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The Results of Quantitative Catches of Juvenile Cod,
Performed with Standard Trawl in Gdansk Bay in the
Years 1961-1968 and in the Southern Part of Bornholm
Basin in the Years 1967-1968

by
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The catches with standard trawl - of the type recommended by ICES - were performed in Gdansk Bay (divided into four sub-regions) in the years 1961-67 aboard the vessel "Ewa II" (17.8 m cutter with a 150 HP engine, and in 1968 aboard the research vessel "M. Siedlecki" (24 m cutter with a 240 HP engine). In the southern part of the Bornholm Basin the catches were performed aboard R/V "Ewa II" in 1967 and aboard R/V "M. Siedlecki" in 1968.

The number of hauls made in Gdansk Bay in 1961-68 and in the southern part of the Bornholm Basin in 1967-68 are given in Tables 1 and 2 below.

Table 1. Number of hauls made with standard trawl in the region of Gdansk Bay in the years 1961-1968.

Years	M o n t h s												Total
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
1961										16			16
1962	29		28										57
1963					22						29		51
1964	35		23	31							24		113
1965	28		29										57
1966	30		32								22	37	121
1967	42	14	40										96
1968	18	18	60										96

Table 2. Number of hauls made with standard trawl in the region of Bornholm in the years 1967-1968.

Years	M o n t h s												Total
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	
1967	28		20										48
1968		16	28										44

In total, 669 hauls were made and 39,921 cod were captured in the whole period of investigation. Age-readings were made on otoliths from 5,156 cod. For these readings the 1st of April was taken as a basis, being the date on which the formation of winter-rings starts.

In Puck Bay and in the region of Krynica Morska the yield of the catches of juvenile cod per 1 hour trawling was as a rule higher than in the two other sub-regions of the Gdansk Bay. The results obtained in November-December 1966 and in January 1967 were exceptions.

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In the region of Bornholm Deep at a depth of 80 m and in the region of Gdansk Bay at a depth of 100 m no cod were caught in 1968. The absence of cod in these depths was connected with oxygen deficiency.

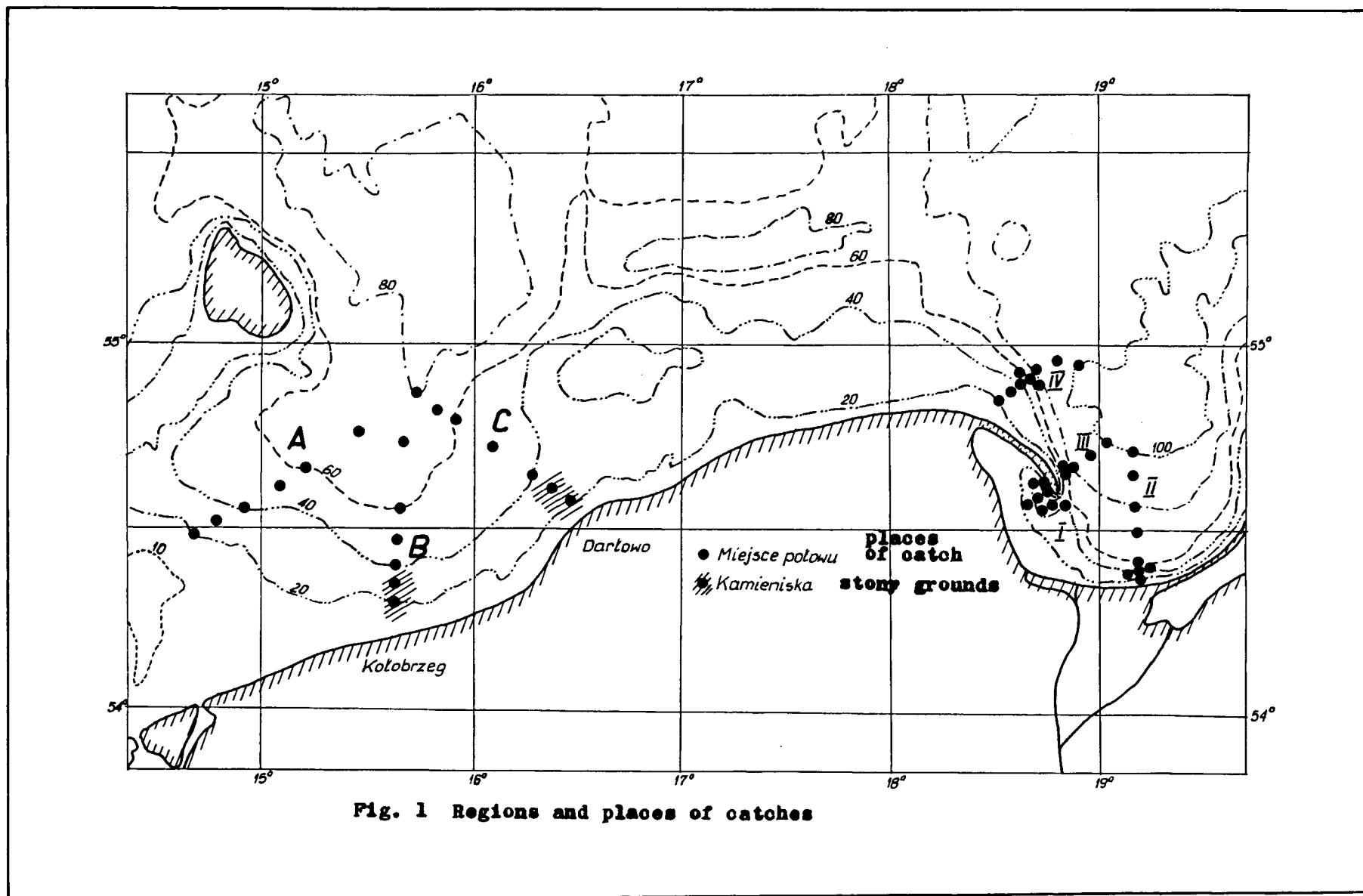
The length-composition of cod captured with standard trawl in Gdansk Bay in the years 1961-68, and the age-composition calculated per 1 hour trawling are shown in Figures 2 a - 2 d:

