

TITLE: BACTERIAL DIVERSITY IN ADIRONDACK MOUNTAIN LAKES AS REVEALED BY 16S RRNA GENE SEQUENCES

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Abstract: Bacterial communities of seven lakes in the Adirondack Mountains of New York State were characterized by amplification and sequencing of 16S ribosomal DNA. Analysis of over 100 partial sequences revealed a diverse collection of lineages, largely of the class Proteobacteria (19% alpha subdivision, 31% beta subdivision, and 9% gamma subdivision), the phylum Cytophaga-Flavobacteria-Bacteroides (15%), and the order Actinomycetales (18%). Additionally, a number of the sequences were similar to those of the order Verrucomicrobiales. However, few of the sequence types are closely related to those of characterized species. The relative contributions of the groups of sequences differed among the lakes, suggesting that bacterial population structure varies and that it may be possible to relate aquatic bacterial community structure to water chemistry.

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