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Age Composition of Populations of Cod from some Banks off West Greenland.

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The present study, which to our knowledge is the first Portuguese research concerning the age composition of the Greenland cod, was carried out by the author in June and July 1953 on board the Dory Vessel "Capitão João Vilarinho".

The techniques of such investigations are well known, and therefore we shall here only mention that we have adopted the methods used for several decades by the Danish biologists with whom the author has had the honour and pleasure to work. The author is greatly indebted to Dr. Phil. Paul M. Hansen, his assistants and colleagues, without whose help it would have been very difficult to carry out these first studies. At the same time the author's best thanks are due for the kind and valuable cooperation extended by the captain of the vessel, Snr. Silvio Ramalheira, and his officers and crew.

The samples used in this study of the age composition of cod in the Davis Strait were obtained by dory fishery with hand lines nearly always baited with mackerel. On the Dana Bank (Lat. 62°45'N, Long. 51°42'W) only one sample (on 9 June 1953) was taken (see Diagram 1). In the following days samples were taken from the Fiskenes Bank (Lat. 63°05'N, Long. 51°25'W) (see Diagram 1). The fishery on the Dana Bank was carried out in a depth of approximately 150 fathoms, whereas that on the Fiskenes Bank took place in depths not exceeding 75 fathoms.

The seven samples from Fyllas Bank off Godthåb (see Diagram 2) were collected between 26 June and 6 July 1953 in depths varying between 25 and 100 fathoms, and in places rather close to one another, with exception of two which came from the area 64°00'N, 52°25'W and 64°00'N, 52°35'W.

Fishery was carried out on the Lille Hellefiske Bank on one day only - 13 July 1953. The catch was very scarce and owing to bad weather it was impossible to carry out analyses as to age or length. On the Store Hellefiske Bank (66°51'N, 54°20'W and 66°51'N, 54°12'W) the place of the hauls changed during the four days in which it was possible for the author to take samplings (see Diagram 3). It should be mentioned that the depth from which the samples were taken was only 25 fathoms.

In all 1,067 fishes were sampled, dispersed as follows over the banks:

Dana	Fiskenes	Fylla	Lille Hellefiske	Store Hellefiske
61	252	452	-	302

It is evident that the comparability of the results (see Table 1) suffers a little from the fact that in one of the samples, that from the Dana Bank, the number of specimens is only very small, namely 61 individuals. However, it should be noted that the results from Dana Bank are similar to those obtained from the adjacent Fiskenes Bank.

On the other hand the ecological habitats from which the material was taken are not the same. Differences exist especially in the varying depths of fishing and in the varying distances from the coast.

The methods used in the sampling as well as in the study of the samples are the same as those used in previous works.

The collection of otoliths which was always accompanied by sex determinations and measurements of length preceded the samplings for measurements of length only. These latter samplings comprised 4,206 fishes and they have been treated in another report (see Document 5). The results which we present in this report are thus derived from the same populations of fish dealt with in Document 5. The samples were taken on the same days in the same places and from catches taken with the same gear.

