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Evaluation of genetic diversity and population structure in a commercially important freshwater fish *Prochilodus costatus* (Characiformes, Prochilodontidae) using complex hypervariable repeats

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ABSTRACT. We used complex hypervariable repeats to evaluate the genetic diversity and structure of *Prochilodus costatus* (Characiformes), an ecologically and economically important species endemic to the São Francisco River basin. Hydroelectric dams along the river have led to population fragmentation, which can limit gene flow. Restocking from hatcheries has been used to repopulate declining populations. To determine how fragmentation and hatchery supplementation affect *P. costatus* population structure, we studied populations from three sites up and downstream of the Gafanhoto Dam (Pará River, State of Minas Gerais). High levels of genetic diversity were found within populations (0.926 to 0.873); the three populations showed significant differentiation (F_{ST} = 0.16), suggest-

ing that populations from the three sites were affected by fragmentation of the river and by hatchery contributions. These results will be useful for developing a management and conservation plan for fish species in this area.

Key words: Freshwater fish; *Prochilodus costatus*; Genetic diversity; Complex hypervariable repeats; Population genetic structure; Hatchery program

