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REPORT OF THE INTERNATIONAL O-GROUP SURVEY IN FAROE WATERS 1978

x) GENERAL SECRETARY
ICES
CHARLOTTENLUND SLOT
DK 2920 CHARLOTTENLUND
DENMARK

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SUMMARY

Two countries participated in the International 0-group surveys at Faroes in 1978.

The French research-ship "Thalassa" covered the strata 1 and 2 from 14 to 24 May. This cruise was mainly directed toward saithe.

The Faroese research-vessel "Jens Chr. Svabo" covered the same two strata in late June and first half of July. This cruise is especially directed toward cod, haddock, norway pout and sandeel.

Summaries of the catches in the two cruises are given in the tables and table 10 summarizes the results of the 5 years cruises of the Faroese research vessel. The cruises for saithe in May have only gone on for 2 years.

For all the main species catches were high in 1978 except for sandeel.

Besides the main species, catches of "other species" are given in tables and it has especially to be noted that herring, for the first time since the cruises started, is quite common in the catches especially in the catches of R/S "Thalassa".

MATERIALS AND METHODS.

Both ships covered stations choosen at random inside the two strata which cover the Faroe Plateau. Due to limited ships time it was found better to concentrate on the Plateau, instead of trying to cover both the Faroe Bank and the Faroe Plateau.

The methods working up the catch have been described in former reports (e.g. Hoydal 1974).

The gear used has been described in the 1976 report (Anon 1976).

RESULTS.

Hydrography.

Hydrography was only done by "Thalassa". The isotherms in May at the surface and in fishing depth and at bottom are given in fig. 3-5.

No hydrographic data from the Faroese moored buoy-system have been processed for 1978 sofar.

0-Group Abundance.

Indices of the main species are given in table 11. . Further details are given in tables 1 to 3 for "Thalassa" and 4 to 11 for "Jens Chr. Svabo". Distribution of cod and saithe in may is given in fig 1 and 2, and shows much the same pattern as in former years.

Inspecting tables 10, it further seems, that the "biological timing" is much the same in stratum 1, which is the most important, as in the year 1976, and later than in 1977.

The indices indicate cod and haddock 0-group abundances above average.

For other species the most interesting observation is for herring.

In the cruise in May herring was found at 32 stations of a total of 59. Judged by the range of length in the June-July survey (28-48 mm) this must be fry from the March spawning at the Banks east of the Islands. This spawning has however not been spotted by echo surveys this year.

But the length is too large for the May-spawning in the fiords.

So this should be spawning by the atlanto-scandian herring at the Faroes.

(Hoydal 1969).

In a paper for this meeting (Hoydal and Reinert 1978) some aspects of the correct timing of 0-group surveys are discussed in full detail.

References: Hoydal, K. (1974): Preliminary Report on the 0-group Survey in the Waters

Annales Biologiques 1974, 31, pp 310 -317.

- International

Anon (1976): Preliminary Report of the 0-group Fish Surveys in the Faroe Waters 1976. CM 1976/F:23

Hoydal, K. (1969): Preliminary notes on the Faroese Herring

CM 1969/H:16

Hoydal, K. and Reinert, J. (1978): Correcting the Faroe 0-Group Survey Data for Different Timing of the Survey

CM 1978/G:59.

TABLE 1

O-GROUP SURVEY FAROES 1978 THALASSA

Numbers of major species per 30 min.

Species	Stratum	Total catch	Stations	Negative Stations	Mean number	Precision %
Cod	Str. 1	19891	30	0 (1+)	663	54.5
	- 2	10191	29	3	351	66.7
Haddock	Str. 1	320	30	2	11	36.3
	- 2	172	29	10	6	61.1
Norway Pout	Str. 1	1249	30	1	42	40.2
	- 2	638	29	8	22	70.0
Sandeel	Str. 1	5410	30	1	180	48.5
	- 2	2357	29	4	81	62.9

TABLE 2

O-GROUP SURVEY FAROES 1978 THALASSA

Numbers of "other" species per 30 min.

