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During 1960 observers on board various trawlers have continued the collection of data for the study of size- and age-frequency of cod, Gadus morhua L. The following samples were investigated:

Division	Month	Numbers of cod measured		
		Monthly	Total by Division	Total General
1B	V	4,667		
	VIII	8,206		
	IX	632	13,505	
1C	V	735	735	
1D	IX	1,942	1,942	
1E	V	2,043	2,043	18,225
2J	IX	11,507		
	X	9,762		
	XI	7,954		
	XII	1,610	30,833	
2H	IX	3,095		
	X	1,377	4,472	35,305
3K	V	1,222	1,222	
3L	IV	6,019		
	X	1,279	7,298	
3O	IV	464	464	
3PN	III	1,823	1,823	10,807
4R	II	2,501		
	III	7,794		
	IV	4,120	14,415	
4V N	II	5,278		
	III	2,413		
	IV	2,157	9,848	
4W	III	258	258	25,521
			TOTAL	89,858

Length Distribution

Subarea 1 (Figure 1)

Cod below a size of 40 cm is not sought by the Spanish fishery. Therefore, cod of this size are only present in appreciable numbers in one case, viz. in Division 1B, August, here accounting for 5% of the total catch. In the other divisions and months, the catch of cod below 40 cm is negligible.

The modal size in the samples is 69-71 cm (3 cm-group), except for Division 1E, with 45-47 cm, far below any of the other regions.

In Division 1B the length curves for May and September correspond with one another, whereas the length distribution for August differs from that of the other two months.

The number of specimens over 90-92 cm is very low.

Subarea 2 (Figure 2)

Cod below 40 cm account for 3.3% in Division 2J and for 3.6% in 2H.

In Division 2J the peak of the size curve is at 60-62 cm, and the curves for the four months sampled agree well with one another. A small increase in size is noted from September through November due to the individual growth in this period.

In 2H the peaks of the curves vary between 54-56 cm (September) and 60-62 cm (October). Cod larger than 80 cm are very scarce.

Subarea 3 (Figure 3)

The catch of cod below 40 cm is negligible: 3K - 0%, 3L - 2.1%, 3O and 3Pn - 1%. Individuals of more than 80 cm length are exceedingly rare.

The peaks of the length curves are in 3K at 60-62 cm (14.8%), in 3Pn at 60-62 cm (18.4%), in 3L, October, at 60-62 (12.5%), in 3O at only 51-53 cm (17.4%); however, in 3O only 464 cod were measured.

Subarea 4 (Figure 4)

The catch of cod below 40 cm was 3% in 4R and 1.2% in 4W. In 4R the peak is at 60-62 cm (18.9% - February, 14.5% - March, and 14.8% - April). In 4Vn the size is smaller 51-53 cm (15.7% - February, 15.3% - March, and 19.3% - April).

In 4W the peak is at 54-56 cm (17.4%). Cod more than 80 cm long are very scarce.

Frequencies by Months (Figure 5)

April: In this month the largest cod are found in 4R, with a peak at 60-62 cm (14.8%). The other divisions show peaks at only 51-53 cm (4Vn - 19.3%, 3O - 17.4%, and 3L - 12.9%).

May: The largest cod are in 1C with a peak at 69-71 cm (18.9%) and in 1B, also 69-71 cm (16.5%). 3K presents a peak at 60-62 cm (14.8%). Finally, in 1E the peak is only at 45-47 cm (22.4%).

September: In 1D the peak is at 72-74 cm (11.2%), but the size-groups through to 81-83 cm follow very closely (81-83 cm - 10.6%). In Division 1B the peak is at 69-71 cm (20.2%). The length curves for 2J and 2H are almost parallel with their peaks at 54-56 cm.

