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Molecular variability in *Brycon cf. pesu* Müller and Troschel, 1845 (Characiformes: Characidae) from the Araguaia-Tocantins Basin

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ABSTRACT. *Brycon pesu* is a small-sized fish distributed throughout the Amazon and Orinoco Basins and other coastal basins of northeastern South America. *Brycon cf. pesu* specimens from the Araguaia-Tocantins Basin are currently separated into two morphotypes, *Brycon* sp1 and *Brycon* sp2, owing to different coloration of their anal fin. *Brycon* sp2 has a reddish margin stripe on the anal fin which morphologically distinguishes it from *Brycon* sp1. In the present research, nuclear and mitochondrial markers were used to test the hypothesis that the *Brycon* sp1 and *Brycon* sp2 morphotypes are distinct species. Specimens from the two morphotypes were collected from the Lajeado Hydroelectric Plant and the Palmas River in the Araguaia-Tocantins Basin. Thirty-five loci obtained by the amplification of five inter-simple sequence repeat primers were analyzed but no species-specific bands were detected. Electrophoretic profiles obtained from 5S rDNA non-transcribed spacer amplification failed to show any differentiation in morphotypes. These results were corroborated by nucleotide sequence analysis of the mtDNA control region, in which 24 polymorphic nucleotide sites, representing a polymorphism rate of only 5%, were detected. The low rates of polymorphism detected by inter-simple sequence repeat,

non-transcribed spacer and mtDNA D-loop markers strongly reject the hypothesis that the two morphotypes *Brycon* sp1 and *Brycon* sp2 represent distinct species within *Brycon cf. pesu*. Further studies are needed to obtain conclusive data on the notion that the coloration of the anal fin is an intraspecific polymorphism, possibly related to environmental factors.

Key words: *Brycon cf. pesu*; Araguaia-Tocantins Basin; Morphotypes; Inter-simple sequence repeat; 5S rDNA non-transcribed spacer; mtDNA

