



**Intraspecific Variation Patterns of the Caudal Complex in Extant and Fossil Teleosts, with Comments on Implications into Taxonomy and Systematics: a Case Study**  
Variações Intraespecíficas do Complexo Caudal em Teleósteos Recentes e Fósseis, com Comentários e Implicações Sobre Taxonomia e Sistemática: um Estudo de Caso

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Comparative morphology remains as a fundamental support of the interrelationship hypotheses of living and fossil fish taxa. The conceptualization of the characters is only possible after the comparative analysis that shows the morphological variation of groups from different taxonomical rank. The intraspecific morphological variation of a large number of teleostean species is relatively unknown. Osteological studies often include some few specimens minimizing the possibility to recognize the intraspecific variation. This observation is also valid in the cases where the ontogenetic changes are analyzed. The discovery of such morphological variations requires the study of a large sample size. The caudal skeleton is a major anatomical complex and data source used in the evaluation of teleostean interrelationships. However, the intraspecific variation of its elements had been rarely investigated. Intraspecific variation observed in extant taxa provides critical control for recognition of intraspecific variation in fossil taxa,

and integrated studies of fossil and living teleosts are required. Attempting to provide new data on the subject, this study deals with intraspecific variation observed in the caudal skeleton complex of two teleost species: the extant *Osteoglossum bicirrhosum* (Osteoglossomorpha: Osteoglossidae) from the Amazonian drainage, and the fossil *Cladocyclus gardneri* (Ichthyodectiformes) from the Lower Cretaceous of Araripe Basin, northeastern Brazil. We analyzed fifty-three specimens of *O. bicirrhosum* (SL 37,4 mm to 580 mm) and twenty-two specimens of *C. gardneri* (SL 70 mm to 260 mm), describing and quantifying the morphological variation. The caudal skeleton of *O. bicirrhosum* displays the highest degrees of intraspecific variation in the patterns of neural spines and hypurals associated to U2, and neural arches and spines counts for PU1, whereas *C. gardneri* presented a more conservative pattern. An overview of all the different patterns observed is given, and the implications for taxonomy and systematics of teleost fishes are briefly discussed.