

Annual summary report to Small Grants in Aid of Research 2016

Evolutionary aspects of postcranial asymmetry of estuarine dolphin, *Sotalia guianensis*

(van Bénédén, 1864), Pará state, Brazil

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The funds provided by this award supported the completion of the first stages of the research related to my doctoral 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. Because cetacean skeletons display notable body reorganization related to necessary ontogenetic evolutionary changes to the maintenance of locomotor functionality in the aquatic environment, morphometric variation will be analyzed with respect to the physical maturity, age and sex of specimens, in an attempt to evaluate the spectrum of postcranial asymmetry in this specie. In the scope of this grant, awarded by the Society for Marine Mammalogy, it was possible to make a working visit to histology laboratory, as well as to purchase reagents and other laboratory materials for the histological preparations of teeth, that will be used to estimate specimens ages by the count of dental Growth Layer Groups (GLG). According to the chronogram of this project, the organization and data analysis have begun, but have not been published as yet. During the current year, the main question of my PhD has been revised and reformulated. We decided to expand the sampling of *Sotalia* (n=95) to other locations on the Brazilian coast, and also to include other delphinid genera, namely *Delphinus* (n=17), *Steno* (n=13), *Stenella* (n=34) and *Tursiops* (n=78) in the asymmetry analyses. We are grateful to the Society for Marine Mammalogy for the indispensable financial support provided so far.