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Length, ages, growth of cod in Subareas 2 and 3 (1967)

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The present report is based on observations made on board commercial trawlers by one member of the "Bochorno" ship of the Cod Fishery Company PYSBE in subareas 2 and 3. The samples were taken, at random, for data on length, age composition and sex ratio.

For the age-length key we have used a subsample obtained from the initial random samples by choosing a number of otoliths in each 3 cm length class. Otoliths were read both by A. Figueras of the "Instituto de Investigaciones Pesqueras" of Vigo and O. Cendrero of the "Instituto Español de Oceanografía" of Santander obtaining a very good agreement.

SUBAREA 2.

I. Cod

Samples were obtained in Div. 2 J in May, June, September, October and November on the following pattern:

<u>Sample group</u>	<u>Sample N°</u>	<u>Date</u>	<u>N° lengths</u>	<u>N° aged</u>
B (2 nd quarter)	1-15	28-31 May	2.461	57
		1-12 June	6.086	
C (3 th quarter)	16-20	16-22 Sept	2.257	22
D (4 th quarter)	21-41	12-31 Octob.	3.052	49
		2-12 Novemb.	2.875	
			<u>16.731</u>	<u>128</u>

a. Lengths

In division 2J lengths ranged from 31 cm to 100 cm classes; (in May from 31 cm to 82; in June from 31 to 100 cm; in September from 31 cm to 79 cm; in October from 31 cm to 76 and in November from 31 cm to 79 cm)

Mean lengths were: 51'8 cm in October; and 50,3 cm in November, 52,3 cm in May; 53,1 cm in June; 52,7 cm in September.

b. Ages

The age-group VII (1960 year class) is dominant followed by the age-group VI (1961 year class).

c. Growth

Age group	2nd Quarter (may)	3rd Quarter (june)	4th Quarter (september)	5th Quarter (october)	6th Quarter (november)
III	40'0 cm	---	40'0 cm	---	---
IV	38'2 "	39'0 cm	42'3 "	45'0 cm	46'0 cm
V	47'5 "	43'6 "	53'5 "	48'0 "	45'2 "
VI	47'2 "	52'6 "	55'0 "	58'8 "	50'5 "
VII	55'0 "	67'0 "	59'1 "	61'4 "	61'9 "
VIII	65'8 "	61'0 "	61'0 "	67'0 "	67'0 "
IX	67'0 "	65'0 "	---	70'0 "	---
X	64'0 "	68'0 "	---	---	71'5 "
XI	70'0 "	61'0 "	---	---	70'0 "
XII	61'0 "	76'0 "		73'0 "	---
XIII		76'0 "			---
XIV		79'0 "			79'0 "
...					
XVIII		82'0 "			

d. Sex ratio

There were in may 18'5 % of males and 81'5 % of females; in June 31'3 % of males and 68'7 of females; in September 34'8 % of males and 65'2 % of females; in October 41'7 % of males and 58'3 % of females; and in November 30'8 % of males and 69'2 % of females. The males are always in minority as in precedent years.

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SUBAREA 3

I. Ood

Samples were taken from landings from 19th March to 29th November in Division 3 L; and from 16 to 18 of March in Division 3 M. The late samples are not considered because their scarce number. In division 3 L the distribution of samples were as follows:

Sample group	Sample N ^o	Date	N ^o Lengths	N ^o Aged
A (1st quarter)	42-47	19-31 March	1.993	25
B (2nd quarter)	48-50	1-11 April	897	48
	51-60	18-28 June	5.041	
C (3rd Quarter)	61-65	2-11 July	2.262	
	66-71	24-30 August	2.556	75
	72-79	1-10 September	5.672	
D (4th quarter)	80-83	23-29 November	1.248	31
			19.669	179

a. Lengths

In division 3 L lengths ranged from 31 cm to 112 cm in March; to 97 cm in April; to 103 cm in June; to 79 cm in July; to 115 cm in August; to 82 cm in September; and to 106 cm in November. Less than 31 cm there not occurs in the sample.

Mean lengths were: 58'8 cm in March; 54'9 cm in April; 55'1 cm in June; 46'2 cm in July; 50'5 cm in August; 53'4 cm in September; and 51'5 cm in November.

