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Information on Shrimp, *Pandalus borealis*, off East Greenland in 1980

by

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On its way to a trip at West Greenland, the French freezer trawler *Finlande III* carried out a small fishing experiment on shrimp, *Pandalus borealis*, off East Greenland from 9 to 12 July 1980 (Fig. 1).

During this period, information on the biological characteristics of shrimp, on catches, catch-rates, discards and by-catches were collected on board by a scientific observer of the St. Pierre Laboratory.

The methods for sampling, measuring and collecting data are those described by Derible *et al.*, (1980). Observations were made on 24 hauls and 9 samples of shrimp representing 956 individuals.

Biological characteristics of shrimp.

The size distribution of shrimp taken by the 40 mm-stretched mesh trawl were ranging from 19 to 35 mm Lc with the bulk between 23 and 30 mm Lc (Fig. 2). The mean length of the shrimp in the catch was 27.3 mm and the mean weight 12.1 g (Table 1).

The composition by sexual stages (Fig. 3) indicates that two groups of males were present ($\bar{L}_c = 24.1$ mm) representing 25.2% of the catches in number. The group of transitionals ($\bar{L}_c = 25.8$ mm) represented 23.3% of the catches and the group of females ($\bar{L}_c = 29.5$ mm) represented only 51.5% of the number caught. Also, only 53% of the females were mature (head roe). More details in the percentages in weight of each sexual group are provided in Table 1.

Catches and CPUE

During these few days of fishing in this area, the catch of shrimp was very small (2760 kg), the mean yield for the 24 tows combined being 69 kg/h. In spite of the small catch rates and of the small number of hauls, a diurnal variation in the yields was noted (Table 2.) Most of the catches were obtained at depth ranging from 300 to 350 meters (20 hauls) where the catch-rates were slightly higher (Table 3).

No discard of shrimp was observed during the experimental fishing, the size of individuals not justifying automatic sorting.

Cod, redfish and Greenland halibut were observed in the shrimp catches, 300, 150 and 20 kg respectively. The length distributions of cod and redfish are illustrated in Fig. 4, indicating relatively great size of cod (38 to 92 cm LT) and small size of redfish (11 to 22 cm LT) with a mode at 15 cm LT.

Reference

- P. Derible, H. Dupouy and J. P. Minet, 1980. Catch, effort and biological characteristics of shrimp (*Pandalus borealis*) in the French fishery off West Greenland, 1980. NAFO SCR Doc. 80/XI/159, Serial No. N246.

Table 1. Biological information on each sexual stage of shrimp in the total catches of *Finlande III* off East Greenland (9-12 July 1980).

	Males	Transi- tionals	Females				Total
			NR	HR	BR	KR	
Number %	25.2	23.3	10.5	21.9	10.9	8.2	100.0
Weight %	17.2	19.0	12.1	27.4	14.0	10.3	100.0
\bar{L}_c (mm)	24.1	25.8		29.5			27.3
\bar{W} (g)	8.3	9.8		15.0			12.1

Table 2. Diurnal variation of shrimp catch rates (kg/h) of *Finlande III* off East Greenland (9-12 July 1980).

Time periods (GMT-2)	00:00	04:00	08:00	12:00	16:00	20:00
	04:00	08:00	12:00	16:00	20:00	24:00
Number of hauls	3	3	6	3	5	3
CPUE (Kg/h)	20	38	85	81	103	25

Table 3. Shrimp catch rates (Kg/h) of *Finlande III* off East Greenland (9-12 July 1980) according to depth.