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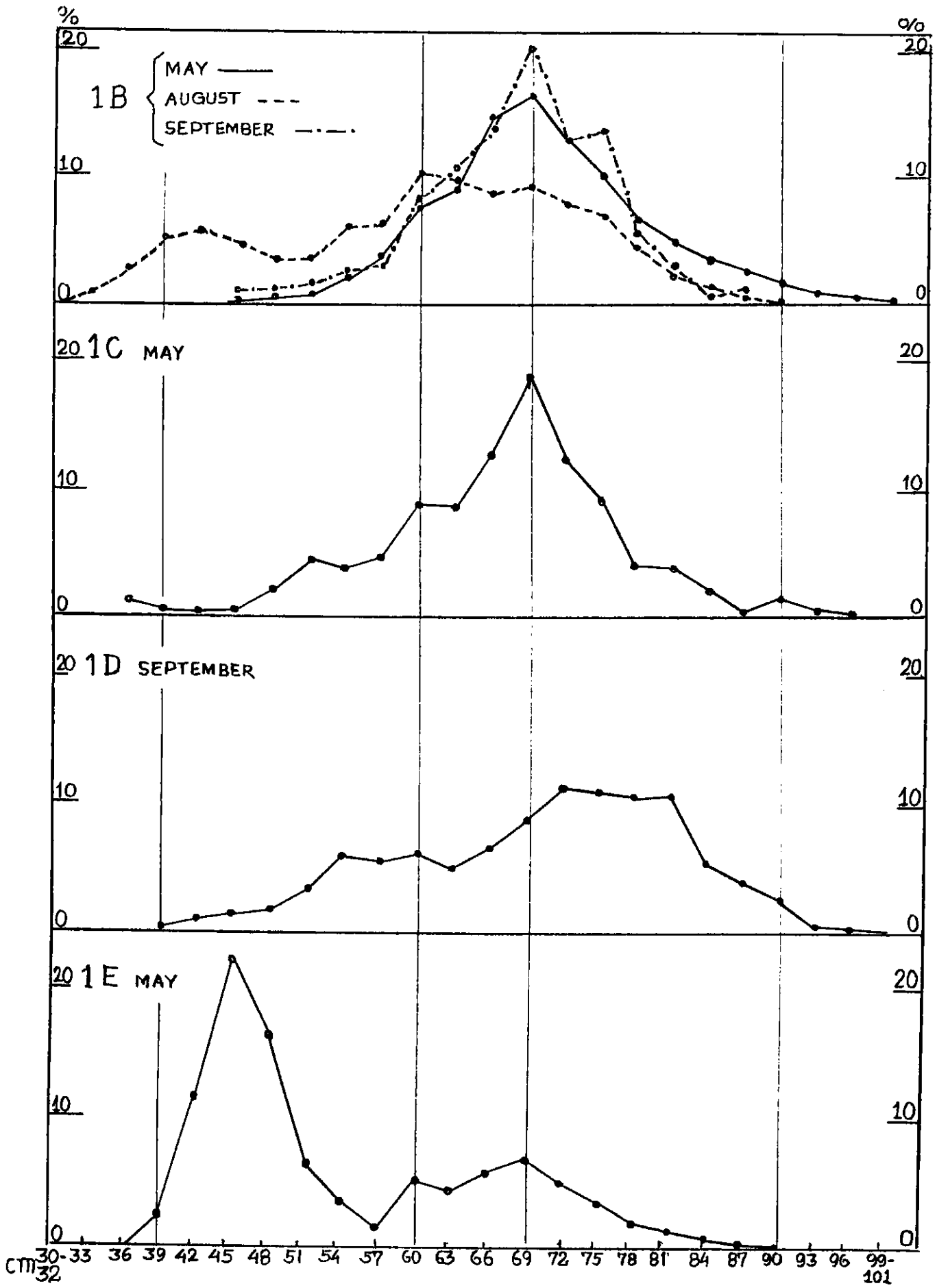


Figure 1 - Spanish Trawlers, cod, length distribution curve; Subarea 1.

