

**ABUNDANCE, SPATIAL DISTRIBUTION, AND INTERANNUAL  
VARIABILITY OF COPEPODS ON GEORGES BANK DURING THE  
WINTER/SPRING PERIOD**

Edward G. Durbin and Maria C. Casas,

Graduate School of Oceanography, University of Rhode Island, Narragansett, Rhode  
Island 02882-1197, USA, [edurbin@gso.uri.edu](mailto:edurbin@gso.uri.edu)

## Abstract

Abundant copepods on Georges Bank during the winter-spring period, 1995-1999 were *Calanus finmarchicus*, *Metridia lucens*, *Pseudocalanus* spp., *Oithona* spp (primarily *O. similis*), *Temora longicornis*, *Centropages typicus* and *C. hamatus*. The first four taxa had off bank sources (Group I) while the last three (Group II) had on-bank sources. All Group I taxa were relatively low in abundance initially and then increased in abundance throughout the sampling period. *C. finmarchicus* and *M. lucens* showed similar changes in age structure with large numbers of nauplii initially, a maturation of the population in April, followed by a decline in nauplii in May and a resurgence in June. These species never achieved high abundance on the shallow Crest region of the Bank and became very low in abundance in this region during May and June. By contrast *Pseudocalanus* spp. and *Oithona* spp. increased abundance throughout the sampling period and, although were lower in abundance on the Crest during winter and early spring, were able to establish their populations in this region and became high in abundance during May and June. Group II taxa were low in abundance during winter (*C. typicus* was abundant initially but declined through April) and did not begin to increase until spring. Their populations were centered over the Crest of the bank indicating a local source, either from resting eggs, or because of higher egg production rates due to the higher chlorophyll levels in the crest region during late spring. All copepods showed similar interannual trends in abundance with low abundance in 1995 and 1996, increasing abundance in 1997 and 1998, and highest in 1999. Each species showed similar trends (high or low) throughout each sampling season. These interannual differences in copepod abundance were positively related to chlorophyll and negatively related to salinity. It is suggested that the interannual changes are related to large-scale hydrographic events.

Key words: Georges Bank, *Calanus finmarchicus*, *Pseudocalanus*, *Centropages*, *Temora longicornis*, *Oithona*, *Metridia lucens*, interannual variability