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**Using Old Data to Examine Current Questions: The Last Voyage  
of the Carnegie**

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We often assume that new data is needed to answer questions of current interest. Here I show an example of what can be found in the old literature. The question examined was 'How do the patterns of distribution compare among planktonic groups, protists and metazoans, tintinnid ciliates, dinoflagellates species of the genus *Ceratium* and copepods? Three monographs from the last cruise of the Carnegie catalogued the species of the phytoplankton genus *Ceratium*, the tintinnid ciliates of the microzooplankton, and the copepod species of the zooplankton. The samples employed were from plankton net tows or a 'Pettersson plankton pump' from 160 stations in the North and Central Atlantic, the Central, Southern and Northern Pacific. From each monograph, the species records were keyed into spreadsheets to allow station by station comparisons. Plotting species richness along the cruise track showed roughly parallel changes among the three groups with peaks and troughs corresponding with low and high latitudes. For *Ceratium*, tintinnid ciliates, and copepods, very similar latitudinal diversity gradients were evident after binning the species richness of each group into 5° bands of latitude. The data extracted from the reports of the last cruise of the Carnegie revealed close correspondence of diversity in planktonic organisms among the protists and metazoan taxa of distinct trophic levels. However, despite the similarities in latitudinal diversity gradients, the occupancy patterns differed among tintinnids, *Ceratium* dinoflagellates, and copepods. Rather than tintinnids and *Ceratium* being everywhere as protists, the group with the most widespread species was the copepods.