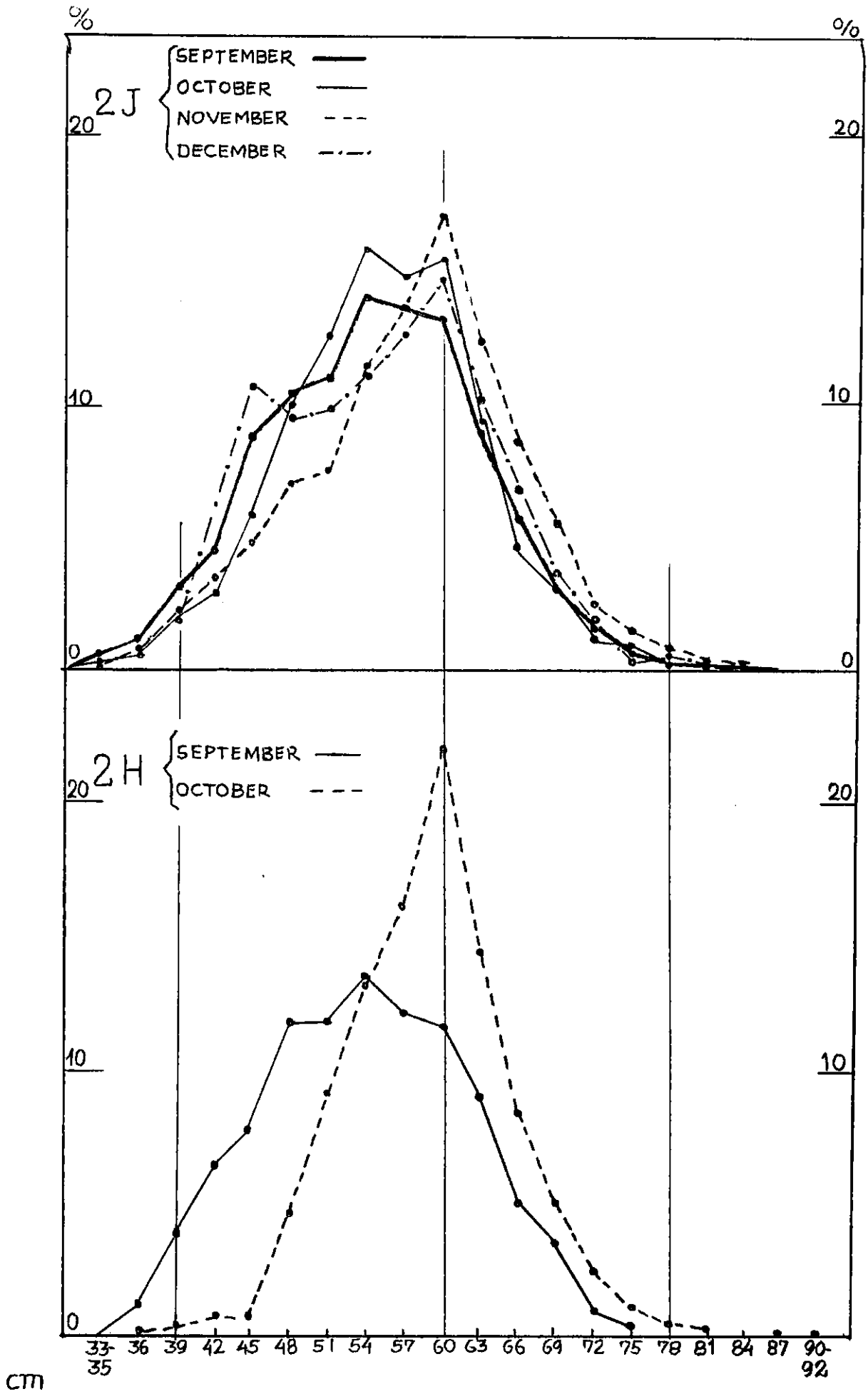


Figure 2 - Spanish Trawlers, cod, length distribution curve; Subarea 2.

