



Color manipulation on the lined seahorse *Hippocampus erectus* (Perry, 1810)

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Wild seahorse populations are threatened worldwide due to loss of habitat, direct fishing and bycatch to supply the demand for Traditional Chinese Medicine, the souvenir market and the live marine ornamentals industry. For the specific aquarium market, bright colored individuals attain higher prices. In the present study, we manipulated incident radiance (light spectrum) and reflected radiance (tank and fixation substrate color) and followed *Hippocampus erectus* juvenile changes in color along time. The reversibility to initial color potential and timing of such reversibility were also investigated and described. According to our results, PAR incident radiation (blues and greens) induces more color changes than longer wavelengths (reds). Reflected radiation induces more color changes than incident radiation. *Hippocampus erectus* changed from initial dark brown/black tones to lighter yellowish tones, clearly adapting to different light environments by changing color (showing yellow coloration with yellow substrates and black coloration with black substrates). This process last from a few to 12-14 days and nearly all treatment animals changed color, whilst control animals did not. Animals could reverse the lighter color back into dark brown/black tones in less than a week. Animals that were submitted to a previous color change treatment, changed more rapidly than animals that were submitted for the first time to a color change treatment. Our results contribute to the understanding of the qualitatively and quantitative response of two color change factors: incident radiation and reflected radiation. Such information can be used in seahorse culture protocols to obtain animals with color patterns that are most valuable in the aquarium market.