

Annual summary report to Small Grants in Aid of Research 2017

Evolutionary aspects of postcranial directional asymmetry in the skeletons of five genera from Delphinidae family

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The support provided by this award made it possible to broaden the sample size and supported the advances of the early stages of research related to my PhD project. Initially the aim of this project was to describe and identify possible determinants of the postcranial directional asymmetry throughout ontogenetic development in 120 estuarine dolphin skeletons, *Sotalia guianensis*, from north Brazilian coast, by using morphometric methods. At the moment, we expanded the sampling of *Sotalia* (n = 95) to other sites on the Brazilian coast and also included other genera of Delphinidae, such as *Delphinus* (n = 17), *Steno* (n = 13), *Stenella* (n = 34) and *Tursiops* (n = 78) in the analyzes. Considering that cetacean skeletons present a notable body reorganization related to the evolutionary ontogenetic changes necessary for the maintenance of the locomotor functionality in the aquatic environment, the morphometric variation are being or will be analyzed with respect to the physical maturity, age estimation, sexual dimorphism and geographic variation, in an attempt to evaluate the postcranial asymmetry in these taxa. With the aid granted by the Marine Mammalogy Society, it was possible to make a working visit to the histology laboratory, as well as to purchase reagents and other laboratory materials for the histological preparations of the teeth to estimate specimens' ages by counting of dental Growth Layer Groups (GLG). According to the chronogram of this project, data organization and analysis began and the preliminary results indicate that we can categorize the specimens into four age groups with the subadults composing the most representative group. These results have not yet been published. During the current year, the main issue of my PhD was revised and the scope reformulated. In this new project scope we expanded the taxa and include the sex identification by genetic protocols using bone and teeth for DNA extraction. We are grateful to the Society for Marine Mammalogy for the indispensable financial support provided so far.