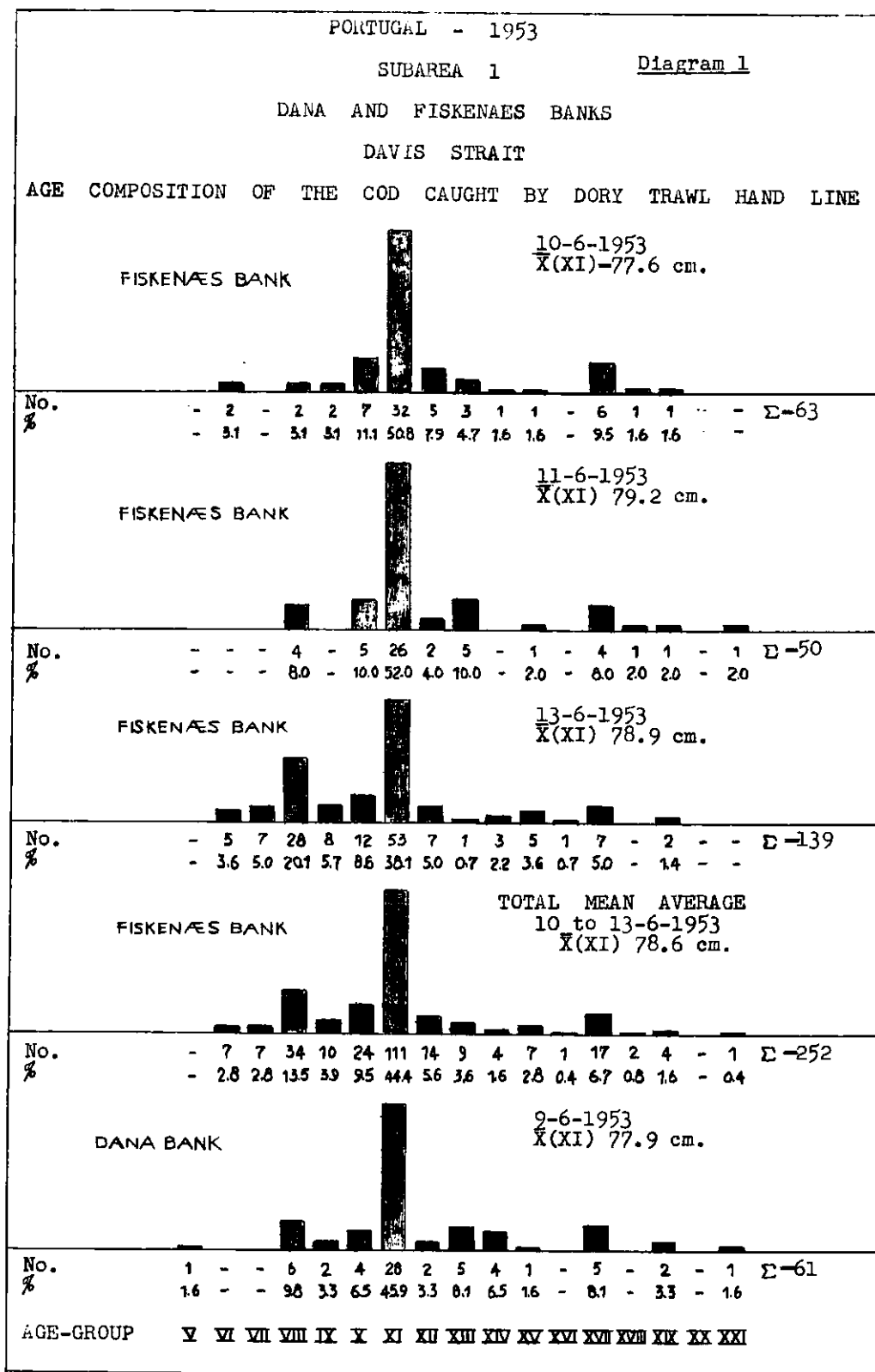
As this is the first time that the author has carried out age determinations (about 1,000 pairs of otoliths) using the necessary methods elaborated in the Scandinavian laboratories, the possibility may exist that the results cannot be relied on in every detail.

