

# Factors Controlling Insect Assemblages in Headwater Streams along an Elevation Gradient

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## Abstract

Studies of altitudinal gradients have identified patterns in composition of biotic communities with increasing elevation. However, these patterns have not consistently been associated with any particular explanatory hypothesis. A previous study found that temperature and channel width were the main factors influencing insect abundance and richness along an elevation gradient in Quebrada Sonadora (Bernard-Flores and Ramirez, unpublished data).

This study isolated the relative importance of temperature and channel width in explaining patterns in benthic insect assemblages by focusing on small headwater streams along the Quebrada Sonadora elevation gradient. Family density and abundance were similar along the gradient, and no single environmental factor was consistently related with abundance or family density of insect assemblages. The absence of a distinct pattern in average abundance and family density along the elevation gradient in this study supports the importance of channel width in determining the characteristics of insect assemblages.