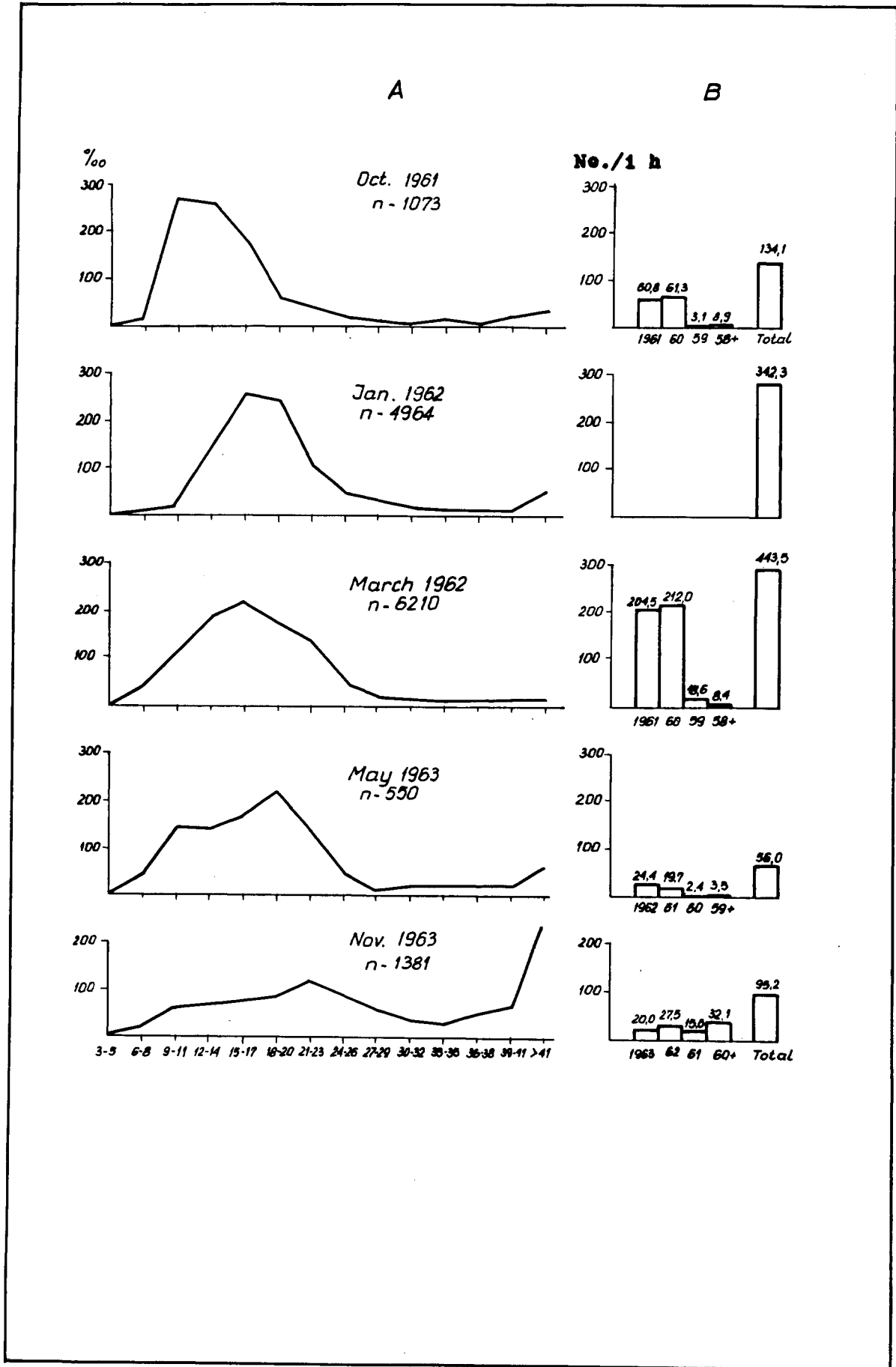
The curves representing the length of juvenile cod of Gdansk Bay in Figure 2, column A, show that in the period from October 1961 till March 1966 fish of a length up to 25 cm predominated in the catches, the larger ones occurring only sporadically. In the catches carried out in the period November 1966 - March 1967, fish of a length above 25 cm predominated in the catches, whereas in the period January-March 1968, the fish below 25 cm were more abundant.

