Interspecific and intraspecific variation of d13C and d15N in deposit- and suspension-feeding bivalves (Macoma balthica and Cerastoderma edule): Evidence of ontogenetic changes in feeding mode of Macoma balthica

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ABSTRACT: Deposit and suspension feeders can switch feeding behavior and show variations in feeding mode as individuals pass through life-cycle stages. Stable carbon and nitrogen isotopes were used to trace changes in diet of the tellinid bivalves *M. balthica* (facultative deposit feeder) and *C. edule* (obligatory suspension feeder), according to their size class. Analyses of variance showed differences in the d13C between the species. *C. edule* showed a diet composed of microphytoplankton, whereas *M. balthica* could feed on a mixed diet of microalgae from benthos and plankton. Values of $\delta^{13}C$ depended significantly on body size in *M. balthica*, providing evidence of ontogenetic variation in diet with small juveniles feeding entirely on microphytobenthos, while there was a gradual tendency for larger sizes to feed more on microphytoplankton. Therefore, although these species rely on different sources of food, large animals of *M. balthica* can overlap the trophic niche of *C. edule*. Population dynamics of the animals should be considered in food-web studies.