

**ASSESSMENT OF TOXIC AND TRACE ELEMENTS IN THE SEA URCHIN
STERECHINUS NEUMAYERI IN THE ANTARTIC MARINE
ENVIRONMENT**

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Sea urchins are marine and benthic invertebrates, many of them sessile or with reduced mobility. The species *Sterechinus neumayeri* (Meissner, 1900) is the most abundant in shallow Antarctic seawater, from the coast until 400 m depth. Comandante Ferraz Antarctic Station (EACF), that is part of the Brazilian Antarctic Base located on King George Island, in Admiralty Bay, was chosen for this study and, two sampling sites were chosen for this purpose: a "control" site at Botany (62 05. 400' – 62 05. 556' S; 058 18,127' – 058 18. 612' W); and a "contaminated" site close to the station where a fire occurred in 2012, consuming about of 70% of the facilities. Ten organisms from each region were collected. Gonads and intestines of these sea urchins were dissected, dried in a ventilated oven at 40°C until reach a constant weight. The micronutrients concentration and some trace elements were determined by Instrumental Neutron Activation Analysis (INAA). Methodology validation according precision and accuracy was carried out by means of the following certified reference materials analyses: Oyster Tissue (NIST-1566b), Mussel Tissue (NIST SRM- 2976), and Peach Leaves (NIST SRM – 1547). The analytical methodology was validated by Z-Score ($|Z| < 2$) in 95% C.I. For preliminary statistical analysis, a normality test ($p > 0.05$) and Grubbs test were performed for outliers detection ($p < 0.05$, C.I. 95%). Results obtained by INAA showed that the elements Br, Co, Cr, Cs, Fe, Se and Zn presented a higher concentration in the "contaminated" point and As, Ba, Na, and Sc, in the "control" point (Botany). The others elements (Ba, Fe, Na e K) showed no significant difference between sites. Multivariate statistical analysis will be applied to the results.

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