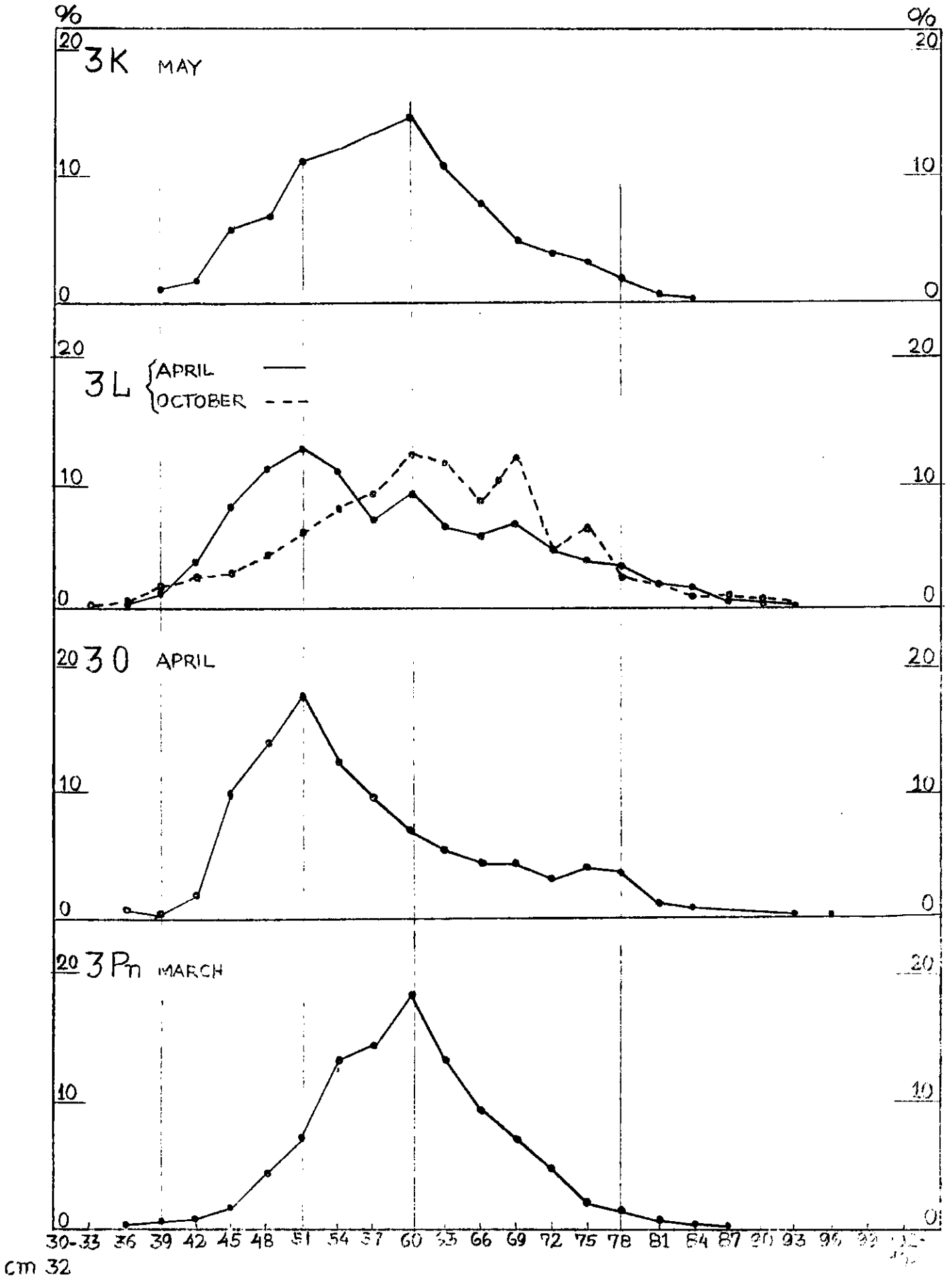


Figure 3- Spanish Trawlers, cod, length distribution curve; Subarea 3.