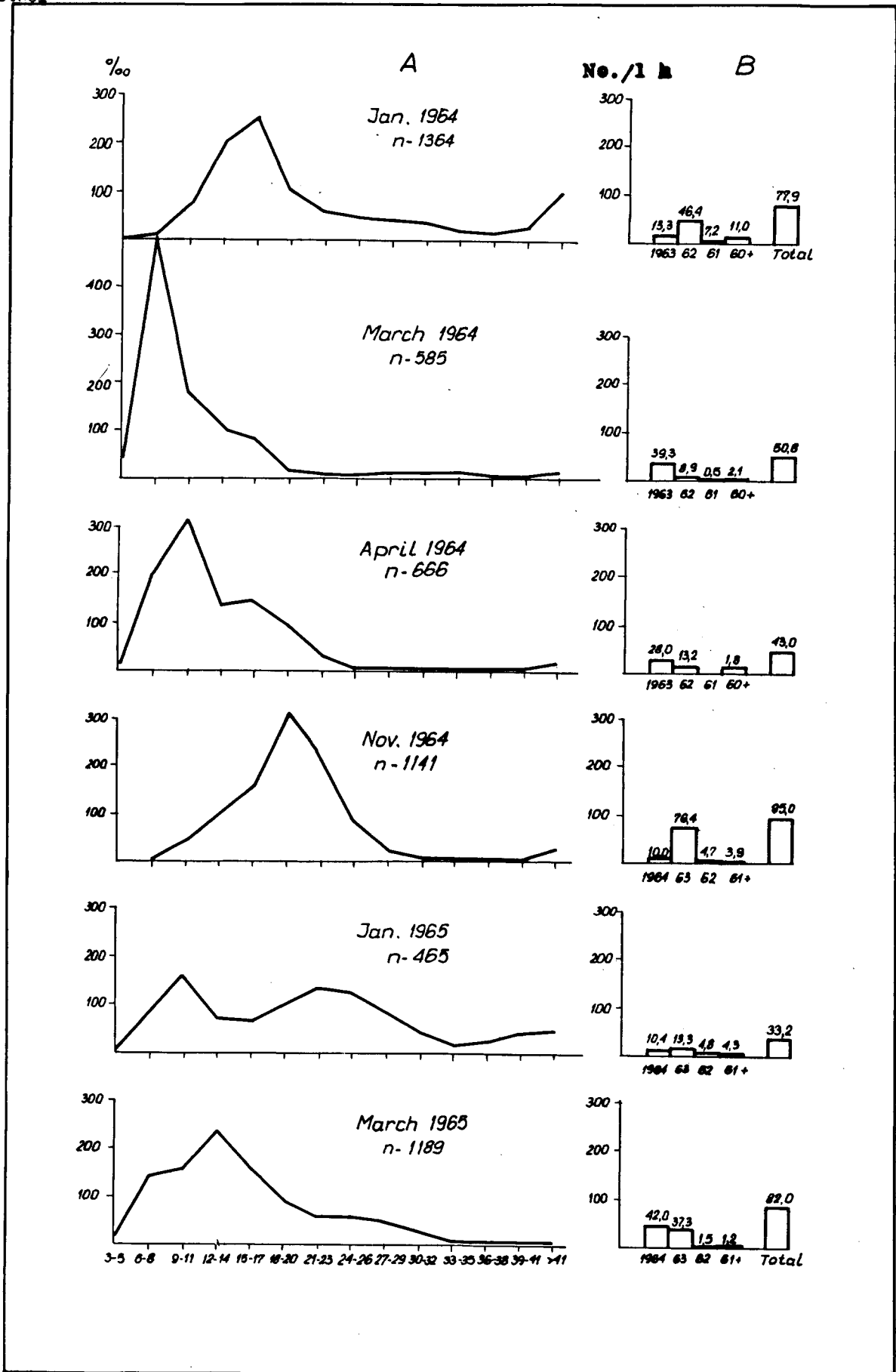
In Figure 2, column B, is seen the age-composition of cod in the form of columns, showing the number of fish in particular age-groups, caught per 1 hour trawling. From October 1961 till March 1966 and from January till March 1968 age-groups 0 and I predominated, whereas in the period from November 1966 till March 1967 the age-group II and older fish (III+) were predominant.