Species	Stratum	Total catch	Stations	Negative Stations	Mean number	Precision %
Herring	Str. 1	547	30	9	18	69.9
	- 2	370	29	18	13	122.4
Argentina	Str. 1	2	30	28		
	- 2	5	29	26		
Saithe	Str. 1	7609	30	0 (1+)	254	50.1
	- 2	2749	29	1	95	46.2
Plaice	Str. 1	1345	30	2		
+ Long Rough Dab	- 2	406	29	12		
Lipares sp.	Str. 1	16	30	29		
	- 2	0	29	29		
Cottides sp.	Str. 1	0	30	30		
	- 2	24	29	29		

TABLE 3

O-GROUP SURVEY FAROES 1978 THALASSA

Meanlengths of cod and saithe in strata 1 and 2, mm.

Species	Stratum	Numbers measured	Mean length	Variance	Standard Deviation	Relative Standard	Range
Cod	Str. 1	2751	18.6	13.3	3.6	0.005	7-35
	- 2	1811	19.1	16.3	4.0	0.009	8-44
Saithe	Str. 1	3788	23.1	21.1	4.6	0.006	7-46
	- 2	1103	22.7	17.8	4.2	0.016	12-41

TABLE 4

O-GROUP SURVEY FAROES 1978 JENS CHR. SVABO

Numbers of major species per 30 min.

Species	Stratum	Total catch	Stations	Negative Stations	Mean number	Variance	Standard Deviation	Precision %
Cod	Str. 1	431422	60	0 (1+)	7190	134270365	11588	39.8
	- 2	33213	34	2	977	9910817	3148	58.3
Haddock	Str. 1	31670	60	4	528	4554169	2134	42.3
	- 2	4851	34	1	143	47213	217	43.2
Norway Pout	Str. 1	346144	60	12	5769	120808214	10991	66.1
	- 2	89774	34	14	2640	79587845	8921	119.0
Sandeel	Str. 1	26758	60	22	446	1111873	1054	73.8
	- 2	5968	34	22	176	574344	758	150.3

TABLE 5

O-GROUP SURVEY FAROES 1978 JENS CHR. SVABO

Numbers of "other" species per 30 min.

	Herring	Argen- tina	Whiting	Blue Whiting	Saithe	Silvery Pout Cod	Forked Hake	Torsk	Sebastes sp.	Cotti- des	Hali- but	Long Rough Dab	Dab	Lemon Sole
Total catch in Stratum 1	185	0	417	95	289	0	26	0	114	19	1	436	5	46
7 Stations	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Negative Stations	48	60	52	59	46	60	58	60	48	56	59	28	57	52
Total catch in Stratum 2	77	1	25	3	133	1	0	1	40	0	0	102	0	3
Stations	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Negative Stations	31	33	27	33	28	33	34	33	20	34	34	19	34	33

TABLE 6

O-GROUP SURVEY FAROES 1978 JENS CHR. SVABO

Meanlengths of major species in strata 1 and 2, mm

Species	Stratum	Mean length	Variance	Standard Deviation	Relative Standard	Range	Numbers Measured
Cod	Str. 1	29.5	28.0	5.3	0.005	13-62	6229
	- 2	28.0	21.3	4.6	0.015	16-52	1402
Haddock	Str. 1	24.0	25.6	5.1	0.014	11-47	1897
	- 2	23.5	22.8	4.8	0.018	12-48	1251
Norway Pout	Str. 1	29.3	20.0	4.5	0.006	11-47	3184
	- 2	29.3	18.5	4.3	0.022	16-44	844
Sandeel	Str. 1	53.2	56.4	7.5	0.089	21-78	633
	- 2	54.9	45.0	6.7	0.123	26-73	366
Saithe	Str. 1	22.9	9.0	3.0	0.249	18-33	36
	- 2	23.7	33.4	5.8	4.170	12-30	8

