Sedimentary and particulate organic matter: mixed sources for cockle

Seasonal changes in feeding habits and diet of the cockle Cerastoderma glaucum (Mollusca, Bivalvia) were analysed using carbon (δ13C) and nitrogen (δ15N) stable isotopes. I aimed to investigate the role of benthic and pelagic sources in the diet of this dominant infaunal bivalve on a western Mediterranean sandy bottomed pond. Adult C. glaucum and all potential organic sources (particulate and sedimentary organic matter, seagrass, macroalgae, heterotrophic detritus) were collected and analysed for δ13C and δ15N. In total 5 dominant organic sources were found, ranging between –21.0 and –8.0 ‰ for δ13C and from 3.0 to about 7.0% for δ15N. C. glaucum assimilated fraction ranged between –14.0/–15.0% and 6.0/9.0% respectively, for carbon and nitrogen, while its estimated fractionation seasonally varied between 1 and 1.5 for carbon and was about 3 for nitrogen. C. glaucum reflected the isotopic composition of its food while maintaining, throughout the year, a fairly constant isotopic composition in its assimilated fraction, despite the high variability in isotopic composition of available sources.

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