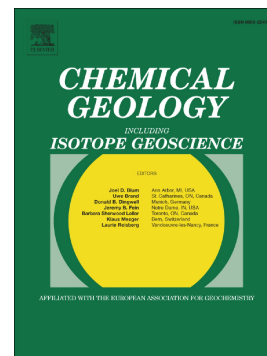


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# The Forgotten Variable: Impact of Cleaning on the Skeletal Composition of a Marine Invertebrate

Jennifer Loxton<sup>1\*</sup>, Jens Najorka<sup>3</sup>, Emma Humphreys-Williams<sup>3</sup>, Piotr Kuklinski<sup>3,4</sup>, Abigail M Smith<sup>5</sup>, Joanne S Porter<sup>2,3</sup>, Mary Spencer Jones<sup>3</sup>

<sup>1</sup> The Environmental Research Institute, University of the Highlands and Islands, Ormlie Rd, Thurso, KW14 7EE, UK.

<sup>2</sup> International Centre for Island Technology, Heriot-Watt University Orkney Campus, The Old Academy, Back Rd, Stromness, Orkney KW16 3AW, UK.

<sup>3</sup> Natural History Museum, Cromwell Rd, London, SW7 5BD, UK.

<sup>4</sup> Institute of Oceanology, Polish Academy of Sciences, PL-81-712 Sopot, Poland.

<sup>5</sup> Department of Marine Science, University of Otago, PO BOX 56, Dunedin, New Zealand 9054

**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<sub>3</sub> 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<sup>2+</sup> and Mg<sup>2+</sup> that may have leached out. Significantly more weight loss and removal of MgCO<sub>3</sub> from calcite occurred in bleach concentrations of 10% or higher, especially in longer duration treatments and with use of

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