TABLE 7

O-GROUP SURVEY FAROES JENS CHR. SVABO

STRATUM 1

Species	Year	Total number of specimen	Stations	Negative Stations	Meannumber $\bar{X}$	K	Precision %
Cod							
1/7- 5/7	1974	78482	17	1	4617	0.2931	95
11/6-26/6	1975	74032	24	0 (1+)	3085	0.3498	71
22/6- 9/7	1976	591745	52	0	11165	0.3844	44.9
23/6-11/7	1977	169976	54	1	3148	0.4506	40.6
26/6-14/7	1978	431422	60	0 (1+)	7190	0.4200	39.8
Haddock							
1/7- 5/7	1974	1009	17	3	59	0.3346	89
11/6-26/6	1975	243	24	10	10	0.2299	89
22/6- 9/7	1976	7206	52	2	139	0.5977	36.1
23/6-11/7	1977	1397	54	10	26	1.3179	24.4
26/6-14/7	1978	31670	60	4	528	0.3734	42.3
Norway Pout							
1/7- 5/7	1974	172574	17	3	10151	0.1565	130
11/6-16/6	1975	26224	24	3	1093	0.2477	85
22/6- 9/7	1976	318124	52	4	6118	0.2542	55.2
23/6-11/7	1977	5997	54	7	111	0.3554	45.8
26/6-14/7	1978	346144	60	12	5769	0.1527	66.1
Sandeel							
1/7- 5/7	1974	69345	17	0 (1+)	4079	0.2974	94
11/6-26/6	1975	33359	24	1	1390	0.3883	68
22/6- 9/7	1976	49236	52	2	947	0.4222	42.8
23/6-11/7	1977	49819	54	2	923	0.4295	41.6
26/6-14/7	1978	26758	60	22	446	0.1224	73.8

TABLE 8

O-GROUP SURVEY FAROES JENS CHR. SVABO

STRATUM 2

Species	Year	Total number of specimen	Stations	Negative Stations	Meannumber $\bar{X}$	K	Precision %
Cod							
5/7-25/7	1974	10370	32	12	324	0.1247	102
26/6- 4/7	1975	60531	26	5	2328	0.1734	96
7/7-16/7	1976	102395	44	10	2327	0.1539	77.5
4/7-11/7	1977	5592	39	6	143	0.3039	58.8
26/6-14/7	1978	33213	34	2	977	0.3582	58.3
Haddock							
5/7-25/7	1974	932	32	8	29	0.3029	66
26/6- 4/7	1975	2529	26	3	97	0.3912	65
7/7-16/7	1976	6510	44	4	147	0.3614	50.6
4/7-11/7	1977	1019	39	1	26	1.1600	30.7
26/6-14/7	1978	4851	34	1	143	0.6550	43.2
Norway Pout							
5/7-25/7	1974	116072	32	20	3627	0.0412	178
26/6- 4/7	1975	2422	26	9	93	0.1678	98
7/7-16/7	1976	97121	44	26	2207	0.0491	125.6
4/7-11/7	1977	157	39	23	4	0.1624	82.0
26/6-14/7	1978	89774	34	14	2640	0.0859	119.0
Sandeel							
5/7-25/7	1974	90825	32	22	2838	0.0329	199
26/6- 4/7	1975	26397	26	7	1015	0.1486	105
7/7-16/7	1976	16466	44	23	374	0.0763	110.0
4/7-11/7	1977	9486	39	16	243	0.1165	94.9
26/6-14/7	1978	5968	34	22	176	0.0538	150.3

TABLE 9

O-GROUP SURVEY FAROES JENS CHR. SVABO

STRATUM 1

Meanlengths etc. of major species, mm.

Species	Year	Numbers Measured	Mean length	Variance	Range	Date
Cod	1974	1730	38.8	36.0	21-72	1-5/7
	1975	2504	26.0	28.5	8-44	11-26/6
	1976	9844	29.8	31.3	11-50	22/6-9/7
	1977	6858	23.5	14.6	12-40	23/6-11/7
	1978	6229	29.5	28.0	13-62	26/6-14/7
Haddock	1974	179	52.6	148.1	28-105	1-5/7
	1975	133	17.8	37.9	10-46	11-26/6
	1976	1286	26.4	45.8	10-41	22/6-9/7
	1977	345	17.3	19.8	8-48	23/6-11/7
	1978	1897	24.0	25.6	11-47	26/6-14/7
Norway Pout	1974	1822	37.7	29.4	19-54	1-5/7
	1975	641	23.5	21.2	7-34	11-26/6
	1976	4525	30.4	32.0	12-51	22/6-9/7
	1977	578	21.2	21.4	10-36	23/6-11/7
	1978	3184	29.3	20.0	11-47	26/6-14/7
Sandeel	1974	1200	62.6	65.6	35-101	1-5/7
	1975	1729	43.7	70.9	18-68	11-26/6
	1976	2544	51.8	23.7	20-73	22/6-9/7
	1977	3527	42.9	48.5	20-67	23/6-11/7
	1978	633	53.2	56.4	21-78	26/6-14/7

TABLE 10

O-GROUP SURVEY FAROES JENS CHR. SVABO

STRATUM 2

Meanlengths etc. of major species, mm.

