FUNCTIONAL GENETIC DIVERSITY WITHIN *FRUSTULIA RHOMBOIDES* SPECIES COMPLEX.

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A multidisciplinary approach to protist taxonomy and systematics has indicated that molecular genetic diversity is not always associated with morphological and/or ecological differentiation. Consequently, Bland Finlay and Tom Fenchel stated, that molecular markers are neutral with regard to functional diversity; therefore, the genetic variation within microbial morphospecies reflects the accumulation of selectively neutral mutations. In our study, we analyzed genetic diversity of *F. rhomboides* populations from both different geographical regions and various microhabitats within localities in order to assess the importance of environmental factors on the diversity and distribution of lineages. On the basis of sequence frequencies of lineages within samples, it is likely that the distribution of *F. rhomboides* lineages is primarily influenced by environmental requirements and/or dispersal abilities. We suggested that the incongruence between the molecular and ecological data in other studies may reflect undersampling, as the realized niche is represented by different abundances of phylogenetic lineages in natural communities rather than by simple presence or absence.