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Regulating mechanisms of calanoid copepods variability in the northern Adriatic Sea:

testing the roles of west-east salinity and phytoplankton gradients

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Abstract

West-east variability of abundance and population structure of calanoid copepods was

studied in 2002-2006 period at two stations in the northern Adriatic (NA), influenced to a

different degree by the freshwater discharge of the Po River and regional circulation pattern

shaped by the Istrian Coastal Countercurrent (ICCC) and Eastern Adriatic Current (EAC).

Species-specific calanoid distribution and abundances were related to concurrently obtained

salinity, temperature, Po river discharge and phytoplankton data. Significant differences between

stations were determined for salinity, phytoplankton biomass and abundance, total calanoid

density, total number of species and Shannon-Wiener biodiversity. The paper is especially

concentrated to extremes in Po discharge recorded during the investigated period, which are

discussed with respect to the observed variability in plankton components at each investigated

station. At the western station, the proximity of the freshwater sources and consequent nutrients

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