Species	Year	Numbers Measured	Mean length	Variance	Range	Date
Cod	1974	15	36.9	21.6	30-50	5-25/7
	1975	1293	28.0	26.8	13-47	16/6-4/7
	1976	800	35.7	25.7	15-52	7-16/7
	1977	1362	25.9	18.4	14-41	4-13/7
	1978	1402	28.0	21.3	16-52	26/6-14/7
Haddock	1974	42	56.1	224.2	37-97	5-25/7
	1975	884	21.2	33.2	9-45	16/6-4/7
	1976	1485	29.7	60.0	11-79	7-16/7
	1977	667	19.5	35.7	9-59	4-13/7
	1978	1251	23.5	22.8	12-48	26/6-14/7
Norway Pout	1974	49	49.0	38.3	27-58	5-25/7
	1975	270	20.0	34.8	8-39	16/6-4/7
	1976	798	36.9	18.8	18-52	7-16/7
	1977	116	23.8	17.8	14-46	4-13/7
	1978	844	29.3	18.5	16-44	26/6-14/7
Sandeel	1974	243	65.1	78.1	42-93	5-25/7
	1975	617	42.6	66.4	17-70	16/6-4/7
	1976	798	59.6	51.7	22-77	7-16/7
	1977	905	45.0	48.8	20-73	4-13/7
	1978	366	54.9	45.0	26-73	26/6-14/7

TABLE 11

O-GROUP SURVEY FAROES 1978 JENS CHR. SVABO

Abundance estimates of 4 major species. O-group survey at Faroes 1974-78 by R/V Jens Chr. Svabo.

Combined estimate str. 1 and 2.

Numbers per 1/2 hour trawling.

Year	Cod	Haddock	Norway Pout	Sandeel
1974	2472	44	6908	3473
1975	2718	54	593	1208
1976	6758	144	4174	662
1977	1646	26	58	584
1978	4088	336	4218	312

Using 1974 as an index

Year	Cod	Haddock	Norway Pout	Sandeel
1974	100	100	100	100
1975	110	123	9	35
1976	273	327	60	19
1977	67	59	1	17
1978	165	764	61	9