Depth (m)	250-300	300-350	>400
Number of hauls	2	20	2
CPUE (Kg/h)	25.5	76.2	14.1

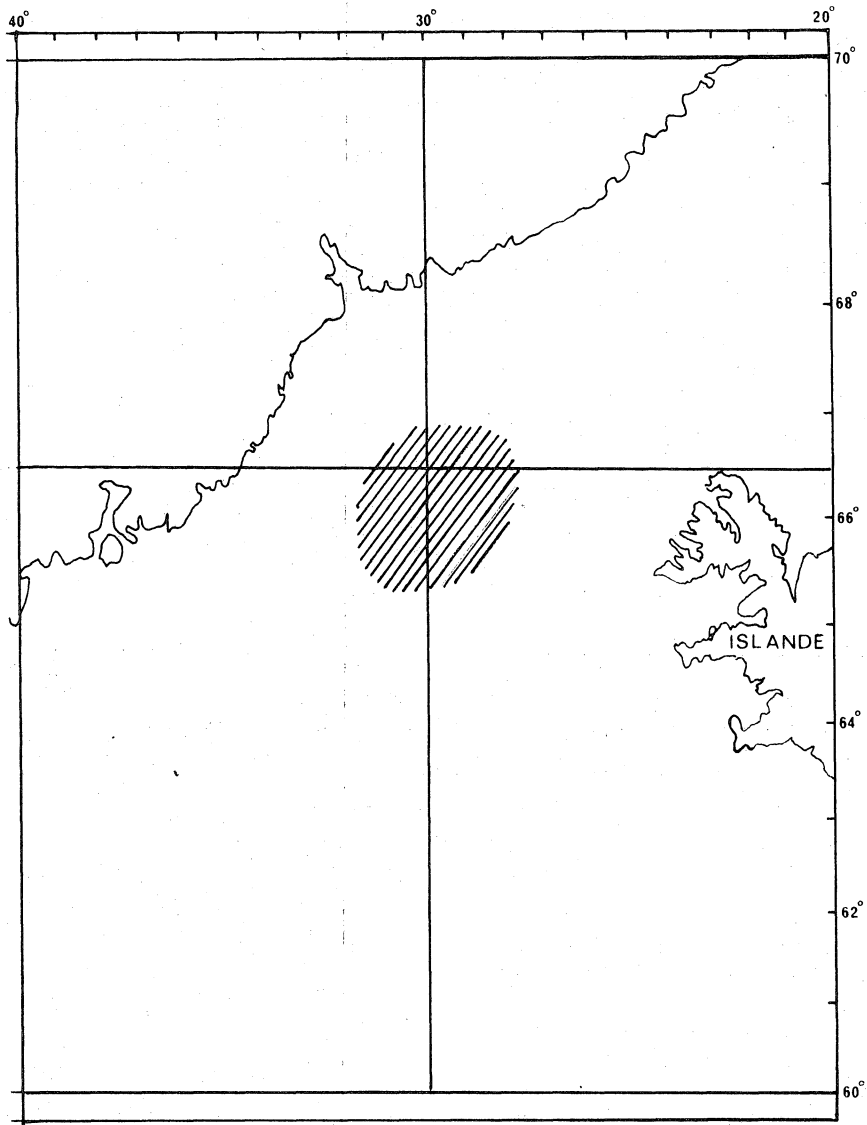


Fig. 1. Location of the sampling area on shrimp by *Finlande III* off East Greenland (9-12 July 1980).

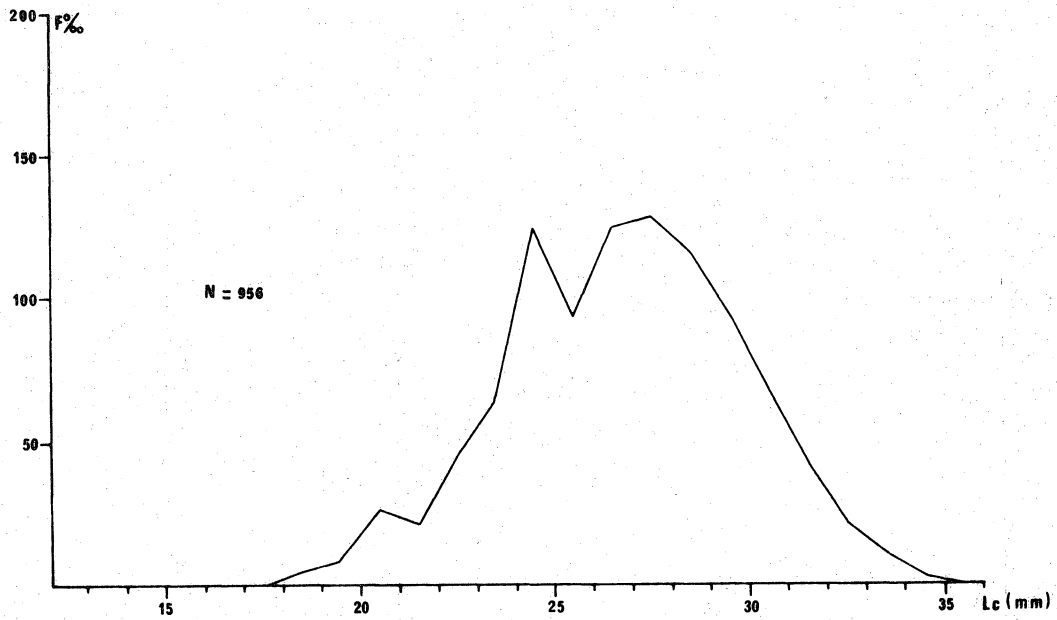


Fig. 2. Length distribution of shrimp off East Greenland (9-12 July 1980).

