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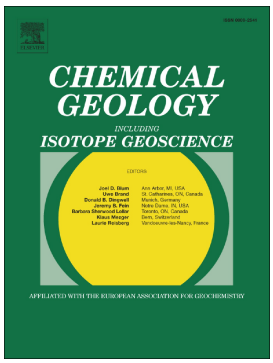

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The Forgotten Variable: Impact of Cleaning on the Skeletal Composition of a Marine Invertebrate

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ABSTRACT: For centuries, invertebrate collections have been subjected to various post-collection and curatorial cleaning techniques. Cleaning, however, may damage or even dissolve skeletal calcium carbonate and consequently influence any subsequent geochemical analysis. We investigated the combined effects of three cleaning variables: water (deionized and tap water), bleach (10% and 78%) and ultrasound (all for a range of durations), on the skeleton of *Flustra foliacea* (Linnaeus, 1758), a marine bryozoan. Treated and control carbonates were analysed both before and after cleaning, measuring: $MgCO_3$ in calcite (X-ray diffractometry and staining); organic:inorganic carbon ratio, using elemental analysis for total carbon by combustion and for organic carbon by acid dissolution and combustion. Treatment solutions were analysed using inductively coupled plasma atomic emission spectroscopy (ICP-AES) to detect any Ca^{2+} and Mg^{2+} that may have leached out. Significantly more weight loss and removal of $MgCO_3$ from calcite occurred in bleach concentrations of 10% or higher, especially in longer duration treatments and with use of