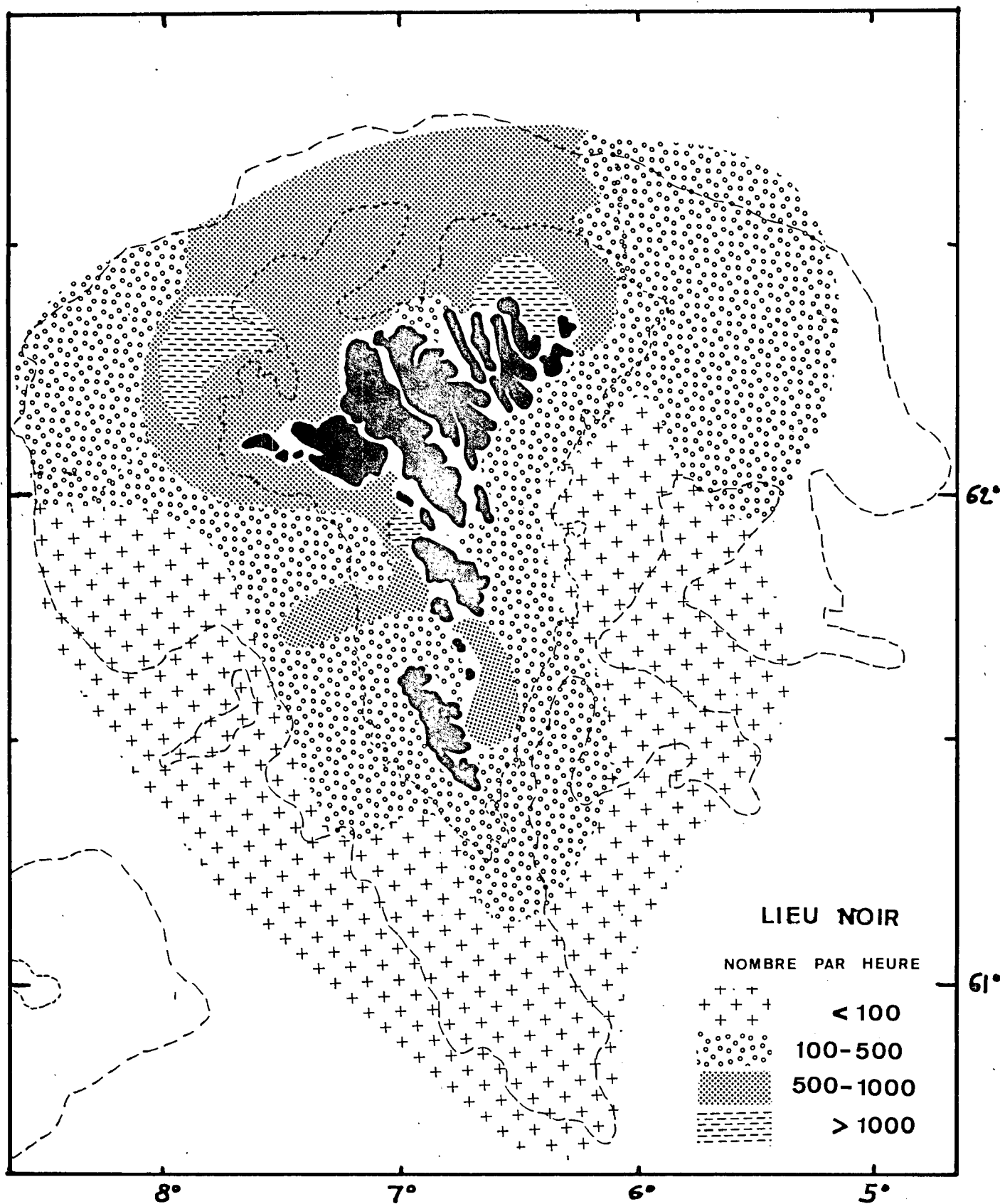


Fig. 1. R/S Thalassa. May 1978. Distribution of 0-group Saithe