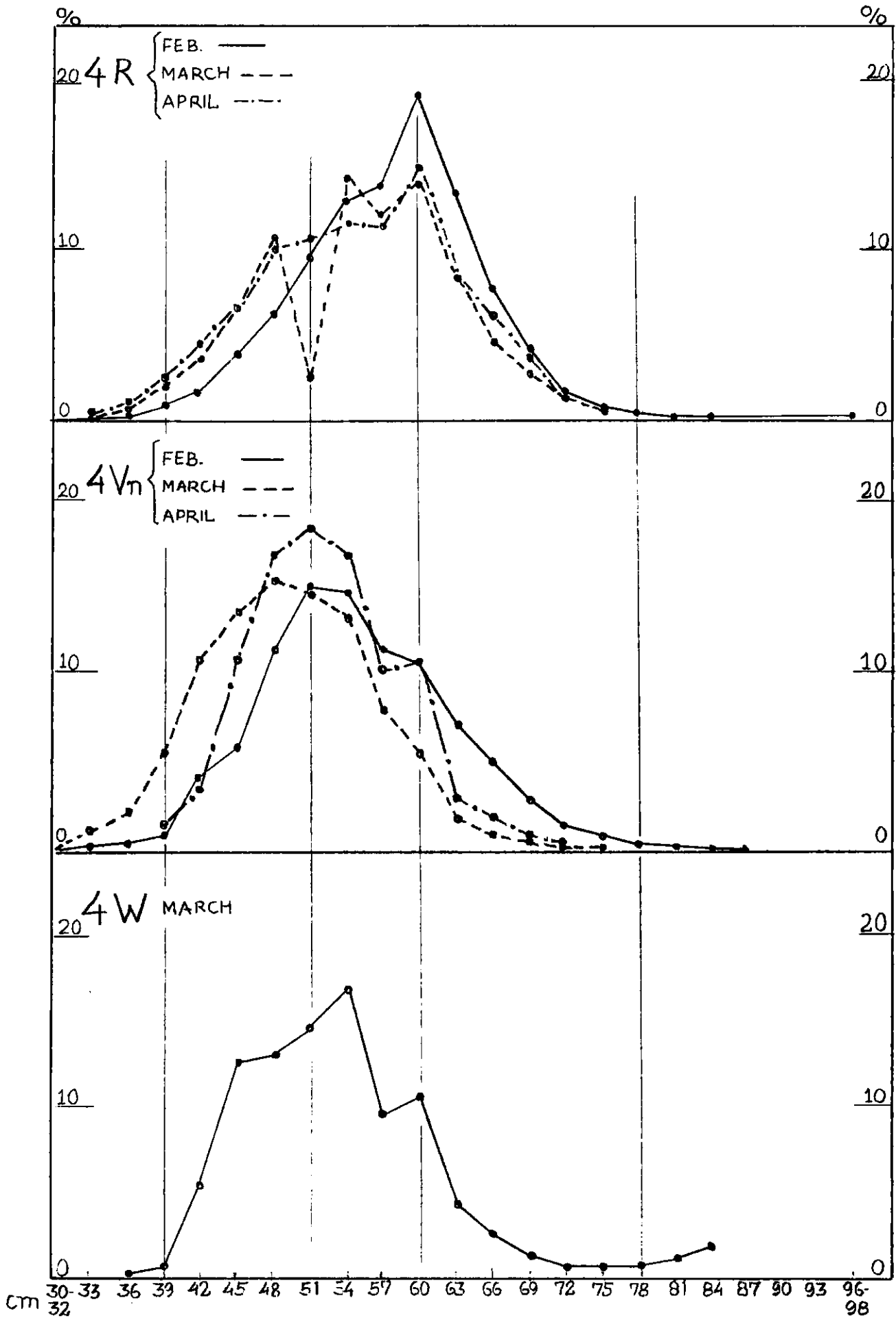


Figure 4 - Spanish Trawlers, cod, length distribution curve; Subarea 4.

