# Assigning Hippocampus guttulatus recruits to the populations of origin using microsatellites: results from a field study in the Ria Formosa (south Portugal) 

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The deployment of Artificial Holdfast Units (AHU) has been demonstrated as an effective tool for creating holdfast and sheltering conditions for Hippocampus guttulatus in the Ria Formosa (South Portugal). Preliminary results obtained with a pilot-scale AHU showed a high settlement rate, with recorded densities of up to 13.1 individuals. ${ }^{-2}$. With the present study, we aim to understand weather the AHU's contributed to attract new $H$. guttulatus recruits or concentrate those previously existing in these areas. Prior to the deployment of the AHU's in a total of four focal sites, a sample of the skin filaments was collected from each H. guttulatus ( $\mathrm{n}=70$ ) sighted in those locations. The same sampling protocol was later carried out on the recruits ( $\mathrm{n}=14$ ) sighted in one pilot-scale AHU since its deployment. Upon DNA extraction the variation of 13 highly polymorphic microsatellite loci isolated for H . guttulatus (or obtained by cross-amplification in $H$. hippocampus) has been analyzed. PCR reactions with labeled primers were performed using standard procedures and amplified products were run on an ABI PRISM 3130 XL Genetic Analyser ${ }^{\ominus}$. Based on the genetic data, ONCOR software package was used to estimate the population of origin of recruits. Preliminary results indicate that more than $90 \%$ of the recruits at the AHU were assigned to the sites located up to 500 meter apart. No assignment has been demonstrated for the other sampled locations, situated further away from the AHU.