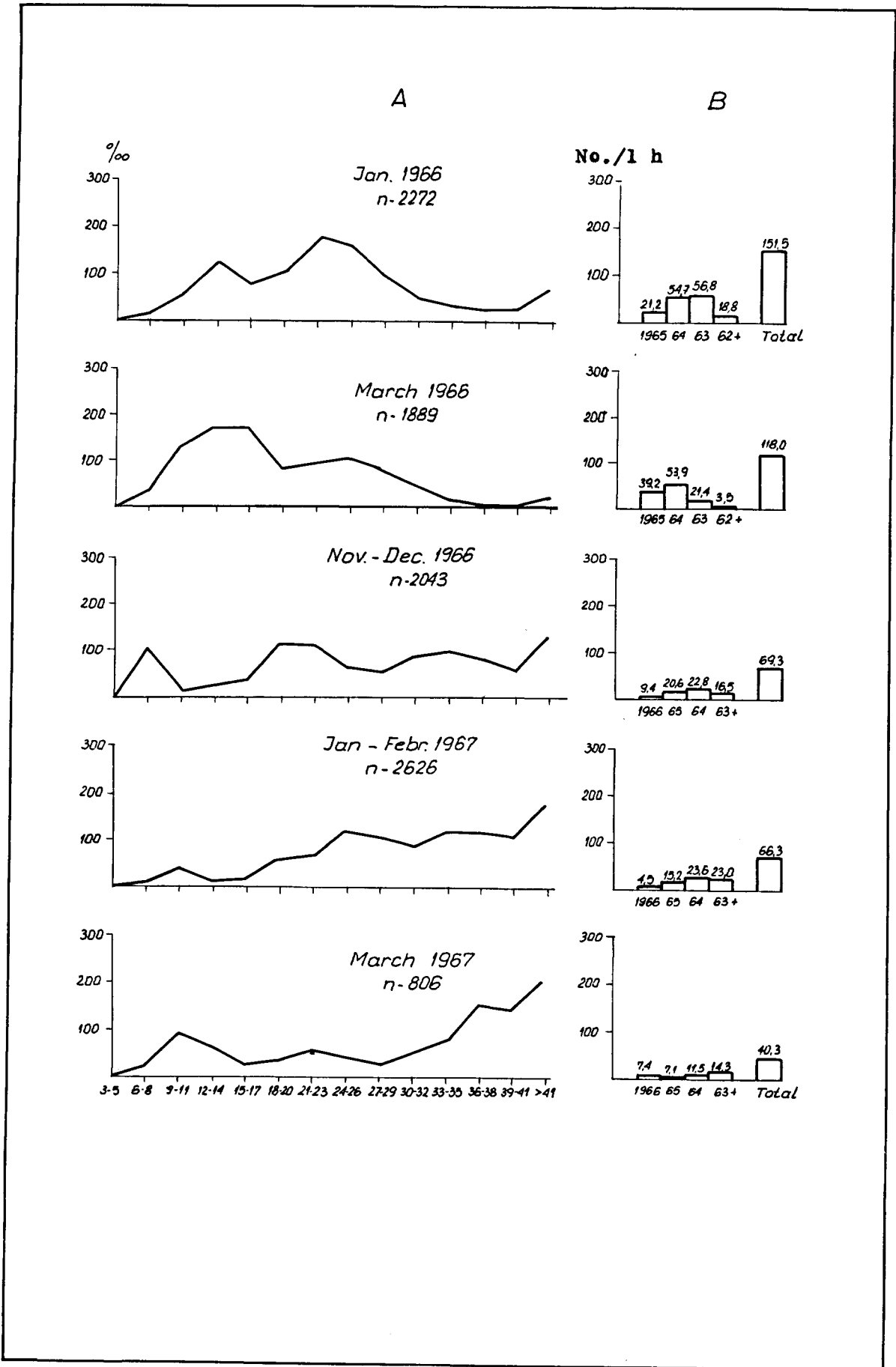
In Figure 3 is given the length composition of cod in the southern part of the Bornholm Basin in the years 1967 and 1968, and the age composition in number of individuals per 1 hour trawling. The curves of the length composition in the years 1967 and 1968 are different in this region from those from the Gdansk Bay. The number of fish in particular age-groups was also more even. Since in the region of Bornholm catches were made only in the years 1967 and 1968, the data on numerical proportions are related to these two years only. In 1968 there were more fish per 1 hour trawling than in 1967.

