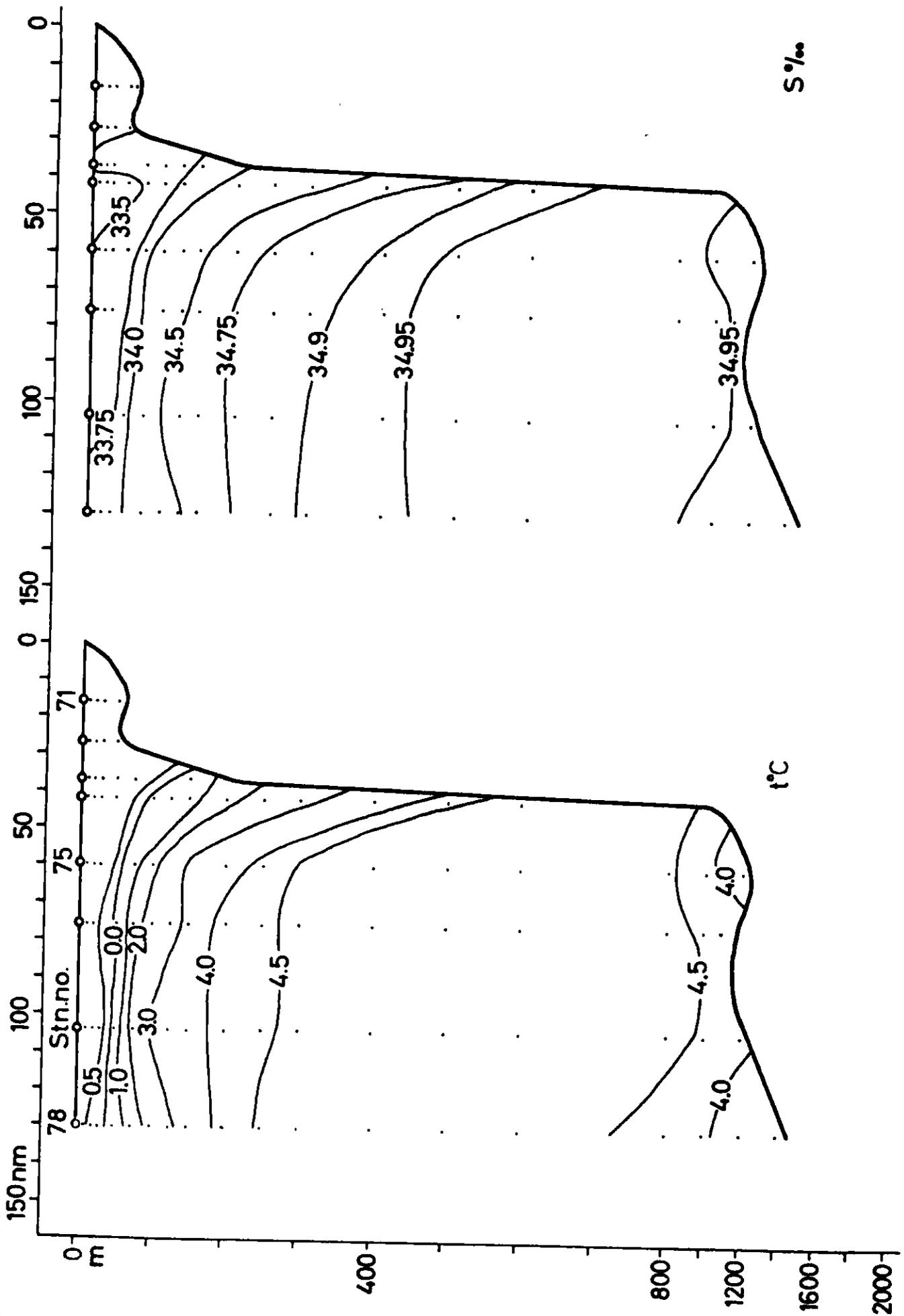


Fig. 6

Fig. 6. R/V "G.O. Sars", West Greenland, April 1969. Hydrographical Section across Fylla Bank.