



## **Is filament clipping an effective tool for tissue sampling in *Hippocampus guttulatus* Cuvier?**

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Examining genetic diversity, population structure, and expansion has become an important part in the management plans of endangered populations. However, these studies rely on tissue samples collection for DNA analysis which may be problematic for endangered or threatened species. Partial fin-clipping has been employed for tissue collection purposes, due to the increased popularity of DNA-based analysis for ecological and fisheries studies, however, fin clipping can potentially affect swimming performance, predator avoidance and the ability to find and capture prey. This study aimed to test the effects of filament clipping on captive breed seahorses (*Hippocampus guttulatus*) as an alternative tool for tissue sample. Clipped filaments regrown on average  $0.05 \pm 0.02$  mm/day for 3 months and no mortality or disease was observed during the experiment. Filaments provided enough tissue for DNA analysis purposes. This study provided valuable information regarding a new sampling technique that doesn't impair the seahorse locomotion. This methodology can be applied in population's genetic studies of other species that have skin filaments as a morphological trait.

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