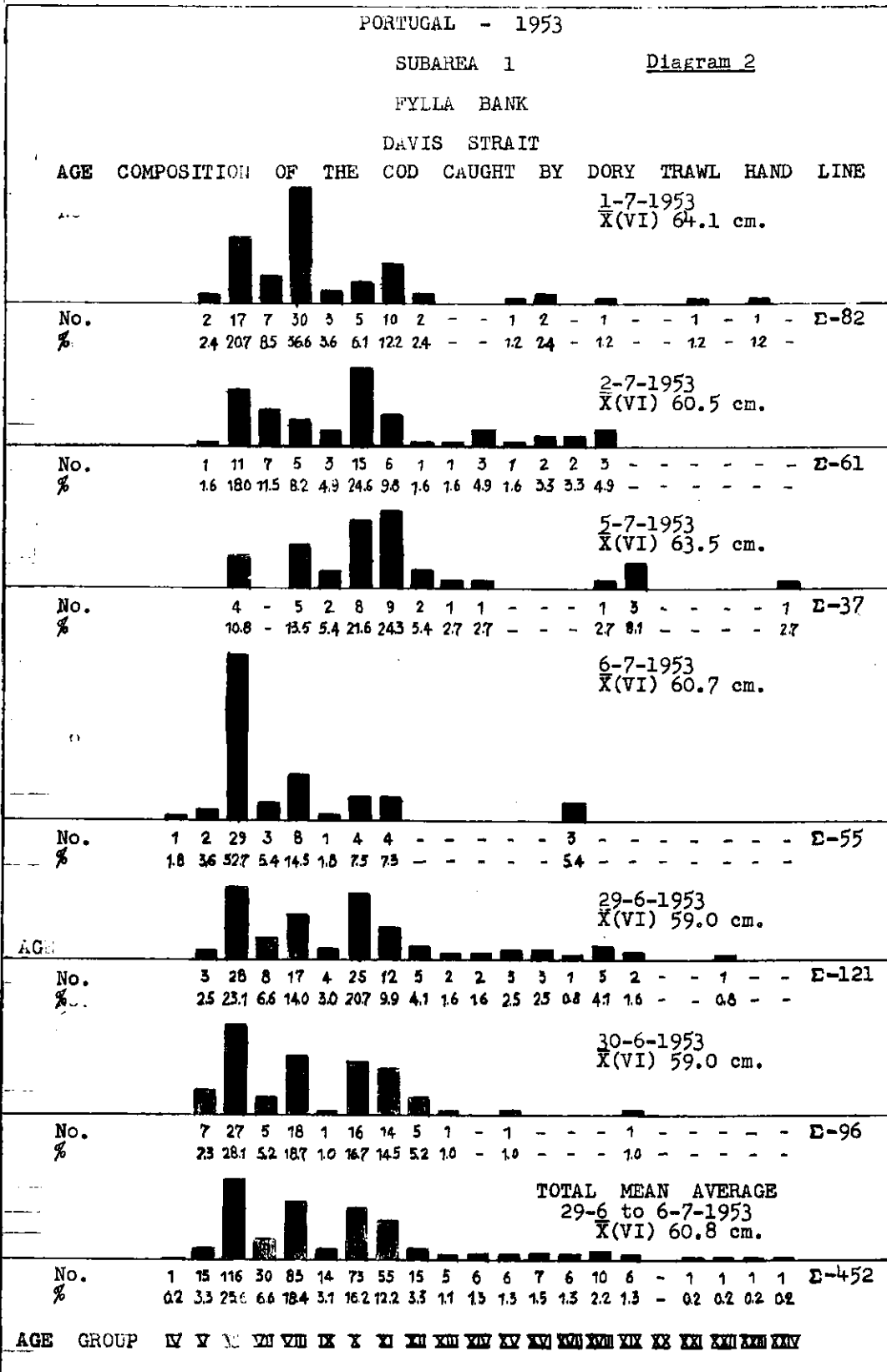
Confirmation and possible amendments of the results reported on here can be achieved when the observations can be compared with those arrived at by the Danish, Icelandic, and Norwegian scientists who, as it is known, have sampled the same populations in the same periods, however, with another gear.