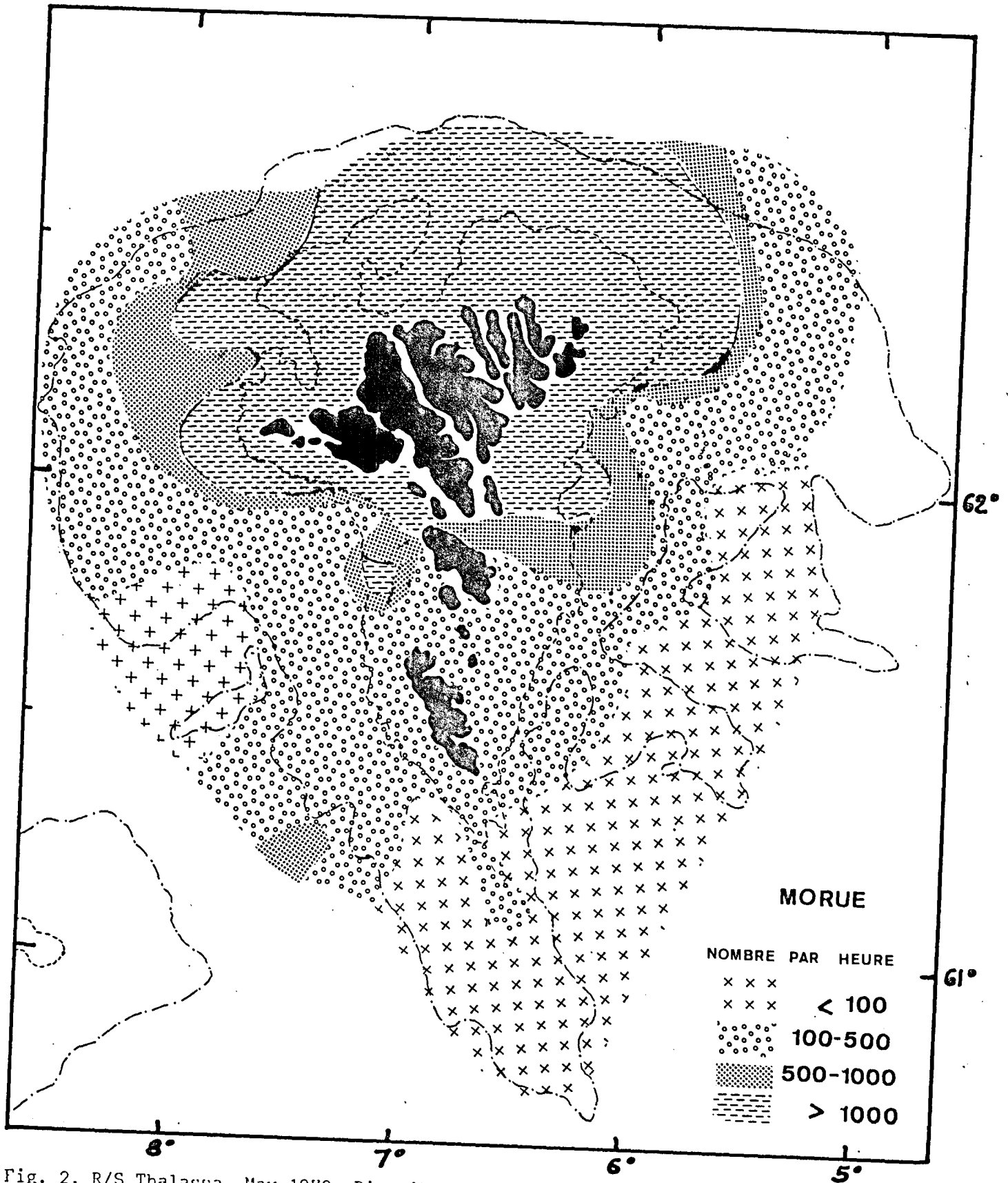


Fig. 2. R/S Thalassa. May 1978. Distribution of O-group Cod.