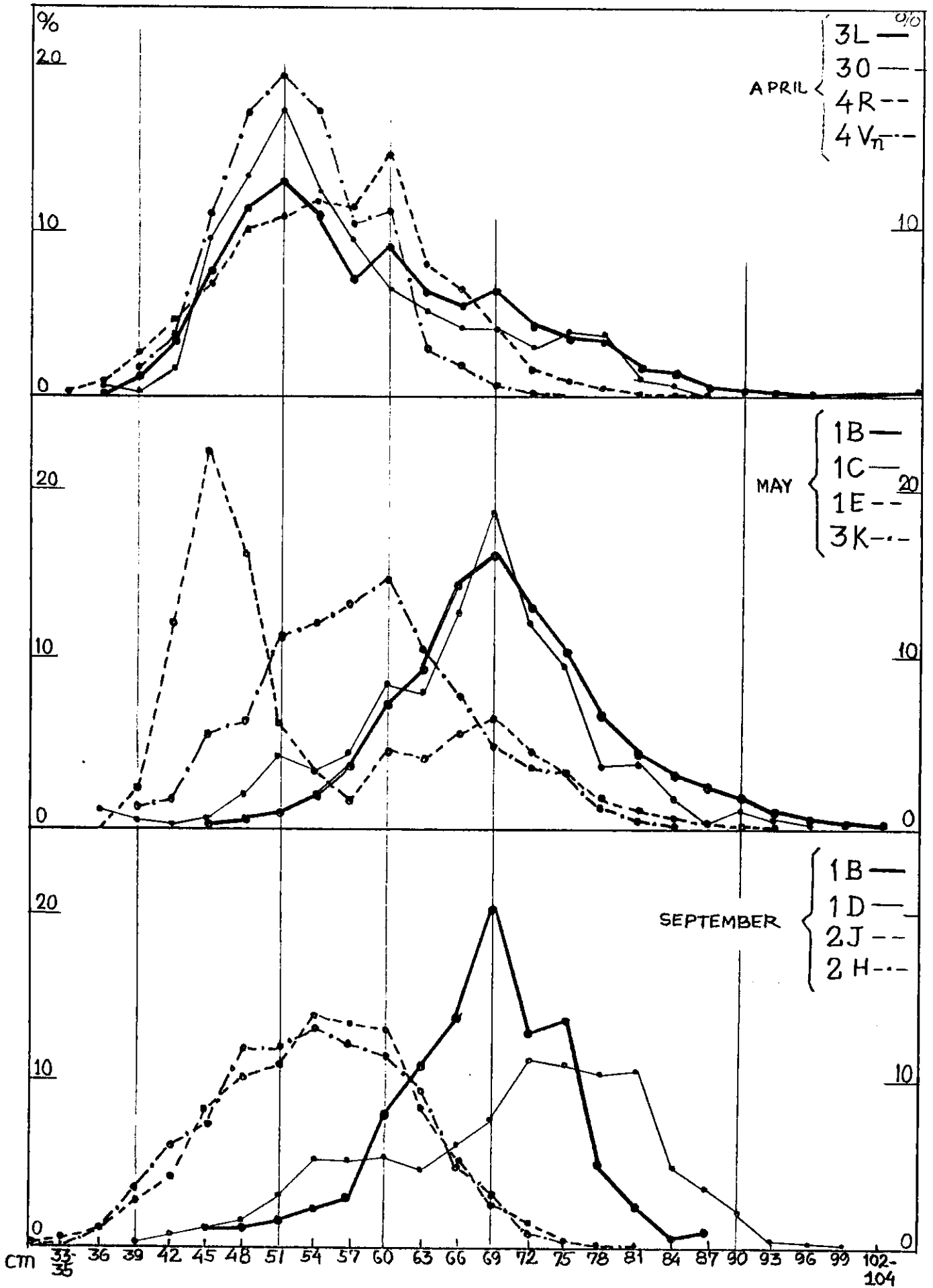


Figure 5 - Spanish Trawlers, cod, length distribution by months.