P19 STUDY ON THE ELEMENT CONCENTRATION ON SEABIRDS FEATHERS BY INSTRUMENTAL NEUTRON ACTIVATION ANALYSIS

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Physical, chemical and biological variations are intrinsic characteristics of the ecosystems, so their conservation and management depend essentially on the correct interpretation of such modifications and their effects on the fauna and flora. Considering the global scene of economic development, these studies are becoming increasingly necessary. Nowadays seabirds are one of the most threatened vertebrate groups due to the impact on the ocean caused by human actions. They are sensitive to changes in the environment and this is one of the main reasons they are commonly used to monitor ocean pollution. Procellariiformes is a seabird order, composed of 4 families, and in the last decades several countries with important breeding and feeding areas have shown interest in the conservation of these birds and have invested in research and actions that reduce the mortality of albatrosses and petrels caused by human actions. One of these initiatives was the creation of the Agreement on the Conservation of Albatrosses and Petrels (ACAP), which Brazil has been a signatory since 2001. ACAP is an international agreement that includes countries that are legally obliged to take long-term actions to ensure the conservation of various species of albatrosses and petrels. Thus, Brazilian researchers, with government support, have developed a National Plan for the Conservation of Albatrosses and Petrels (Planacap), which aims to characterize threats to this group of birds and prioritize actions for these species conservation. Among the actions suggested for conservation are the continuous monitoring of populations, permanent research in the main reproductive colonies and the study of dispersion and migration of the species. Due to the great importance of these birds and the developed work with Procellariiformes, this study purpose quantify the Br, Cl, Cu, K, Mg, Mn, Na and V elements in White-chinned Petrel (Procellaria aequinoctialis) and Black-browed Albatross (Thalassarche melanophris) feathers. Bird specimens were killed accidentally by pelagic longline fisheries operating off southern Brazil. From these birds, different tissues were collected, among them, the feathers used in this study. Feathers were cleaned with acetone and then milled in a cryogenic mill. Instrumental Neutron Activation Analysis (INAA) was used for quantification of the element concentrations and measurements of induced activities were performed in a HPGe detector for gamma ray spectrometry. The results obtained from the analyzes of the White-chinned Petrel and Black-browed Albatross feathers were compared to the concentrations found in other seabirds species and between this two species, in order to collaborate with studies already done for the conservation and monitoring of this seabirds group.

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