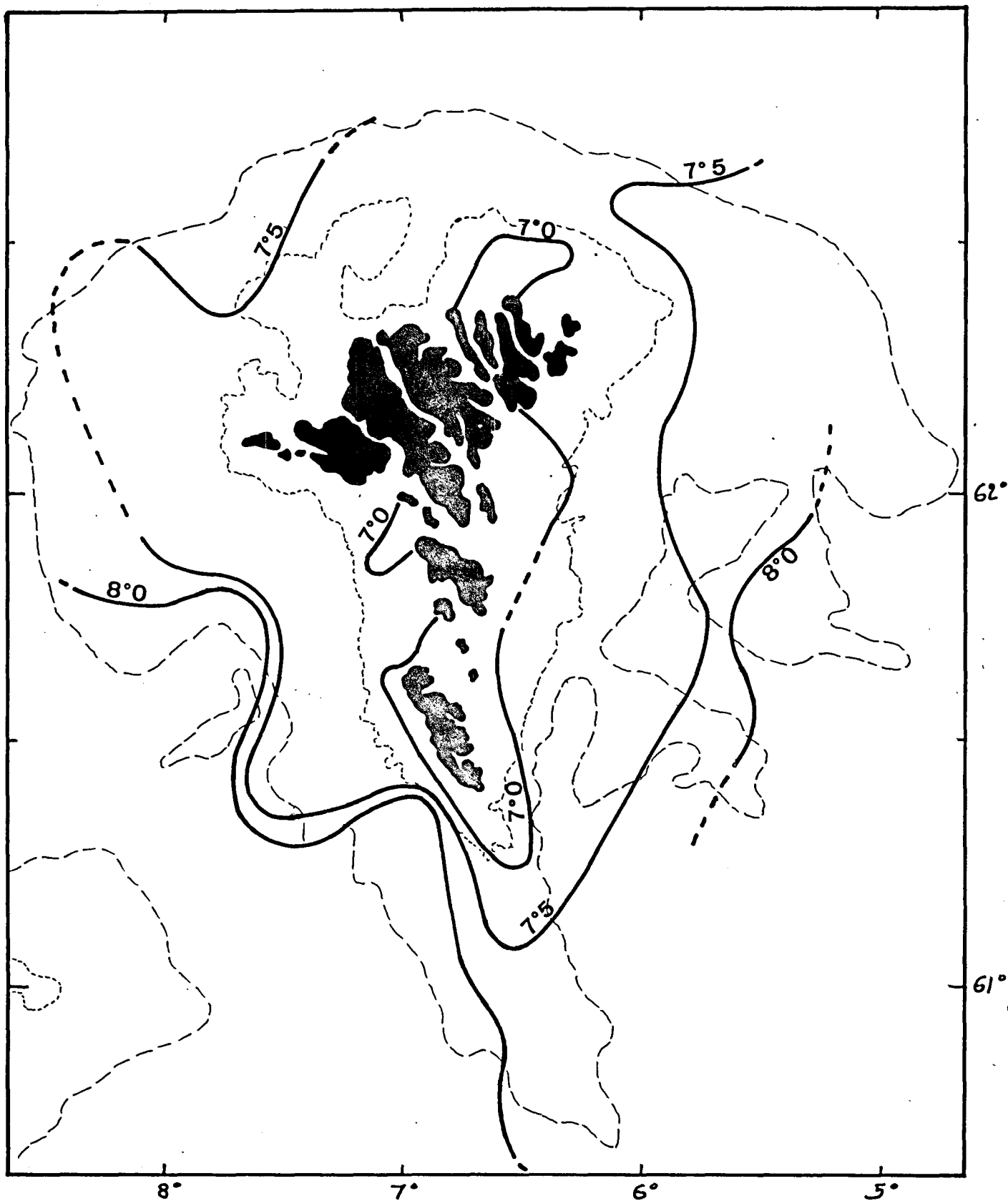


Fig. 3. R/S Thalassa. May 1978. Isotherms at surface.

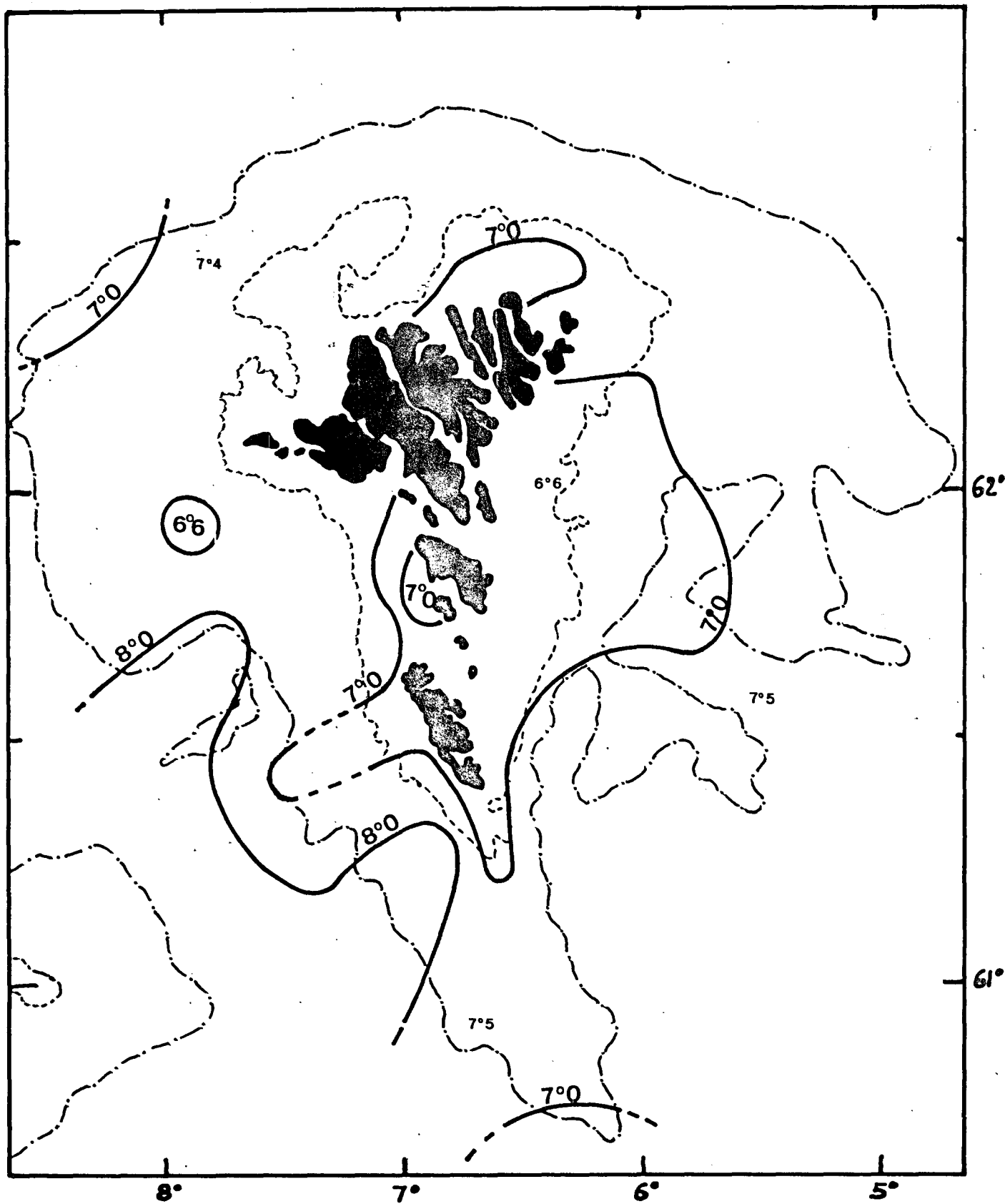


Fig. 4. R/S Thalassa. May 1978. Isotherms at fishing depth.

