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Quantitative analysis of interspecific and ontogenetic variation in *Osteoglossum* species (Teleostei: Osteoglossiformes: Osteoglossidae)

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Abstract

Patterns of interspecific and intraspecific variation were investigated on samples of postembryos, juveniles**,** and adults of the two species of the osteoglossid genus *Osteoglossum* (*O. bicirrhosum* and *O. ferreirai)*. Twenty-two morphometric characters were analyzed, utilizing principal component analysis (PCA) that discriminate ontogenetic classes and between species. The results showed differences in both categories. Morphometric characters related to dorsal and anal fin lengths proved to be the most important in taxonomic recognition. The comparison of growth trajectories for these characters showed that growth offset for *O. bicirrhosum* overlaps with growth onset for *O. ferreirai*, which may be indicative of a peramorphic morphology in the latter species.

Key words: *Osteoglossum*, PCA, morphometrics, ontogeny, heterochrony, taxonomy

Introduction

The osteoglossomorph genus *Osteoglossum* contains two nominal species, the silver arowana, *O. bicirrhosum* Cuvier, 1829**,** and the black arowana, *O. ferreirai* Kanazawa, 1966. The genus is easily recognized by general osteoglossid features**,** such as: body covered with very large scales; mouth wide and oblique, with lower jaw prominent and terminal; two barbels at the extremity of the lower jaw; and dorsal and anal fins almost fused with the caudal fin (Figure 1a, 1b). Both species are important in the fisheries industry, particularly *O. bicirrhosum*, as well as the home aquarium market (Ferraris, 2003), and are protected by Brazilian Federal Laws. *Osteoglossum bicirrhosum* has a widespread distribution, occurring in the Amazon and western Orinoco river basins, and

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