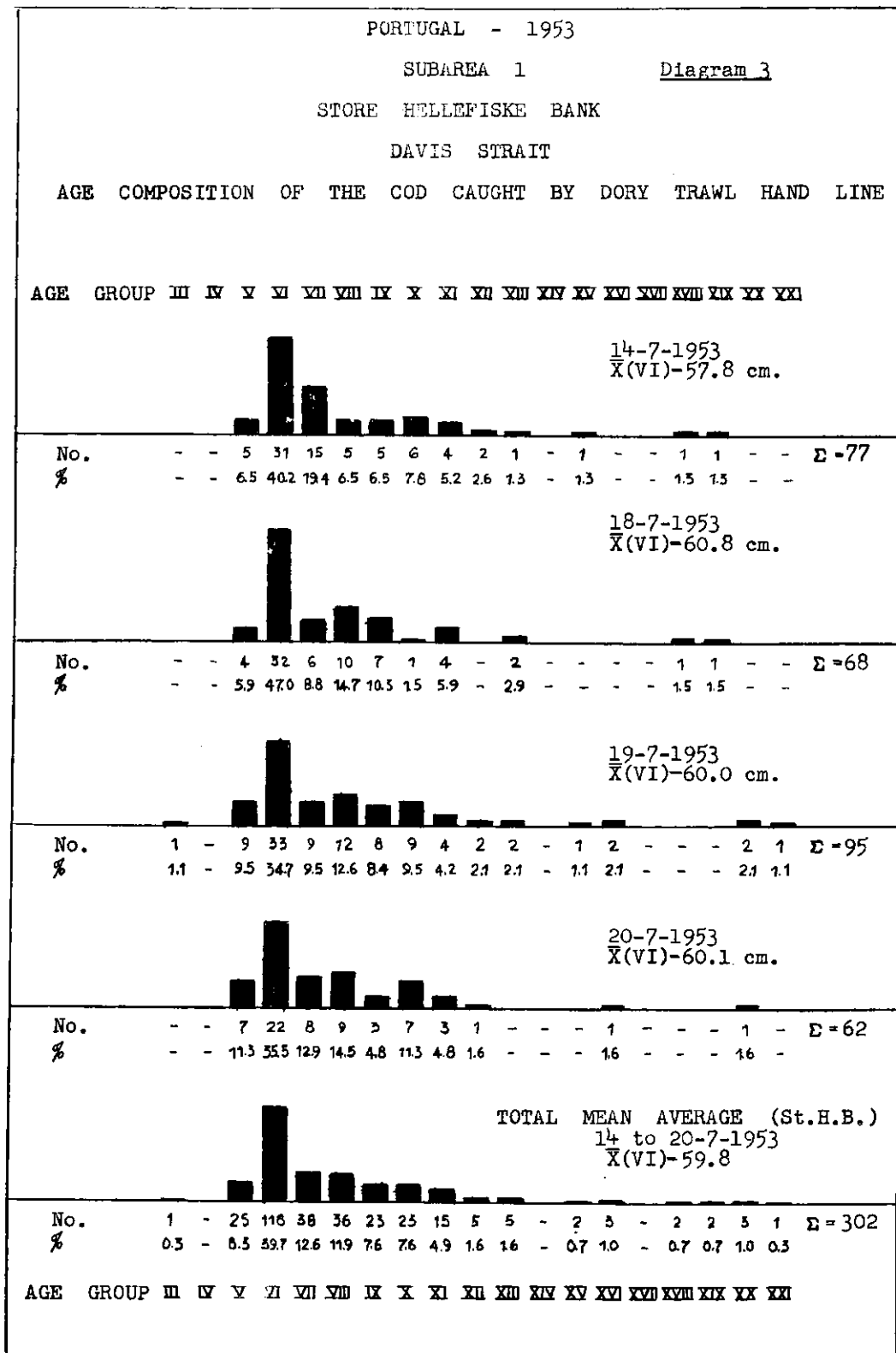
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The analyses of the table and diagrams show better than any other method the results of these first experimental studies. However, a complete understanding of the phenomena can only be achieved through a comparison with the results of similar earlier investigations by scientists from Denmark, Iceland, and Norway, and with the results of work to be carried out by the Portuguese biologists in future years. Nevertheless it can already now be established as a fact that this study on age composition is in perfect agreement with the study on length composition reported in Document No. 5.

- THE END -







PORTUGAL - 1953

SUBAREA 1

Table 1

Age Composition and Average Mean Length of the Cod caught by

Dory Trawl Hand Line

DAVIS STRAIT

Total sample: 1.067 fishes

Age Group	Dana B. (9/6/53)			Fiskenaes B. (10 to 13/6/53)			Fylla B. (29 to 6/7/53)			Store Hellefiske B. (14 to 20/7/53)		
	No.	%	\bar{x} (cm)	No.	%	\bar{x} (cm)	No.	%	\bar{x} (cm)	No.	%	\bar{x} (cm)
XXIV	-	-		-	-		-	-		-	-	
XXIII	-	-		-	-		1	0.2		-	-	
XXII	-	-		-	-		1	0.2		-	-	
XXI	1	1.6		1	0.4		1	0.2		1	0.3	
XX	-	-		-	-		-	-		3	1.0	
XIX	2	3.3		4	1.6		6	1.3		2	0.7	
XVIII	-	-		2	0.8		10	2.2		2	0.7	
XVII	5	8.1		17	6.7		6	1.3		-	-	
XVI	-	-		1	0.4		7	1.5		3	1.0	
XV	1	1.6		7	2.8		6	1.3		2	0.7	
XIV	4	6.5		4	1.6		6	1.3		-	-	
XIII	5	8.1		9	3.6		5	1.1		5	1.6	
XII	2	3.3		14	5.6		15	3.3	79.6	5	1.6	
XI	28	45.9	77.9	111	44.4	78.6	55	12.2	78.0	15	4.9	
X	4	6.5		24	9.5	75.6	73	16.2	75.7	23	7.6	78.0
IX	2	3.3		10	3.9	73.5	14	3.1		23	7.6	77.1
VIII	6	9.8	70.9	34	13.5	71.3	83	18.4	71.4	38	12.6	73.7
VII	-	-		7	2.8	67.8	30	6.6	61.9	36	11.9	68.2
VI	-	-		7	2.8		116	25.6	60.8	118	39.7	59.8
V	1	1.6		-	-		15	3.3	54.3	25	8.3	55.9
IV	-	-		-	-		1	0.2		-	-	
III	-	-		-	-		-	-		1	0.3	
Total	61			252			452			302		