b. Ages

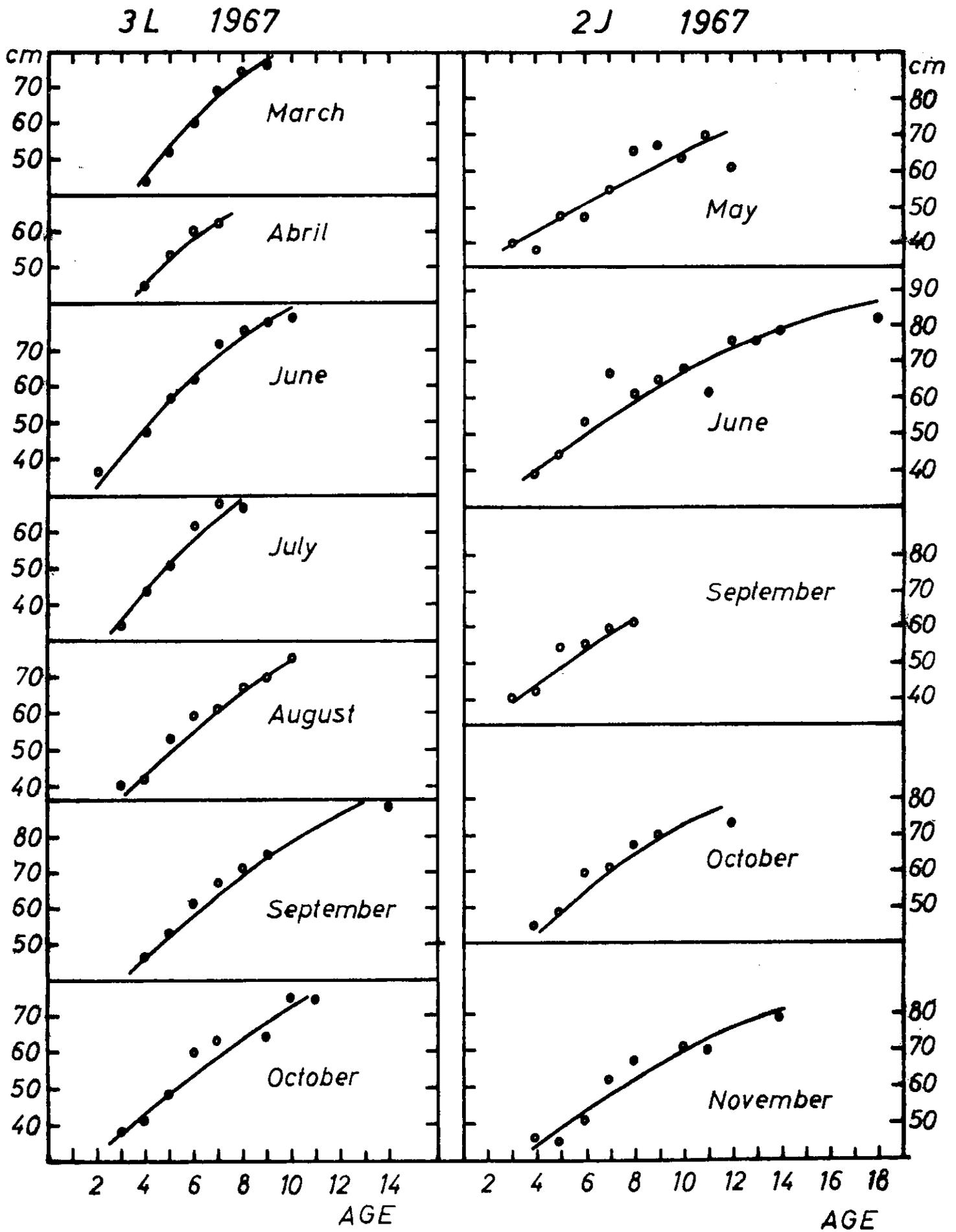
In division 3 L the dominant age-group are approximately the same than in Division 2 J for this year (VII and VI, 1960 year class and 1961 year class respectively).

c. Growth

Age group	1st Quarter (March)	2nd Quarter (April)	3rd Quarter (June)(July)	3rd Quarter (August)	4th Quarter (Sept)	4th Quarter (Novemb)	
II	--	--	37'0cm	--			
III	--	--	--	35'5cm	40'0cm	--	38'0cm
IV	44'5cm	44'5cm	47'9" "43'5" "	41'8" "	46'0cm	40'8 "	
V	51'6 "	52'6 "	56'5 "50'7 "	53'3 "	52'9 "	47'8 "	
VI	59'5 "	59'5 "	61'8 "61'5 "	59'2 "	60'5 "	59'5 "	
VII	68'5 "	62'0 "	71'8 "68'0 "	61'0 "	67'0 "	63'4 "	
VIII	73'6 "	67'0 "	76'0 "67'0 "	67'0 "	71'0 "	--	
IX	76'0 "	--	77'5 "	69'0 "	74'5 "	64'0 "	
X	--		79'0 "	74'5 "	--	74'5 "	
XI					--	74'2 "	
XII					--		
XIII					--		
XIV					88'0 "		

d. Sex ratio

In March there were 38'5 % of males and 61'5 % of females, in April 33'3 % of males and 67'7 % of females; in June: 34'4 % of males and 65'6 % of females; in July: 25'9 % of males and 74'1 % of females; in August: 44'0 % of males and 56'0 % of females; in September: 29'2 % of males and 70'8 % of females; and in November: 38'7 % of males and 61'3 % of females.



3L 1967

2J 1967

