

# First insight into the heritable variation and potential response to selection of phototaxis and locomotion behavior associated to the light/dark stimuli in the abalone *Haliotis discus hannai*

Defranchi, Yohana D.

Winkler, Federico M.

Farías, William J.

Herbinger, Christophe

Brokordt, Katherina B.

© 2018 Elsevier B.V. Abalones are especially susceptible to environmental lighting conditions. This factor greatly affects crucial biological process such as feeding rates, energy balance, physiological stress status, and consequently, growth and survival of farmed abalone. Most of these effects have been studied in the economically valuable abalone *Haliotis discus hannai*. The use of specific photoperiods, and/or light qualities and intensities, have been proposed as managing strategies to increase its production; however, for extensive off-shore or in intensive land-based farming systems, lighting conditions are not likely to be easily managed. Despite the great importance of the biological responses to the light/dark stimuli for abalone farming production, to the best of our knowledge the genetic control upon the variation associated behavioral traits have not been studied. Therefore, the aim of this study was to estimate the heritable variation and potential responses to selection f