In order to estimate the abundance of the particular year-classes the number of individuals in a given year-class from the age-groups 0, I, and II captured per 1 hour trawling and the means weighted from these age-groups were all taken into consideration. The estimated data on abundance of the year-classes, as shown in this Table, coincide generally with the yields obtained in commercial catches. The greater abundance of juvenile cod provides greater yield when it enters the commercial catches, i.e. from its fourth year of life.









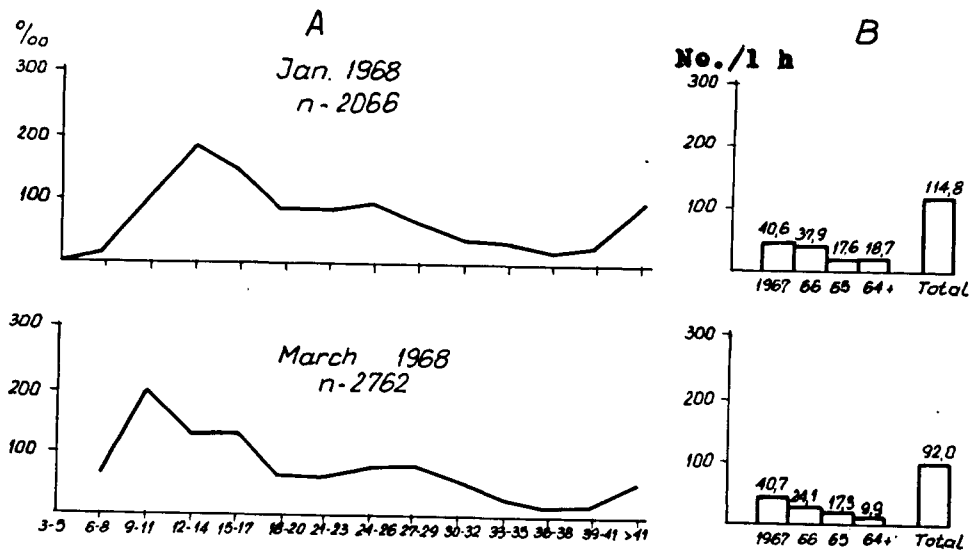


Fig. 2 Length and age composition of cod in Gdansk Bay in the years 1961-1968

A - length composition
B - age composition

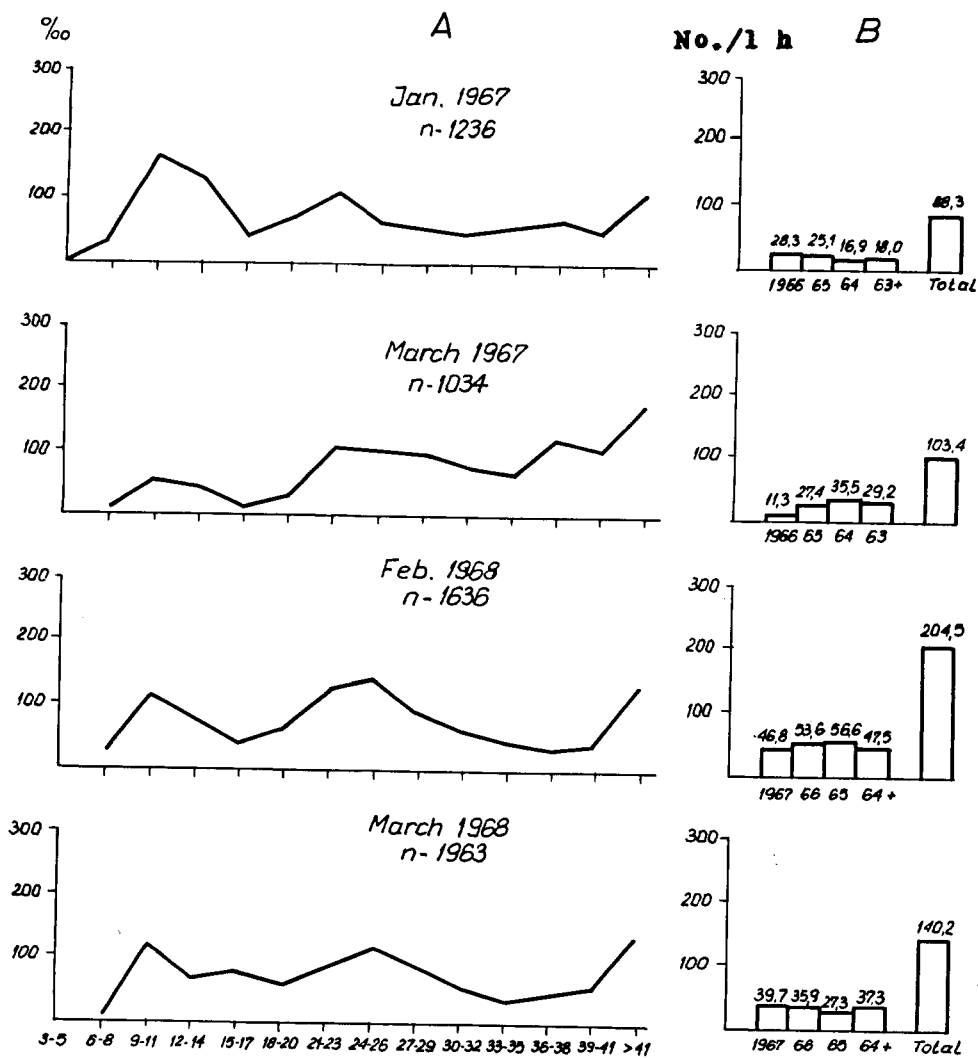


Fig. 3 Length and age composition of cod in the South part of Bornholm Basin in the years 1967 and 1968

A - length composition
B - age composition