

Bone histology of *Caiman latirostris* as tool for morphophysiological inferences in Crocodylia

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Abstract: Bone histology has been used as an important tool for the interpretation of living standards in past and present fauna animals, and crocodylians are studied as inferential models, since they have preserved morphological and physiological conditions for millions of years. This study aims to identify the bone tissue pattern in individuals of *Caiman latirostris* from the Abatedouro Aruman Ltda. This research was carried out from the osteohistological description of appendicular (humerus) and axial (rib) elements of ten captive individuals, with five pairs of different ages. The material was sectioned, enclosed in resin and worn to a thickness of 30-60 micrometers for observation under an optical microscope. Tissue gradient was observed in the humerus, with younger individuals having more significant presence of woven-fibred bone, indicating rapid growth strategies and, with the aging of the individual, there is a decrease in cortex vascularization and a change to parallel-fibred bone, indicative of slow growth. Also, was observed the presence of resorption cavities and Lines of Arrested Growth (LAGs) in some individuals. In general, the ribs showed a high rate of bone remodeling, with many resorption cavities, low vascularization, in addition to the presence of LAGs in some individuals. The observed fast growing tissues are not common in crocodylians, but in young animals and under optimal growth conditions, these characteristics are observed more often. The study of bone histology in *C. latirostris* helps to refine the osteohistological information of the Crocodylia group, adding information to the data already described for other species.

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