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SPANISH RESEARCH REPORT, 1972

by

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During 1972 the Spanish cod sampling program was carried out in Subareas 3 and 4, from the Side-Trawl "SOLANO" (1358 Gross tonnage). Total number of cod measured was 10,372 and 508 the good age determinations. Divisions sampled were 3L, 3M, 3Ps, 4R and 4Vn.

SUBAREA 3

A. Special Research studies

Samples were taken in late winter, early spring and late summer from a side trawl catch, tonnage class 6.

Mean age of whole catch is about 5.5 years old (year classes 1966-1967) and the main contribution is done by the year class 1968 in late winter and late summer.

Data suggest an entrance of older cod (year class 1966) in early spring and a disappearance (by catch or migration) in late summer.

The contribution of recent year classes in the whole catch in the past three years are:

TABLE I.: PARTIAL YEAR CLASSES COMPOSITION

YEAR CATCH	YEAR CLASSES COMPOSITION			
	in o/oo			
	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
1970	260	303	96	35
1971	312	267	107	16
1972	70	245	193	263

During winter and spring sex ratios are on the aim of a very high sex segregation, greater in mature specimens (deviation from 50% sex proportion with a probability less than 0.1 %).

Length frequencies by quarters are shown in Table II.

TABLE II.: LENGTH FREQUENCIES SUBAREA 3, BY QUARTERS

LENGTH GROUP (CM.)	QUARTERS (o/oo)	
	I	III
27-29	-	2
30-32	1	18
33-35	8	41
36-38	18	62
39-41	39	76
42-44	53	94
45-47	64	94
48-50	79	88
51-53	95	97
54-56	165	90
57-59	154	86
60-62	111	76
63-65	83	55
66-68	51	37
69-71	56	32
72-74	17	23
75-77	3	15
78-80	2	8
81-83	-	3
84-86	1	3
	<hr/>	<hr/>
	1000	1000

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SUBAREA 4

A. Special Research studies

At the same time that for Subarea 3 samples were also taken in Subarea 4, from the same vessel.

Mean age for 1972 OT Spanish catch is 5.5 years, but particularly in late summer was low (4.8 years); in this season, modal year class was 1968 and the majority of the catch (more than 85 %) was supplied by 1966-67-68 year classes. During the first half of the year the same proportion was supplied by the same year classes but including 1965. The drop of seven years old cod can be shown in the TABLE III.

TABLE III.: PARTIAL AGE COMPOSITION BY MONTHS

MONTHS	A G E			
	(Frequencies in o/oo)			
	7	6	5	4
FEB.	157	338	148	202
MAR.	141	269	259	142
SEP.	36	198	256	398

In the summarized table of year classes composition in the past three years (TABLE IV) it can be pointed out

that for 1970, more than 30% of the catch was supplied by 5 years old cod, and for 1971 - 1972 the majority of catch was supported by 6 years old cod.

TABLE IV.: PARTIAL YEAR CLASSES COMPOSITION

YEAR CATCH	YEAR CLASSES COMPOSITION (frequencies in o/oo)					
	1963	1964	1965	1966	1967	1968
1970	186	276	350	179	6	
1971	49	149	355	248	127	47
1972		58	119	268	230	221

FIGURE 1.: AGE COMPOSITION IN LAST THREE YEARS

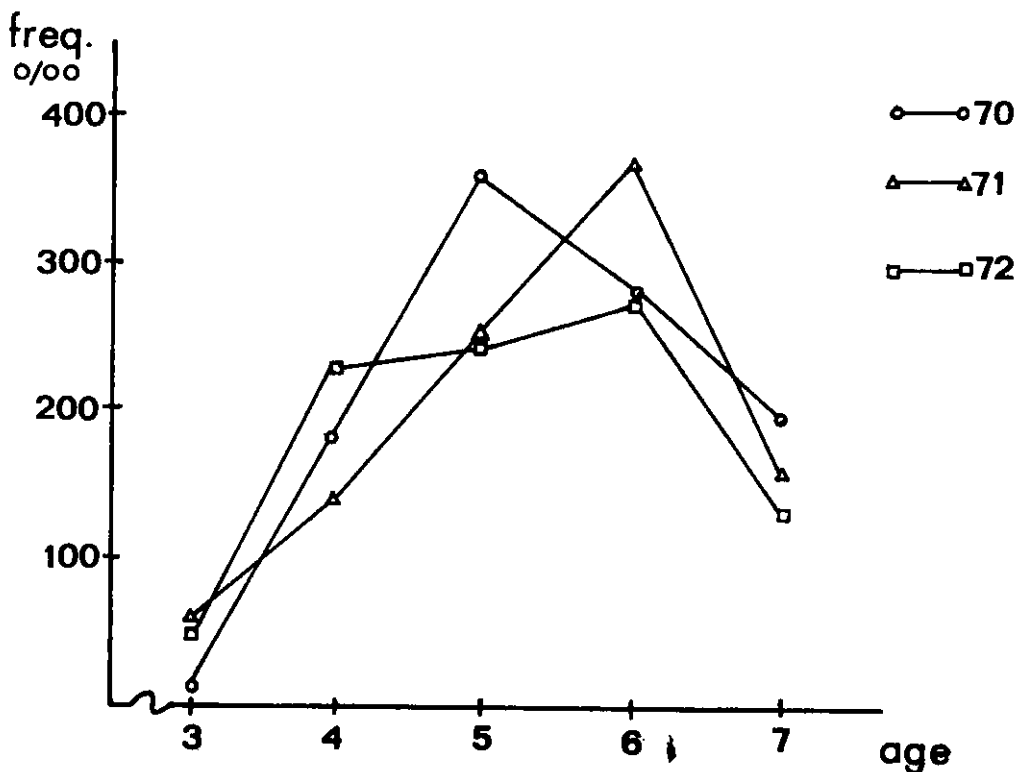


TABLE V.: LENGTH FREQUENCIES SUBAREA 4, BY QUARTERS

LENGTH GROUP (CM.)	QUARTERS (frequencies in o/oo)	
	I	III
30-32	6	-
33-35	17	-
36-38	58	19
39-41	89	66
42-44	109	81
45-47	103	99
48-50	114	121
51-53	115	128
54-56	125	114
57-59	97	98
60-62	68	69
63-65	48	74
66-68	28	67
69-71	11	43
72-74	4	16
75-77	5	5
78-80	2	-
81-83	1	-
	1000	1000

Except in early spring, data show sex deviation from proportion 50%. For matures cod segregation is high significant (less 0.1%),