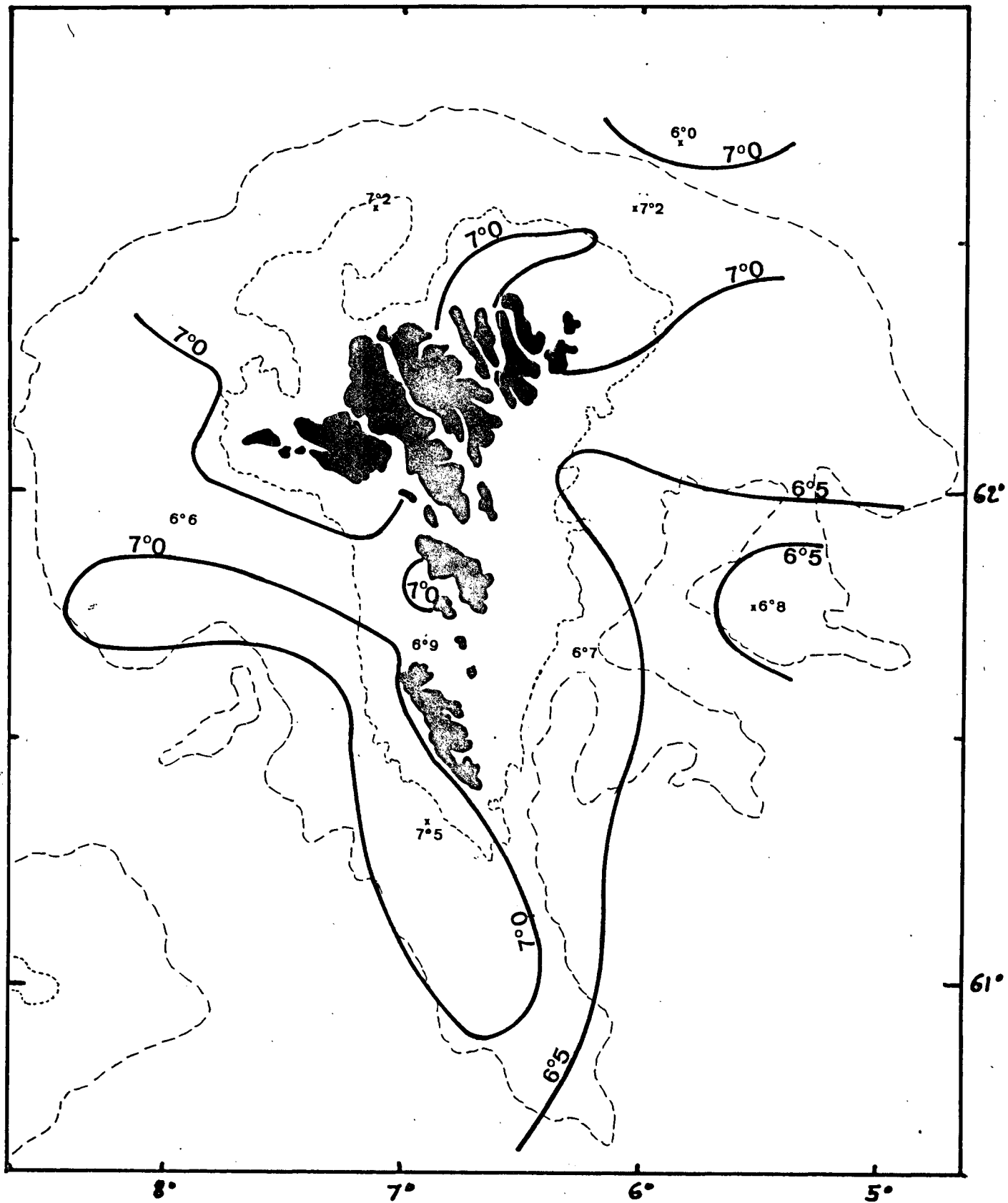


Fig. 5. R/S Thalassa. May 1978. Isotherms at bottom.