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THE OCCURRENCE OF A LARVAL NEMATODE (ANISAKIS SP.)
IN ADULT HERRING FROM ICNAF SUBAREAS 4 and 5, 1962 - 1969

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This report presents data on the percentage occurrence of a larval nematode, Anisakis sp. (Anisakinae) found in samples of maturing and mature sea herring (Clupea harengus harengus L.) obtained from Georges Bank, coastal Gulf of Maine, and Nova Scotia from 1962-1969. It updates the work of Sindermann (1961. J. Wildl. Mangt., 25(1): 41-47) who used the incidence of the parasite in samples of herring from the areas as an indicator (parasite tag) of the limited intermixing of the populations.

In the eight years in which data were obtained, the percentage occurrence of Anisakis sp. in herring from Nova Scotia was at least twice as much for the herring from the other areas, except for 1968 when its occurrence was 49.5 percent more than that for fish from the eastern Gulf of Maine. The incidence of the nematode was generally higher for fish from the coastal Gulf of Maine than from Georges Bank. In every year except 1967 the percentage occurrence of the parasite was higher in fish from the eastern Gulf of Maine than from the western part (Figure 1). No significant difference was evident in the incidence of the nematodes between sexes. Our data agree with the findings of Sindermann and provide evidence that the occurrence of the parasite increases in frequency with the increase in latitude from Georges Bank to the western Gulf of Maine, from the western Gulf of Maine to the eastern part, and from the eastern Gulf of Maine to Nova Scotia. Intermixing between the populations of herring from the four areas appears to be limited; otherwise one would expect a more homogeneous distribution of this parasite.

The highest percentage occurrence of the parasite in fish from Georges Bank was in 1968; for the western Gulf of Maine, 1968; for the eastern Gulf of Maine, 1968; and for Nova Scotia, 1967 (Figure 1). In 1967 and 1968 the 1960, 1961, and 1962 year classes dominated the samples from the four areas. There is a direct relationship between the percentage occurrences of particular year classes and of the nematode; the stronger a year class, the higher the incidence of the nematode. In general, the incidence of the parasite increases with age, up to age-group VI.

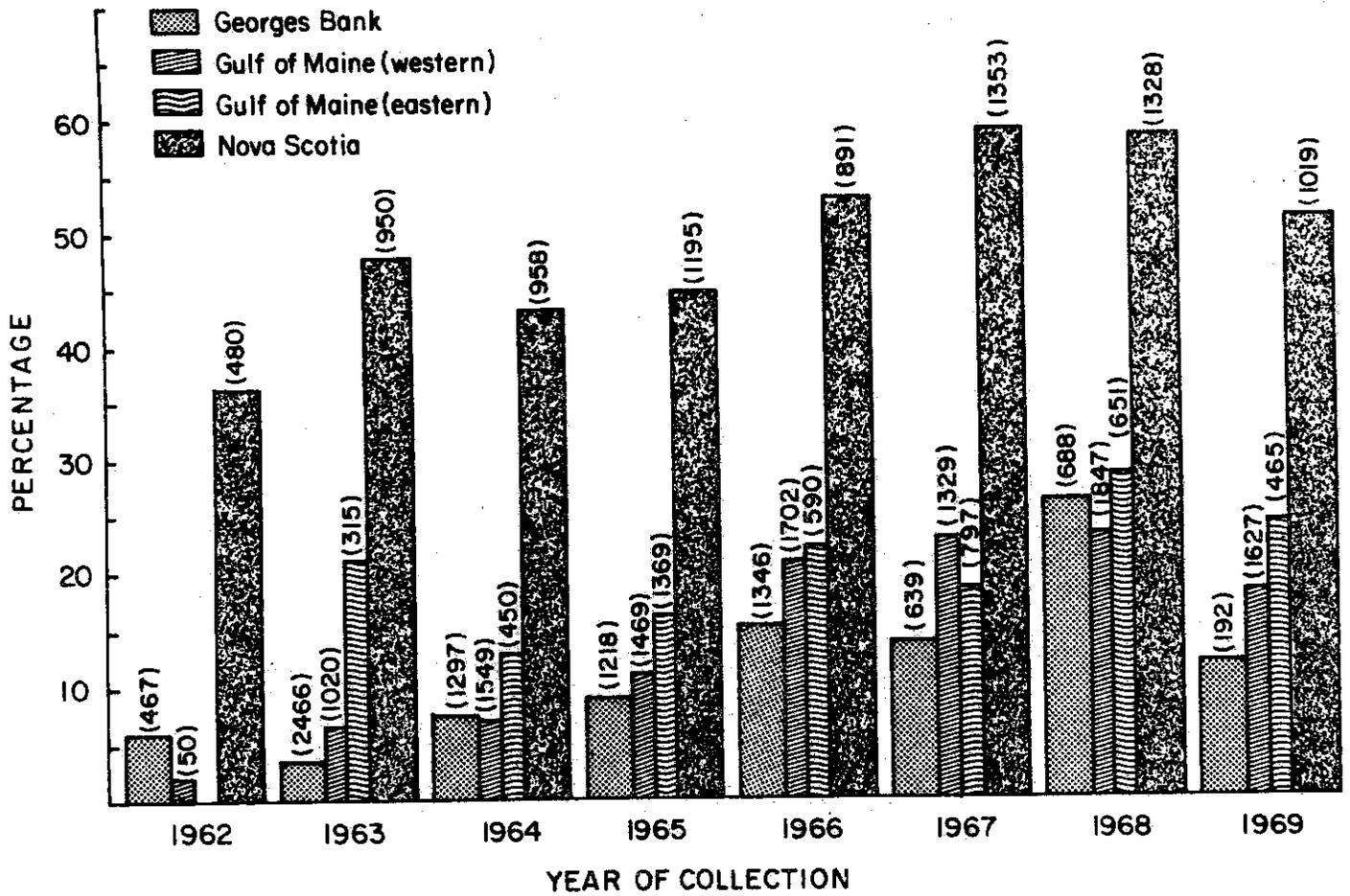


Figure 1. Occurrence of *Anisakis* (sp.) in samples of adult herring from Georges Bank, coastal Gulf of Maine and Nova Scotia, 1962-1969. The total number of fish sampled are indicated in parentheses.