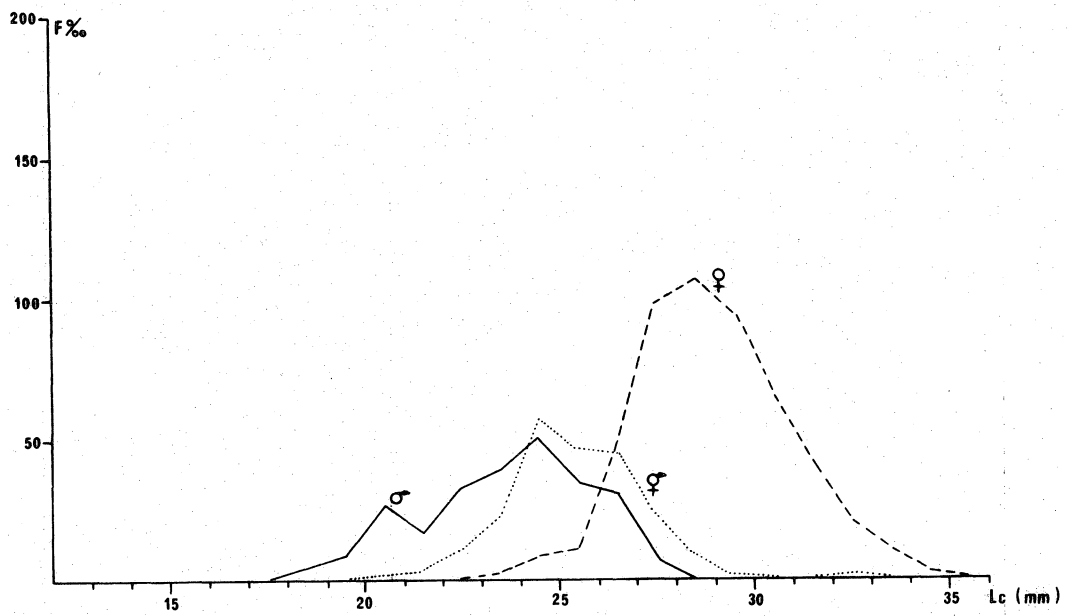


Fig. 3. Length distribution of male, transitional and female shrimp off East Greenland (9-12 July 1980).

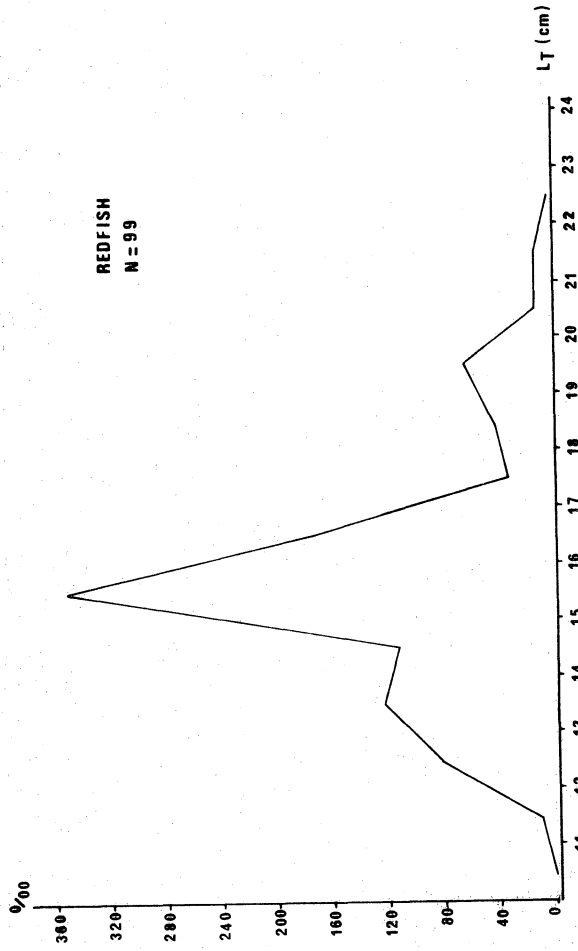
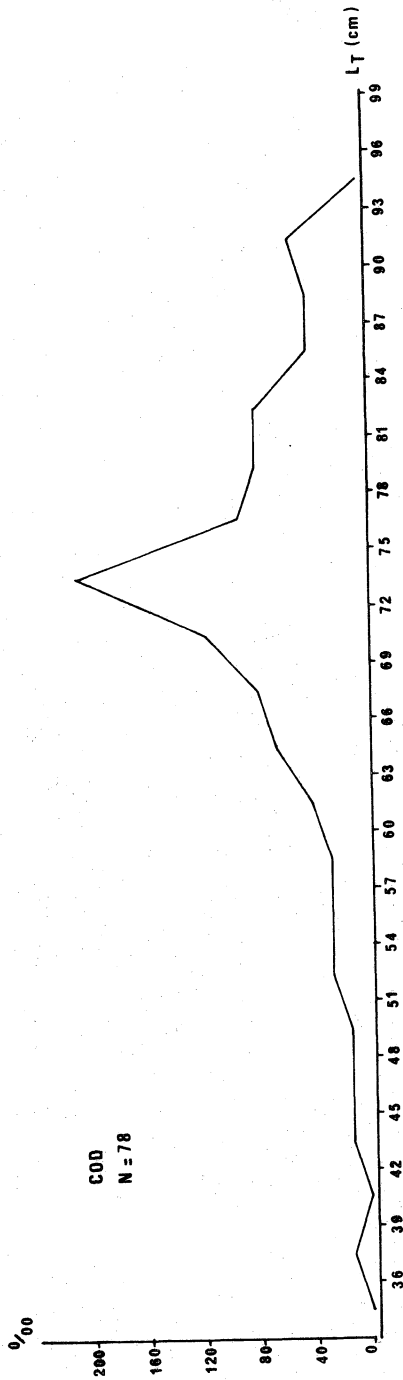


Fig. 4. Length distribution of cod and redfish taken in shrimp catches off East Greenland (9-12 July 1980).