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INTRODUCTION TO THE PLANKTON CHAPTER IN ANNALES BIOLOGIQUES, Volume 33 (1976)

Phytoplankton was well below average in the Irminger Sea throughout the year in 1976, and the seasonal cycle of copepods was close to or slightly below the long-term mean. Young Calanus was above average in the summer in the western part but occurred late in the eastern part. The number of Sebastes larvae was again high, particularly in the western part, and the larvae were, as in later years, larger than the long-term mean.

Information on phyto- and zooplankton in the Norwegian Sea and in Icelandic waters is found in the report on the joint Soviet-Icelandic investigations in Part IV. As usual, there was a rich growth of phytoplankton in the western and southern parts of the Norwegian Sea, and the extent of the "blooming area" was larger than in 1975. There was a very rich growth of phytoplankton off the northwestern and northern coasts of Iceland, decreasing eastwards. In Norwegian coastal waters the spawning of Calanus finmarchicus took place 15 to 20 days later than in 1975, while there were indications that it occurred at the same time as, or only slightly later than, in 1975 in the central and southern parts of the Sea. The average zooplankton biomass for the Norwegian Sea as a whole was almost the same as at the same time the year before, but there were considerable variations between areas.

There is also a separate Soviet contribution on plankton investigations in the Norwegian and Barents Seas in 1976. For the Barents Sea it shows similar conditions for the spring phytoplankton development as in 1975. A report on bacterioplankton is included, with details as to distribution and biomass. The chart on zooplankton distribution compared with the corresponding one for 1975 (Annales Biologiques, Copenhagen, Volume 32; Figure 53) shows the same broad features as to distribution, but with interesting variations as to details. The overall average biomass was considerably higher than in 1975 and higher than the long-term mean. The euphausiids, Thysanoessa inermis were particularly abundant, mainly owing to the recruitment of a very rich, new year class.

There is the usual detailed report on the Continuous Plankton Recorder Surveys around the British Isles, with indications this year as well, that the declining trend since 1948 in the abundance of copepods may now have been flattened out, or perhaps reversed. It confirmed that adults of Calanus finmarchicus appeared late in the Norwegian Sea, but numbers were high; both there and along the Norwegian coast. Certain other calanoids were also above average in some areas and months. The plankton distribution suggests that the flow of oceanic water around Scotland was weak in 1976. A detailed report on phytoplankton production throughout the year in the western North Sea is given in a United Kingdom contribution dealing with chlorophyll a, phaeopigments, and silicon. There were wide variations in amount and timing between areas, but there is also a pattern, in that there seem to be characteristic differences between coastal and more offshore areas.

Another United Kingdom contribution relates the distribution of planktonic fish eggs and larvae to the environmental conditions in the same area. A series of detailed charts of environmental parameters and egg and larvae distribution makes a comparison possible.

A third United Kingdom contribution reports on the distribution of nutrients and plankton in the eastern English Channel in relation to hydrographic parameters in the spring of 1976. There is also some information on fish larvae.

Information from the Federal Republic of Germany about the results of daily measurements of chlorophyll, phytoplankton carbon, and nutrients off Helgoland supplements the British contributions, and is particularly welcome since long-term averages (1965-1975) are also given. In the first half of 1976 the chlorophyll and phytoplankton carbon values were higher than normal.

This year there is also a contribution on the central Baltic and the Gulf of Riga, continuing the observations reported since 1973. The oceanographic conditions led to high values for phosphorus content in the central Baltic in the spring, and to a phytoplankton bloom with higher figures than for any of the preceding years (1972-1975). The autumn maximum, however, was lower than the mean for 1972-1975. In the Gulf of Riga both the spring maximum and the autumn maximum were high. Zooplankton was less abundant in the central Baltic than in 1975 but still higher than the long-term mean; in the Gulf of Riga it was lower.

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